Service Manual

Lexmark™ X925

7541-03x

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LEXMARK™

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Notices and safety information

This device is an LED based printer.

Safety information

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

Consignes de sécurité

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

Norme di sicurezza

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

Sicherheitshinweise

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

Pautas de Seguridad

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

Informações de Segurança

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

Informació de Seguretat

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

안전 사항

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

安全信息

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

Preface

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

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

Conventions

Note: A note provides additional information.

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

There are several types of caution statements:

CAUTION

A caution identifies something that might cause a servicer harm.

CAUTION

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

CAUTION

This type of caution indicates a hot surface.

CAUTION

This type of caution indicates a tipping hazard.

1. General information

The Lexmark™ X925(7541-xxx) is a network-capable color MFP that uses electrophotographic technology to deliver high-quality images, presentation graphics, line art, and text. It prints both four-color and monochrome print jobs.

The X925 represents the latest in Lexmark printer innovation, including a full-color eTask touch screen with improved messaging and animation, enhanced security features, remote operator panel access and control, customizable reports, and access to the growing list of downloadable and customizable solutions.

A variety of connectivity options enable the printer to be used in all types of system environments. You can attach one internal adapter to support network configurations requiring Ethernet, Token-Ring, LocalTalk, serial, infrared, or additional parallel ports.

The printer also has flexible paper handling. It supports a wide variety of paper sizes, and has a standard multipurpose feeder that makes it easy to print on envelopes, transparencies, labels, card stock, and non-standard size paper. You can add optional inputs to the base printer, which can increase the printer paper capacity to 2100 sheets.

Maintenance approach

The diagnostic information in chapter two leads you to the correct field replaceable unit (FRU) or part. Use the information to troubleshoot print quality, paper jams, user status messages, error codes, or general symptoms, and then follow the instructions to repair the printer. After you complete the repair, perform tests as needed to verify the repair.

To begin diagnosing a problem, see **“Diagnostic information” on page 2-1**.

Models

The Lexmark X925 (7541-030) laser printer is available in the following models:

Lexmark X925	7541-032	10” e-Task touch screen, duplex
Lexmark X925	7541-036	10” e-Task touch screen, duplex, fax modem
Lexmark X925	7541-096	10” e-Task touch screen, duplex, fax modem

Printer configurations

	**CAUTION—TIPPING HAZARD** Floor-mounted configurations require additional furniture for stability. You must use either a printer stand or printer base if you are using a high-capacity input tray, a duplex unit and an input option, or more than one input option. If you purchased a multifunction printer (MFP) that scans, copies, and faxes, you may need additional furniture. For more information, see **www.lexmark.com/multifunctionprinters**.

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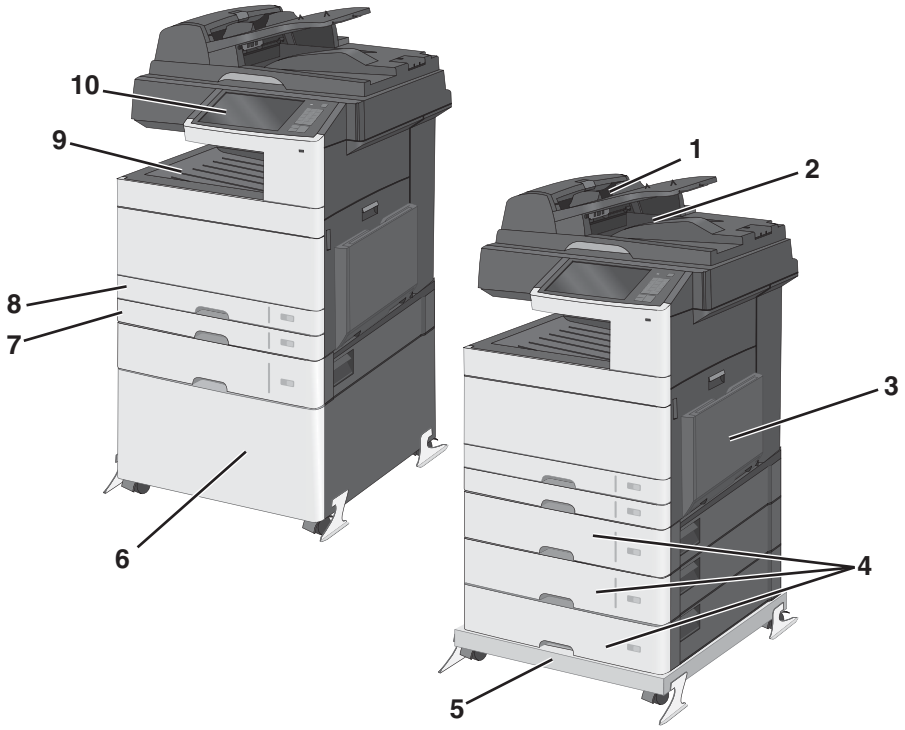


1	ADF input
2	ADF output bin
3	MPF feeder
4	550 sheet option tray (tray 3, 4, 5)
5	Caster unit
6	Storage cabinet
7	Standard 250-sheet tray (tray 1)
8	MPF 250-sheet tray (tray 2
9	Output bin
10	10” touchscreen display
* The printer supports up to three 550-sheet trays.	

Options and features

Lexmark X925 printers support only Lexmark X925 paper-handling options. These options are not compatible with any other Lexmark printer.

Some of the following options are not available in every country or region.

Available internal options

- Memory cards
  - Printer memory
  - Flash memory
  - Fonts
- Firmware cards
  - Bar Code
  - PrintCryption™
- Printer hard disk
- Lexmark™ Internal Solutions Ports (ISP)
  - RS-232-C Serial ISP
  - Parallel 1284-B ISP
  - MarkNet™ N8250 802.11 b/g/n Wireless ISP
  - MarkNet N8130 10/100 Fiber ISP
  - MarkNet N8120 10/100/1000 Ethernet ISP

Media handling options

- 550-sheet tray

Print engine specifications

Power specifications

Average nominal power requirements for the base printer configuration. (Power levels are shown in watts.)

Printing states	Power
Off	0W
Sleep Mode	11W
Hibernate Mode	3W
Ready Mode	105W
Continuous printing	620W

Electrical specifications

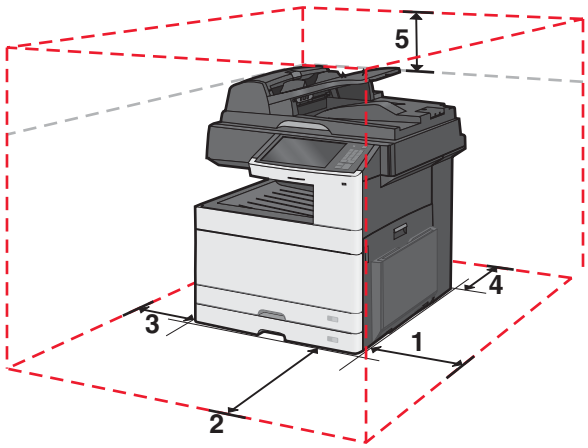
Low-voltage models

- 100 to 127 V ac at 50 to 60 hertz (Hz) nominal
- 90 to 137 V ac, extreme

High-voltage models

- 220 to 240 V ac at 50 to 60 hertz (Hz) nominal (not available in all countries and regions)

Clearances



1	Right	385 mm (15.16 in.)
2	Front	609.6 mm (24 in.)
3	Left	100 mm (3.94 in.)
4	Rear	100 mm (3.94 in.)
5	Top	285 mm (11.22 in.)
Allow additional clearance around the printer for adding options.		

Acoustics

All measurements are made in accordance with ISO 7779 and conform with ISO 9296.

Status	1 meter average sound pressure dBA	Declared sound power level Bels
Idle (Standby)	37 dBA	5.4
Simplex printing	53 dBA	6.8
Duplex printing	54 dBA	7.0
Quiet Mode printing (Mono)	54 dBA	6.9
Quiet Mode printing (Color)	54 dBA	6.9
Measurements apply to 300 dpi, 600 dpi, and 1800 IQ printing.		

Environment

Printer Temperature and Humidity

- Operating
  - Temperature: 10.0 to 33.00 C (50 to 91.40 F)
  - Relative humidity: 8 to 80%
  - Altitude: 7546 ft. (0 to 2300 meters)
  - Atmospheric pressure: 767 kPa
- Power off
  - Temperature: 23 to 104° F (-5 to 40° C)
  - Relative humidity: 8 to 80%
  - Maximum wet bulb temperature: 80.1° F (26.7° C)
  - Altitude: 7546 ft. (0 to 2300 meters)
  - Atmospheric pressure: 74.6 kPa
- Ambient operating environment*
  - Temperature: 15.6 to 32.20 C (60 to 900 F)
  - Relative humidity: 8 to 80%
- Storage and shipping (packaged printer) with or without print cartridge
  Temperature: -40 to 110° F (-40 to 43.3° C)

*In some cases, performance specifications (such as paper OCF, EP cartridge usage) are measured at an ambient condition.

Performance

The X925 printers support up to 30 ppm (Letter) and 30 ppm (A4) maximum print speeds.

Actual performance depends on:

- Interface to host (parallel, serial, USB or network)
- Host system and application
- Complexity and content of the page
- Certain options added to or selected with the MFP
- Available memory in the MFP
- Media size, media type and tray source
- Print Resolution

Note: The following special cases that may impact print speeds:

Vinyl Label – Vinyl Label is a customer selectable media type. When Vinyl Label is selected, print speed is 35ppm.

Note: When using custom size media, it is critical that the user define the actual width via the Paper Menu – Universal Setup on the op panel for best reliability.

Processor

1 GHZ IBM Power PC processor

Memory

Standard memory - 512 mb

Optional memory - 256, 512, and 1024 MB. 1 200 pin x 64 DDR 2 SO-DIMMs. 1 slot.

Optional flash - 256 mb

Paper specifications

Paper sizes supported by the printer

Paper size	Dimensions	Tray 1	Tray 2	Optional 550-sheet tray	Multipurpose feeder	Duplex unit
A3	297 x 420 mm (11.7 in x 16.6in)	✓	✓	✓	✓	✓
A4	210 x 297 mm (8.3 x 11.7 in.)	✓	✓	✓	✓	✓
A5[1]	148 x 210 mm (5.8 x 8.3in.)	✓	✓	✓	✓	✓
A6[2]	105 x 148 mm (4.1 x 5.8 in.)	✓			✓	
B4		✓	✓	✓	✓	✓
B5[1]	182 x 257 mm (7.2 x 10.1 in.)	✓		✓	✓	✓
Letter	216 x 279 mm (8.5 x 11 in.)	✓	✓	✓	✓	✓
Legal	216 x 356 mm (8.5 x14 in.)	✓	✓	✓	✓	✓

Paper size	Dimensions	Tray 1	Tray 2	Optional 550-sheet tray	Multipurpose feeder	Duplex unit
Executive[1]	184 x 267 mm (7.3 x 10.5 in.)	✓	✓	✓	✓	✓
Oficio	216 x340 mm (8.5 x 13.4 in>)	✓			✓	✓
Folio	216 x 330 mm (8.5 x 13 in.)	✓			✓	✓
Statement[1]	140 x 216 mm (5.5 x8.5 in.)	✓			✓	✓
Tabloid		✓	✓	✓	✓	✓
Universal Plain Paper - 64 to 297mm x 148 to 432mm Banner - 210 to 297mm x 433 to 12129mm	140 x 210 mm (5.5 x 8.3 in.) up to 216 x 356 mm (8.5 x 14 in.)	✓			✓	210 to 297mm x 148 to432 mm
7 3/4 Envelopes (Monarch)[3]	98 x 191 mm (3.9 x 7.5 in.)				✓	
9 Envelope[3]	98 x 226 mm (3.9 x 8.9 in.)				✓	
10 Envelope[3]	105 x 241 mm (4.1 x 9.5 in.)				✓	
B5 Envelope[3]	176 x 250 mm (6.9 x 9.8 in.)				✓	
C5 Envelope[3]	162 x 229 mm (6.4 x 9 in.)				✓	
DL Envelope[3]	110 x 220 mm (4.3 x 8.7 in.)				✓	
Other Envelope[2,4]	86 x 165 mm (3.4 x 6.5 in.) to 216 x 356 mm (8.5 x 14 in.)				✓	

Media types

Tray1: plain paper, card stock, labels, bond, transparencies, and envelopes

Tray2: plain paper, and light card stock (up to 34#).

Manual Feed Slot: plain paper, card stock, labels, bond, transparencies, and envelopes

Optional input tray: plain paper, labels, and bond.

Multi-Purpose Feeder: plain paper, card stock, labels, bond, transparencies, and envelopes

Paper sizes by options, source and output. Media guidelines (both from user manuals)

Media weights

Subsystem	Size	Type		Weight
Tray 1 **Tray2 and optional drawers**	All sizes supported by engine. Excluding banner	Xerographic and Bond	Long Grain	16lb to 34lb (60g/m2 to 128g/m2)
			Short Grain	16lb to 34lb (60g/m2 to 128g/m2)
		Recycled	Long Grain	20lb to 34lb (75g/m2 to 128g/m2)
			Short Grain	28lb to 34lb (105g/m2 to 128g/m2)
		Card Stock (max)	Cover	50lb/65lb (135g/m2 / 176g/m2)
			Index	67lb/90lb (120g/m2 / 163g/m2)
			Tag	74lb/100lb (120g/m2 / 163g/m2)
		Labels (max)	Paper	35lb (131g/m2)
			Vinyl	Not Supported
		Transparency	TBD	TBD
		Envelope	Xerographic	20lb to 34lb (75g/m2 to 128g/m2)
		Xerographic and Bond	Long Grain	16lb to 34lb (60g/m2 to 128g/m2)
			Short Grain	16lb to 34lb (60g/m2 to 128g/m2)
		Recycled	Long Grain	20lb to 34lb (75g/m2 to 128g/m2)
			Short Grain	28lb to 34lb (105g/m2 to 128g/m2)
		Card Stock (max)	Cover	50lb/42lb (135g/m2 / 157g/m2)
			Index	67lb/75lb (120g/m2 / 157g/m2)
			Tag	74lb/85lb (120g/m2 / 157g/m2)
MFS & MPF **Duplexer**	All sizes supported by engine.	Xerographic and Bond	Long Grain	16lb to 34lb (60g/m2 to 128g/m2)
			Short Grain	16lb to 34lb (60g/m2 to 128g/m2)
		Recycled	Long Grain	20lb to 34lb (75g/m2 to 128g/m2)
			Short Grain	28lb to 34lb (105g/m2 to 128g/m2)
		Card Stock (max)	Cover	50lb/65lb (135g/m2 / 176g/m2)
			Index	67lb/90lb (120g/m2 / 163g/m2)
			Tag	74lb/100lb (120g/m2 / 163g/m2)
		Labels (max)	Paper	35lb (131g/m2)
			Vinyl	Occasional use up to 256 gsm
		Transparency	TBD	TBD
		Envelope	Xerographic	20lb to 34lb (75g/m2 to 128g/m2)
	A5, B5, JIS-B5, Exec., Statement, Folio Folio, Letter, A4 and Legal, A3, Tabloid	Xerographic and Bond	Long Grain	17lb to 34lb (64g/m2 to 128g/m2)
			Short Grain	17lb to 34lb (64g/m2 to 128g/m2)
		Card Stock (max)	Long Grain	17lb to 34lb (64g/m2 to 128g/m2)
			Short Grain	17lb to 34lb (64g/m2 to 128g/m2)

Media guidelines

Selecting the appropriate media for the printer helps avoid printing problems.

For detailed information about media characteristics, see the *Card Stock & Label Guide* available on the Lexmark Support Web site at **http://support.lexmark.com**.

Paper

To ensure the best print quality and feed reliability, use 90 g/m^2 (24 lb) xerographic, grain long paper. Business papers designed for general business use may also provide acceptable print quality.

We recommend Lexmark part number 12A5950 letter-size glossy paper and Lexmark part number 12A5951 A4-size glossy paper.

Always print several samples before buying large quantities of any type of media. When choosing any media, consider the weight, fiber content, and color.

The Laser printing process heats paper to high temperatures of 180°C (356°F) for non-MICR applications. Use only paper able to withstand these temperatures without discoloring, bleeding, or releasing hazardous emissions. Check with the manufacturer or vendor to determine whether the paper chosen is acceptable for laser printers.

When loading paper, note the recommended print side on the paper package, and load paper accordingly.

Paper characteristics

The following paper characteristics affect print quality and reliability. Consider these characteristics when evaluating new paper stock.

For detailed information, see the *Card Stock & Label Guide* available on the Lexmark Web site at http://support.lexmark.com.

Weight

The printer can automatically feed paper weights from 60 to 220 g/m^2 (16 to 58 lb bond) grain long. Paper lighter than 60 g/m^2 (16 lb) might not be stiff enough to feed properly, causing jams. For best performance, use 75 g/m^2 (24 lb bond) grain long paper. To use paper smaller than 182 x 257 mm (7.2 x 10.1 in.), we recommend 90 g/m^2 (24 lb bond) or heavier paper.

Curl

Curl is the tendency of media to curve at its edges. Excessive curl can cause paper feeding problems. Curl can occur after the paper passes through the printer, where it is exposed to high temperatures. Storing paper unwrapped in hot, humid, cold and dry conditions, even in the trays, can contribute to paper curling prior to printing and can cause feeding problems.

Smoothness

The degree of smoothness of paper directly affects print quality. If the paper is too rough, the toner does not fuse to the paper properly, resulting in poor print quality. If the paper is too smooth, it can cause paper feeding or print quality issues. Smoothness needs to be between 100 and 300 Sheffield points; however, smoothness between 150 and 250 Sheffield points produces the best print quality.

Moisture content

The amount of moisture in the paper affects both print quality and the ability of the printer to feed the paper properly. Leave the paper in its original wrapper until it is time to use it. This limits the exposure of the paper to moisture changes that can degrade its performance.

Condition paper while it is still in the original wrapper. To condition it, store it in the same environment as the printer for 24 to 48 hours before printing to let the paper stabilize in the new conditions. Extend the time several days if the storage or transportation environment is very different from the printer environment. Thick paper may also require a longer conditioning period because of the mass of material.

Grain direction

Grain refers to the alignment of the paper fibers in a sheet of paper. Grain is either *grain long*, running the length of the paper, or *grain short*, running the width of the paper.

For 60 to 135 g/m^2 (16- to 36-lb bond) paper, grain long fibers are recommended. For heavier papers, grain short is recommended.

Fiber content

Most high-quality xerographic paper is made from 100% chemically pulped wood. This content provides the paper with a high degree of stability resulting in fewer paper feeding problems and better print quality. Paper containing fibers such as cotton possesses characteristics that can result in degraded paper handling.

Unacceptable paper

The following papers are not recommended for use with the printer:

- Chemically treated papers used to make copies without carbon paper, also known as carbonless papers, carbonless copy paper (CCP), or no carbon required (NCR) paper
- Preprinted papers with chemicals that may contaminate the printer
- Preprinted papers that can be affected by the temperature in the printer fuser
- Preprinted papers that require a *registration* (the precise print location on the page) greater than ±0.09 in., such as optical character recognition (OCR) forms. In some cases, registration can be adjusted with the software application to successfully print on these forms.
- Coated papers (erasable bond), synthetic papers, or thermal papers
- Rough-edged, rough or heavily textured surface papers or curled papers
- Recycled papers that fail EN12281:2002 (European)
- Paper having a weight less than 60 g/m^2 (16 lb)
- Multiple-part forms or documents

Selecting paper

Proper paper loading helps prevent jams and ensures trouble-free printing.

To help avoid jams or poor print quality:

- *Always* use new, undamaged paper.
- Before loading paper, know the recommended print side of the paper. This information is usually indicated on the paper package.
- *Do not* use paper that has been cut or trimmed by hand.
- *Do not* mix media sizes, weights, or types in the same source; mixing results in jams.
- *Do not* use coated papers unless they are specifically designed for electrophotographic printing.

Scan fax and copy specifications

General specifications

Processor	
Speed and type	1GHZ, IBM
Memory	
Standard	512 MB (Max 1.5 GB)
Optional memory	256 MB, 512 MB and 1024 MB DDR SODIMM
Optional flash memory	256 MB
Hard drive	160 GB or higher
Connections	
Standard	Gigabit ethernet and USB
Option slots	
DRAMM DIMM slots	1
Wireless option	Yes
ISP (INA) slots	1
DLE Firmware card, font card, and flash memory card slots	2 The following combinations are supported when you use more than one slot: • DLE and user flash • DLE and font card • Font and User flash
Paper handling	
Paper input standard	250- and 150-sheet tray 50 MPF
Optional paper handling: Input	550-sheet tray (up to 3)
Optional paper handling: Output	None
Duplex	Yes
Finishing	None
Hard drive	Standard
Service	
Warranty	One year on-site parts and labor
Furniture	
Standard	None
Optional furniture	Caster base

Fax features

Feature	Notes
Fax preservation	Faxes are preserved over power cycle
Color fax	Enable color scans Auto convert color to mono fax Enable color fax receive: • When on, the sending device transmits in color and the receiving device prints in grayscale. • When off, the sending device converts and transmits the job as a mono job.
Fax content	Type: text, graphics, text/photo, photo Source: color laser, black/white laser, inkjet, photo/film, magazine, newspaper, press, other
Original size	All sizes supported by device, including mixed letter/legal
Dial mode	Touch tone Pulse
Custom job scanning	Only appears if installed on hard drive
Scan preview	Only appears if installed on hard drive
Fax cover page	Includes: to, from, message, footers, logo, and total pages
Fax number masking	Active masking
Maximum speed	Settings for both Send and Receive
Delayed send	Supported
Block junk fax banned fax list	Based on Caller ID or Remote Station ID
Fax shortcuts	Average shortcut includes: 25 characters for name, 10 characters for number, and four characters for shortcut ID. Shortcuts can contain one phone number or multiple numbers. Each number is a location; see the Preferences area for the maximum number of locations. xxx
Broadcast fax	Maximum number of locations is 400
Fax forwarding	Incoming faxes may be forwarded to the following: • Fax—using one fax shortcut • Email—using one email shortcut • FTP—using one FTP shortcut • LDSS • eSF—supported via custom application Any fax resolution that can be received can also be forwarded.
Caller ID	Available if subscribed to caller ID from phone provider
Manual fax	Disabled by default
Fax from PC	Supported using PostScript driver
Fax print holding	Appears only if installed on hard drive
Fax logs	Transmission log Receive error log Fax call log Fax job log
Distinctive ring selection	Available if subscribed from/configured through phone provider

Feature	Notes
Sound control	Ringer volume Speaker volume Speaker mode—On, On until connected, Off
Fax server	Fax server mode will send the scanned fax job to the fax server as an email, where it will then be sent to the receiver. The device should be tested for configurability and compatibility with the deserved third fax server product (for example, Biscom, Equisys-ZetaFax, OMTool, Captaris-RightFax, or Tobit-Faxware).

Scanner specifications

Scanner type	Color flatbed scanner with ADF
Scan technology	Charge Coupled Device (CCD)
Light source	White LED “Instant On”
Number of light sources	1 LED array per CCD module
ADF scanner	
ADF type	Re-circulating (Dual Pass) Automatic Document Feeder (RADF)
Scanner ADF document input and output capacity	100 sheets, 20 lb. (75 g/m^2) bond
Scanner media depth (thickness)	Maximum: 0.11mm Minimum: 0.08 mm
Scanner media weight	Maximum: 32 lb (120 g/m^2) Minimum: 16 lb (60 g/m^2)
Document size	Maximum: 11.8 x 25 in. (299.72 x 635 mm) Short Edge Feed (SEF) Minimum: 4 x 5.04 in. (101.6 x 128.02 mm) SEF
Document size sensing	Yes—length and width in ADF
Document Sensing	Yes—ADF paper present LED and on/off settable beep
Flatbed scanner	
Max document size	11 x 17 in. (279.4 x 431.8 mm)
Document size sensing	Yes—paper length sensing only on flatbed
Print engine	
Print technology	Color LED
Duplex output	Standard
Paper feed orientation	Short Edge Fed and Long Edge Fed
Fax	
Modem	Built-in Group 3-compatible, full function fax, 33,600 bps, Max V.34 Half Duplex

MFP scan speed

Media size	Simplex		Duplex	
	Mono	**Color**	**Mono**	**Color**
Letter (plain	32	32	13	13
A4 (plain)	33	33	14	14

Note: Scan performance is measured as 150 dpi 1-bit for mono and 150 depi 24-bit for color.

Tools required for service

Flat-blade screwdrivers, various sizes
#1 Phillips screwdriver, magnetic
#2 Phillips screwdriver, magnetic
#2 Phillips screwdriver, magnetic short-blade
7/32 inch (5.5 mm) open-end wrench
7.0 mm nut driver
Needlenose pliers
Diagonal side cutters
Spring hook
Feeler gauges
Analog or digital multimeter
Parallel wrap plug 1319128
Twinax/serial debug cable 1381963
Coax/serial debug cable 1381964
Flashlight (optional)

Acronyms

ac	Alternating Current
ACM	Autocompensator Mechanism (or paper feed)
ADF	Automatic document feeder
AFE	Analog front end
APS	Automatic Paper Size
ASIC	Application Specific Integrated Circuit
BLDC	Brushless DC Motor
BOR	Black Only Retract
BUD	Belt up down
C	Cyan
CCW	Counter clockwise
CDB	Command Descriptor Blocks
CMYK	Cyan yellow magenta black
CPU	Central processing unit
CRC	Cyclic redundancy check
CRU	Customer Replaceable Unit
CSU	Customer Setup
CW	Clockwise
DBCS	Double byte character set
dc	Direct Current
DIMM	Dual Inline Memory Module
DLE	Downloadable emulator
DRAM	Dynamic random access memory
DVM	Digital multimeter
ECC	Error correcting code
ECM	Error correction mode
EDO	Enhanced Data Out
EEPROM	Electrical Erasable Programmable Read-Only Memory
ENA	External Network Adapter
EOL	End of life
EP	Electrophotographic process
EPROM	Erasable programmable read-only memory
ESD	Electrostatic Discharge
FD	Facedown
FRU	Field replaceable unit
FU	Face up
GB	Gigabyte
GFI	Ground Fault Interrupter
GHz	Gigahertz
HBP	Host Based Printing
HTML	Hypertext markup language
HV	High Voltage
HVPS	High voltage power supply
HVU	High voltage unit
Hz	Hertz
INTL	International
ITC	Internal Tray Card
ITU	Image Transfer Unit
K	Black (Key)

LAN	Local area network
LASER	Light amplification by stimulated emission of radiation
LCD	Liquid crystal display
LCM	Liquid Crystal Module
LD	Laser Diode
LED	Light emitting diode
LEF	Long edge feed
LES	Lexmark Embedded Solution (applications)
LV	Low Voltage
LVPS	Low voltage power supply
M	Magenta
MB	Megabyte
MDC	Motor Driver Control
MH	Message handling
MIF	Motor interface
mm	Millimeter
MMR	Modified modified read
MPF	Multipurpose feeder
MR	Modem ready
MROM	Masked Read Only Memory
MS	Microswitch
NAND	NAND (usage: NAND gate)
NVM	Nonvolatile Memory
NVRAM	Nonvolatile Random Access Memory
OCF	Operator correctable failure
OCR	Oil coating roll
OEM	Original Equipment Manufacturer
OHP	Overhead projector
OPC	Optical photo conductor
OPT	Optical Sensor
PC	Photoconductor
PDF	Portable Document Format
PICS	Problem isolation charts
PIN	Personal identification number
PIXEL	Picture element
PJL	Printer Job Language
POR	Power-on reset
POST	Power-on self test
PPDS	Personal Printer Data Stream
ppm	Pages per minute
PQET	Print Quality Enhancement Technology
PRC	Peoples' Republic of China
PSC	Parallel Synchronous Communications
PSD	Position Sensing Device
PSO	Participating Standards Organization
PWM	Pulse Width Modulation
RAM	Random access memory
RFID	Radio frequency identification
RH	Relative humidity
RIP	Raster image processor
ROM	Read-only memory
ROS	Read-only storage
RPM	Revolutions Per Minute
SDRAM	Synchronous Dynamic Random Access Memory

SEF	Short edge feed
SOL	Solenoid
SRAM	Static random access memory
TAR	Toner Add Roll
TPS	Toner Patch Sensing
TTM	Tandem Tray Module
TVOC	Total Volatile Organic Compound
UAT	Universally Adjustable Tray
UPR	Used Parts Return
USB	Universal Serial Bus
V	Volts
V ac	Volts alternating current
V dc	Volts direct current
VOM	Volt Ohmmeter
VTB	Vacuum Transport Belt
XPS	XML Paper Specification
Y	Yellow

2. Diagnostic information

Start

CAUTION

Unplug power cord from the 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 PCs/peripherals.

CAUTION

If the printer is kept on, never touch the conductive parts while it is not specifically required. Do not touch the LVPS cards and the engine board unless they are properly discharged. Never touch the live parts.

The diagnostic information in this chapter leads you to the failing part. Before you replace an entire assembly, determine if just the defective part is available in the parts catalog. Use the error code tables, symptom table, service checks, and the diagnostic aids chapter to determine the symptom and repair the failure. The removal procedures in the Repair information chapter may help you identify parts. After you complete the repair, perform the appropriate tests to verify the repair.

The table below lists the errors and symptoms you might encounter. Use the links in the table to locate the error message or symptom, and take the indicated action

Error code or symptom	Location
Print quality issues	Go to **“Print quality issues” on page 2-4**
Scanner image issues	Go to **“ADF & scanner print quality” on page 2-11**.
Paper jams (200.xx)	Go to **“Paper jams” on page 2-17**
Error codes	Go to **“Error codes” on page 2-38**
Attendance messages	Go to **“User attendance messages” on page 2-66**
Other symptoms	Go to **“Other symptoms” on page 2-75**

Initial check

Before you start troubleshooting, check the following:

Installation environment

- The power supply line voltage is plus or minus 10% of the rated line voltage.
- The machine is securely installed on a level surface in a well-ventilated place.
- The room temperature is between 10 and 32°C (50 and 90°F) and the relative humidity between 20 and 80%.
- Avoid sites generating ammonia gas, high temperature, high humidity (near water faucets, kettles, humidifiers), cold spaces, near open flames, and dusty areas.
- Avoid sites exposed to direct sunlight.

Print paper checks

- Use the recommended paper for this printer.
- Paper dampness. Make a trial print with paper from a newly opened package, and check the result.

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

- Does the POR stop? Check the [POR (Power On Reset) sequence]
- Do you have a symptom, rather than an error message?
  - [add symptom tables list]
- If you have an error message or user message, check the following:
  - [Error tables]
  - [2xx Paper Jams]
  - [User attendance messages]
  - [Service checks] for individual error messages
- Additional information can be found at the following locations:
  - [Sub error code table]
  - [Understanding the printer operator panel]
  - [Service checks]

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

POR (Power-On Reset) sequence

The following is an example of the events that occur during the POR sequence for the base machine with no paper handling options installed.

1. Power the machine on.
2. Power supply fan rotates.
3. Splash screen with progress bar displayed.
4. Printer controller initialized.
   - ROM is checked - if there is an error, power on is halted
   - EEPROM checked - if there is an error, power on is halted
   - Fuser thermistor checked - if there is an error, power on is halted
5. LED illuminates
6. RIP initialized.
   - ROM is checked - if there is an error, power on is halted
   - Memory checked - if there is an error, power on is halted
7. Main tray lift motor moves paper up to position.
8. Printer condition checked.
   - Check for jams - if there is an error, power on is halted
   - Query the toner cartridge and imaging kit - if there is an error, power on is halted
   - Check toner load. - if there is an error, power on is halted
9. Check temperature - if there is an error, power on is halted
10. LED flashes.
11. The default home screen is displayed.

Print quality issues

Note: This symptom may require replacement of one or more CRUs (Customer Replaceable Units) designated as supplies or maintenance items, which are the responsibility of the customer. With the customer's permission, you may need to install a developer (toner) cartridge or photoconductor unit.

Service tip: Before troubleshooting any print quality problems, do the following:

1. Print a menu settings page, and then check the life status of all supplies. Any supplies that are low should be replaced.
2. On the menu page, make sure the following is set to the default level:
   –Color Correction: Set to Auto
   .–Print Resolution: Set to 1200 dpi (print quality problems should be checked at different resolution settings).
   –Toner Darkness: Set to 4 (default).
   –Color Saver: Set to OFF.
   –RGB Brightness, RGB Contrast, RGB Saturation: Set to 0.
   –Color Balance: Touch Reset Defaults to zero out all colors.
   –Check the paper type, texture and weight settings against what is loaded in the printer.
3. Inspect the transfer module (transfer belt, and transfer roll) for damage. Replace if damaged.
4. Inspect the imaging units and toner cartridges for damage. Replace if damaged.
5. If paper other than 20lb plain letter/A4 paper is being used, load 20lb plain letter/A4 and print the Print Quality pages to see if the problem remains.
6. Use Tray 1 to test print quality problems.
7. Print the Print Quality Pages, and then look for variations in the print from what is expected.

An incorrect printer driver for the installed software can cause problems. Incorrect characters could print, and the copy may not fit the page correctly.

Repeating defects

The following table contains the circumferences of the imaging and transport components. Check the intervals of any marks or defects that appear on a printout. if they match the intervals on the table, they are most likely caused by the component listed.

Imaging / transport component	**Circumference**
Registration rolls	50 mm
Pickup, feed, and separator rolls * dimensions are the same for the expansion trays	63 mm
MPF roller	75 mm
Transfer roll (located in transfer belt)	38 mm
Fuser (Fuser belt)	141 mm
Imaging unit parts Photoconductor Developer roll Charge roll Supply roll	 75 mm 41 mm 31 mm 28 mm
Transfer roll	57 mm

One color missing

Step	Action and questions	Yes	No
1	Are the imaging units (photoconductors) properly installed?	Go to step 2.	Reinstall the imaging units.
2	Is the photoconductor lock door properly closed on both sides?	Go to step 3.	Open and close the photoconductor lock door ensuring that t is locked in place on both ends.
3	Is the ribbon cable for the missing color's LED printhead properly connected to the printhead controller board and LED printhead?	Go to step 4.	Properly connect the ribbon cable on both ends.
4	Replace the LED printhead. Did this fix the problem?	Problem resolved	Go to step 5.
5	Are the contacts on the HVPS clean?	Go to step.	Clean the contacts on the HVPS.
6	Are the spring contacts on the sub frame damaged?	Replace the subframe.	Go to step 7.
7	Replace the HVPS. Did this fix the problem?	Problem resolved.	Contact your second level support.

Contaminated background

Step	Action and questions	Yes	No
1	Check the imaging units and toner supplies to see if they are clean. Are they clean?	Go to step 2	Clean the supplies. Replace if needed.
2	Check the imaging units for proper connection. Are they installed properly?	Go to step 3.	Reinstall the imaging units.
3	Replace the HVPS. Dis this fix the problem?	Problem resolved	Contact your second level support.

Lowered print density

Step	Action and questions	Yes	No
1	Check the paper for moisture. Is the paper moist?	Replace the paper.	Go to step 2.
2	Check the LED printhead for dirt. Is the printhead dirty?	Go to step 3.	Go to step 4.
3	Clean the print head with a lint free cloth. Did this fix the problem?	Problem resolved	Go to step 4.
4	Replace the LED printhead. Dis this fix the problem?	Problem resolved	Go to step 5.
5	Replace the HVPS. Did this fix the problem?	Problem resolved	Contact your second level support.

White stripes

Step	Action and questions	Yes	No
1	Are there scratches or dirt on the photo sensitive drum of the imaging unit?	Replace the imaging unit.	Go to step 2.
2	Is there dirt on the exposing surface of the LED printhead?	Go to step 3.	Go to step 4.
3	Clean the LED printhead. Did this fix the issue?	Problem resolved	Go to step 4.
4	Replace the defective LED printhead. Did this fix the issue?	Problem resolved	Contact your second level support.

Uneven print

Step	Action and questions	Yes	No
1	Check the condition of the paper. Is it curled or wavy?	Replace the paper.	Go to step 2.
2	Check for dew, or moisture on the imaging unit's drum. Is there moisture on the drum?	Let the imaging unit's drums dry off.	Go to step 3.
3	Is there any dirt or debris on the imaging unit?	Clean off the imaging unit with a lint free cloth	Go to step 4.
4	Is there dirt of debris on the exposing surface of the LED printhead?	Clean the LED printhead with a lint free cloth.	Contact your second level support.

Partial dirt

Step	Action and questions	Yes	No
1	Is there toner attached to the developer roll, especially the lower part of the roll.	Replace the imaging unit.	Go to step 2.
2	Check the transfer belt for defects or foreign matter such as dirt. Are there defects on the transfer belt?	Remove the dirt from the belt.	Go to step3
3	Replace the transfer belt. Did this fix the problem?	Problem resolved.	Contact your second level support.

Repeating marks

For repeating defects, see**"Repeating defects" on page 2-4**

	FRU / CRU	Action
1	Fuser	• Check for dirt on the fuser belt. Clean if needed. • Check for scratches on the belt. Replace if needed.
2	Transfer roll	Check for dirt or scratches on the transfer belt. Clean the roll if needed **Note:** Be careful when cleaning the dirt of the transfer roll. Be careful to not deform the roll. Replace the transfer roll if it is scratched.
3	Imaging unit	Check for scratches of unevenness on the photoconductor drum. Replace the imaging unit if the drum is damaged. Look for dirt on the rolls. Replace the imaging unit if the rolls are dirty.

Black stripes

Step	Action and questions	Yes	No
1	Is there dirt on the imaging units developer roll, or charge roll?	Clean the dirt if.	Go to step 2.
2	Are there scratches on the photoconductor drum?	Replace the imaging unit.	Go to step 3.
3	Is there dirt in the fuser belt?	Clean the belt.	Go to step 4
4	Are there scratches on the fuser belt?	Replace the fuser.	Go to step 5.
5	Are there lumps of toner on the fuser belt?	Remove the lump of toner.	Go to step 6.
6	Print a blank white page. Are there black stripes on the page?	Replace the black LED printhead.	Contact your second level support.

Unprinted spots

Step	Action and questions	Yes	No
1	Check the paper in the tray for moisture. Is the paper moist?	Replace the paper in the tray.	Go to step 2.
2	Check the LED print head for moisture on the imaging surface. Is there any moisture on the LED surface?	Wipe the LED imaging surface with a lint free cloth.	Go to step 3.
3	Does the imaging unit's photodeveloper drum have any dew on it.	Let the drum dry out. Do not wipe the drum with a cloth.	Go to step 4.
4	Remove and reinstall the imaging unit. Does this fix the problem?	Problem resolved	Go to step 5.
5	Replace the imaging unit. Does this resolve the issue.	Problem resolved	Go to step 6.
6	Check the transfer roll for dents. Are there any dents in the transfer roll?	Replace the transfer roll.	Go to step 7.
7	Remove the transfer belt and check the surface for waviness or other irregularities. Are the surface irregularities?	Replace the transfer belt.	Contact your second level support.

Partially dark or light print

Step	Action and questions	Yes	No
1	Check the drum on the imaging unit for over exposure to light. Has it been over exposed to light?	Go to step 2	Go to step 3
2	Replace the affected imaging unit. Did this fix the issue?	Problem resolved.	Go to step 3
3	Check the imaging unit for proper installation. Is it properly installed?	Go to step 5.	Go to step 4
4	Reinstall the imaging units. Did this fix the issue?	Problem resolved.	Go to step 5
5	Clean the contacts on the imaging unit and the printer. Did this resolve the issue?	Problem resolved.	Contact your second level support.

Black page

Step	Action and questions	Yes	No
1	Inspect the contact points for the imaging unit and the printer. Are they clean and free of debris?	Go to step 3	Go to step 2
2	Clean the contacts. Did this fix the issue?	Problem resolved	Go to step 3.
3	Check the sub frame for bent springs, or contacts. Are the contacts on the sub frame damaged?	Replace the sub frame.	Go to step 4.
4	Check the HVPS for proper installation. Are the screws securing the HVPS to the subframe secure?	Go to step 5	Tighten the screws.
5	Disconnect and reconnect the HVPS cable at the bottom of the HVPS. Did this fix the problem?	Problem resolved	Go to step 6.
6	Replace the HVPS. Did this fix the problem?	Problem resolved	Contact your second level support.

No print

Step	Action and questions	Yes	No
1	Check the paper in the printer for moisture. Is the paper damp?	Replace the paper with dry paper.	Go to step 2.
2	Check for dewing or moisture on the LED printheads. Is there moisture on the printheads?	Let the printheads dry. Move the printer to a less humid location if needed.	Go to step 3.
3	Using the Administrative menu, move the transfer belt to the up and down position. Does the belt move?	Go to step 4.	Replace the belt
4	Check the transfer roll for proper installation. Is the transfer roll installed correctly?	Go to step 5.	Reinstall the transfer roll.
5	Check the transfer roll contacts for dirt or wear. Are the transfer roll contacts clean?	Go to step 6.	Clean the contacts.
6	Check the LED ribbon cables for proper connection at both ends. Are the LED ribbon cables properly installed?	Go to step.7	Properly install the ribbon cables.
7	Check the LED ribbon cable connectors on the printhead controller board for +5V DC. Is the voltage correct?	Go to step.8	Replace the printhead controller board.
8	Check all the connectors on the printhead controller board. Are they properly connected	Go to step.9	Properly connect the connectors.
9	Replace the printhead controller board. Did this fix the problem?	Problem resolved.	Contact second level support.

Stain on back of page

Step	Action and questions	Yes
1	Check for dirt on the transfer belt. Is there dirt on the transfer belt?	Clean the transfer belt with a lint free cloth.
2	Check for dirt along the paper path. Is there dirt on the paper path?	Clean any dirty paper path components with a lint free cloth.
3	Check the registration rolls for dirt or debris. Is there dirt on the registration rolls?	Clean the registration rolls with a lint free cloth.

Failure to fuse

Step	Action and questions	Yes	No
1	Check the fuser for proper installation. Is the fuser properly installed?	Go to step 2.	Reinstall the fuser.
2	Check connection CN on the LVPS for proper connection. Is the cable properly connected.	Go to step	Go to step
3	Check CN for the correct voltage. Is the voltage correct?	Replace the fuser.	Replace the LVPS. See **“Low volt power supply removal” on page 4-50**.

Stains on edge of page

Action and questions
Check for dirt on the paperpath. Clean as needed.

ADF & scanner print quality

Note: Get a printout as a base, and then follow the symptom table to identify the possible failing FRU.

Image quality symptoms:

- Dark print — **"Dark image quality (using ADF or Scanner)" on page 2-11**.
- Vertical stripes— **"Vertical lines (process direction using the ADF)" on page 2-12**.
- Spots— **"Spots (using flatbed scanner)" on page 2-12**.
- Skew—**"Skew (using ADF)" on page 2-14**.
- Media damage— **"Media damage (using ADF)" on page 2-15**.

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.

Dark image quality (using ADF or Scanner)

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

Step	Check	Yes	No
1	Check the large and small platen glass on the scanner unit assembly. **Is the large and small platen glass contaminated?**	Clean both sides of the large and small platen glass.	Go to step 2.
2	Check the three mirrors in the scanner unit assembly. **Are the three mirrors contaminated or show signs of dust?**	Clean the three mirrors in the scanner unit assembly.	Go to step 3.
3	Check the white strip on the bottom of the large platen glass. **Is the white strip contaminated?**	Clean the white strip and POR the machine.	Go to step 4.
4	Check the scanner lens. **Is the scanner lens contaminated?**	Clean the scanner lens.	Go to step 5.
5	Perform a print test using the ADF & scanner unit assemblies. **Does the error continue?**	Replace the CCD assembly.	Problem solved.
6	Perform a print test using the ADF & scanner unit assemblies. **Does the error continue?**	Replace the ICC board. Go to **"ICC board" on page 4-113**.	Problem solved.

Vertical lines (process direction using the ADF)

Step	Check	Yes	No
1	Check the small platen glass on the scanner unit assembly. **Is the large and small platen glass contaminated or damaged?**	Clean or replace the scanner platen glass cover. Go to **"Flatbed upper cover" on page 4-151**.	Go to step 2.
2	Check the three mirrors in the scanner unit assembly. **Are the three mirrors contaminated or show signs of dust?**	Clean the three mirrors in the scanner unit assembly.	Go to step 3.
3	Check the white strip on the bottom of the large platen glass. **Is the white strip contaminated?**	Clean the white strip and POR the machine.	Go to step 4.
4	Perform a print test using the scanner unit assembly. **Does the error continue?**	Replace the scanner unit assembly. Go to **"Flatbed assembly removal" on page 4-106**.	Problem solved.
5	Perform a print test using the ADF unit assembly. **Does the error continue?**	Replace the ICC board. Go to **"ICC board" on page 4-113**.	Problem solved.

Spots (using flatbed scanner)

Step	Check	Yes	No
1	Check the large platen glass on the scanner unit assembly. **Is the large platen glass contaminated or damaged?**	Clean or replace the scanner platen glass cover. Go to **"Flatbed upper cover" on page 4-151**.	Go to step 2.
2	Check the three mirrors in the scanner unit assembly. **Are the three mirrors contaminated or show signs of dust?**	Clean the three mirrors in the scanner unit assembly.	Go to step 3.
3	Check the white strip on the bottom of the large platen glass. **Is the white strip contaminated?**	Clean the white strip and POR the machine.	Go to step 4.

Step	Check	Yes	No
4	Perform a print test using the scanner CCD assembly. **Does the error continue?**	Replace the scanner CCD assembly. Go to **"CCD chassis" on page 4-114**.	Problem solved.
5	Perform a print test using the flatbed scanner assembly. **Does the error continue?**	Replace the ICC board. Go to **"ICC board" on page 4-113**.	Problem solved.

Skew (using ADF)

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

Step	Check	Yes	No
1	Check printer installation placement. Check the installation surface for irregularities. Check for damaged printer caster. **Is the setup surface normal?**	Go to step 2.	Correct the installation placement.
2	Properly load document into the ADF unit assembly and ensure all guides are set correctly. Re-print the defective image. **Does the error continue?**	Go to step 3.	Problem solved.
3	Check for obstructions in the area of the media feed path in the ADF. **Is the media feed path free from any obstructions?**	Go to step 4.	Remove obstructions.
4	**Is the ADF left cover assembly properly and evenly closed?**	Go to step 5.	Open then properly close the ADF left cover assembly.
5	Check the ADF/pick roll assembly for damage and wear. **Is the ADF feed/pick roll assembly free from damage and wear?**	Go to step 6.	Replace the ADF feed/pick roll assembly. Go to **"ADF pick roll removal" on page 4-104**.
6	Check the ADF separator roll. **Is the ADF separator roll free from damage and wear?**	Go to step 7.	Replace the ADF separation roll. Go to **"ADF separator roll removal" on page 4-105**.

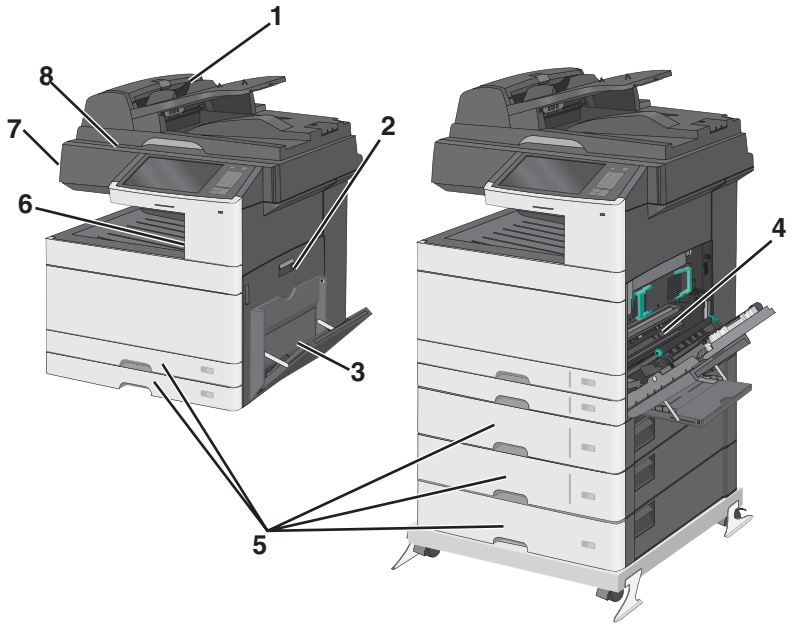
Media damage (using ADF)

Step	Check	Yes	No
1	Properly load document into the ADF unit assembly and ensure all guides are set correctly. Re-print the defective image. **Does the error continue?**	Go to step 2.	Problem solved.
2	Check for obstructions in the area of the media feed path in the ADF. **Is the media feed path free from any obstructions?**	Go to step 3.	Remove obstructions.
3	**Is the ADF left cover assembly properly and evenly closed?**	Go to step 4.	Open then properly close the ADF left cover assembly.
4	Check the ADF/pick roll assembly for damage and wear. **Is the ADF feed/pick roll assembly free from damage and wear?**	Go to step 5.	Replace the ADF feed/pick roll assembly. Go to **"ADF pick roll removal" on page 4-104**.
5	Check the ADF separator roll. **Is the separator roll free from damage and wear?**	Go to step 6.	Replace the separator roll. Go to **"ADF separator roll removal" on page 4-105**.
6	Check the ADF controller card assembly. Replace the ADF relay board assembly. Go to **"ADF relay board" on page 4-112**. Perform a print test using the ADF. **Does the error continue?**	Replace the RIP board. Go to **"RIP board removal" on page 4-68**.	Problem solved.

Black page from scanner

Step	Questions / actions	Yes	No
1	Print a menu page, or a page from the host. Is the page black?	See Go to **"Black page" on page 2-9**.	Go to step 2.
2	Are the CCD ribbon cables properly connected to the ICC board?	Go to step 4	Go to step 3.
3	Properly connect the ribbon cables to the ICC board and CCD. Did this fix the problem?	Problem resolved.	Go to step 5.
4	Check the cables for continuity. Is there continuity?	Go to step 6.	Go to step 5.
5	Replace the ribbon cables from the ICC board to the CCD. Did this fix the problem?	Problem resolved	Go to step 6.
6	Replace the ICC. Did this fix the problem?	Problem resolved	Go to step 7.
7	Replace the CCD. Did this fix the problem?	Problem resolved	Go to step 8.
8	Replace the RIP Did this fix the problem?	Problem resolved	Contact second level support.

Paper jams

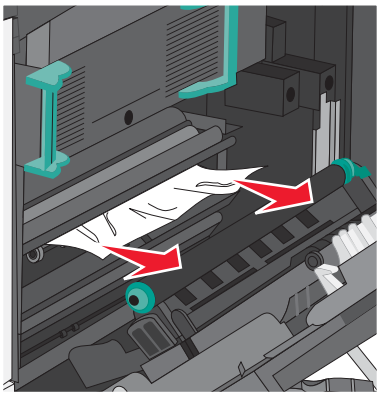


Location	User primary message	Explanation	
1	283.05	Scan Sensor Jams	To resolve scanner jam issues, see **"Clearing and resolving scanner jams" on page 2-29**.
	290.11	Scanner ADF Cover Open Jam	
	283.01	Scanner Static Jam - Scan Sensor Jams	
	280.06	Paper Missing	
	285.05	Scanner ADF Eject Jam	
2	200.xx	Paper jam in the transfer / carry area.	
3	250	Paper jam in the MPF tray	
4	201.xx	Paper jam in the fuser entry area.	
	230	Paper jam in the duplex.	
	231-39	Paper jam in the duplex. Check the duplex sensor area at the bottom of the duplex.	
5	24x	Paper jam in the papertray. <x> indicates which tray the jam is in.	
6	203	Paper jam at the paper exit area.	
7	292.01	Scanner Carriage Locked	To resolve these issues, see **"Clearing and resolving scanner jams" on page 2-29**.
8	291.06	Flatbed Cover Open	

Clearing and troubleshooting paper jams

200 paper jam

1. Open the right side cover.
2. Pull the paper up and out to remove it from the paper path.

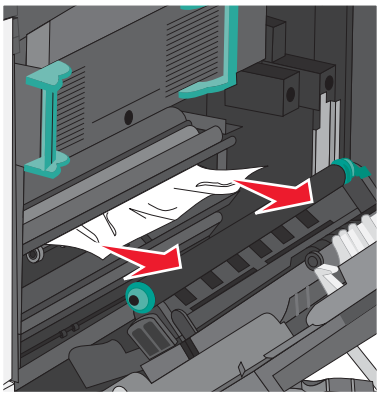


Note: Make sure all paper fragments are removed. If the page is in the fuser, the fuser nip release lever should be lowered. After removing the jammed page, return the lever to the proper position.

3. Close the right side cover.
4. Press **Continue, jam cleared**.

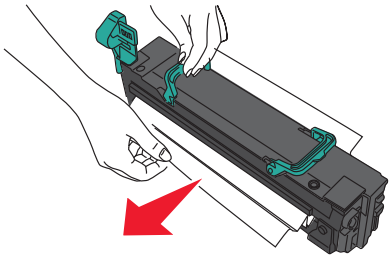
201 paper jam

1. Open the right side cover.
2. Determine where the jam is located and remove it.
   a. If the paper is visible under the fuser, grasp it on each side and pull it out.



   b. If the paper is not visible, remove the fuser and remove the jam. See **fuser removal**.

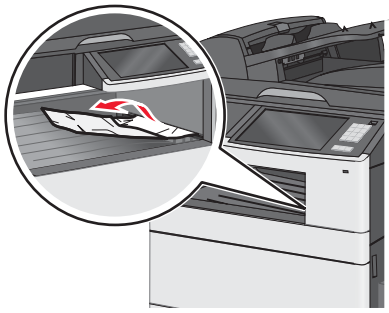
3. Remove the jammed paper.



4. Close the right cover.
5. Press **Continue, jam cleared**.

203 paper jam

1. Grasp any jammed paper that is visible in the exit bin and gently pull it out.

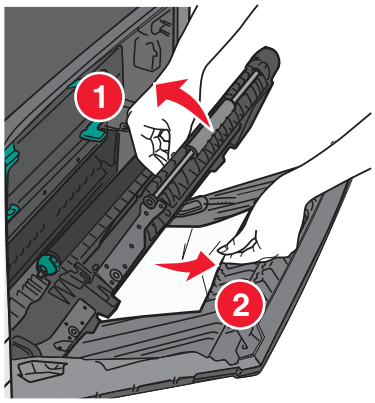


Note: Make sure all paper fragments are removed. If the page is in the fuser, the fuser nip release lever should be lowered. After removing the jammed page, return the lever to the proper position.

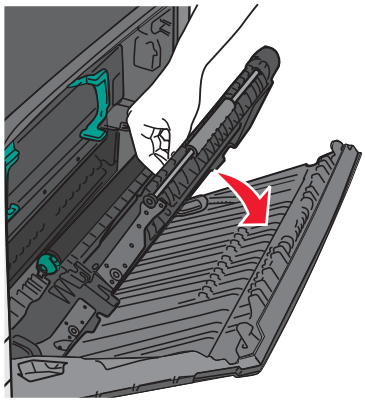
2. Press **Continue, jam cleared**.

230 paper jam

1. Open the right cover.
2. Lift the duplexing unit mechanism away from the cover.



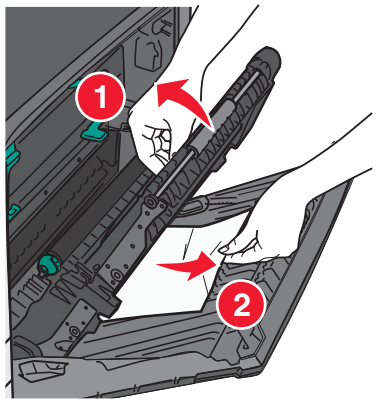
3. Remove any jammed paper.
4. Lower the mechanism.



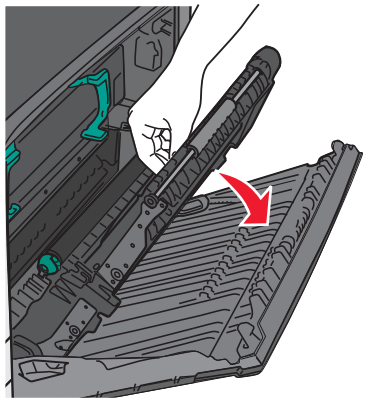
5. Close the right cover.
6. Press **Continue, jam cleared**.

231-39 paper jam

1. Open the right cover.
2. Lift the duplexing unit mechanism away from the cover.



3. Remove any jammed paper.
4. Lower the mechanism.

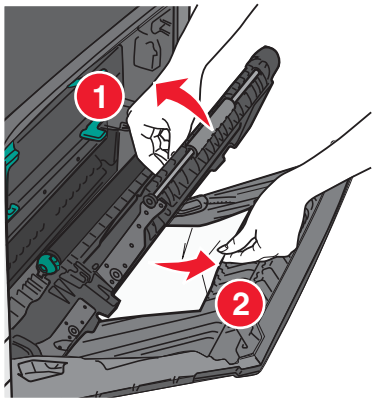


5. Close the right cover.
6. Press **Continue, jam cleared**.

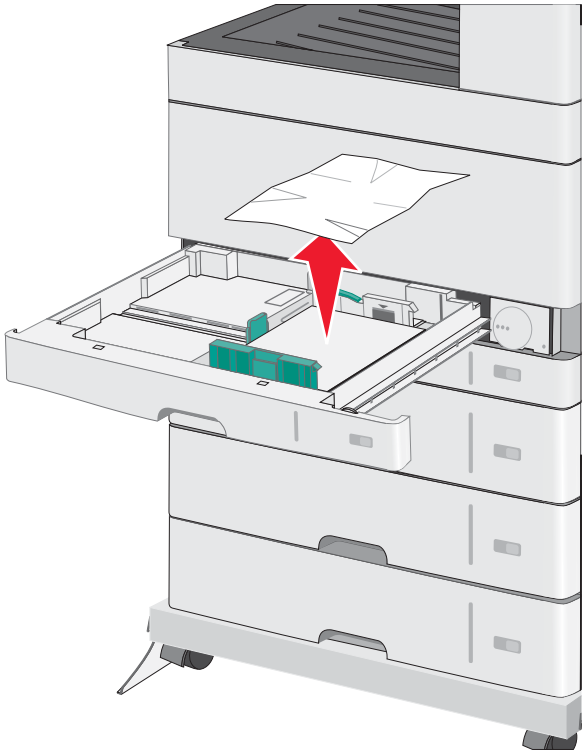
24x paper jam

Jam in tray 1

1. Open the right cover and pull any jammed pages out.



2. Open Tray 1, ad pull the jammed pages up and out.

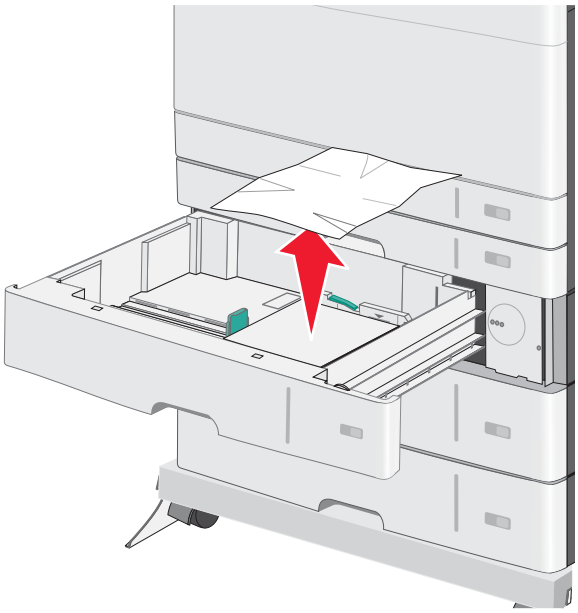


3. Close Tray 1.
4. Press **Continue, jam cleared**.

Jam in the optional trays

1. Open the side affected tray's access door and remove the jammed pages.
   Note: Make sure all paper fragments are removed.

2. Open the affected tray and remove the jammed pages.



3. Close the tray.
4. Press **Continue, jam cleared**.

250 paper jam

1. Remove the jammed pages from the multipurpose feeder.

2. Load paper into the multipurpose feeder.
3. Press **Continue, jam cleared**.

Duplex unit service check

	FRU	Action
1	Feed roller belts	Check for wear or damage to the feed roller belts. Replace as necessary.
2	• Duplex clutch	Check the clutch cable for proper connection to CN13 on the engine board. If it is properly connected, replace the clutch. If this doesn't fix the problem, replace the engine board.
3	• Duplex solenoid	Check for proper operation of the solenoid and linkage. Replace as necessary. Check the solenoid cable for proper connection to CN10 on the engine board. If it is properly connected, replace the solenoid. If this doesn't fix the problem, replace the engine board.
4	Photo-interrupter assembly	Ensure that the photo-interrupter actuators are operating correctly and are in the proper position.

Paper path service checks

Paper is being picked up and carried to the registration roller (Paper jams 200, 250, 24*x*).

	FRU	Action
1	Paper feed cassette	If there are misfeeds and jams in the paper-feed unit, check to see if the corners of the paper in the cassette are curled upward. If the corners are curled, turn the entire stack of paper over. The curling could be due to humidity conditions.
2	Paper feed unit rollers Roller clutch	Are the rollers dirty or worn? Replace as needed. If there is a failure to pick, and the feed rollers are clean, check the roller clutch on the paperfeed unit. This check can be performed by turning the paper feed roll in both directions. If the shaft can be turned in both directions, replace the roller clutch.
3	• Paper feed roller (MPF) • Paper feed rolls MPF, tray 1, 2, 3, 4, 5 • MPF pad	Be sure the paper feed rollers are free of dirt and not damaged. Be sure the MPF pad is free of dirt and not damaged. Replace parts as necessary.
4	Gears	Be sure the paper feed gears are not damaged.
5	• Paper feed clutch • MPF clutch • MPF frame assembly	Ensure the clutches are engaging properly. Check connector CN 8 (Main tray), CN 28 (MPF) on the engine controller board, and CN18 on the expansion feeder controller card for proper connection. Replace the non working clutch. If this doesn't fix the problem, replace the engine board.
6	• Registration sensor • MPF sensor • Engine controller board	Check the following engine controller board connectors for proper connection: • Registration sensor—CN12 • MPF sensor—(CN14) • If the connectors are properly connected, replace the sensors. • If replacing the sensors does not fix the problem, replace the engine control board.

Paper has stopped at the registration roller or has not reached the fuser (Paper jams 200, 250, 24*x*).

	FRU	Action
1	• Registration roller clutch • Registration roller • Transfer belt unit • Rear paper feed guide	Check these parts for wear or damage. Replace as necessary. Be sure all guide surfaces in the paper path are free of dirt. Check the registration roller clutch for continuity. Does the clutch engage when the printer is printing a job? Be sure connector CN20 on the printhead controller board is connected properly. If the connection is properly connected, check pin 1 on CN20 for +24Vdc and pin 3 for GND. If the voltage and ground are present, replace the clutch. If replacing the clutch doesn't fix the problem, replace the printhead controller board.
2	• Registration sensor • Printer controller board	Check the registration sensor connection on CN12 on the engine controller board for proper connection. If it is properly connected, replace the registration sensor. If this doesn't fix the problem, replace the engine board.

Paper has exited the registration roller and entered the fuser (Paper jam 201).

	FRU	Action
1	• Transfer belt unit • Rear paper guide • Discharge brush • Fuser	Remove any buildup of toner. Replace any damaged or worn parts. Check the paper exit flag on the fuser for damage. Replace the fuser if necessary.
2	• Fuser entry sensor	Check the fuser entry sensor to ensure it is in it's position and not dislodged. Check the cable to ensure it is properly connected to CN6 on the printhead controller board. Replace the sensor if it is faulty. If this doesn't fix the problem, replace the printhead controller board.
3	Fuser separation pawl	Replace the fuser if paper jams cannot be removed.

Paper has entered the fuser and exited the printer (Paper jam 203).

	FRU	Action
1	Fuser	Remove any toner buildup, and replace any worn or damaged parts.
2	• Output bin full lever • Paper exit unit • Exit unit sensor • Bin full sensor	Check the output bin full lever for smooth operation. Replace if needed. Check the exit unit sensor actuator for smooth operation. If the actuator is broken, replace the paper exit unit. Check the exit unit, and bin fill sensors on the paper exit unit for dirt and debris. Clean if needed. Check the cable for proper connection to CN7 on the printhead controller board. If the cable is properly connected, replace the sensor faulty sensor. If this doesn't fix the problem, replace the printhead controller board.

Paper has entered the duplex unit (Paper jam 230, 231-9).

	FRU	Action
1	Feed rollers Belts	Check for wear or damage to feed rollers and belts.
2	Duplex unit	Be sure the duplex unit is properly installed and that all connections on the engine board (CN 28, 29, 13, 14) are correct.
3	• Duplex clutch	Be sure the clutch turns freely with no binding, and it is properly installed. Check for wear or damage to the associated gears. Replace as necessary.
4	• Feed roller solenoid assembly • Paper re-feed solenoid assembly	Check for proper operation of the solenoid and linkage. Replace as necessary.
5	Paper tray	Check to see if the paper edge guides have shifted. If so, re-time by removing the screw and gear from the bottom of the tray and pushing the paper edge guides up against the paper lift plate. Reinstall the screw and gear.

Paperfeed unit service check

Note: These tests can also be performed on the expansion paper-feed units.

	FRU	Action
1	Door open interlock switch	• Turn the printer on. • Open the door. • Check the operator panel for “Close Door” message.
	Paper tray level motor	• Bypass the door open interlock switch*. • Pull out and replace the cassette. Listen for the paper tray level motor to activate. (The tray may or may not rise. The motor makes a low pitched vibrating sound.) - If the paper tray level motor operates and the “Close Door” message fails to appear, replace the door open interlock switch. - If the “Close door” message appears and the paper tray level motor fails to operate, check CN6 on the engine board for proper connection. If the cable is properly connected at both connections, replace the paper tray level motor.
	Printer controller board	- If the paper tray level motor fails to operate, and the “close Door” message fails to appear, check CN6 on the engine board for proper connection. If it is properly connected, replace the engine board.
2	Paper out sensor	• Turn the printer on, and open the right cover and duplex. Bypass the right cover door open interlock switch*.
	Paper feed unit	• With the paper tray empty and the paper out sensor blocked, pull out and replace the cassette. - If the tray rises and stays in place, check for a dirty paper out sensor, and inspect the paper empty sensor actuator on the paper feed unit. - If the paper empty sensor actuator is stuck or broken, replace the actuator. - If the actuator is good, replace the paper out sensor. - If the tray (x) empty message is displayed, check the paper out sensor to ensure it is in place.
	Paper level sensor	• Turn the printer on, and open the turn guide door. Bypass the turn guide door open sensor*. • Block the paper out sensor. • With the tray empty, pull out and insert the cassette. - If the tray fails to rise, check for a dirty paper level sensor or broken casette present actuator. With the turn guide door open, remove and reinsert the paper tray. - If the paper feed roll fails to go up when the paper tray is reinserted, replace the paper feed unit. - If the actuator is broken, replace the broken actuator. - If the actuator is good and the sensor was clean, replace the paper level sensor. - If the tray too full message is displayed, clean or replace the sensor.

	FRU	Action
3	Relay sensor	• Bypass the turn guide door open sensor*. • Turn the printer on while holding down the paper relay sensor. - If the operator panel does not display “Paper Jam”, check for a dirty paper relay sensor. - If the paper relay sensor is clean, or the actuator for the paper relay sensor is broken, replace the sensor. If the sensors are replaced and problem remains, replace the printer controller board.
	Paper feed clutch	• Check the clutch cables for proper connection to CN8 on the engine board, and CN20 on the printer controller board. • Check the resistance of the clutch using a multi meter. The resistance should measure 192 ohms. If the clutch shows a significantly higher reading, replace the clutch. • If you replace the paperfeed, or transport clutches and the problem remains, replace the engine board. If replacing the registration clutch and the problem remains, replace the printer controller board.

MPF service check

	FRU	Action
1	MPF tray paper guides	Check the guides to ensure they are not binding. Also, check the guides to ensure they are correctly adjusted for the paper in the tray.
2	MPF roll cover	Make sure the MPF roll cover is properly installed, and not obstructing the paperpath. Check for broken tabs, and replace the cover if any tabs are missing.
3	MPF roll MPF pad	Check for wear or damage to feed rollers and pad. Check for dirt on the roll and pad. Clean them with a lint free damp cloth.
4	MPF clutch	Check the MPF clutch cable for proper connection to the clutch and CN 28 on the engine board.
5	MPF paper empty lever (actuator) MPF sensor	Make sure the MPF paper empty lever moves smoothly, and doesn’t bind. Replace the lever if it is broken. Check the MPF sensor cable for proper connection to the sensor and CN14 on the engine board. Also check the cable for continuity.
6	Engine board	If replacing the MPF clutch and sensor don’t resolve and MPF feed issues, replace the engine board.

Clearing and resolving scanner jams

Note: Before performing the ADF jam service procedures, perform the following steps:

1. Remove all documents from the ADF input tray.
2. Open the ADF cover.
3. Gently remove the jammed paper from the ADF.
   Note: Make sure all paper fragments are removed.

280.06 Paper missing

Step	Action and questions	Yes	No
1	Open the ADF top cover and check the paper in sensor actuator to see if it moves freely. Does the sensor actuator move freely?	Go to step 4.	Go to step 2.
2	Is there any paper or obstruction preventing the actuator from moving freely.	Go to step 3	Go to step 4.
3	Remove the obstruction from the actuator. Did this fix the problem?	Problem resolved	Go to step 4.
4	Check the paper present sensor for dust or dirt. Is the sensor dusty?	Go to step 5.	Go to step 6.
5	Clean the sensor off. Did this fix the problem?	Problem resolved	Go to step 6.
6	Is the sensor dislodged?	Go to step 7.	Go to step 8.
7	Properly install the sensor. Did this fix the problem?	Problem resolved	Go to step 8.
8	Check the sensor (ADF paper present) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF paper present)” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
9	Check the sensor connection for proper connection to CN1 on the ADF relay, and the paper present sensor. Is the cable properly connected?	Go to step 10.	Go to step 9.
10	Connect the cables. Did this resolve the issue?	Problem resolved	Go to step 10.
11	Check J1 pin 12 for +5V and pin 10 for ground. Are these present?	Go to step 11.	Go to step 12.
12	Replace the paper present sensor. Did this fix the issue?	Problem resolved	Go to step 12.
13	Is the ADF cable properly connected to J9 on the ADF relay card, and the ICC board connector on the rear under side of the flatbed?	Go to step 14	Go to step15.
14	Properly connect the cable at both ends. Did this fix the issue?	Problem resolved	Go to step 15.

Step	Action and questions	Yes	No
15	Check the ADF cable for continuity. Is there continuity?	Go to step 16.	Go to step 15.
16	Replace the ADF cable. Did this fix the problem?	Problem resolved	Go to step 16.
17	Replace the ADF relay board. Did this fix the issue?	Problem resolved	Go to step 17.‘
18	Replace the ICC board. Did this fix the issue?	Problem resolved	Replace the RIP board. See **“RIP board removal” on page 4-68**.

283.01 Scanner static jam - Scan sensor jam

Step	Action and questions	Yes	No
1	Did the paper pick?	Go to step 10.	Go to step 2.
2	Is the pick roll in the up position?	Go to step 3.	Go to step 8.
3	Remove the ADF outer cover and inspect the sensors for dirt and debris. Are the sensors clean?	Go to step 5.	Go to step 4.
4	Clean the sensor. Did this fix the issue?	Problem resolved	Go to step 5.
5	Check the sensor (ADF Skew, and Scan sensor) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF Skew, and Scan sensor)” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 9.
6	Check the connections along the cable from the sensor to J1 on the ADF relay card. Are all the connections properly connected?	Go to step 8.	Go to step 7.
7	Properly connect the connectors. Did this fix the issue?	Problem resolved	Go to step 7.
8	Check pins 1, 4, 7, 10 for 5V and pins 3, 6, 9, 12 for GND on connector J1 on the ADF relay card. Are they present.	Go to step 9.	Go to step 10.
9	Replace the sensor assembly in the ADF inner cover. Did this fix the issue?	Problem resolved	Go to step 10.
10	Check the ADF motor assembly for proper connection to J2 and J6 on the ADF relay card. Are the motors properly connected?	Go to step 11	Go to step 12.
11	Connect the cables. Did this fix the issue?	Problem resolved	Got to step 12.
12	Replace the ADF motor assembly. Did this fix the issue?	Problem resolved	Go to step 13.
13	Replace the ADF relay card. Did this fix the issue?	Problem resolved	Go to step 14.

Step	Action and questions	Yes	No
14	Replace the ICC board. Did this fix the issue?	Problem resolved	Replace the RIP board. See **"RIP board removal" on page 4-68**.

283.05 Scan sensor jam

Step	Action and questions	Yes	No
1	Remove the paper from the ADF. Did this resolve the problem?	Problem resolved	Go to step 2.
2	Does the duplex paper pass sensor have dust on it, or debris blocking the sensor?	Go to step 3.	Go to step 4.
3	Clean the sensor. Did this fix the issue?	Problem resolved	Go to step 4.
4	Check the sensor (ADF skew sensor) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line "sensor (ADF skew sensor)" Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
5	Check J1 on the ADF relay card for proper connectivity. Is the sensor cable properly connected to the ADF relay card?	Go to step 7.	Go to step 6.
6	Reconnect the cable to the ADF relay card. Did this fix the issue?	Problem resolved	Go to step 7.
7	Check pin 1, 4, 7, 10 for 5V and pin 3, 6, 9, 12 for GND on connector J1 on the ADF relay card. Are they present.	Go to step 8.	Go to step 9.
8	Replace the inner cover sensor assembly. Did this fix the issue?	Problem resolved	Go to step 9.
9	Check the ADF motor assembly for proper connection to J2 and J6 on the ADF relay card. Are the motors properly connected?	Go to step 10	Go to step 11.
10	Connect the cables. Did this fix the issue?	Problem resolved	Got to step 11.
11	Replace the ADF motor assembly. Did this fix the issue?	Problem resolved	Go to step 12.
12	Check the ADF cable for continuity. Is there continuity?	Go to step14.	Go to step 13.
13	Replace the ADF cable did this resolve the issue?	Problem resolved.	Go to step 14.
14	Replace the ADF relay card. Did this fix the issue?	Problem resolved	Go to step 15.
15	Replace the ICC board. Did this fix the issue?	Problem resolved	Replace the RIP board. See **"RIP board removal" on page 4-68**.

285.05 Scanner ADF eject jam

Step	Action and questions	Yes	No
1	Remove the paper from the ADF. Did this resolve the problem?	Problem resolved	Go to step 2.
2	Remove the ADF main feed unit, and inspect the duplex out sensor actuator. Does it move freely?	Go to step 6.	Go to step 3.
3	Remove any debris obstructing the actuator, Did this fix the issue?	Problem resolved	Go to step 4.
4	Is the actuator improperly attached to the main feeder, or broken?	Go to step 6.	Go to step 5.
5	Re attach or replace the actuator. Did this fox the issue?	Problem resolved	Go to step 6.
6	Does the duplex out sensor have dust on it, or debris blocking the sensor?	Go to step 7.	Go to step 8.
7	Clean the sensor. Did this fix the issue?	Problem resolved	Go to step 8.
8	Check the sensor (ADF exit sensor) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF exit sensor)” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 10.	Go to step 9.
9	Check J4 on the ADF relay card for proper connectivity. Is the sensor cable properly connected to the ADF relay card?	Go to step11.	Go to step 10.
10	Reconnect the cable to the ADF relay card. Did this fix the issue?	Problem resolved	Go to step 11.
11	Check pin 1 for 5V and pin 3 for GND on connector J4 on the ADF relay card. Are they present.	Go to step 12	Go to step 13.
12	Replace the duplex out sensor. Did this fix the issue?	Problem resolved	Go to step 14.
13	Check the ADF cable for continuity. Is there continuity?	Go to step 14.	Go to step 15.
14	Replace the ADF cable did this resolve the issue?	Problem resolved.	Go to step 15.
15	Replace the ADF relay card. Did this fix the issue?	Problem resolved	Go to step 16.
16	Replace the ICC board. Did this fix the issue?	Problem resolved	Replace the RIP board. See **“RIP board removal” on page 4-68**.

290.11 Scanner ADF cover open jam

Note: In addition to the steps below, See **"ADF cover open service check" on page 2-77**.

Step	Action and questions	Yes	No
1	Open the ADF top cover and check the cover open sensor actuator to see if it moves freely. Does the sensor actuator move freely?	Go to step 4.	Go to step 2.
2	Are there any obstructions preventing the actuator from moving freely.	Go to step 3	Go to step 4.
3	Remove the obstruction from the actuator. Did this fix the problem?	Problem resolved	Go to step 4.
4	Check the cover open for dust or dirt. Is the sensor dusty?	Go to step 5.	Go to step 6.
5	Clean the sensor off. Did this fix the problem?	Problem resolved	Go to step 6.
6	Is the sensor dislodged?	Go to step 7.	Go to step 8.
7	Properly install the sensor. Did this fix the problem?	Problem resolved	Go to step 8.
8	Check the sensor (Cover open) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line "sensor (Cover open) Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 10.	Go to step 9.
9	Check the sensor connection for proper connection to CN1 on the ADF relay, and the paper present sensor. Is the cable properly connected?	Go to step 11.	Go to step 10.
10	Connect the cables. Did this resolve the issue?	Problem resolved	Go to step 11.
11	Check J1 pin 3 for +5V and pin 2 for ground. Are these present?	Go to step 12.	Go to step 13.
12	Replace the paper present sensor. Did this fix the issue?	Problem resolved	Go to step 13.
13	Is the ADF cable properly connected to J9 on the ADF relay card, and the ICC board connector on the rear under side of the flatbed?	Go to step 15	Go to step14.
14	Properly connect the cable at both ends. Did this fix the issue?	Problem resolved	Go to step 15.
15	Check the ADF cable for continuity. Is there continuity?	Go to step 17.	Go to step 16.
16	Replace the ADF cable. Did this fix the problem?	Problem resolved	Go to step 17.
17	Replace the ADF relay board. Did this fix the issue?	Problem resolved	Go to step 18.'

Step	Action and questions	Yes	No
18	Replace the ICC board. Did this fix the issue?	Problem resolved	Replace the RIP board. See **“RIP board removal” on page 4-68**.

291.06 Flatbed cover open

Step	Action and questions	Yes	No
1	POR the MFP. Does the error re-occur.	Go to step 2.	Problem solved
2	Check the sensor (FB Cover open) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (FB Cover open)” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3
3	Check all the connections from the FB cover open sensor to J1 on the ICC board. Are they properly connected?	Go to step 5.	Go to step 4.
4	Properly connect the connections. Did this fix the problem?	Problem resolved	Go to step 5.
5	Replace the sensor. Did this fix the problem?	Problem solved	Go to step 6.
6	Check the cable connections from the ICC board to the RIP. Are the cables properly connected?	Go to step 8.	Go to step 7.
7	Reconnect the cables from the ICC to the RIP. Did this fix the issue?	Problem resolved	Go to step 8.
8	Check the cables from the ICC to the RIP for continuity. Is there continuity?	Go to step 10.	Go to step 9.
9	Replace the faulty cable. Did this fix the issue?	Problem resolved	Go to step 10.
10	Replace the ICC board. Did this fix the issue?	Problem resolved	Replace the RIP board. See **“RIP board removal” on page 4-68**.

292.01 Scanner carriage locked

Unlock the scanner flatbed CCD carrier module lock (scanner lock). The lock is located on the left hand side of the flatbed unit.

ADF paper jam service check

Note: This service check should be used if the paper feeds and jams in the ADF. If the paper is not feeding into the ADF see **"280.06 Paper missing" on page 2-29**. If the paper fails to eject from the ADF see

Step	Questions / actions	Yes	No
1	If the ADF is multi-feeding, check for dirt on the ADF separator pad and ADF separator rollers. Are they dirty?	Clean them with a lint free cloth and isopropyl alcohol.	Replace the separator pad and ADF pick roll.
2	If the paper is skewing when it is fed into the ADF, check the paper guide width. Is it set correctly?	Go to step 3.	Set the paper guides so they contact the edges of the paper.
3	If paper is skewing when fed or jamming check to see if the top cover is open or ajar. Is the ADF top cover open or ajar?	Properly close the top cover.	If the paper is jamming in the ADF, go to step 6
4	Is paper failing to feed into the ADF?	Go to step 5.	There is no issue.
5	Check the sensor (ADF paper present) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line "sensor (ADF paper present)" Are the sensors working properly?	Go to step 6	Go to step 9.
6	Check the leading edge of the paper to ensure the paper is not curled or bent in a way that would keep it from contacting the paper present sensor actuator. Is the paper damaged?	Bad media. Replace the media	Go to step 7.
7	Check for dirt in the ADF scan sensor, paper in sensor and paper pass sensor. See **"Flatbed / ADF sensors" on page 5-3** for their locations. Are the sensors clean?	Clean the sensors, or remove debris from the scan sensor actuator.	Go to step 8.
8	Is the sensor actuator on the ADF scan sensor damaged?	Replace the scan sensor actuator.	Go to step 9.
9	Are the sensor cable connectors properly connected on the ADF relay card?	Go to step 10.	Go to step 10.
10	Connect the cables. Did this fix the issue?	Problem resolved.	Go to step 11.
11	Check the ADF motor assembly for proper connection to J2 and J6 on the ADF relay card. Are the motors properly connected?	Go to step 12	Go to step 13.
12	Connect the cables. Did this fix the issue?	Problem resolved	Got to step 13.
13	Replace the ADF motor assembly. Did this fix the issue?	Problem resolved	Go to step 14.
14	Check the ADF cable for continuity. Is there continuity?	Go to step 15.	Replace the ADF cable.
15	Replace the ADF relay card. Did this solve the problem?	Problem resolved	Go to step 16.

Step	Questions / actions	Yes	No
16	Replace the ICC board. Did this fix the issue?	Problem resolved	Replace the RIP board. See **“RIP board removal” on page 4-68**.

Error codes

In addition to the 1xx and 9xx error codes, this device has displays a symptom where the device shuts down repeatedly. The main symptom of this error is the switch going to the off position automatically when the device PORs. This is due to a fuser and printhead controller abnormality. If this symptom is displayed see **“Abnormal fuser temperature error” on page 2-48**.

1xx error codes	Action
121.01 Abnormal thermistor 1	See **“121.01 Thermistor 1 error” on page 2-46**.
121.02 Abnormal thermistor 2	See **“121.02 Thermistor 2 error” on page 2-46**
140.01 Abnormal main motor	See **“140 Drive motor error” on page 2-51**
149.01 Abnormal exit motor	See **“149.01 Fuser / paper exit motor error” on page 2-51**
172.01 Abnormal power supply fan	See **“172.01 - Power supply unit fan error” on page 2-55**.
173.01 Abnormal machine fan	See **“173.01 - Main unit fan error” on page 2-55**.
121.05 Abnormal heater	See **“121.05 Fuser - fuser heater error” on page 2-48**.
146.01 Tray 1 error	See **“146.01 Tray1error” on page 2-52**
146.03 Tray 3 error	See **“146.03 Tray 3 error” on page 2-52**.
146.04 Tray 4 error	See **“146.04 Tray 4 error” on page 2-53**.
146.05 Tray 5 error	See **“146.05 Tray 5 error” on page 2-54**.
121.04 Abnormal belt thermistor	See **“121.04 Belt thermistor error” on page 2-47**
113.01 HDCONT M-HEAD error	See **“113.01 Magenta printhead error” on page 2-45**.
112.01 HDCONT C-HEAD error	See **“112.01 Cyan printhead error” on page 2-45**.
114.01 HDCONT Y-HEAD error	See **“114.01 Yellow printhead error” on page 2-45**.
111.01 HDCONT K-HEAD error	See **“111.01 Black printhead error” on page 2-45**.
121.03 Abnormal thermistor 3	See **“121.03 Thermistor 3 3 error” on page 2-47**
171.01Abnormal fuser fan	See **“171.01 Fuser fan error” on page 2-54**
174.01 Abnormal rear fan	See **“174.01 Rear fan error” on page 2-55**
130.xx Abnormal High Voltage unit	See **“130.xx High voltage power supply error” on page 2-49**
136.xx Abnormal temperature and humidity sensor	See **“136.xx Temperature humidity sensor error” on page 2-50**.
126.xx Abnormal power switch	See **“126.xx Power switch error” on page 2-48**
132.xx Abnormal theta sensor	See **“132.xx Abnormal theta sensor” on page 2-50**
132.00 Density sensor error	See **“132.00 Density sensor error” on page 2-49**

9xx error codes	Action
941.01 SDRAM R/W error	See **“941.01 SDRAM R/W error” on page 2-62**
900.xx Unrecoverable RIP software error / illegal trap	See **“900.xx System software error” on page 2-60**.
910.xx Unrecoverable engine firmware error	Turn off printer for 10 seconds and restart. If error re-occurs, replace RIP board.
941.02 MDC error	See **“941.02 MDC error” on page 2-62**.
941.03 CPU error	See **“941.03 CPU error” on page 2-63**
941.04 Abnormal MDC controller	See **“941.04 MDC controller error” on page 2-63**
941.05 Abnormal EEPROM	See **“941.05 EEPROM error” on page 2-63**
950.xx Service NCVRAM Mismatch **Note:** A new controller board or operator panel has been installed, and has not been properly prepared for this use. Install a new note. Do not install both the controller board and the operator panel at the same time without a POR in between.	See **“950.00–950.29—EPROM mismatch failure” on page 2-64**.
952.xx Service NV Failure	Perform a POR to clear the error.
953.xx Service NVRAM Failure	Replace the RIP board.
954.xx Service NVRAM Failure	
955.00 Service Code CRC <loc>	
956.xx Service System Board	
957.xx Service System Board	
958.xx Service NAND Failure	
959,xx Service Invalid Firmware	Call the second level support to get the correct level of firmware and update the firmware, or replace the RIP board.
960.xx Service Memory Error	Replace the RIP board.
961.xx Service Memory Error	Replace the memory in the DIMM slot.
964.xx Service Emulation Error	Disable the Download Emulation. Program the download emulation into the firmware card again. If this does not resolve the problem, then replace the firmware card and download the emulation again.
975.xx Standard network or Network Card X	Call your second level support.
976.xx Standard network or Network Card X	
982.xx Service <device>	
990.xx Service <device>	
991.xx Service <device> Card	

8xx scanner error codes	Description	Action
840.01	The scanner has been manually disabled	Enter the configuration mode to re-enable the scanner.
840.02	The scanner has automatically been disabled by the controller	Enter the configuration mode to re-enable the scanner.
840.03	Scanner cable unplugged	Check the scanner cables for proper connection to the scanner and RIP board.
841.00	Invalid configuration or ASIC not found.	See **“841.00 Invalid configuration or ASIC not found” on page 2-56**.
841.01	Invalid AFE setting.	See **“841.01 Invalid AFE setting” on page 2-56**.
841.02	Delayed interrupt detected.	See **“841.02 Delayed interrupt detected” on page 2-57**.
841.03	Failed indirect register test.	See **“841.03 Failed indirect register test” on page 2-57**.
841.04	Failed external DRAM test.	See **“841.04 Failed external DRAM test” on page 2-57**.
841.05	Image pipe timeout	See **“841.05 Image pipe time-out” on page 2-57**
841.06	Scanner did not initiate scan.	See **“841.06 Scanner did not initiate scan” on page 2-58**
842.00	No response	See **“842.00 No response / 842.01 HW protocol / 842.02 Logical protocol” on page 2-58**.
842.01	HW Protocol	See **“842.00 No response / 842.01 HW protocol / 842.02 Logical protocol” on page 2-58**.
842.02	Logical protocol	See **“842.00 No response / 842.01 HW protocol / 842.02 Logical protocol” on page 2-58**.
843.00	Carriage home	See **“843.00 Carriage Home” on page 2-59**.
844.00	Lamp failure	**“844.00 Lamp failure (Front side)” on page 2-59**.
849.01	Machine has an installed modem that should not be present.	Uninstall the modem. See **“849.01 Device had modem installed, but config ID indicates it should not” on page 2-59**.
849.10	Machine has an installed hard drive that should not be present.	Uninstall the hard drive. See **“849.10 Device had HD installed, but config ID indicates it should not” on page 2-59**.

Fax T30 log error codes

Fax error log codes

Error code	Description	Action
000	No error occurred during fax transmission	No action needed
200	Error occurred when transmitting training.	• Check line quality. • Select a lower 'Max Speed'. • value under Fax Send settings • Adjust the transmit level.
3XX	Error occurred when receiving image data.	• Check line quality. • Adjust 'Receive Threshold'. • Select a lower 'Max Speed' value under Fax Receive settings.
4XX	Error occurred when sending image data.	• Check line quality. • Adjust 'Transmit Level'. • Select a lower 'Max Speed' value under Fax Receive settings.
5XX	Received unknown response from remote fax device.	No action needed. Issue is with the other device.
6XX	Error occurred when receiving a frame.	• Check line quality. • Adjust 'Receive Threshold'.
7XX	Error occurred when sending a frame.	• Check line quality. • Adjust 'Transmit Level'. • Select a lower 'Max Speed' value under Fax Send settings.
800	Received EOT unexpectedly from the modem in V34 mode.	• If error persists disable V34 modulation scheme.
802	Too many timeouts occurred during ECM reception.	• If error persists disable ECM mode.
803	Fax cancelled by user	No action needed.
804	Unexpectedly received a disconnect command from the remote end.	• Check line quality. • Adjust Transmit Level/Receive Threshold values. • Remote device could be requesting an unsupported feature.
805	Remote fax device failed to respond to the DCS command.	• Adjust Transmit Level/Receive Threshold values. • Remote device could be malfunctioning.
808	T1 timeout occurred when trying to establish a connection with a remote fax device.	• Adjust Transmit Level/Receive Threshold values.
809	T2 Timeout occurred due to loss of command/response synchronization.	• Adjust Transmit Level/Receive Threshold values.

Fax error log codes (Continued)

Error code	Description	Action
80A	T5 Timeout occurred when transmitting image data to remote fax device.	• Check line quality. • Adjust 'Transmit Level'. • Select a lower 'Max Speed'value under Fax Send settings.
80B	Too many errors when transmitting in ECM mode.	• Check line quality. • Adjust 'Transmit Level'. • Select a lower 'Max Speed'value under Fax Send settings.
80C	Remote device failed to respond to the CTC command.	• Select a lower 'Max Speed' value under Fax Send settings. • Adjust 'Transmit Level'.
80D	Received too many requests from remote end to repeat the previous command sent.	• Check line quality. • Adjust 'Transmit Level'. • Check if line conditions on remote end will facilitate a good connection.
80E	Functional limitation- Remote fax device does not support G3 receive capability.	No action needed. Issue with the remote device.
811	Failed to detect a fax device at the remote end.	• Verify MFD is answering to fax call and not a voice call. • Decrease value of 'Rings To Answer' setting.
812	No more data rates available in V34 modulation scheme.	• Adjust to a lower modulation scheme.
813	Timeout occurred after waiting too long to receive a good frame.	• Adjust "Receive Threshold".
814	Tried too many times at selected speed using V34 modulation scheme.	• Adjust 'Transmit Level'. • Adjust to a lower modulation scheme.
815	Fax transmission was interrupted due to power failure.	• Troubleshoot MFP if error persists. See **"No dial tone" on page 2-83**.
818	Fax transmission failed due to insufficient memory to store scanned image.	Adjust 'Memory Use' setting to allocate more memory for send jobs.
819	Fax transmission failed due to insufficient memory to store received image.	Adjust 'Memory Use' setting to allocate more memory for receive jobs.
81A	A timeout occurred during transmission of a page in ECM mode.	Select a lower 'Max Speed' value under Fax Send settings.
880	Failure to transmit training successfully in V17, V29, V27 terminal modulation schemes.	• Select a lower "Max Speed" under Fax Send settings. • Adjust the "Transmit Level". • Check line quality.
881	Failure to transmit training successfully in V33, V29, V27 terminal modulation schemes.	• Select a lower "Max Speed" under Fax Send settings. • Adjust the "Transmit Level". • Check line quality.

Fax error log codes (Continued)

Error code	Description	Action
882	Failure to transmit training successfully in V17, V29 terminal modulation schemes.	• Select a lower “Max Speed” under Fax Send settings. • Adjust the “Transmit Level”. • Check line quality.
883	Failure to transmit training successfully in V17,V27 terminal modulation schemes.	• Select a lower “Max Speed” under Fax Send settings. • Adjust the “Transmit Level”. • Check line quality.
884	Failure to transmit training successfully in V29, V27 terminal modulation schemes.	• Select a lower “Max Speed” under Fax Send settings. • Adjust the “Transmit Level”. • Check line quality.
885	Failure to transmit training successfully in V17terminal modulation scheme.	• Select a lower “Max Speed” under Fax Send settings. • Adjust the “Transmit Level”. • Check line quality.
886	Failure to transmit training successfully in V29 terminal modulation scheme.	• Select a lower “Max Speed” under Fax Send settings. • Adjust the “Transmit Level”. • Check line quality.
887	Failure to transmit training successfully in V27 terminal modulation scheme.	• Select a lower “Max Speed” under Fax Send settings. • Adjust the “Transmit Level”. • Check line quality.
888	Failure to transmit training successfully at 2400 bps in V27 terminal modulation scheme.	• Adjust “Transmit Level”. • Check line quality.
889	Failed to connect at the minimum speed supported by the MFP.	• Adjust “Transmit Level”. • Incompatible connection.
88A	Failed to connect using V.34 modulation scheme.	• Check line quality. • Adjust to a lower modulation scheme. • Adjust Transmit Level Receive Threshold values.
901	No fax tones detected from remote end.	• Verify destination phone number. • Verify that the remote fax is authorized to receive faxes.
902	No dial tone detected.	• Check by enabling ‘Behind a PABX’ setting. • Check phone line. • Check MFD modem hardware.
903	Busy tone detected.	Check with remote end if successive attempts fail.
904	Hardware error detected.	See **“No dial tone” on page 2-83**.
905	A timeout occurred after dialing the number and waiting for a response.	Check with remote end if successive attempts fail.
906	Fax cancelled by user.	No action needed.

Fax error log codes (Continued)

Error code	Description	Action
907	Modem detected a digital line connection.	Verify the MFP is connected to an analog line. See**"Faxes fail to transmit" on page 2-78**.
908	Phone line was disconnected	Restore phone line connection.
A00	Received request for unsupported function from remote fax device.	No action needed.
A01	Received request for unsupported image width from remote fax device.	No action needed.
A02	Received request for unsupported image resolution from remote fax device.	No action needed.
A03	Received request for unsupported compression type from remote fax device.	No action needed.
A04	Received request for unsupported image length from remote fax device.	No action needed.
F00	Unknown error occurred.	No action needed.

Service checks

111.01 Black printhead error

Step	Action and questions	Yes	No
1	Is the ribbon cable connecting CN4 on the printhead controller board to the black LED head securely connected?	Go to step 2	Properly connect the ribbon cable
2	Replace the ribbon cable. Does this fix the problem?	Problem fixed	Go to step 3.
3	Replace the black LED printhead. Does this fix the problem?	Problem fixed	Replace the printhead controller board.

112.01 Cyan printhead error

Step	Action and questions	Yes	No
1	Is the ribbon cable connecting CN2 on the printhead controller board to the black LED head securely connected?	Go to step 2	Properly connect the ribbon cable
2	Replace the ribbon cable. Does this fix the problem?	Problem fixed	Go to step 3.
3	Replace the cyan LED printhead. Does this fix the problem?	Problem fixed	Replace the printhead controller board.

113.01 Magenta printhead error

Step	Action and questions	Yes	No
1	Is the ribbon cable connecting CN3 on the printhead controller board to the black LED head securely connected?	Go to step 2	Properly connect the ribbon cable
2	Replace the ribbon cable. Does this fix the problem?	Problem fixed	Go to step 3.
3	Replace the magenta LED printhead. Does this fix the problem?	Problem fixed	Replace the printhead controller board.

114.01 Yellow printhead error

Step	Action and questions	Yes	No
1	Is the ribbon cable connecting CN1 on the printhead controller board to the black LED head securely connected?	Go to step 2	Properly connect the ribbon cable
2	Replace the ribbon cable. Does this fix the problem?	Problem fixed	Go to step 3.
3	Replace the yellow LED printhead. Does this fix the problem?	Problem fixed	Replace the printhead controller board.

121.01 Thermistor 1 error

Note: If the error is 121.05., the fuser is at the end of life.

Step	Action and questions	Yes	No
1	Is the fuser properly installed? Make sure that it is properly seated.	Go to step 2.	Reinstall the fuser.
2	Is the fuser cable properly connected to CN19 on the printhead controller board?	Go to step 3.	Properly connect the connector.
3	Check the fuser cable for continuity. Is there continuity?	Problem solved	Replace the fuser cable.
4	Replace the printhead controller board. Does this fix the problem?	Problem solved	Go to step 5.
5	Replace the fuser. Does this fix the problem	Problem solved	Contact second level support.

121.02 Thermistor 2 error

Note: If the error is 121.05., the fuser is at the end of life.

Step	Action and questions	Yes	No
1	Is the fuser properly installed? Make sure that it is properly seated.	Go to step 2.	Reinstall the fuser.
2	Is the fuser cable properly connected to CN19 on the printhead controller board?	Go to step 3.	Properly connect the connector.
3	Check the fuser cable for continuity. Is there continuity?	Problem solved	Replace the fuser cable.
4	Replace the printhead controller board. Does this fix the problem?	Problem solved	Go to step 5.
5	Replace the fuser. Does this fix the problem	Problem solved	Contact second level support.

121.03 Thermistor 3 3 error

Note: If the error is 121.05., the fuser is at the end of life.

Step	Action and questions	Yes	No
1	Is the fuser properly installed? Make sure that it is properly seated.	Go to step 2.	Reinstall the fuser.
2	Is the fuser cable properly connected to CN19 on the printhead controller board?	Go to step 3.	Properly connect the connector.
3	Check the fuser cable for continuity. Is there continuity?	Problem solved	Replace the fuser cable.
4	Replace the printhead controller board. Does this fix the problem?	Problem solved	Go to step 5.
5	Replace the fuser. Does this fix the problem	Problem solved	Contact second level support.

121.04 Belt thermistor error

Step	Action and questions	Yes	No
1	Is the fuser properly installed? Make sure that it is properly seated.	Go to step 2.	Reinstall the fuser.
2	Is the fuser cable properly connected to CN19 on the printhead controller board?	Go to step 3.	Properly connect the connector.
3	Check the fuser cable for continuity. Is there continuity?	Problem solved	Replace the fuser cable.
4	Replace the printhead controller board. Does this fix the problem?	Problem solved	Go to step 5.
5	Replace the fuser. Does this fix the problem	Problem solved	Contact second level support.

121.05 Fuser - fuser heater error

Step	Action and questions	Yes	No
1	Is the fuser installed and seated properly?	Go to step 2.	Properly install the fuser.
2	Are CN02 and CN04 on the LVPS, and CN16 on the printhead control board properly connected?	Go to step 3.	Properly connect all the cables.
3	Check the fuser connectors on the fuser power cable for damage. Is there any damage?	Replace the fuser power cable.	Go to step 4.
4	Check the fuser power cable for continuity. Is there continuity?	Go to step 5	Replace the fuser power cable
5	Replace the fuser. Does this fix the problem?	Problem solved	Go to step 6.
6	Replace the printhead controller board. Does this fix the problem?	Problem solved	Go to step 7.
7	Replace the LVPS. See **"Low volt power supply removal" on page 4-50**. Does this fix the problem?	Problem solved	Replace the fuser power cable.

Abnormal fuser temperature error

Note: If the machine turns off a few seconds after a POR. follow the procedure below.

Step	Action and questions	Yes	No
1	POR the printer a couple times. Does the printer turn off a few seconds after the POR. **Note:** When restarting the machine, you should see the power switch physically move to the off position when the machine turns off.	Go to step 2.	Problem resolved
2	Replace the printhead controller. Does this fix the problem?	Problem resolved.	Go to step 3.
3	Replace the power supply. Does this fix the problem?	Problem resolved.	Go to step 4.
4	Replace the fuser. Does this fix the problem?	Problem resolved.	Contact your second level support.

126.xx Power switch error

Step	Action and questions	Yes	No
1	Is the power switch cable properly connected to CN27 on the engine controller board?	Properly connect the connector.	Go to step 2
2	Replace the power switch. Does this fix the problem?	Problem resolved	Go to step 3.
3	Replace the engine controller board. Does this fix the problem.	Problem resolved	Go to step 4.
4	Replace the power switch cable harness. Does this fix the problem?	Problem resolved	Contact your second level support.

130.xx High voltage power supply error

Step	Action and questions	Yes	No
1	Check CN11 on the printhead controller board, and CN01 on the HVPS for proper connectivity. Are the connection properly connected?	Go to step 2	Properly connect the connections.
2	Check the HVPS - printhead controller cable for continuity. Is there continuity?	Go to step 4.	Go to strep 3.
3	Replace the HVPS-printhead controller cable. Does this resolve the problem?	Problem solved	Go to step 4.
4	Replace the printhead controller board. Does this resolve the issue?	Problem solved	Go to step 5.
5	Replace the HVPS. Does this resolve the issue?	Problem solved	Contact your second level support.

132.00 Density sensor error

Step	Action and questions	Yes	No
1	Is the density sensor cleaner stuck in place	Go to step 2	Release the cleaner. Replace if damaged.
2	Is the cable connecting the density sensor to CN14 on the printhead controller board connected securely on both ends.	Go to step 3.	Securely connect the cable.
3	Check the density sensor cable for continuity. Is there continuity?	Go to step 4.	Replace the density sensor cable.
4	Replace the density sensor. Does this fix the problem?	Problem solved.	Replace the printhead controller board.

132.xx Abnormal theta sensor

Step	Action and questions	Yes	No
1	Is the reference pattern for the color plane alignment printing properly on the transfer belt?	Go to step 4.	Go to step 2.
2	Did all the colors print on the test pattern?	Go to step 4.	Go to step 3.
3	Replace the LED head of the colors that failed to print. Did this fix the problem?	Problem solved	Go to step 4.
4	Check CN01 on the HVPS, CN11 on the printhead controller, and the CN1-4 for proper connections. Are the connected properly?	Go to step 5.	Connect the cables properly.
5	Is the Theta sensor cable connected properly connected to CN 8 on the printhead controller board and Theta sensor?	Go to step 6.	Properly connect the cable to CN8 on the printhead controller board and Theta sensor.
6	Is the sensor misaligned, the sponge blocking the sensor and the cover opening and closing smoothly?	Properly align the sensor and reposition the sponge on the theta sensor cover. Make sure the cover opens and closes smoothly.	Go to step 7.
7	Replace the theta sensor	Problem solved	Go to step 8.
8	Replace the engine controller board. Does this fix the problem?	Problem solved	Go to step 9.
9	Replace the HVPS. Does this fix the problem?	Problem solved.	Contact your second level support.

136.xx Temperature humidity sensor error

Step	Action and questions	Yes	No
1	Is CN4 on the MDCONT board securely connected	Go to step 2	Connect the cable securely.
2	Replace the humidity sensor cable. Does this fix the problem?	Problem solved.	Go to step 3.
3	Replace the temperature humidity sensor. Does this fix the problem?	Problem solved.	Replace the printhead controller board.

140 Drive motor error

Step	Action and questions	Yes	No
1	Are CN 17, 18, 19, and 29 on the engine controller board properly connected?	Go to step 2.	Connect the cables to the board.
2	Are the cables properly connected to the drive motors?	Go to step 3.	Connect the cables to the motors.
3	Replace the engine controller board. Did this fix the issue?	Problem solved	Go to step 4.
4	Replace the defective supply item. Did this fix the problem?	Problem solved	Replace the drive motor for the affected color.

149.01 Fuser / paper exit motor error

Step	Action and questions	Yes	No
1	Is the fuser / paper exit motor cable properly connected to the motor and CN16 on the engine board?	Go to step 2	Connect the cables at both ends.
2	Check the cable for continuity. Is there continuity?	Go to step 3.	Replace the fuser/paper exit motor cable.
3	Replace the paper exit/fuser motor. Did this fix the problem?	Problem solved.	Go to step 4.
4	Replace the engine board. Did this fix the problem?	Problem solved.	Go to step 5.
5	Replace the printhead controller board. Did this fix the issue?	Problem solved.	Contact your second level support.

146.01 Tray1error

Note: This is the service check for the standard paper tray.

Step	Action and questions	Yes	No
1	Check the cable connecting the paper tray lift motor to CN 6 on the engine board. Is the cable properly connected at both ends?	Go to step 3	Go to step 2
2	Connect the cable properly at both ends. Does this fix the problem?	Problem resolved.	Go to step 3.
3	Check the paper tray lift motor for continuity. Is there continuity?	Go to step 5.	Go to step 4.
4	Replace the paper tray lift motor cable. Does this fix the problem.	Problem resolved.	Go to step 5.
5	Replace the paper tray lift motor. Does this fix the problem?	Problem resolved.	Go to step 6.
6	Replace the engine board. Does this fix the problem?	Problem resolved.	Contact your second level support.

146.03 Tray 3 error

Note: This is the first expansion tray.

Step	Action and questions	Yes	No
1	Check the cable connecting the option paper tray to the option connector on the back of the printer. Is the cable properly connected on both ends.	Go to step 3	Go to step 2
2	Connect the cable properly at both ends. Does this fix the problem?	Problem resolved.	Go to step 3.
3	Check the option cable's connection to CN 13 on the printhead controller board. Is it properly connected?	Go to step 4.	Go to step 5.
4	Check the option cable in the printer for continuity. Is there continuity?	Go to step 5.	Go to step 6.
5	Replace the option cable. Did this fix the problem?	Problem resolved.	Go to step 6.
6	Check CN120 on the expansion feeder controller for proper connectivity. Is it properly connected?	Go to step 8.	Go to step 7.
7	Reconnect the connection at CN120. Did this fix the problem?	Problem resolved.	Go to step 8.
8	Check the cable connecting CN103 and the paper full sensor for proper connectivity. Is the cable properly connected on both ends?	Go to step 10.	Go to step 9.
9	Re connect the cable at both ends. Did this fix the problem?	Problem solved.	Go to step 10.
10	Check the paper full sensor cable for continuity. Is there continuity?	Go to step 12.	Go to step 11.

Step	Action and questions	Yes	No
11	Replace the paper full sensor cable. Did this fix the problem?	Problem solved.	Go to step 12.
12	Replace the paper full sensor. Did this fix the issue?	Problem solved.	Go to step 13.
13	Replace the expansion paper feeder controller board. Did this fix the issue?	Problem solved.	Go to step 14.
14	Check pins 6 and 7 on CN13 of the printer controller board for + 24V. Is the voltage correct?	Contact your second level support.	Replace the printer controller board

146.04 Tray 4 error

Note: This is the second expansion tray.

Step	Action and questions	Yes	No
1	Check CN 121 on the first expansion paper feeder's expansion feeder controller board for proper connectivity. Is it properly connected?	Go to step 3.	Go to step 2.
2	Reconnect the cable to CN 121.Did this fix the problem?	Problem resolved.	Go to step 3.
3	Check CN 120 on the second expansion paper feeder's expansion feeder controller board for proper connectivity. Is it properly connected?	Go to step 5.	Go to step 4.
4	Reconnect the cable to CN 120.Did this fix the problem?	Problem resolved.	Go to step 5.
5	Check CN 103 on the second expansion paper feeder's expansion feeder controller board for proper connectivity. Is it properly connected?	Go to step 7.	Go to step 6.
6	Reconnect the cable to CN 103.Did this fix the problem?	Problem resolved.	Go to step 7.
7	Replace the paper full sensor. Does this fix the problem?	Problem resolved.	Go to step 8.
8	Replace the expansion paper feeder controller board. Does this fix the problem?	Problem resolved.	Contact you second level support.

146.05 Tray 5 error

Note: This is the third expansion tray.

Step	Action and questions	Yes	No
1	Check CN 121 on the second expansion paper feeder's expansion feeder controller board for proper connectivity. Is it properly connected?	Go to step 3.	Go to step 2.
2	Reconnect the cable to CN 121.Did this fix the problem?	Problem resolved.	Go to step 3.
3	Check CN 120 on the third expansion paper feeder's expansion feeder controller board for proper connectivity. Is it properly connected?	Go to step 5.	Go to step 4.
4	Reconnect the cable to CN 120.Did this fix the problem?	Problem resolved.	Go to step 5.
5	Check CN 103 on the third expansion paper feeder's expansion feeder controller board for proper connectivity. Is it properly connected?	Go to step 7.	Go to step 6.
6	Reconnect the cable to CN 103.Did this fix the problem?	Problem resolved.	Go to step 7.
7	Replace the paper full sensor. Does this fix the problem?	Problem resolved.	Go to step 8.
8	Replace the expansion paper feeder controller board. Does this fix the problem?	Problem resolved.	Contact you second level support.

171.01 Fuser fan error

Step	Questions/actions	Yes	No
1	Is there anything obstructing the fan's movement?	Clear the obstruction.	Go to step 2.
2	Check connector CN21 on the MDCONT board. Is it properly connected?	Go to step 3	Reconnect the connectors.
3	Replace the fuser fan. Does this remedy the situation?	Problem solved.	Go to step 4.
4	Replace the engine controller board. Does this remedy the situation	Problem solved.	Contact your second level support.

172.01 - Power supply unit fan error

Step	Questions/actions	Yes	No
1	Is there anything obstructing the fan's movement?	Clear the obstruction.	Go to step 2.
2	Check connector CN22 on the MDCONT board, and CN04 and CN05 on the LVPS. Are they properly connected?	Go to step 3	Reconnect the connectors.
3	Replace the power supply fan. Does this remedy the situation?	Problem solved.	Go to step 4.
4	Replace the LVPS. See **"Low volt power supply removal" on page 4-50**. Does this remedy the situation.	Problem solved.	Go to step 5.
5	Replace the engine power supply cable. Does this remedy the situation	Problem solved	Replace the engine controller board.

173.01 - Main unit fan error

Step	Questions/actions	Yes	No
1	Is there anything obstructing the fan's movement?	Clear the obstruction.	Go to step 2.
2	Check connector CN22 on the engine controller board. Is it properly connected?	Go to step 3	Reconnect the connector.
3	Replace the main fan. Does this remedy the situation?	Problem solved.	Replace the engine controller board.

174.01 Rear fan error

Step	Questions/actions	Yes	No
1	Is there anything obstructing the fan's movement?	Clear the obstruction.	Go to step 2.
2	Check connector CN26 on the engine controller board. Is it properly connected?	Go to step 3	Reconnect the connector.
3	Replace the rear fan. Does this remedy the situation?	Problem solved.	Replace the engine controller board.

840.03 service check

Step	Questions/actions	Yes	No
1	• Check the 8 and 30 pin ribbon cables connecting the CCD to the ICC card for proper connection. • Check the ribbon cable connecting the RIP board to the ICC card for proper connection. • Check the ADF cable for proper connection at both ends. • Check the cable connecting J4 on the RIP board to the ICC card for proper connection at both ends. Are the cables properly connected?	Reseat the cable	Go to step 2.
2	Are any of the cables damaged?	Replace the damaged cable.	Go to step 3.
3	Replace the ICC. Did this fix the problem?	Problem resolved	Go to step 4.
4	Replace the ADF relay card. Did this fix the problem?	Problem resolved	Replace the RIP board.

841.00 Invalid configuration or ASIC not found

Step	Questions/actions	Yes	No
1	POR the device a few times. Did the error re-occur?	Go to step 3.	Go to step 2.
2	POR into the diagnostic menu. Run the ASIC test in the Scanner Test menu. Did the ASIC pass?	Problem resolved	Go to step 3.
3	Replace the RIP. Did this fix the issue?	Problem resolved	Contact second level support.

841.01 Invalid AFE setting

Step	Questions/actions	Yes	No
1	POR the device a few times. Did the error re-occur?	Go to step 2.	Problem resolved
2	Check the connections on the 8 and 30 pin cables connecting the CCD to the ICC card. Are the cables properly connected?	Go to step 3.	Go to step 4.
3	Properly connect the cables. Did this fix the issue?	Problem resolved	Go to step 4.
4	Check the 8 and 30 pin CCD cables for continuity. Is there continuity?	Go to step 6.	Go to step 5.
5	Replace the cable that lacked continuity. Did this fix the problem?	Problem resolved	Go to step 6.
6	Replace the CCD. Did this fix the issue.	Problem resolved	Go to step 7.
7	Replace the ICC board in the flatbed. Did this fix the issue.	Problem solved	Replace the RIP board.

841.02 Delayed interrupt detected

Step	Questions/actions	Yes	No
1	POR the device a few times. Did the error re-occur?	Go to step 2.	Problem resolved
2	Update the firmware. Before doing so, contact your second level support for the correct level firmware to flash the device with. Did this resolve the issue?	Problem resolved	Go to step 3.
3	Replace the RIP board. Did this fix the issue?	Problem resolved	Contact second level support.

841.03 Failed indirect register test

Step	Questions/actions	Yes	No
1	POR the device a few times. Did the error re-occur?	Go to step 2.	Problem resolved
2	Replace the RIP. Did this fix the issue?	Problem resolved	Contact second level support.

841.04 Failed external DRAM test

Step	Questions/actions	Yes	No
1	POR the device a few times. Did the error re-occur?	Go to step 2.	Problem resolved
2	Replace the RIP. Did this fix the issue?	Problem resolved	Contact second level support.

841.05 Image pipe time-out

Step	Questions/actions	Yes	No
1	POR the device a few times. Did the error re-occur?	Go to step 2.	Problem resolved
2	Replace the RIP. Did this fix the issue?	Problem resolved	Contact second level support.

841.06 Scanner did not initiate scan

Step	Questions/actions	Yes	No
1	Check the cables connecting the RIP board to the scanner for damage. Is there any visible damage?	Go to step 2.	Go to step 3.
2	Replace the faulty cables. Did this fix the problem?	Problem resolved	Go to step 3.
3	Check the cables for continuity. Is there continuity?	Go to step 5.	Go to step 4.
4	Replace the faulty cable. Did this fix the problem?	Problem resolved	Go to step 5.
5	Is the flatbed LED illuminating when the scan command is issued?	Go to step 6.	Go to step 7.
6	Replace the CCD. Did this fix the problem?	Problem resolved	Go to step 7.
7	Replace the ICC card. Did this fix the problem?	Problem resolved	Go to step 8.
8	Replace the RIP board. Did this fix the issue?	Problem resolved	Contact second level support.

842.00 No response / 842.01 HW protocol / 842.02 Logical protocol

Step	Questions/actions	Yes	No
1	POR the device. Did the error re-occur?	Go to step 2.	Problem resolved
2	Check all the connections from the ICC card to the ADF relay card and RIP board to ICC card. Also check the CCD cables for proper connectivity. Are the cables properly connected?	Go to step 3	Go to step 4.
3	Properly connect all the cables. Did this fix the issue?	Problem resolved	Go to step 4.
4	Check the cables for continuity. Is there continuity?	Go to Step 6.	Go to step 5.
5	Replace the faulty cable. Did this fix the issue?	Problem resolved	Go to step 6.
6	Is the CCD LED illuminating and not moving when a scan command is given?	Replace the CCD.	Go to step 7.
7	Replace the ICC card. Did this fix the issue?	Problem resolved	Go to step 8.
8	Replace the ADF relay card. Did this fix the issue?	Problem resolved	Go to step 9.
9	Replace the RIP board. Did this fix the issue?	Problem resolved	Contact your second level support.

843.00 Carriage Home

Step	Questions/actions	Yes	No
1	POR the device.Did the error re-occur?	Go to step 2.	Problem resolved
2	Check all the connections from the ICC card to the CCD carriage, and RIP board to ICC card. Are the cables properly connected?	Go to step 3	Go to step 4.
3	Properly connect all the cables. Did this fix the issue?	Problem resolved	Go to step 4.
4	POR the machine into diagnostics mode and perform the scanner sensor test. Is the home position sensor displaying a 1?	Go to step.	Go to step 5.
5	Is there any damage to the flag that actuates the home sensor?	Go to step 6.	Go to step 7.
6	Replace the flatbed unit. Did this fix the issue?	Problem resolved	Go to step 9.
7	Replace the ICC card. Did this fix the issue?	Problem resolved	Go to step 8.
8	Replace the CCD. Did this fix the issue?	Problem resolved	Go to step 9.
9	Replace the RIP board. Did this fix the issue?	Problem resolved	Contact your second level support.

844.00 Lamp failure (Front side)

Step	Questions/actions	Yes	No
1	Check the FFC ribbon cable connecting the RIP board to the ICC board on the flatbed for proper connectivity. Is it properly connected?	Go to step 3.	Go to step 2.
2	Re-connect the cable. Did this fix the problem?	Problem resolved	Go to step 3.
3	Check the 8 pin and 30 pin cables on the CCD for proper connectivity. Are they properly connected?	Go to step 5.	Go to step 4.
4	Connect the cables properly. Did this fix the issue?	Problem resolved	Go to step 5.
5	Replace the CCD. Did this fix the problem?	Problem resolved	Go to step 6
6	Replace the ICC board. Did this fix the problem?	Problem resolved	Go to step 7.
7	Replace the RIP board. Did this fix the problem?	Problem resolved	Contact your second level support.

849.01 Device had modem installed, but config ID indicates it should not

Uninstall the modem

849.10 Device had HD installed, but config ID indicates it should not

Uninstall the hard drive.

900.xx System software error

Note: Before troubleshooting, determine the operating system used when the error occured. If possible determine whether a PostScript or PCL file was sent to the device when the error occured. Ask the customer which Lexmark Solutions applications are installed on the device.

Step	Action and questions	Yes	No
1	• Write down the exact 900.xx error code displayed on the device. • Turn the device off. • Clear the print queues. • Disconnect all communication cables, and remove all memory options. • Remove all ISP and modem cards. • Restart the device into diagnostic mode. Did the 900.xx error reoccur during startup?	Go to step 2.	Go to step 5.
2	Check all the cables connected to the RIP board for proper connectivity. Are the cables properly connected?	Go to step 4.	Go to step 3.
3	Properly connect the cables to the RIP board. Restart the device into diagnostic mode. Did the 900.xx error reoccur during startup?	Go to step 4.	Go to step 5.
4	Replace the RIP board, and restart the device. Did this fix the problem? **Note:** If an error, different from the original 900.xx, is displayed, consult the service check for that error.	Problem solved	Go to step 30.
5	Print the following: • Error log • Menu settings page • Network settings page Did the 900.xx error reoccur while these pages were printing?	Go to step 30.	Go to step 6.
6	Re-attach the communications cable. Restart the printer to operating mode. Send the printer a print job. Did the 900.xx error reoccur? **Note:** Before performing this step, write down this information about the file being sent to the printer: • Application used • Operating system • Driver type • File type (PCL, PostScript, XPS, etc...)	Go to step 7.	Go to step 9.
7	Restart the printer to operating mode. Send a different print job to the device. Did the 900.xx error reoccur?	Go to step 8.	Go to step 9.
8	Upgrade the firmware. Contact your second level support for the correct firmware level to use. Restart the printer to operating mode. Send the printer a print job. Did the 900.xx error reoccur?	Go to step 30.	Go to step 9.
9	Is the device a Multi Function Printer?	Go to step 10.	Go to step 12.
10	Run a copy job. Did the 900.xx error reoccur?	Go to step 30.	Go to step 11.
11	Run a scan to PC job. Did the 900.xx error reoccur?	Go to step 30.	Go to step 12.

Step	Action and questions	Yes	No
12	Is there optional memory installed?	Go to step 13.	Go to step15.
13	Reinstall the memory, and send a print job to the device. Did the 900.xx error reoccur?	Go to step 14.	Go to step 15.
14	Install a Lexmark recommended memory option. Send a print job to the device. Did the 900.xx error reoccur?	Go to step 30.	Problem solved
15	Is there a modem installed on the device?	Go to step 16.	Go to step 20.
16	Reinstall the modem. Restart the device. Did the 900.xx error reoccur?	Go to step 17.	Go to step 19.
17	Upgrade the firmware. Contact your second level support for the correct firmware level to use. Restart the printer to operating mode. Send the printer a print job. Did the 900.xx error reoccur?	Go to step 18.	Problem solved
18	Replace the modem. Restart the device. Did the 900.xx error reoccur?	Go to step 30.	Problem solved
19	Run a fax job. Did the 900.xx error reoccur?	Go to step 30.	Go to step 20.
20	Are there any ISP options installed?	Go to step 21.	Problem solved
21	Reinstall the first ISP option. Restart the device. Did the 900.xx error reoccur?	Go to step 23.	Go to step 22.
22	Run a job to test the option. Did the 900.xx error reoccur?	Go to step 23.	Go to step 25.
23	Upgrade the firmware. Contact your second level support for the correct firmware level to use. Restart the printer to operating mode. Did the 900.xx error reoccur?	Go to step 24.	Problem solved
24	Replace the faulty ISP option. Restart the device. Did the 900.xx error reoccur?	Go to step 30.	Go to step 25.
25	Are there any more ISP options to install?	Go to step 26	Problem solved
26	Install the next ISP option. Restart the device. Did the 900.xx error reoccur?	Go to step 28.	Go to step 27.
27	Run a job to test the option. Did the 900.xx error reoccur?	Go to step 28.	Go to step 25.
28	Upgrade the firmware. Contact your second level support for the correct firmware level to use. Restart the printer to operating mode. Did the 900.xx error reoccur?	Go to step 29.	Go to step 25.
29	Replace the faulty ISP option. Restart the device. Did the 900.xx error reoccur?	Go to step 30.	Go to step 25.

Step	Action and questions	Yes	No
30	Contact your second level support. You will need the following information for them: • Exact 900.xx error digits and complete error message • Printed menu settings page • Printed network settings page • Device error log • A sample print file if error appears to be isolated to a single file • File/Application used if error is related to specific print file • Device Operating System • Driver used (PCL/PS) • Frequency of the occurrence of the error		

941.01 SDRAM R/W error

Step	Action and questions	Yes	No
1	Check all the cables connected to the printhead controller board. Are they properly connected?	Go to step 3	Go to step 2.
2	Connect the cables, Did this fix the problem?	Problem resolved	Go to step 3.
3	Replace the printhead controller board. Did this fix the issue?	Problem resolved	Contact your second level support.

941.02 MDC error

Remove power from the printer before continuing or use caution if the product must be energized during this procedure. The heat sink transformer core presents risk of electric shock. Test before touching.

Step	Action and questions	Yes	No
1	Are the cables connecting CN24 on the engine board, CN5 on the printhead controller, and CN03 in the LVPS properly connected?	Go to step 3.	Go to step 2.
2	Re connect the cables. Did this fix the problem	Problem resolved	Go to step 3.
3	Check the cables for continuity. Is there continuity?	Go to step 5.	Go to step 4.
4	Replace the cables. Did this fix the issue?	Problem resolved	Go to step 5.
5	Check pins 1,3, and 7 on CN03 on the LVPS for +5V, and pins 5, and 9 for +24V. Are the voltages correct?	Go to step 7	Go to step 6.
6	Replace the LVPS. Did this fix the problem?	Problem resolved	Go to step 7
7	Replace the engine board. Does this fix the issue?	Problem resolved	Go to step 8.
8	Replace the printhead controller board. Did this fix the issue?	Problem resolved	Contact your second level of support.

941.03 CPU error

Step	Action and questions	Yes	No
1	POR the printer. Does the problem go away?	Problem resolved	Go to step 2.
2	Replace the printhead controller. Does this fix the problem?	Problem resolved	Go to step 3.
3	Replace the RIP board. Did this fix the issue?	Problem resolved	Contact your second level support.

941.04 MDC controller error

See the 941.02 MDC error.

941.05 EEPROM error

Step	Action and questions	Yes	No
1	POR the printer a few times. Did this fix the issue?	Problem resolved.	Go to step 2.
2	Replace the printhead controller. Does this fix the problem?	Problem resolved	Go to step 3.
3	Replace the RIP board. Did this fix the issue?	Problem resolved	Contact your second level support.

950.00–950.29—EPROM mismatch failure

Warning: When replacing any of the following components, replace only one component at a time or the printer will be rendered inoperable:

- System board
- Flatbed scanner assembly
- Scanner interface card

Replace the required component, bring the printer up in Diagnostics mode (see **"Diagnostics mode" on page 3-18**), and verify that the problem is fixed before performing a POR.

This error code indicates a mismatch between the operator panel assembly and the system board.

Step	Questions / actions	Yes	No
1	**Has the OP panel UICC card been replaced recently?**	Replace the operator panel assembly with a new, and not previously installed, UICC card. See **"UICC removal" on page 4-110**.	Go to step 2.
2	**Has the system board been replaced recently?**	Replace the RIP board with a new, and not previously installed, system board. See **"RIP board removal" on page 4-68**.	Go to step 3.
3	Turn the printer power off for ten or more seconds. Then turn the printer back on (POR the printer). **Is the error gone, and can the printer print?**	Problem solved.	Go to step 4.
4	Clear the NVRAM of the printer: 1. Turn the printer power off. 2. With the printer off, press and hold **6**, **7** and **8** on the keypad. 3. Turn the printer on. 4. When **Restoring Factory Defaults** appears, release the buttons. **Note:** If the printer locks up on the Restoring Factory Defaults, wait two minutes, and then turn the printer power off. After ten seconds or more, turn the printer power back on without holding down any buttons. **Does the error message still appear?**	Go to step 5.	Problem solved.
5	Replace the OP panel UICC card. See **"UICC removal" on page 4-110**. **Does the error message still appear?**	Replace the RIP board. See **"RIP board removal" on page 4-68**.	Problem solved.

959.xx Service invalid firmware error

Step	Action and questions	Yes	No
1	POR the printer a few times. Does the problem re-occur?	Go to step 2.	Problem resolved.
2	Put the machine into recovery mode and update the firmware. You will need to contact your second level support for the correct firmware level to use. Did updating the firmware fix the issue?	Problem resolved	Go to step 3.
3	Replace the RIP board. Did this fix the problem?	Problem resolved	Call your second level support.

User attendance messages

User prompts

Error code	Action
Adjusting color	Wait until the process is completed.
Change <src><custom type name> <orientation>	This message allows the user to override the source for the remainder of a job. The page will be printed as it is formatted on the paper installed in the tray. This may cause clipping. No further Change prompts will be posted for the remainder of the current job.If the [src] is MP Feeder, Manual Paper or Manual Envelope, the string 'Manual Feeder' will be used instead of the [src] string from the Default Source list. If the [src] is Envelope Feeder, 'Envelope Feeder' will be used. Additional messages may include: • Paper changed—Select **Continue**. • More information—the printer will present instructions. • Ignore - use current source. • Cancel Job—the printer job can be canceled.
Change <src><Custom string><orientation>	The Change Orientation message is only displayed for Letter and A4 paper sizes.This IR allows a user to override the source for the remainder of a job. The page will be printed as it is formatted on the paper installed in the tray. This may cause clipping. No further Change prompts will be posted for the remainder of the current job.If the [src] is MP Feeder, Manual Paper or Manual Envelope, the string 'Manual Feeder' will be used instead of the [src] string from the Default Source list. If the [src] is Envelope Feeder, 'Envelope Feeder' will be used. Additional messages may include: • Paper changed—Select **Continue**. • More information—the printer will present instructions. • Ignore - use current source. • Cancel Job—the printer job can be canceled.
Change <src><size> <orientation>	The Change Orientation message is only displayed for Letter and A4 paper sizes.This IR allows a user to override the source for the remainder of a job. The page will be printed as it is formatted on the paper installed in the tray. This may cause clipping. No further Change prompts will be posted for the remainder of the current job.If the [src] is MP Feeder, Manual Paper or Manual Envelope, the string 'Manual Feeder' will be used instead of the [src] string from the Default Source list. If the [src] is Envelope Feeder, 'Envelope Feeder' will be used. Additional messages may include: • Paper changed—Select **Continue**. • More information—the printer will present instructions. • Ignore - This will ignore request and print on paper in tray. • Cancel Job—the printer job can be canceled.
Change <src><type> <size><orientation>	The Change Orientation message is only displayed for Letter and A4 paper sizes.This IR allows a user to override the source for the remainder of a job. The page will be printed as it is formatted on the paper installed in the tray. This may cause clipping. No further Change prompts will be posted for the remainder of the current job.If the [src] is MP Feeder, Manual Paper or Manual Envelope, the string 'Manual Feeder' will be used instead of the [src] string from the Default Source list. If the [src] is Envelope Feeder, 'Envelope Feeder' will be used. Additional messages may include: • Paper changed—Select **Continue**. Ignored if no paper in tray. For size and type loaded in source but not changed on paper menu. • More information—the printer will present instructions. • Ignore - This will ignore request and print on paper in tray. • Cancel Job—the printer job can be canceled.
Incorrect Orientation	This error can occur when the printer does not know the actual paper size that is loaded in a tray due to an incorrect paper orientation setting, or because tray guides are not in proper location. This message is not valid for the manual feeder or tray 5. Additional messages may include: • More information—the printer will present instructions

Error code	Action
Close Tray Door	
Close Front Door	Close the front door securely.
Disk Corrupted, Reformat?	The printer has attempted a disk recovery and cannot repair the disk. The disk must be formatted to use. **Warning:** All files stored on the disk will be lost.
Held Jobs May Not Be Restored	The printer has attempted to restore Held jobs, but not all were restored.
Insert Tray <x>	Insert tray to clear the message.
Install Tray<x>or Cancel Job	Install tray to clear the message.
Load <source> <custom type name>	Load paper in the indicated source and of the indicated type. Additional messages may include: • Paper loaded—Select **Continue**. • More information—the printer will present instructions. • Cancel Job—the printer job can be canceled. • Wait for supplies—If job parking is enabled, and the job meets all the requirements for allowing the job to be parted, the printer adds this message.
Load <source> <Custom String>	Load paper in the indicated source, and select **Continue**. Additional messages may include: • More information—the printer will present instructions. • Cancel Job—the printer job can be cancelled. • Wait for supplies—If job parking is enabled, and the job meets all the requirements for allowing the job to be parted, the printer adds this message.
Load <source> <size>	Load paper in the indicated source and of the indicated size, and select **Continue**. Additional messages may include: • More information—the printer will present instructions. • Cancel Job—the printer job can be cancelled. • Wait for supplies—If job parking is enabled, and the job meets all the requirements for allowing the job to be parted, the printer adds this message.
Load <source> <type> <size>	
Load Manual <custom type name>	If paper loaded is in the manual feeder, the job continues. If paper is not in the feeder, pressing **Select** indicates to the printer it should search for a source with the proper custom type. Additional messages may include: • More information—the printer will present instructions. • Cancel Job—the printer job can be cancelled.
Load Manual <custom string>	If paper loaded is in the manual feeder, the job continues. If paper is not in the feeder, pressing **Select** indicates to the printer it should search for a source with the proper custom string. Additional messages may include: • More information—the printer will present instructions. • Cancel Job—the printer job can be cancelled.

Error code	Action
Load Manual <size>	If paper loaded is in the manual feeder, the job continues. If paper is not in the feeder, pressing **Select** indicates to the printer it should search for a source with the proper size. Additional messages may include: • More information—the printer will present instructions. • Cancel Job—the printer job can be cancelled.
Load Manual <type> <size>	If paper loaded is in the manual feeder, the job continues. If paper is not in the feeder, pressing **Select** indicates to the printer it should search for a source with the proper type and size. Additional messages may include: • More information—the printer will present instructions. • Cancel Job—the printer job can be cancelled.
Paper Changes Needed	This message appears at the beginning of a parkable job. A load paper prompt will appear. Additional messages may include: • Prompt for each change • Use current supplies - This is the default. The message will not appear during the remainder of the job. • Cancel job • Wait for supplies - This occurs if the job is parked.
Remove All Color Supplies	If Color Lockout mode is enabled, this message appears (unless the printer is in Diagnostics Menu or Configuration Menu).
Remove Paper Standard Bin	The standard output bin is full. Remove the media to continue.
Remove Paper <All bins>	Remove the paper from all output bins.
Restore Held Jobs Go/Stop?	If the printer detects Print and Hold (or parked) jobs stored on the hard disk during Power-On Self Test (POST). Choices are: • Restore—Print jobs are restored, and **Restoring Held Jobs x/y**, where x is the number of the job restored and y is the total number of jobs to restore. You can quit restoring, and the remainder of the jobs will remain on the disk, but cannot be accessed until they are restored at the next POR. • Do not restore—Held jobs will remain on the disk, but cannot be accessed until they are restored at the next POR. **Held jobs may not be restored** appears. • Tell me more—additional information is available
Supply Needed	A supply is needed to complete a job. Additional messages may include: • Prompt for supplies • Cancel • Wait for supplies
Unsupported USB device, Please Remove	Remove the unrecognized device to continue.
Unsupported Mode	Unplug camera and change it to a mode where the camera can access PictBridge. Plug the camera back in to continue.
Unsupported Disk	Remove the unsupported disk to continue.
Paper Size Unsupported	Make sure the paper is the correct size. Also check the tray guides to ensure they are in the correct position. Check the paper size sensors to ensure they are in the correct position.
Securely Clearing Disk Space	Disk wiping process is recovering disk space. The message clears when all memory blocks are cleared.

Error code	Action
USB Drive Error	This is displayed when an error on the USB drive occurs. The user is instructed to remove and reinsert the drive.
Disk Problem	Error reading a disk. Disk is improperly formatted. Additional messages include: • Continue -Format the disk. • View - More information is displayed. User will be instructed to reformat the disk. All data will be lost.

User attendance messages (0–99)

Error code	Action
30 Toner cartridge missing	• Reseat the specified print cartridge. • Use different cartridge. • Check contacts on the photodeveloper. • Check the ribbon cable connecting the printhead and printhead controller board. • If the problem still exists, replace the printhead controller board. See **"Printhead controller board removal" on page 4-36**.
31 Defective or Missing <*color*> Cartridge	• Reseat the specified print cartridge. • Inspect the print cartridge contacts for damage/contamination. Replace the print cartridge if defective. • Inspect the ribbon cable connection on the printhead controller board. Properly connect the cable if not connected properly. Replace the cable if damaged. • Replace the indicated cartridge. • If the problem still exists, replace the printhead controller board. See **"Printhead controller board removal" on page 4-36**.
32 Unsupported Cartridge	• Check to see if the toner cartridge is a supported cartridge. **Note:** Once the cartridge shipped with the printer is exhausted, it must be replaced by a supply cartridge (refer to the *User's Guide* for part numbers.) If the specified toner cartridge is a supported cartridge, reseat the cartridge. • Inspect the toner cartridge contacts for damage or contamination. Replace the toner cartridge if defective. • Inspect CN17,18 cable connections on the printhead controller. Properly connect the cable if not connected properly. Replace the toner sensors if damaged. • If the problem still exists, replace the system board. See **"RIP board removal" on page 4-68**.
34 Short Paper	• Select **Continue** to clear the message and continue printing. **Note:** The printer does not automatically reprint the page that prompted the message. • Check the tray length and width guides to ensure the media is properly fitted. • Make sure the print job is requesting the correct size of media. • Adjust the Paper Size setting for the media size being used. • If the MP Feeder Size is set to Universal, make sure the media is large enough for the formatted data. • If the problem still exists, replace the RIP board. See **"RIP board removal" on page 4-68**.

Error code	Action
35 Insufficient memory to support Resource Save feature	• Select **Continue** to disable Resource Save and continue printing. • To enable Resource Save after receiving this message: - Make sure the link buffers are set to Auto, then exit the menus to activate the link buffer changes. - When Ready is displayed, enable Resource Save. • Install additional memory. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
37 Insufficient memory to collate job	• Select **Continue** to print the portion of the job already stored and begin collating the rest of the job. • Cancel the current job. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
37 Insufficient memory for Flash Memory Defragment operation	• Select **Continue** to stop the defragment operation and continue printing. • Delete fonts, macros, and other data in printer memory. • Install additional printer memory. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
37 Insufficient memory, Some Held Jobs Were Not Restored	• The printer deleted some held jobs in order to process current jobs. • Select **Continue** to clear the message. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
37 Insufficient memory, Some Held Jobs Will Not Be Restored	• The printer was unable to restore some or all of the confidential or held jobs on the hard disk. • Select **Continue** to clear the message. • If this message occurs again, replace the hard drive. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
37 Insufficient Defrag Memory	There is insufficient memory to perform the Flash Memory Defragment operation. The user can: • Delete font, macros, and other data in memory. • Install additional printer memory.
38 Memory Full	The following options are available: • Select **Continue** to clear the message and continue printing. The job may not print correctly. • Cancel the current job. • Install additional printer memory. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
39 Complex Page	The page is too complex to print. Options are: • Select **Continue** to continue. The job may not print correctly. • Cancel the job.
50 PPDS Font Error	• Select **Continue** to clear the message and continue printing. The job may not print correctly. • Cancel the current job. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.

Error code	Action
51 Defective Flash	• Select **Continue** to clear the message and continue printing. • Install different flash memory before downloading any resources to flash. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
52 Flash Full	• Select **Continue** to clear the message and continue printing. **Note:** Downloaded fonts and macros not previously stored in flash memory are deleted. • Delete fonts, macros, and other data stored in flash memory. • Install a larger capacity flash memory card. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
53 Unformatted Flash	• Select **Continue** to clear the message and continue printing. • Format the flash memory before storing any resources on it. If the error message remains, replace the flash memory. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
54 Serial option <*x*> error	• Make sure the serial link is set up correctly and the appropriate cable is in use. • Make sure the serial interface parameters (protocol, baud, parity, and data bits) are set correctly on the printer and host computer. • Select **Continue** to clear the message and continue printing. The job may not print correctly. • POR the printer. If this does not fix the problem, replace the PCI card.
54 Std Network Software Error	• Select **Continue** to clear the message and continue printing. The job may not print correctly. • Program new firmware for the network interface. • POR the printer. If this does not fix the problem, replace the PCI card.
54 Network <x> Software Error	
55 Unsupported Option in Slot <*x*>	1. Turn the printer off. 2. Unplug the power cord from the wall outlet. 3. Remove the unsupported option. 4. Connect the power cord to a properly grounded outlet. 5. Turn the printer on. If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
56 Standard Parallel Port Disabled	• Select **Continue** to clear the message. The printer discards any data received through the parallel port. • Make sure the Parallel Buffer menu item is not set to Disabled. • If this does not fix the problem, replace the PCI card.
56 Parallel Port <*x*> Disabled	• Select **Continue** to clear the message. The printer discards any data received through the parallel port. • Make sure the Parallel Buffer menu item is not set to Disabled. • If this does not fix the problem, replace the PCI card.
56 Serial Port <*x*> Disabled	• Select **Continue** to clear the message. The printer discards any data received through the serial port. • Make sure the Serial Buffer menu item is not set to Disabled. • If this does not fix the problem, replace the PCI card.

Error code	Action
56 USB Port <x> Disabled	• Select **Continue** to clear the message. The printer discards any data received through the USB port. • Make sure the USB Buffer menu item is not set to Disabled. • If this does not fix the problem, replace the PCI card.
56 Standard USB Port Disabled	• Select **Continue** to clear the message. The printer discards any data received through the USB port. • Make sure the USB Buffer menu item is not set to Disabled. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
57 Configuration Change Held Jobs May Not Be Restored See Configuration Change, above - not in IR as 57	Configuration changes may be: • Code version changes • Paper handling options removed • The disk was installed from a different model or speed of printer.
58 Too Many Flash Options	Too many flash options are installed. To continue: 1. Turn off and unplug the printer. 2. Remove the excess flash memory. 3. Plug in the printer, and turn it on. If this does not fix the problem, replace the If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
58 Too Many Trays Attached	1. Turn off and unplug the printer. 2. Remove options until the supported number of options for that model. Models C925 supports three additional trays. 3. Plug in the printer, and turn it on.
61 Defective Disk	• Select **Continue** to clear the message and continue printing. • Install a different hard disk before performing any operations that require a hard disk. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
62 Disk full	• Select **Continue** to clear the message and continue processing. • Any information not previously stored on the hard disk is deleted. • Delete fonts, macros, and other data stored on the hard disk. • Install a larger hard disk. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
63 Unformatted disk	• Select **Continue** to clear the message and continue printing. • Format the disk. • If the error message remains, replace the hard disk. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
64 Unsupported disk format	• Select **Continue** to clear the message and continue printing. • Format the disk. • If the error message remains, replace the hard disk. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.

Error code	Action
80 Fuser Near Life Warning	• Select **Continue** to clear the message and continue printing. • **Show Me**, **View Supplies**, and **Tell Me More** displays additional information. • Order a replacement fuser. When print quality is reduced, install the new fuser using the instruction sheet that comes with the replacement fuser. **Note:** Be sure to reset the fuser count. • If this does not fix the problem, replace the RIP board.See **"RIP board removal" on page 4-68**.
80 Fuser Life Warning	• Select **Continue** to clear the message and continue printing. • **Show Me**, **View Supplies**, and **Tell Me More** displays additional information. • Order a replacement fuser. When print quality is reduced, install the new fuser using the instruction sheet that comes with the replacement fuser. **Note:** Be sure to reset the fuser count. • If this does not fix the problem, replace the RIP board. See **"RIP board removal" on page 4-68**.
80 Replace Fuser	• **Show Me**, **View Supplies**, and **Tell Me More** displays additional information. • Replace the fuser. See **"Fuser removal" on page 4-61**. **Note:** Be sure to reset the fuser count. • If this does not fix the problem, replace the system board. See **"RIP board removal" on page 4-68**.
80 Fuser Missing	 Remove power from the printer before continuing or use caution if the product must be energized during this procedure. The heat sink transformer core presents risk of electric shock. Test before touching. • Reinstall the fuser. See. • Reseat connectors behind fuser. They may get dislodged and not make good contact when the fuser is installed. • Check the cable connectors for damage at the system board and at the LVPS.
82 Replace Waste Toner	• Replace the waste toner box using the instruction sheet that comes with the replacement waste toner box. • Ensure that there is no interference between the waste toner box and the printer. • If the problem persists, replace the engine board. See **"Engine board (MDCONT)" on page 4-82**. • If the problem persists, contact your next level of service.
82 Waste Toner Missing	See **"Waste toner bottle missing service check" on page 2-93**.
83.*xx* ITU Life Warning	• Select **Continue** to clear the message and continue printing. • Order a replacement transfer module. When print quality is reduced, install the new transfer module using the instruction sheet that comes with the replacement transfer module. • If the problem persists, replace the system board. See **"Printhead controller board removal" on page 4-36**.
83.*xx* Replace ITU	• Replace the transfer module using the instruction sheet that comes with the replacement transfer module. See **"Transfer belt – CRU" on page 4-39**. • If the problem persists, replace the system board. See **"Printhead controller board removal" on page 4-36**.
83.41 ITU Missing	• Check for damage or loose parts on the belt. Replace as needed. • Clean any dirty connections. • Try a different belt.
84.11 <*color*> PC Unit Life Warning	• Select **Ignore** to clear the message and continue printing. • Order the specified photoconductor unit. When print quality is reduced, install the new specified photoconductor unit using the instruction sheet that comes with the replacement specified photoconductor unit. • If the problem persists, replace the system board. See **"Printhead controller board removal" on page 4-36**.

Error code	Action
84 Replace <*color*> Photoconductor	• Replace the specified photoconductor unit using the instruction sheet that comes with the replacement specified photoconductor unit. • If the problem persists, reset the supplies in the supplies menu.
84 <*color*> PC Unit Missing	See **"Imaging unit (photo developer) missing service check" on page 2-89**.
84 <color> PC Unit Nearly low.	• Select **Continue** to clear the message and continue printing. • Select more information o get more solutions to the issue. • Order the specified photoconductor unit. When print quality is reduced, install the new specified photoconductor unit using the instruction sheet that comes with the replacement specified photoconductor unit. • If the problem persists, replace the printhead controller board. See **"Printhead controller board removal" on page 4-36**.
88.xx <*color*> Cartridge Low	• **Show Me**, **View Supplies**, and **Tell Me More** displays additional information. • Replace the specified toner cartridge. • Select **Continue** to clear the message and continue printing. • Check CN17 and 18 on the printhead controller board for proper connectivity. • If the problem persists, replace the printhead controller board. See **"Printhead controller board removal" on page 4-36**.
88.xx <color> Cartridge Nearly Low	• **Show Me**, **View Supplies**, and **Tell Me More** displays additional information. • Replace the specified toner cartridge. • Select **Continue** to clear the message and continue printing. • If the problem persists, replace the printhead controller board. See **"Printhead controller board removal" on page 4-36**.
88.xx Replace <*color*> Cartridge	• **Show Me**, **View Supplies**, and **Tell Me More** displays additional information. • Replace the specified toner cartridge. • Select **Continue** to clear the message and continue printing. • If the problem persists, replace the printhead controller board. See **"Printhead controller board removal" on page 4-36**.

Other symptoms

Print engine

Symptom	Action
You cannot print color.	Make sure the Color Correction menu item is not set to Black & White. Make sure the color print units are completely installed in the printer. Go to **"Transfer belt up down check" on page 2-92**.
Transparencies curl excessively.	Make sure you're using the recommended Lexmark transparencies. Also be sure the paper delivery is set to the rear exit.
The printer seems slow to print.	If you set the Paper Type to Transparency or Card Stock, the printer increases the fuser temperature and slows printing to improve the print quality. After printing on these media, the printer requires additional time to cool the fuser after you select another Paper Type setting (such as Plain Paper or Letterhead). If Printer Usage is set to Maximum Yield, the printer calibrates the print head timing. The printer performs this same calibration each time you turn the printer on and each time you open and close the top cover. Depending on the types of jobs you print, these adjustments may significantly slow print time. If the belt is in the up position for color printing, the printer prints at 30 ppm only. If the printer is in quick print mode, the printer prints at 17ppm until the printer is fully warmed up.
You cannot remove paper jammed in the fuser.	Open the fuser rollers by operating the fuser pressure relief lever. If you cannot remove the jam, replace the fuser. The jam access panel can also be opened. After letting the fuser cool, unscrew the two thumbscrew and open the access panel.
You cannot clear the paper jam message.	To clear the paper jam messages, you must remove all paper from the printer paper path. Check both inside the printer as well as the paper source you were using. Open and close the front cover, and press **Go**. If the message does not clear, go to **"Paper path service checks" on page 2-24**.
Paper jam in pick-up assembly.	Go to **"Paper path service checks" on page 2-24**.
Fuser failure.	Go to **"121.05 Fuser - fuser heater error" on page 2-48**.
No paper pick-up from multipurpose tray.	Go to **"Paper path service checks" on page 2-24**.
No paper pick-up from upper or lower cassettes.	Go to **"Paper path service checks" on page 2-24**.
Registration roller does not rotate.	Go to **"Paper path service checks" on page 2-24**.
Operator panel does not operate properly.	Go to the Diagnostic aids chapter and run the LCD and Button tests. If the tests fail, replace the operator panel. If you still have a problem, replace the RIP controller board. If your machine beeps 5 times and the screen is blank or all diamonds, replace the operator panel.
• Foggy print • Black pages • Blank print • White spots • Poor reproduction • Incorrect color image registration • Dirt on back of paper • Low image density • White and black lines and bands	Go to **"Print quality issues" on page 2-4**.

Symptom	Action
Evenly spaced marks on the paper, or a single mark in the same place on every page.	Go to **"Transfer belt up down check" on page 2-92**.
Poor fusing.	Go to **"121.05 Fuser - fuser heater error" on page 2-48**.
Toner scatter on front or back of paper.	Check the following: • Excessive toner buildup on the transfer belt. Clean off the toner, and run a test print. • Transfer belt assembly • Transfer belt toner waste bottle • Transfer belt separation fingers • Fuser separation pawl
Paper will not feed from MPF.	Be sure you have paper in the MPF. Check the paper size and type. Does it match the paper setting on the printer? Be sure the MPF paper present sensor connector (CN16) is connected to the CK1 daughter board. If the paper still does not feed, go to **"Paper path service checks" on page 2-24**.

Scan / copy

ADF streaks

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

Clipped image when scanning to USB from the ADF

Feed the ADF from the short edge of the paper.

ADF cover open service check

Step	Questions / actions	Yes	No
1	Is the ADF cover properly closed	Go to step 3.	Go to step 2.
2	Close the ADF cover. Does the problem go away?	Issue resolved	Go to step 3.
3	Perform the ADF cover open sensor test. See **"SCANNER TESTS" on page 3-29**. Does the sensor work properly.	Go to step 4	Go to step 8.
4	On the bottom of the ADF cover, inspect the ADF cover closed sensor actuator. Does it move freely?	Go to step 6.	Go to step 5.
5	Fix the actuator so it moves freely. Does this fix the problem?	Issue resolved.	Go to step 6.
6	Remove the ADF rear cover and inspect the ADF cover closed sensor for dirt and debris. Is there dirt and debris present?	Go to step 7.	Go to step 8.
7	Remove the ADF rear cover, and clean the dirt and debris from the sensor. Does this fix the issue?	Issue resolved.	Go to step 8.
8	Inspect the connections on the ADF relay card in the ADF. Are all the connections properly connected?	Go to step 9.	Secure all the connections.
9	Check the ADF cable for continuity. Is there continuity?	Go to step 10.	Replace the ADF cable.See **"ADF cable" on page 4-118**.
10	Check for signals or voltages from J17 on the ICC card. Pin 11 and 12 should measure +24VDC. Pin 14 should measure +5VDC. Are there signals or voltages present?	Replace the ADF.	Replace the ICC card.

Fax symptoms

Faxes fail to transmit

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

Step	Questions / actions	Yes	No
1	Is the phone line properly connected to the modem card and the wall jack?	Go to step 3.	Go to step 2.
2	Properly connect the phone line to the modem card and wall jack. Did this fix the problem?	Problem resolved	Go to step 3.
3	Test the phone line's ability to send and receive calls. Did the phone line work properly?	Go to step 5.	Go to step 4.
4	Use the MFP on a properly functioning phone jack. Did this fix the problem?	Problem resolved.	Go to step 5.
5	Is the phone line being used by the MFP an analog line?	Go to step 8.	Go to step 6.
6	Is the line being used a VOIP line?	Go to step 7.	Go to step 8.
7	Have the system administrator verify that the VOIP server is configured to receive faxes. Is the server properly configured?	Go to step 8.	Stop here. The issue is VOIP related. The VOIP provider needs to change the server configuration.
8	Is the MFP on a PABX?	Go to step 9.	Go to step 10.
9	Enable **Behind a PABX** under fax settings in the Administration menu. Did this fix the issue?	Problem fixed.	Disable **Behind a PABX,** and go to step10.
10	Is a dial prefix needed to get an outside line?	Go to step 11.	Go to step 12.
11	Try sending a fax using a dial prefix. Did the fax transmit?	Problem fixed.	Go to step 12.
12	Is the fax failing to send to one specific destination?	Go to step 13.	Go to step 14.
13	Check the device that cannot receive a fax. Can it send a fax?	Go to step 14.	Stop here. The issue is with the other device.

Step	Questions / actions	Yes	No
14	Press **411 to enter the Fax/SE Menu. Select “Print Logs”. Print the T30 transmission log. Check the error being reported with the fax error code table. See **“Fax T30 log error codes” on page 2-41**. Perform the suggested resolution for the error. Did this fix the problem?	Problem resolved.	Go to step 15.
15	Adjust the “Transmit Level” setting in the SE menu. Press **411 to enter the SE menu, enter Modem settings, and select “Transmit Level”. Test by adjusting the transmitted signal strength by decreasing/increasing the ‘Transmit Level’ setting in steps of 1db. For example, if default value is -11 db, changing it to -12db will decrease the signal strength by 1db, and changing it to -10db will increase the signal strength by 1db. Recommended adjustment range is ±5 db (in 1db steps) from the default value. Did this fix the problem?	Stop. Problem resolved.	Go to your second-level of support. See **“Escalating a fax issue to second-level support” on page 2-82**.

Fax reception fails

Step	Questions / actions	Yes	No
1	Is the phone line properly connected to the modem card and the wall jack?	Go to step 3.	Go to step 2.
2	Properly connect the phone line to the modem card and wall jack. Did this fix the problem?	Problem resolved.	Go to step 3.
3	Check for a dial tone. Is there a dial tone?	Go to step 4.	Go to step 6.
4	Use a telephone to test the phone line's ability to send and receive calls. Did the phone line work properly?	Go to 7.	Go to step 5.
5	Use a telephone handset to verify the phone line is free of static or external noise. Is the phone line noise-free?	Go to step 7.	Go to step 6.
6	Use the MFP on a properly functioning phone jack. Did this fix the problem?	Problem resolved.	Go to step 7.
7	In <diags / config menu>, verify that the Enable Fax Receive setting is on. Is the setting set to on?	Go to step 9.	Go to step 8.
8	Set "Enable Fax Receive" to On. Did this fix the problem?	Problem resolved.	Go to step 9.
9	Is Distinctive Ring enabled?	Go to step 11.	Go to step 10.
10	Turn on Distinctive ring. Did this fix the problem?	Problem resolved.	Go to step 11.
11	Is the phone line analog?	Go to step 13.	Go to step 12.
12	Is the VOIP server configured to support fax?	Go to step13.	Stop here. This is an issue with the VOIP provider.
13	Does the MFP have reception issues with only a certain remote device?	Go to step 14.	Go to step 15.
14	Verify communications with a different remote device. Can the other device receive faxes?	The issue is with the other device.	Go to step 15.
15	Go to the Administrator menu. Enter the Fax settings - Analog Fax Settings submenu. Verify the Block No Name Fax user setting. Is it enabled?	Go to step 16.	Go to step 17.

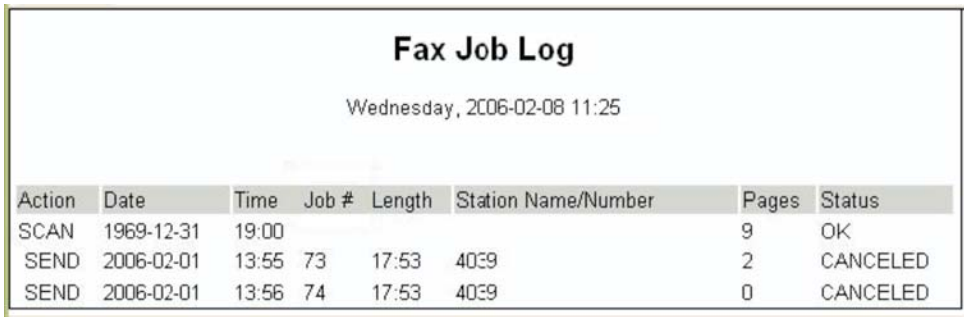
Step	Questions / actions	Yes	No
16	Disable Block No Name Fax user setting. Did this fix the issue?	Problem resolved.	Go to step 17.
17	Go to the Administrator menu. Enter the Fax settings - Analog Fax Settings submenu. Verify the remote device number is not in the Banned Fax List user setting. Is the remote device number in the banned fax list?	Go to step 18.	Go to step 19.
18	Remove the remote number from the banned fax list. Did this fix the problem?	Problem resolved.	Go to step 19.
19	Adjust the “Receive Threshold” setting in the SE menu. press **411 to enter the SE menu, enter Modem settings, and select “Receive Threshold”. Test by adjusting the received signal level by decreasing/increasing the”Receive Threshold” setting in steps of 2db. For example, if default value is -43 db, changing it to -45db will decrease the received signal level by 2db, and changing it to -41db will increase the received signal level by 2db. Recommended adjustment range is between -33db and -48db (in 2db steps). Did this fix the problem?	Problem resolved	Go to step 20.
20	Press **411 to enter the SE Menu. Select “Print Logs”. Print the T30 transmission/ job log. Check the error code being reported. See **“Fax T30 log error codes” on page 2-41**. Perform the suggested resolution for the error. Did this fix the problem?	Problem resolved.	Contact your second-level of support. See **“Escalating a fax issue to second-level support” on page 2-82**.

Escalating a fax issue to second-level support

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

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

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



Fax Job Log

Wednesday, 2006-02-08 11:25

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

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

Title/Name of Tester: Your Name
Customer: Customer Name
Job ID: Job ID #####
Date of Event: Date of Event mm/dd/yyyy
Time of Event: Time of Event hh:mm [A,P]M

Describe the Physical Connection:

Type: (•) Analog ( ) Digital
Description: [ ] VoIP/FoIP [ ] PAB [ ] ISD
Channel Quality: (•) Clear ( ) OK ( ) Some Noise ( ) Very Noisy

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

7. After all the requested information is entered into the Fax Checklist Web page, press the **Submit** button on the bottom of the page. A dialogue asking you to save the file will appear.
   Note: The file generated by the MFP is not automatically transmitted to second-level support. It is placed on the computer desktop.
8. Enter a name for the file, and indicate where you want to save the file.
9. press **OK**. The file appears on the desktop.
10. E-mail the file to second-level support.

Words on fax are stretched

The sending machine had a temporary jam.

Incoming fax has blank spaces or poor quality

1. The sending fax machine may be faulty.
2. The sending fax machine may have a dirty document glass.
3. A noisy phone line can cause errors.
4. Check the MFP print quality by making a copy.
5. The print cartridge may be empty. Replace as necessary.

No dial tone

Step	Questions / actions	Yes	No
1	Is the phone line properly connected to the modem card and the wall jack?	Go to step 3.	Go to step 2.
2	Properly connect the phone line to the modem card and wall jack. Did this fix the problem?	Problem resolved.	Go to step 3.
3	Test the phone line's ability to send and receive calls. Did the phone line work properly?	Go to step 5.	Go to step 4.
4	Use the MFP on a properly functioning phone jack. Did this fix the problem?	Problem resolved.	Go to step 5.
5	Is the modem card cable properly connected to the system board at J8 and the modem card?	Go to step 7.	Go to step 6.
6	Properly connect the modem card cable to the modem card and system board. Did this fix the problem?	Problem resolved.	Go to step 7.
7	Check the modem card cable for continuity. Is there continuity?	Go to step 8.	Replace the modem card cable.
8	Check the voltages from connector JMODEM1 on the RIP board. Check Pin 10 +3.3VDC, Pin 10 for +5VDC. 2, 4, 6, and 8 are grounds. Are the signals or voltages present?	Replace the modem card.	Replace the RIP board. See **"RIP board removal" on page 4-68**.

Fax dials a number, but no connection is made

The other fax machine may be turned off. Ask the fax recipient to check their machine.

Other service checks

Networking service check

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

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

Step	Questions / actions	Yes	No
12	Is the device physically connected (ethernet cable) to the network?	Go to step 13.	Go to step15.
13	Try using a different ethernet cable. Did this remedy the situation?	Problem resolved	Go to step 14.
14	Have the network administrator check the network drop for activity. Is the drop functioning properly?	Replace the controller board. See **"RIP board removal" on page 4-68**.	Contact the network administrator.
15	Is the printer on the same wireless network as the other devices?	Go to step 17.	Go to step 16.
16	Assign the correct wireless network to the printer. Did this fix the problem?	Problem resolved	Go to step 17.
17	Are the other devices on the wireless network communicating properly?	Go to step 18.	Contact the network administrator.
18	Verify that the ISP wireless card cable and any other ISP cables are properly seated in their connectors. Are the cables connected correctly?	Go to step 20.	Go to step 19.
19	Properly reseat the ISP cables. Did this fix the problem?	Problem resolved.	Go to step 20.
20	Perform the option card service check. See **"Option card service check" on page 2-86**. Was there another faulty ISP option?	Replace the faulty ISP option.	Go to step 21.
21	Replace the ISP wireless card? Did this fix the problem	Problem resolved.	Replace the RIP. See **"RIP board removal" on page 4-68**.

Option card service check

Option card service check

FRU	Action
Option cards Controller board Option card connection cable **Warning:** *Do not* replace the engine board and controller board at the same time. Each board contains the printer settings. When either of these boards is new, it obtains the settings from the other board. Settings are lost when both are new and replaced at the same time.	**Card** Remove all the option cards from the device. Install each card individually. Restart the MFP after each card is installed. Remove the card and repeat the previous step with a different card till all cards are checked. When a faulty card is found, replace the card. If the error persists after replacing the option card, replace the RIP board. See **"RIP board removal" on page 4-68**. If there are no errors found testing the cards individually, install the cards on at a time. Restart the MFP after each card is installed.
	Cables If the cards do not trigger an error, check the option card connection cables for continuity.

USB port service check

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

False close door service check

Step	Action and questions	Yes	No
1	Open and close the right cover. Does the message reset?	Problem solved	Go to step 2.
2	Check the right door release lever. Does it operate smoothly, and is the interlock actuator intact?	Go to step 3.	Replace the faulty part on the door.
3	Is the interlock switch cable properly connected to the interlock switch and CN23 on the engine board?	Go to step 4.	Properly connect the interlock switch cable.
4	Replace the interlock switch. Did this fix the problem?	Problem solved.	Go to step 5.
5	Replace the engine board. Did this fix the problem?	Problem solved.	Contact your second level support.

Operator panel service check

Step	Action and questions	Yes	No
1	Are the LEDs on the operator panel, and display illuminating?	Go to step 2.	Go to step 3.
2	Perform button test in the diagnostics menu. Did the tests work.	Problem solved.	Go to step 3
3	Check the cable connections on the UICC, touchscreen and RIP board. are they connected.	Go to step 5.	Go to step 4.
4	Reconnect the cables. Did this fix the issue	Problem solved	Go to step 5
5	Reseat the video board to the RIP board. Did this fix the issue?	Problem solved.	Go to step 6.
6	Check the cables for continuity. Is there continuity?	Go to step 8.	Go to step 7.
7	Replace the cables. Did this fix the issue?	Problem solved	Go to step 8.
8	Replace the UICC. Did this fix the issue?	Problem solved.	Go to step 9.
9	If the display is not working, replace the display. Did this fix the issue?	Problem solved.	Go to step 10.
10	Replace the video board. Did this fix the issue?	Problem solved.	Go to step 11.
11	Replace the RIP. Did this fix the issue?	Problem solved.	Contact your second level support.

Insert tray service check

Step	Action and questions	Yes	No
1	Remove the tray and inspect the tray for any damaged or broken parts that would prevent it from being installed properly, or move around in the printer. Are there loose or damaged parts on the tray?	Go to step 2.	Go to step 3.
2	Try a different tray. Did this fix the issue?	Problem resolved	Go to step 3.
3	Check the sensor cables for proper connection to the sensors and engine controller board. Are they properly connected?	Go to step 5.	Go to step 4.
4	Connect the cables. Did this fix the issue?	Problem resolved	Go to step 5.
5	Check the size sensors for proper operation. Are they working properly?	Go to step 7.	Go to step 6.
6	Replace the sensors. Did this fix the issue.	Problem resolved	Got to step 7.
7	Replace the engine controller board. Did this fix the issue?	Problem solved.	Contact your second level support.

Paper skew service check

Step	Action and questions	Yes	No
1	Are the paper guides in the paper trays and MPF tray in there proper position.	Go to step 4.	Go to step 3.
2	Adjust all the paper guides. Did this fix the problem?	Problem solved.	Go to step 4.
3	Check the tray to see if the paper in the tray is above the full mark on the side guides in the tray. Is there too much paper in the trays?	Go to step 5.	Go to step 6
4	Remove the excess paper from the trays. Did this fix the problem?	Problem solved.	Go to step 6.
5	Inspect the paper feed rolls, registration rolls, and registration roll springs. Are the registration rolls clean and in the proper place.	Go to step 8.	Go to step 7.
6	Install the paper feed maintenance kit. Did this fix the issue?	Problem solved.	Contact your second level support.

Imaging unit (photo developer) missing service check

Step	Action and questions	Yes	No
1	Are the imaging units properly seated?	Go to step 3.	Go to step 2.
2	Reseat the imaging units, and properly close the photodeveloper lock. Did this fix the issue?	Problem solved.	Go to step 3.
3	Check the contacts on the rear of the photodeveloper for dirt or toner. Are the contacts clean?	Go to step 5.	Go to step 4.
4	Clean the contacts on the photodeveloper. Did this fix the issue?	Problem solved.	Go to step 5.
5	Inspect the sub unit contacts for damage and dirt. Are they dirty or damaged.	Go to step 6.	Go to step 7.
6	Replace the subunit. Did this fix the issue?	Problem solved	Go to step 7.
7	Replace the HVPS. Did this fix the problem?	Problem solved.	Go to step 8.
8	Replace the printhead controller board. Did this fix the problem?	Problem solved.	Contact your second level support.

Option card service check

Step	Action and questions	Yes	No
1	Remove all the cards, and POR the machine. Does the printer work normally?	Go to step 3.	Go to step2.
2	Replace the RIP. Does the printer work normally?	Go to step 3.	Contact your second level support.
3	Replace the cards, and POR the machine until the error is replicated. Did the error replicate itself.	Go to step 4.	Problem solved
4	Check the ISP connector cable, connected to the failed card for continuity. Is there continuity?	Go to step 6.	Go to step 5.
5	Replace the connector cable. Did this fix the problem?	Problem solved	Go to step 6.
6	Replace the ISP card that triggered the error when it was added. Did this fix the issue.	Problem solved	Go to step 7.
7	Replace the RIP. Did this fix the issue?	Problem solved	Contact your second level support.

Serial port

Run the **"Serial Wrap Test" on page 3-23**.

> **Note:** The Serial Wrap Test is designed to check the serial port hardware by using a wrap plug, P/N 1329048, and invoking the Serial Post Diagnostic Test. The test helps isolate the printer from the serial cable and host computer. The test provides failure information on the display for approximately three seconds. If the test indicates a problem, replace the option card. If the problem continues, replace the RIP board.

Flash options

Run a copy of the test page, and check to see if the option you are checking is listed. The printer does not recognize the option being installed if the option is not listed. Be sure the memory card assembly is installed correctly and is not broken or damaged. If the Memory card assembly is correctly installed, not broken or damaged, then run the **"Flash Test" on page 3-25**. If the test fails, replace the Flash card assembly. If the problem continues, replace the RIP board.

DRAM options

This service check is the same as the flash memory option service check with the following exception: Run the **"DRAM Test" on page 3-22** from the menu if the DRAM Memory card assembly is correctly installed and not broken or damaged. If the test fails, replace the DRAM card assembly. If the problem continues, replace the RIP board.

Hard disk option

Service Tip: The 5041-030 printers support one hard disk option. Be sure only one hard disk option is installed. Be sure the hard disk and the hard disk board are correctly installed. Run the **"Quick Disk Test" on page 3-24** from the Device Test on the Diagnostic Menu.

> **Note:** The Quick Disk Test is a non-destructive test and indicates Pass or Fail. If the test fails, replace the hard disk. If a problem still exists, replace the RIP board.

Use the **"Disk Test/Clean" on page 3-24** to help restore the disk if it contains bad data and is unusable. This test is divided into a cleaning and a verifying or testing section.

> **Warning:** This can be a very lengthy test depending on the disk size. This test leaves the hard disk unformatted. The servicer or user must reformat the disk using the Format Disk Menu operation. This is a destructive type of test. All the data on the disk is destroyed and should not be performed on a known good disk.

Network card option

The network is installed on the system board on network model printers. See **"Networking service check" on page 2-84**

Error code 976 - Network card x

A 976 error code indicates an unrecoverable software error in network card x. Verify that network card x is correctly installed and all the IPSP cables are properly connected. If you find no problem, contact your next level of support before replacing the network card.

54 Network <x> Software error

This error displays when the RIP software detects that a network card is installed in slot x on the interconnect board but cannot establish communications with the network card.

Power supply (Dead machine) service check

Note: Before proceeding, make sure that this is not an issue with the display. Turn the machine on. If the machine's fans, and motors start up, it could be an issue with the display.

Step	Action and questions	Yes	No
1	Is the power cord connected to the printer and the wall outlet?	Go to step 3.	Go to step 2
2	Connect the power cord to the printer and wall outlet. POR the printer. Did it start?	Problem solved	Go to step 3.
3	Try a different power cord. Did this fix the problem.	Problem solved	Go to step 4.
4	Verify that the voltage to the machine is within spec.110v, ac +/- 10%, 220v, ac +/- 10%. Is the voltage in within spec?	Go to step 5.	Try a different power outlet.
5	Verify that the cables connecting the power inlet, the switch and power supply are properly connected.	Go to step 6	Properly connect the cables.
6	Replace the switch. Did this fix the problem.	Problem solved.	Go to step 7.
7	Are the fuses blown?	Go to step 9.	Go to step 8.
8	Check CN03 for the following voltages and grounds: Pins 1,3,and 7 should be +5V dc Pins 5 and 9 should be + 24V dc Pins 2,4,6,8, and 10 are GND Are the voltages correct?	Go to step 10.	Go to step 8.
9	Replace the power supply. Did this fix the problem?	Problem solved.	Go to step 10.
10	Replace the printhead controller board. Did this fix the problem?	Problem solved.	Replace the RIP board. See **"RIP board removal" on page 4-68**.

Printhead service check

Step	Action and questions	Yes	No
1	Check the LED for any dirt or toner that may distort the image. Is the LED dirty?	Go to step 2.	Go to step 3.
2	Clean the LED. Did this fix the problem?	Problem solved	Go to step 3.
3	Check the ribbon cable for proper connectivity to the defective printhead, and the printhead controller board.Is the cable properly connected?	Go to step 5.	Go to step 4.
4	Properly connect the cable on both ends. Did this fix the problem?	Problem solved	Go to step 5.
5	Check the cable for continuity. Is there continuity?	Go to step 6.	Go to step 7.
6	Replace the defective cable. Did this fix the problem?	Problem solved	Go to step 7.
7	Replace the printhead. Did this fix the problem?	Problem solved	Go to step 8.
8	Replace the printhead controller board. Did this fix the problem?	Problem solved	Contact you second level support.

Transfer belt up down check

Step	Action and questions	Yes	No
1	Is the transfer belt position sensor actuator jammed or broken?	Replace the transfer belt.	Go to step 2.
2	Is the belt position sensor cable connected to the sensor and CN9 on the engine board?	Go to step 3	Properly connect the cable at both ends.
3	Replace the belt position sensor. DId this fix the problem?	Problem solved.	Go to step 4.
4	Replace the engine board. Did this fix the problem?	Problem solved.	Contact your second level support.

Unable to print from USB thumb drive service check

Step	Action and questions	Yes	No
1	Try a different thumb drive. Does that drive work?	Problem solved	Go to step 2.
2	Verify that the USB cable is properly connected to the UICC card and RIP board. Is it connected?	Go to step 4.	Go to step 3.
3	Re-connect the cable. Did this fix the issue.	Problem solved.	Go to step 4.
4	Check the USB connector for damage. Is there damage?	Go to step 5.	Go to step 6.
5	Replace the cable. Did this fix the problem.	Problem solved	Go to step 6.
6	Replace the UICC.Did this fix the issue.	Problem solved.	Contact you second level support.

Waste toner bottle missing service check

Step	Action and questions	Yes	No
1	• Open the front door and lower the inner photoconductor locking door. • Pull the toner bottle out, and push it back in to position. • Close the photoconductor locking unit door. Did this fix the problem?	Problem solved. Tell the customer that this issue can occur. Instruct them to perform the procedure performed in step 1.	Go to step 2.
2	Clean the waste toner bottle sensor of any debris or toner. Did this fix the issue?	Problem solved	Go to step 3.
3	Check the cable connecting the waste toner sensor to CN9 on the engine board. Is the cable properly connected at both ends?	Go to step 5.	Go to step 4.
4	Reconnect the cable at both ends. Did this fix the problem?	Problem solved.	Go to step 5.
5	Check the cable for continuity. Is there continuity?	Go to step 7.	Go to step 6.
6	Replace the waste toner sensor cable. Did this fix the problem?	Problem solved.	Go to step 7.
7	Replace the waste toner sensor. Did this fix the problem?	Problem solved.	Go to step 8.
8	Replace the engine board. Did this fix the problem?	Problem solved.	Contact your second level of support.

Wrong paper size service check - tray1

Step	Action and questions	Yes	No
1	Check the size indicator on the front of the tray. Is it set to the correct size?	Go to step 3.	Go to step 2.
2	Set the indicator to the correct size. Did this fix the issue?	Problem solved	Go to step 3.
3	Is the sensor cable properly connected to the sensor and engine board?	Go to step 5.	Go to step 4.
4	Connect the cable. Did this fix the problem?	Problem resolved	Go to step 5.
5	Check the cable for continuity. Is there continuity?	Go to step 7.	Go step 6.
6	Replace the cable. Did this fix the issue?	Problem resolved	Go to step 7.
7	Replace the sensor. Did this fix the issue?	Problem resolved	Go to step 8.
8	Replace the engine board. Did this fix the issue.	Problem resolved	Contact your second level support.

Wrong paper size service check - tray2

Step	Action and questions	Yes	No
1	Remove the tray, and move the paper size guides to different positions. Are the size pins moving when the length guide is moved?	Go to step 3.	Go to step 2.
2	Try a different paper standard tray. Did this fix the problem?	Problem resolved	Go to step 3.
3	Check the sensor cables for proper connection to the sensors and engine controller board. Are they properly connected?	Go to step 5.	Go to step 4.
4	Properly connect the cables. Did this fix the problem?	Problem resolved	Go to step 5.
5	Replace the sensors. Did this fix the problem?	Problem resolved	Go to step 6.
6	Replace the engine controller board. Did this fix the problem?	Problem resolved	Contact your second level support.

Paper in ADF size service check

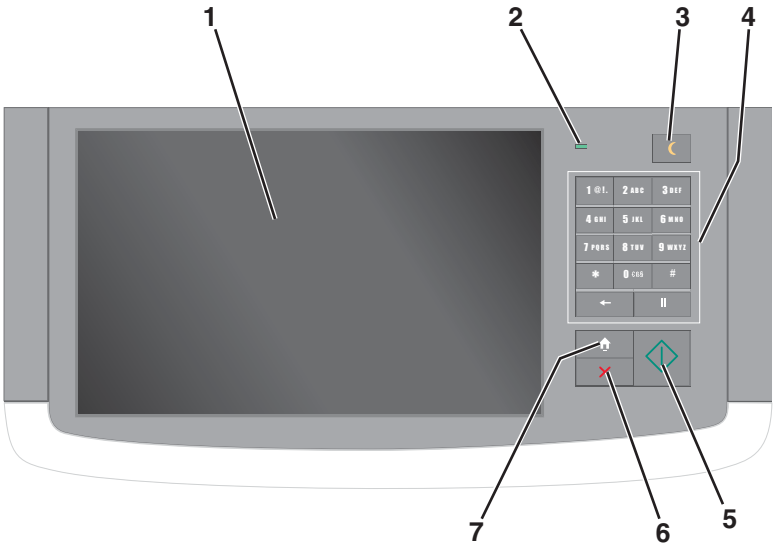
Step	Action and questions	Yes	No
1	Check the sensors (ADF long, width 1,and width 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **SCANNER TESTS.** 3. Touch **Sensor Tests.** 4. Observe the line “sensor (ADF long, width 1,and width 2)” Does the display on the operator panel, change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step2.
2	Check the ADF paper width sensor and ADF paper length sensors for dirt or debris. Are the sensors clear?	Go to step 4.	Go to step 3.
3	Clear the sensors of dirt and debris. Did this fix the problem?	Problem resolved	Go to step 4.
4	Check the sensors for proper connection to J3 on the ADF relay card. Are they properly connected?	Go to step 6.	Go to step 5.
5	Reconnect the cables. Did this fix the problem?	Problem resolved	Go to step 6.
6	Check pin 4 on J3 for +5V and pin 5 for ground. Are they present?	Go to step 8.	Go to step 7.
7	Replace the ADF relay card. Did this fix the problem	Problem resolved	Go to step 8.
8	Replace the ADF paper size sensors. Did this fix the problem?	Problem resolved	Consult your second level of support.

3. Diagnostic aids

This chapter provides basic information to help you navigate the printer menus and explains the tests and procedures used to identify printer failures and verify repairs have corrected the problem.

Understanding the operator panel and menus

Operator panel (need new art)



Item		Description
1	Display	Shows the status of the printer
2	Indicator light	**Off**—The printer is off. **Blinking green**—The printer is warming up, processing data, or printing. **Solid green**—The printer is on but idle. **Solid red**—Operator intervention is required.
3	Sleep	Enables Sleep Mode or Hibernate Mode The following actions wake the printer from Sleep Mode: • Touching the screen or any hard buttons • Opening an input tray, cover, or door • Sending a print job from a computer • Performing a Power-on Reset (POR)
4	Keypad	Lets you enter numbers, letters, or symbols
5	Submit	Saves settings changes
6	Stop/Cancel	Stops all printer activity **Note:** A list of options appears once Stopped appears on the display.
7	Home	Returns to the home screen

Understanding the home screen

Buttons appearing on the home screen may vary depending on home screen customization settings.

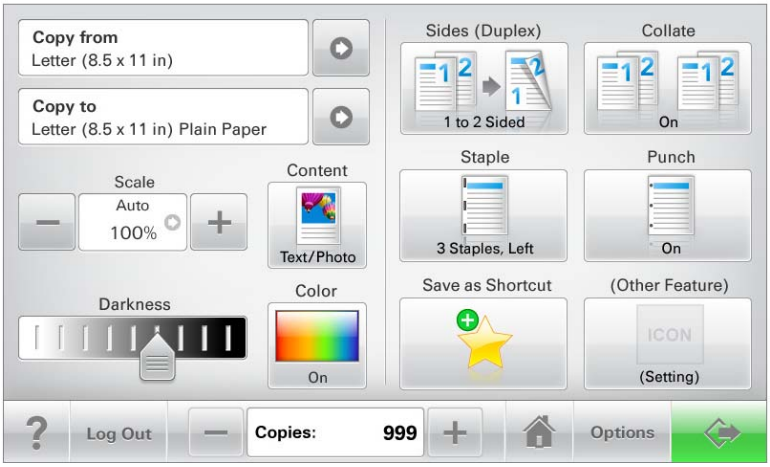
Possible buttons and icons on the home screen

Item	Description
Copy	Opens the Copy menu
E-mail	Opens the E-mail menu
Scan	Opens the Scan menu
Fax	Opens the Fax menu
Menus	Opens the administrative menus when Ready appears on the display
FTP	Opens the FTP menu **Note:** This option must be set up by a system administrator before it appears on the display.
Status message bar	Shows the current printer status such as Ready or Busy **Note:** Make sure Ready appears before performing any printer task. • Shows printer conditions such as Toner Low or Cartridge Low • Shows intervention messages and gives instructions for the printer to continue processing
Status/Supplies	Displays a warning or error message whenever the printer requires intervention to continue processing Touch this to access the messages screen for more information on the message, and how to clear it.
Tips	Opens context-sensitive Help information on the touch screen **Note:** All menus have a Tips button.
USB	Displays files on a flash drive
Bookmarks	Allows you to create, organize, and save a set of bookmarks (URLs) into a tree view of folders and file links
Held Jobs	Displays all held jobs
Change Language (not pictured)	Allows you to change the primary language and reports on the display, and will remain in effect until changed
Release Held Fax (not pictured)	If this button is shown, then there are held faxes with a scheduled hold time previously set. To access the list of held faxes, touch this button.
Lock Device (not pictured)	This button appears when the printer is unlocked and the Printer Lockout Personal Identification Number (PIN) has been set. Touching this button opens a PIN entry screen. Enter the correct PIN to lock the operator panel.

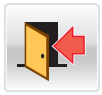
Item	Description
Unlock Device (not pictured)	This button appears when the printer is locked. The operator panel buttons and shortcuts cannot be used while this appears. Touching this button opens a PIN entry screen. Enter the correct PIN to unlock the printer control panel.
Cancel Jobs (not pictured)	Opens the Cancel Jobs screen. The following items are available under the Print, Fax, and Network headings: • Print job • Copy job • Fax profile • FTP • E-mail send Each heading shows up to three jobs per screen. If more than three jobs exist in a column, then an arrow appears enabling you to scroll through the jobs. Select a job to cancel it.

Using the touch screen

Sample touch screen



Button	Function
Submit	Saves settings changes
Sample copy Sample Copy	Prints a sample of a document or image
Right arrow	Opens the menu or options list beside it

Button	Function
Right scroll increase 	Increases a value
Left scroll decrease	Decreases a value
Home 	Returns to the home screen
Exit 	Exits from the current screen to the home screen
Tips 	Opens context-sensitive Help on the touch screen

Other touch-screen buttons

Icon	Function
Accept 	Confirms selections and moves to the next screen
Stop/Cancel 	• Cancels an action or selection • Cancels out of a screen and return the previous screen
Return 	Navigates back to the previous screen
Unselected radio button 	Indicates that an item is not selected

Icon	Function
Selected radio button 	Indicates a selection
Index 	Displays information about the key functions of the printer, including instructions on how to operate it
Search 	Lets you search for files and menus
Warning 	Indicates a warning or error condition

Administrative menus

See the menu map for a brief overview of the printer menus available from the operator panel.

Select a menu or menu item for more details.

Supplies Menu
Replace Supply
Cyan Cartridge
Magenta Cartridge
Yellow Cartridge
Black Cartridge
Cyan Imaging Unit
Magenta Imaging Unit
Yellow Imaging Unit
Black Imaging Unit
Waste Toner Bottle
Fuser
Transfer Module
Maintenance Kit

Paper Menu
Default Source
Paper Size/Type
Configure MP
Substitute Size
Paper Weight
Paper Loading
Custom Types
Custom Names
Universal Setup

Reports
Menu Settings Page
Device Statistics
Network Setup Page
Network [x] Setup Page
Shortcut list
Fax Job Log
Fax Call Log
Copy Shortcuts
E-Mail Shortcuts
Fax Shortcuts
FTP Shortcuts
Profiles List
Print Fonts
Print Directory
Print Demo
Asset Report

Network/Ports
Active NIC
Standard Network
Standard USB
Parallel [x]
Serial [x]
SMTP Setup

Help
Print All Guides
Copy Guide
E-mail Guide
Fax Guide
FTP Guide
Print Defects Guide
Information Guide
Supplies Guide

Security
Miscellaneous
Security Settings
Confidential Print
Disk Wiping
Security Audit Log
Set Date and Time

Settings
General Settings
Copy Settings
Fax Settings
E-Mail Settings
Flash Drive Menu
Print Settings
Setup Menu
Finishing Menu
Quality Menu
Job Accounting Menu
Utilities Menu
XPS Menu
PDF Menu
Postscript Menu
PCL Emul Menu
HTML Menu

Manage Shortcuts
Fax Shortcuts Security
E-mail Shortcuts
FTP Shortcuts
Copy Shortcuts
Profile Shortcuts

Option Card
List of all DLEs (Downloadable emulators)

Accessing the service menus

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

Diagnostics menu	1. Turn off the printer. 2. Press and hold **3** and **6**.  3. Turn on the printer. 4. Release the buttons when the splash screen appears.	The Diagnostics menu group contains the settings and operations used while manufacturing and servicing the printer. For more information, see **"Diagnostics mode" on page 3-18**.
Configuration menu	1. Turn off the printer. 2. Press and hold **2** and **6**.  3. Turn on the printer. 4. Release the buttons when the splash screen appears.	The Configuration menu group contains a set of menus, settings, and operations which are infrequently required by a user. Generally, the options made available in this menu group are used to configure a printer for operation. See **"Configuration Menu" on page 3-9** for more information.
Network SE menu	While in Network/Ports Menu, press and hold **9**, **7**, and **6**.  	
SE menu	At the printer, perform the following steps: 1. In the Admin menu, navigate to **Network** > **Ports** > **Standard Network** > **Std Network Setup** menu. 2. Press and hold **9**, **7**, and **6**. 3. Release the buttons when the **Network SE Menu** appears. From a browser, add "/se" to the device IP address (for example: http://158.183.3.2/se)	THe MFP does not need to be restarted to enter this menu.
Invalid engine code mode	1. Turn off the printer. 2. Press and hold **3**, **4**,and **6** (E+N+G). 3. Turn on the printer. 4. Release the buttons when the splash screen appears.	This mode is used if the machine has invalid code and needs the correct code loaded. After entering this mode, the firmware code can be updated.

Recovery mode	1. Turn off the printer. 2. Press and hold **2**, **7**,and **8**. 3. Turn on the printer. 4. Release the buttons when the splash screen appears.	This mode will allow the printer to boot from a secondary set of instructions to allow a code flash to the printer. Code can be flashed from a PC via USB.

Configuration Menu

The Configuration menu contains a set of menus, settings, and operations which are infrequently used by a user. Generally, the options made available in this menu are used to configure a printer for operation.

An asterisk (*) in the value list in the following menus indicates the default value.

Entering Config Menu

To enter the Configuration Menu:

1. Turn off the printer.
2. Press and hold **2** and **6.**

3. Turn on the printer.
4. Hold the buttons until the splash screen appears.

The following are available from the Configuration Menu:

Configuration Menu

Reset Fuser Counter	See **“Reset Fuser Counter” on page 3-10**.
Reset Maintenance Counter	See **“Reset Maintenance Counter” on page 3-10**
Reset Transfer Belt Counter	See **“Reset Transfer Belt Counter” on page 3-10**.
USB Scan To Local	See **“USB Scan to Local” on page 3-10**.
Black Only Mode	See **“Reset Maintenance Counter” on page 3-10**
Print Quality Pages	See **“Print Quality Pages” on page 3-11**
Reports	See **“Reports” on page 3-11**
Color Trapping	See **“Color Trapping” on page 3-11**
Tray Insert Message	See **“Tray Insert Message” on page 3-11**.
SIZE SENSING	See **“SIZE SENSING” on page 3-11**
Panel Menus	See **“Panel Menus” on page 3-12**
PPDS Emulation	See **“PPDS Emulation” on page 3-12**
Download Emuls	See **“Download Emuls” on page 3-12**
Factory Defaults	See **“Factory Defaults” on page 3-12**
Energy Conserve	See **“Energy Conserve” on page 3-12**
Fax Low Power Support	See **“Fax Low Power Support” on page 3-12**.
Min Copy Memory	See **“Min Copy Memory” on page 3-12**.
Num Pad Job Assist	See **“NumPad Job Assist” on page 3-13**.
Format Fax Storage	See **“Format Fax Storage” on page 3-13**.
Fax Storage Location	See **“Fax Storage Location” on page 3-13**.

Configuration Menu

Auto Align Adj	See **“Auto Align Adj” on page 3-13**
Color Alignment	See **“Color Alignment” on page 3-14**
ADF Edge Erase	See **“ADF Edge Erase” on page 3-14**.
FB Edge Erase	See **“FB Edge Erase” on page 3-15**.
Scanner Manual Registration	See **“Scanner Manual Registration” on page 3-15**.
Disable Scanner	See **“Disable Scanner” on page 3-15**.
Paper Prompts	See **“Paper Prompts” on page 3-15**
Envelope Prompts	See **“Envelope Prompts” on page 3-15**
Action for Prompts	See **“Action for Prompts” on page 3-15**
Jobs On Disk	See **“Jobs On Disk” on page 3-16**
Disk Encryption	See **“Disk Encryption” on page 3-16**
Wipe Disk	See **“Wipe Disk” on page 3-16**
Font Sharpening	See **“Font Sharpening” on page 3-16**
Require Standby	See **“Require Standby” on page 3-16**
UI Automation	
Key Repeat Initial Delay	See **“Key Repeat Initial Delay” on page 3-16**
Key Repeat Rate	See **“Key Repeat Rate” on page 3-16**
Clear Custom Status	See **“Clear Custom Status” on page 3-16**
USB Speed	See **“USB Speed” on page 3-17**
Exit Config Menu	

Reset Fuser Counter

This menu item is used to reset the fuser counter for the print engine.

1. Touch the menu item. A “Reset Fuser Counter” button is displayed.
2. Touch that button to reset the counter.

Reset Maintenance Counter

This menu item is used to reset the maintenance counter for the print engine.

1. Touch the menu item. A “Reset Maintenance Counter” button is displayed.
2. Touch that button to reset the counter.

Reset Transfer Belt Counter

This menu item is used to reset the fuser counter for the print engine.

1. Touch the menu item. A “Reset Fuser Counter” button is displayed.
2. Touch that button to reset the counter.

USB Scan to Local

When set to Off, this setting tells the USB device driver to enumerate as a USB Simple device. When this is set to on, USB device driver enumerates as a USB Composite device (multiple interfaces).

Black Only Mode

When this setting is set to On the printer prints only grayscale printing. The default is Off. The result is similar to setting Print Mode to Black Only.

Note: This setting appears only when the PJL Password Environment variable is set to 0.

Print Quality Pages

The Print Quality Test consists of five pages. Pages one and two contain a mixture of graphics and text. The remainder of the pages only contain graphics. Use this test to identify print quality problems. The Test Pages must be printed on A4, Legal, or Letter paper.

Reports

From this menu you can print the Menu Settings Page or the Event Log. **(Will event log be added?)**

Color Trapping

Color trapping is an aid to graphics and text. When text or graphics appear over other colors, a misalignment may allow white paper to show through at the borders of the colors. Color trapping increases the amount of color under the upper image so a slight misalignment does not show. This affects PCL 5e, PCL XL, PDF, and PostScript printing.

Increasing the value increases the amount of color remaining beneath the black content, in increments of 1/600 of an inch.

1. Select **Color Trapping** from the Configuration menu.
2. Select the value or **Off**. The range is 1 to 5, and the default value is 2.
   Press (+) to increase the value.
3. Press **Check** to accept.

Tray Insert Message

This setting determines how many seconds the panel will display the “Tray Insert” message after a user

has inserted a tray into the printer. The values are 1 - 90 seconds.

1. Select **Tray Insert Message** from the Configuration menu.
2. Use the arrows to scroll to the desire value.
3. Press **Check** to accept.
4. Touch **Back** to exit.

SIZE SENSING

Automatic size sensing can be disabled or enabled in this menu. Only paper sources that support Auto Size Sensing are displayed.

1. Select **SIZE SENSING** from the Configuration menu.
2. Select a tray. Only those trays with size sensing appear. Select **Auto** to turn size sensing on for that tray, or select **Off** to disable size sensing.
3. Touch **Back** to exit.

Panel Menus

Disabling Panel Menus prohibits users from modifying any setting or executing any operation available in the Ready Menu group.

PPDS Emulation

This appears only if the PPDS interpreter is available.

Download Emuls

Warning: This setting should not be changed without specific instructions from the next level of support.

This setting temporarily disables downloaded emulators for troubleshooting purposes. All downloaded emulators are re-enabled automatically after two PORs.

Demo Mode

This printer supports a demo mode that is usually used in retail environments to illustrate the features of the printer. The printer features are illustrated by demonstration files stored in the RIP firmware, flash option, or disk option. This mode is deactivated by default.

Factory Defaults

The customer can restore either the network settings or the base printer settings to their factory default values. When Restore Base is selected, non-critical base printer NVRAM settings are restored. When Restore STD Net is selected, all network NVRAM settings are restored to their factory default settings. This option is available only on models with an integrated network adapter. When Restore LES is selected, all non-standard applications are removed and all framework and standard application settings are reset to factory default settings.

Energy Conserve

When Energy Conserve is on, the customer does not have access to disable the Sleep Mode function. When Energy Conserve is off, Disable appears as an additional menu item in the Sleep Mode menu. This setting only affects the values that are displayed in the Sleep Mode menu.

Fax Low Power Support

This menu has the following settings:

Auto—The printer checks the Caller ID Pattern setting to determine if the fax chip should enter low power mode.
Permit Sleep—The fax chip enters low power mode when needed, regardless of the Caller ID Patter setting.
Disable Sleep—The fax chip never enters low power mode.

Min Copy Memory

This menu lets you select the amount of memory dedicated to storing copy jobs. The values may be 25 MB, 35 MB, 50 MB, 80 MB, and 100 MB. The default is 80 MB. Values will be displayed only if the amount of installed DRAM is at least twice the amount of the value. For example, at least 200 MB of installed DRAM is required to display the 100 MB selection.

NumPad Job Assist

When this setting is set to On, a user can initiate scanner-related jobs, and enter values for a limited number of settings related to those jobs, using the keypad.

Touch **Back** to exit without changing the setting.

Format Fax Storage

This setting enables you to format the non-volatile storage used for storing faxes.

Note: If an advanced password has been established, you must enter this password in order to change the setting.

Fax Storage Location

This menu allows you to select either NAND or the printer hard disk (Disk) as the fax storage location. If the printer hard disk is removed, then this menu no longer appears.

Color Adjustment

Color Adjustment enables you to select the amount of color adjustments the printer makes during automatic color adjustment. You can select from the following:

- Disabled
- Fewest color adjustments
- Fewer color adjustments
- Normal (default setting)
- Better color accuracy
- Best color accuracy

Auto Align Adj

The printer automatically runs a Toner Patch Sensing (TPS) diagnostic after certain key events. Depending on the type of event, the results of the diagnostics can trigger either a color adjust calibration or an alignment calibration. If necessary, the printer will automatically adjust the alignment.

If Auto Align Adj is set to Off, then the diagnostic still runs, but the printer will not use the resulting data to automatically adjust alignment. This could eventually lead to the user having to adjust alignment manually. Therefore, Auto Align Adj should not be set to Off during normal printer usage.

Color Adj State

Use this menu to select when color calibrations occur:

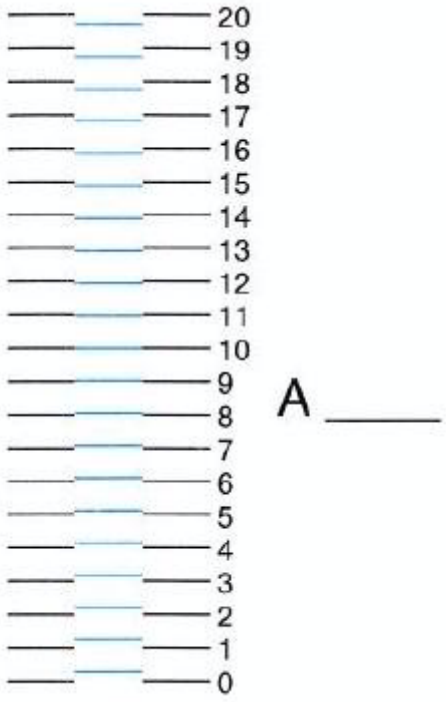
- Busy—When a calibration is needed, all queued jobs finish printing and then the emulators pause and refuse to add jobs to the queue until the calibration is finished.
- Idle—The printer must be idle with no jobs pending in order for a calibration to occur.

Color Alignment

When you enter Color Alignment, the printer generates four alignment pages that are used to set the color alignment on the print engine. This needs to be run whenever a toner cartridge or imaging unit is installed on the print engine.

To set the alignment, perform the following steps:

1. Select **Color Alignment** from the configuration menu.
2. Select **Print Alignment Pages**. The pages are printed.
   The alignment pages that are printed out contain vertical and horizontal alignment settings labeled A through L.
   Example A is shown here:



3. In the Color Alignment sub menu, Select A.
4. Look at item A on the sheets.
5. Look for the numerical value where the color lie is aligned with the two black lines on each end.
   Note: In the example above, 10 would be the value to enter.
6. Using the arrows on the touch screen, scroll to the value that matches the correct value on the printout.
7. Touch the check mark.
8. Repeat steps 3 through 6 for each alpha value on the printout.

ADF Edge Erase

The ADF Edge Erase setting specifies, in millimeters, the size of a border around the scanned image that will be erased. For copies, the printed page will always have a at least 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.

FB Edge Erase

The FB Edge Erase setting specifies, in millimeters, the size of a border around the scanned image that will be erased. For copies, the printed page will always have a at least 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.

Scanner Manual Registration

Use this menu to adjust the scanner margins after you replace any of the following parts:

- Flatbed scanner assembly
- ADF unit assembly
- Flatbed scanner CCD assembly

For more information, see **"Adjusting scanner registration" on page 4-196**.

Note: The Scanner Manual Registration menu does not appear if Disable Scanner is set to Auto Disabled.

Disable Scanner

Use this setting to enable or disable the flatbed scanner and ADF.

Note: Auto Disabled can only be saved by the printer in response to failed scanner operation. Users cannot save this setting.

Motor Calibration

This test synchronizes the aligner and fuser motor speeds with the transfer belt. Eight blank pages feed during the test, and all buttons are disabled until the test finishes.

Note: Motor Calibration must be performed using 600dpi resolution and with duplex disabled.

Paper Prompts

Setting Paper Prompts controls which tray a change prompt is directed to when paper is sensed to be the wrong size.

Envelope Prompts

Env Prompts controls which tray a change prompt is directed to when the envelopes are sensed to be the wrong size.

Action for Prompts

This setting enables users to have the printer resolve media change prompt situations automatically. Such prompts occur when the selected media for the job is not available when the job prints. This setting applies only to jobs that cannot be parked.

- Prompt user (default setting)—The user must respond to the prompt and choose one of the following options each time.
- Continue—The job prints on the closest available media, and the printer preserves the requested size and type specifications (e.g., Bond or Transparency). If the available media is smaller than the requested size, the printer crops the print image as needed.
- Use Current—The job prints on the media currently available and uses the size and type specifications of the available media instead of the original job. If the media is smaller than the requested size, the printer crops the print image as needed.

Jobs On Disk

This setting appears only if a hard disk is installed. Jobs can be deleted from the hard disk. Settings are Delete and Do Not Delete (default). The Delete setting does not affect Print and Hold or parked jobs.

Disk Encryption

This setting appears only if a hard disk is installed, the disk is not read only, and Disk Encryption is enabled.

Warning: When the settings are changed, all data on the hard disk is deleted.

Wipe Disk

This setting performs a wipe of the printer hard disk, erasing all data.

Warning: Wipe Disk deletes all data on the printer hard disk, including downloaded fonts, macros, and held jobs. Do not initiate a disk wipe if you have information on the printer that you want to save.

- Wipe disk (fast)—This is a single-pass wipe that overwrites all data and the file system. This wipe is faster but less secure since it is possible to retrieve the deleted data with forensic data retrieval techniques.
- Wipe disk (secure)—This multiple-pass wipe overwrites all data without rewriting the file system. This wipe is DoD 5220.22-M compliant since the deleted data is irretrievable.

Font Sharpening

Font Sharpening allows the user to adjust the value of the high frequency screens used for font data. For example, if the value is 24, all fonts 24 points and less use the high frequency screens. The default value is 24.

This feature works only in PostScript emulation.

Require Standby

If set to Off, this setting disables Standby Mode in the General Settings menu.

UI Automation

Once enabled, this setting creates an “ENABLE_UI_AUTOMATION” file in the shared directory. As long as this file exists, the printer permits external developers to test the stability of their applications against the printer to ensure that their applications have an appropriate level of stability. Disabling this setting deletes the file.

Key Repeat Initial Delay

This setting determines the length of delay before a repeating key starts repeating. The default setting is 1 second. You can adjust the setting by.25 second increments.

Key Repeat Rate

This setting indicates the number of presses per second for repeating keys. The default setting is 15 presses per second.

Clear Custom Status

This setting erases any custom messages the user has created for the Default or Alternate custom messages.

USB Speed

This setting determines the speed at which the USB port reads and writes data from flash drives. Auto is the default setting. Setting the USB Speed to Full disables the hi-speed capabilities of the port.

Exit Config Menu

Press **Select** to exit the Configuration menu and reboot the printer.

Diagnostics mode

To run the printer diagnostic tests described in this chapter, put the printer in Diagnostics mode.

Entering Diagnostics mode

To enter the Diagnostics Mode:

1. Turn off the printer.
2. Press and hold **3** and **6**.

3. Turn on the printer.
4. Hold the buttons until the splash screen appears.

Diagnostic mode menus

SCANNER CALIBRATION	See **"SCANNER CALIBRATION" on page 3-20**.
Copy Quick Test	
Adjust Calibration Values	
Reset Calibration Values	
PRINT TESTS	See **"PRINT TESTS" on page 3-20**
Tray 1	
Tray 2 (if installed)	
Tray 3 (if installed)	
Tray 4 (if installed)	
Tray 5 (if installed	
Multi-Purpose Feeder	
Print Quality Pages	See **"Print Quality Pages" on page 3-20**

HARDWARE TESTS	
Panel Test	See **“Panel Test” on page 3-21**
Button Test	See **“Button Test” on page 3-22**
DRAM Test	See **“DRAM Test” on page 3-22**
Serial 1 Wrap (if installed)	See **“Serial Wrap Test” on page 3-23**
USB HS Test Mode	See
INPUT TRAY TESTS (if installed)	
Feed Test	See
DEVICE TESTS (if installed)	
Quick Disk Test	See **“Quick Disk Test” on page 3-24**
Disk Test/Clean	See **“Disk Test/Clean” on page 3-24**
Flash Test	See **“Flash Test” on page 3-25**
PRINTER SETUP	
Defaults	See **“Defaults” on page 3-25**
Prt Color Pg Count	See **“PAGE COUNTS” on page 3-26**
Prt Mono Pg Count	
Perm Page Count	
Serial Number	See **“Serial Number” on page 3-26**
Model Name	See **“Model Name” on page 3-26**
Configuration ID	See **“Configuration ID” on page 3-26**
Par 1 Strobe Adj (if installed)	See
REPORTS	
EVENT LOG	
Display Log	See **“Display Log” on page 3-28**
Print Log	See **“Print Log” on page 3-28**
Clear Log	See **“Clear Log” on page 3-29**
SCANNER TESTS	
Scanner Calibration Reset	See **“Scanner Calibration Reset” on page 3-29**.
ASIC Test	See **“ASIC Test” on page 3-29**.
Feed Test	See **“Feed Test” on page 3-29**.
Sensor Test	See **“Sensor Test” on page 3-29**.
ADF Magnification	See **“ADF Magnification” on page 3-29**.
EXIT DIAGNOSTICS	

SCANNER CALIBRATION

Adjust Calibration Values

This menu is used to manually adjust the scanner black levels to optimize printed text and images from scanned or copied originals. Use this menu to adjust the levels after you replace any of the following parts:

- Flatbed scanner assembly
- ADF unit assembly
- Flatbed scanner CCD assembly

For more information, see.**"Calibrating the scanner" on page 4-195**.

Reset Calibration Values

This resets the scanner black levels to factory default settings. These values must be reset after you replace any of the following parts:

- Flatbed scanner assembly
- ADF unit assembly
- Flatbed scanner CCD assembly

PRINT TESTS

Print Tests (input sources)

This test determines if the printer can print on media from any of the paper input sources. Each of the installed sources is available within the Print Tests menu.

The content of the test page varies depending on the media installed in the selected input source.

- If a source is selected that contains paper, then a page similar to the Quick Test Page is printed and does not contain the Print Registration diamonds.
- If a source is selected which contains envelopes, then an Envelope Print Test pattern is printed. This pattern contains only text, which consists of continuous prints of each character in the selected symbol set.
- If **Continuous** is selected, then the same page prints continuously from the selected source until you press **Stop**. If Continuous is selected from a source which contains envelopes, then the envelope print test pattern is printed on the first envelope, and the rest are blank.

The Print Test page always prints single-sided, regardless of the Duplex setting or the presence of the Duplex option.

To run the Print Test:

1. From the Diagnostics menu, touch **PRINT TESTS**.
2. Select the paper source.
3. Select either **Single** or **Continuous**.
   Note: If **Single** is selected, no buttons are active while the Print Test Page is printing. If **Continuous** is selected, **Stop** (X) can be pressed to cancel the test.
4. At the end of the test, the printer returns to the PRINT TESTS menu.

Print Quality Pages

The print quality test consists of five pages. Pages one and two contain a mixture of graphics and text. The remainder of the pages only contain graphics.

This test may be printed from either Configuration menu or the Diagnostics menu. To run the print quality pages from the Diagnostics menu, select **PRINT TESTS** and **Print Quality Pages** from the menu. Once the test is started it cannot be canceled. After the test pages print, the printer returns to the **PRINT TESTS** menu.

HARDWARE TESTS

Panel Test

This test verifies the operator panel display function.

To run the Panel Test:

1. From the Diagnostics menu, navigate to:
   HARDWARE TESTS > **Panel Test**
   The Panel test continually executes.
2. Press **Stop** (X) to cancel the test.

Button Test

This test verifies the operator panel button function.

To run the Button Test:

1. From the Diagnostics menu, navigate to:
   HARDWARE TESTS > **Button Test**
   With no buttons pressed, an image the operator panel buttons is displayed. Press each operator panel button one at a time, and the button in the illustration turns blue.
2. Press **Stop** (X) or touch **Back** to exit the test.

DRAM Test

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

To run the DRAM Test:

1. From the Diagnostics menu, navigate to:
   HARDWARE TESTS > **DRAM Test**

DRAM Test Testing… appears on the screen, followed by Resetting the Printer.

After the printer resets, the results of the test appear: DRAM Test (x)MB P:###### F:######.

(x) represents the size of the installed DRAM.

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

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

Once the maximum pass count or fail count is reached, or once all the DRAM has been tested, the test stops and the final results appear.

Serial Wrap Test

Use this test to check the operation of the Serial Port Hardware using a wrap plug. Each signal is tested.

Note: this test is listed only if the serial option ISP card is installed.

To run the Serial Wrap Test:

1. Disconnect the serial interface cable, and install the wrap plug.
2. From the Diagnostics menu, navigate to:
   HARDWARE TESTS > **Serial Wrap Test**
3. Select the appropriate **Serial Wrap Test** from the list. Values may include **Serial Wrap**, **Serial 1 Wrap**, **Serial 2 Wrap,** or **Serial 3 Wrap**. Each time the test finishes, the screen updates with the result. P and F represent the same numbers for DRAM. If the test passes, the Pass Count increases by 1. However, if the test fails, one of the following failure messages appears for approximately three seconds, and the Fail Count increases by 1:
   Receive Status Interrupt Error
   Status Error
   Receive Data Interrupt Error
   Transmit Data Interrupt Error
   Transmit Empty Error
   Threshold Error
   Receive Data Ready Error
   Break Interrupt Error
   Framing Error
   Parity Error
   Overrun Error
   Data Error
   Data 232 Error
   Data 422 Error
   FIFO Error
   DSR Error
   DSR PIO Error
   DSR Interrupt Error
   CTS Error
   CTS PIO Error
   CTS Interrupt Error

Once the maximum count is reached or a failure occurs, the test stops.

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

USB HS Test Mode

1. From the Diagnostics menu, navigate to:
   HARDWARE TESTS > **USB HS Test Mode**
2. Select the desired Port. The test begins immediately for the Single Stop tests.
3. Select the desired Test.

Ports	Tests
Port 0	Test J
Port 1	Test K
Port 2	Test SEO NAK
Port 3	Test Packet
Single Stop Get Device Description	Test Force Enable
Single Stop Set Feature	

4. To cancel the test, turn the printer off.

DEVICE TESTS

Note: Disks or flash devices must be installed in order to perform these tests.

Quick Disk Test

This test performs a non-destructive read/write on one block per track on the disk. The test reads one block on each track, saves the data, and proceeds to write and read four test patterns to the bytes in the block. If the block is good, the saved data is written back to the disk.

1. From the Diagnostics menu, navigate to:
   DEVICE TESTS > **Quick Disk Test**
   - The power indicator *blinks* while the test is in progress.
   - Quick Disk Test/Test Passed appears if the test passes.
   - Quick Disk Test/Test Failed appears if the test fails.
2. Press **Stop** (X) or touch **Back** to return to the Device Tests menu.

Disk Test/Clean

Warning: This test destroys all data on the disk and should not be attempted on a good disk. This test may run approximately 1½ hours depending on the disk size.

1. From the Diagnostics menu, navigate to:
   DEVICE TESTS > **Disk Test/Clean**
   A Contents will be lost warning appears.
2. To exit the test immediately and return to DEVICE TESTS, select **No** and touch **Submit**. To continue with the test, select **Yes** and touch **Submit**.
   When the test starts, a progress bar appears. The test cannot be stopped or canceled once it has begun.
3. Once the test is complete, the power indicator turns on solid and a message appears indicating whether the test passed or failed. Press **Stop** (X) to return to DEVICE TESTS.

Flash Test

This test causes the file system to write and read data on the flash to test the flash.

Warning: This test destroys all data on the flash because the flash is reformatted at the end of the test.

1. Select **Flash Test** from DEVICE TESTS From the Diagnostics menu, navigate to:
   DEVICE TESTS > **Flash Test**
   A Contents will be lost warning appears.
2. To exit the test immediately and return to DEVICE TESTS, select **No** and touch **Submit**. To continue with the test, select **Yes** and touch **Submit**.
   When the test starts, a progress bar appears. The test cannot be stopped or canceled once it has begun.
3. Once the test is complete, the power indicator turns on solid and a message appears indicating whether the test passed or failed. Press **Stop** (X) to return to DEVICE TESTS.

Input Tray Tests

This test determines if the printer can feed media from any of the paper input sources. Each of the installed sources is available within the Input Tray Tests menu.

To run the Input TrayTest:

1. From the Diagnostics menu, touch **INPUT TRAY TESTS**.
2. Select the input source.
3. Select either **Single** or **Continuous**.
   Note: If **Single** is selected, no buttons are active while the input device is feeding. If **Continuous** is selected, **Stop** (X) can be pressed to cancel the test.
4. At the end of the test, the printer returns to the INPUT TRAY TESTS menu.

PRINTER SETUP

Defaults

This setting is used by the printer to determine whether US or non-US factory defaults should be selected. The following printer settings have different US and non-US values:

Printer default values	US value	Non-US value
Paper Sizes setting in the General Settings menu	U.S.	Metric
Default Paper Size (paper feeding sources which do not have hardware size sensing capabilities)	Letter	A4
Default Envelope Size (envelope feeding sources which do not have hardware size sensing capability)	10 Envelope	DL Envelope
Fax media size	Letter	A4
PCL Symbol Set	PC-8	PC-850
PPDS Code Page	437	850
Universal Units of Measure	Inches	Millimeters

Modification of the printer setting Defaults causes the NVRAM space to be restored to the printer's factory settings.

PAGE COUNTS

This menu lets you view the total page counts of the printer or the page counts broken down into color and mono pages printed. Unlike in previous printers, none of these values can be changed.

Touch **Back** to return to the Diagnostics menu.

Serial Number

You can view the serial number.

Engine Setting *(1-16)*

Warning: The engine setting should not be changed without specific instructions from the next level of support.

Model Name

You can view the model name.

Configuration ID

The two configuration IDs are used to communicate information about certain areas of the printer that cannot be determined using hardware sensors. The configuration IDs are originally set at the factory when the printer is manufactured. However, you may need to reset Configuration ID 1 or Configuration ID 2 whenever you replace the system board. The IDs consist of eight hexadecimal characters, including 0 through 9 and A through F.

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

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

To set the configuration ID:

1. From the Diagnostics menu, navigate to:
   Printer Setup > **Configuration ID**
2. Enter the Configuration ID 1.
3. Touch the Configuration ID 2 value to select it, and then enter the new Configuration ID 2.
4. Touch **Submit** to save and validate the new IDs.
   If either ID is invalid, then the printer discards the changes and returns to the original IDs.
   If both IDs are valid, then the printer returns to the Diagnostics menu.

Reset Color Calibration

Reset Color Cal resets the alignment of the color planes to factory default settings.

No buttons can be pressed while the printer is resetting the color calibration. The printer automatically returns to the Diagnostics menu once the reset is complete.

Cal Ref Adj

Warning: This setting should not be changed without specific instructions from the next level of support.

Par 1 Strobe Adj

Parallel Strobe Adjustment enables you to change the amount of time the strobe is sampled in order to determine if data is available on the parallel port. Increasing the value increases the amount of time by 50 ns per increment. Decreasing the value decreases the sample time by 50 ns per increment.

Touch **Back** to return to the Diagnostics menu.

REPORTS

From this menu you can print the Menu Settings Page or the Event Log.

EVENT LOG

Display Log

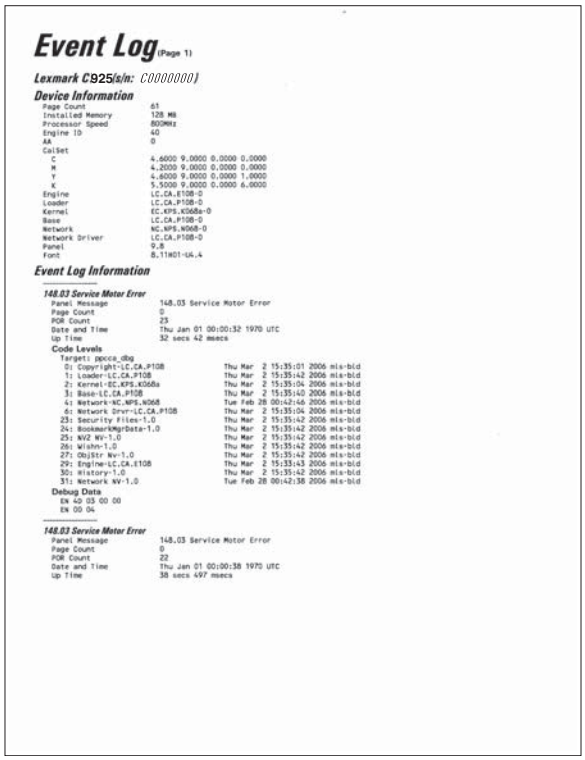
Display Log shows the message that appeared on the operator panel for each event in the log, starting with the most recent. Use the touch-screen arrows to scroll through the log entries. To see more in-depth information about each event, print the event log using the Print Log menu item.

Touch **Back** to return to the EVENT LOG menu.

Print Log

The Print Log menu item prints a detailed report of each event in the log. The first page of the event log contains a Printer Information section similar to what is printed on a Menu Setting Page. Printed at the top of each page is the model name and serial number to assist in tracking each page of a report to a specific printer. The printout of the log contains the following information for each error in the log:

- Page count when the error occurred (except for 900 service RIP software errors).
- Code versions of all packages when error occurred.
- Panel message when error occurred (except for 900 service RIP software errors).
- Debug information and secondary error codes, depending on the error.



Event Log (Page 1)

Lexmark C925 *(s/n: C0000000)*

Device Information

Page Count	61
Installed Memory	128 MB
Processor Speed	800MHz
Engine ID	40
AA	0
CalSet	
C	4.6000 9.0000 0.0000 0.0000
M	4.2000 9.0000 0.0000 0.0000
Y	4.6000 9.0000 0.0000 1.0000
K	5.5000 9.0000 0.0000 6.0000
Engine	LC.CA.E108-0
Loader	LC.CA.P108-0
Kernel	EC.KPS.K068a-0
Base	LC.CA.P108-0
Network	NC.NPS.N068-0
Network Driver	LC.CA.P108-0
Panel	9.8
Font	8.T1N01-U6.4

Event Log Information

148.03 Service Motor Error

Panel Message	148.03 Service Motor Error
Page Count	0
POR Count	23
Date and Time	Thu Jan 01 00:00:32 1970 UTC
Up Time	32 secs 42 msecs

Code Levels

Target: pecce_dbg

0: Copyright-LC.CA.P108	Thu Mar 2 15:35:01 2006 mis-bld
1: Loader-LC.CA.P108	Thu Mar 2 15:35:42 2006 mis-bld
2: Kernel-EC.KPS.K068a	Thu Mar 2 15:35:04 2006 mis-bld
3: Base-LC.CA.P108	Thu Mar 2 15:35:40 2006 mis-bld
4: Network-NC.NPS.N068	Tue Feb 28 00:42:46 2006 mis-bld
6: Network Drvr-LC.CA.P108	Thu Mar 2 15:35:04 2006 mis-bld
23: Security Files-1.0	Thu Mar 2 15:35:42 2006 mis-bld
24: BookmarkMgrData-1.0	Thu Mar 2 15:35:42 2006 mis-bld
25: NVI NV-1.0	Thu Mar 2 15:35:42 2006 mis-bld
26: Wishn-1.0	Thu Mar 2 15:35:42 2006 mis-bld
27: Objstr NV-1.0	Thu Mar 2 15:35:42 2006 mis-bld
29: Engine-LC.CA.E108	Thu Mar 2 15:33:43 2006 mis-bld
30: History-1.0	Thu Mar 2 15:35:42 2006 mis-bld
31: Network NV-1.0	Tue Feb 28 00:42:38 2006 mis-bld

Debug Data

EN 40 03 00 00

EN 00 04

148.03 Service Motor Error

Panel Message	148.03 Service Motor Error
Page Count	0
POR Count	22
Date and Time	Thu Jan 01 00:00:38 1970 UTC
Up Time	38 secs 497 msecs

The Clear Log operation clears out the errors that print in this report. The errors listed in the Display Log operation do not necessarily match in number nor in order with the errors from the printer log.

Note: This log can be printed from configuration menu, but the debug and secondary error codes are not printed on this log.

Clear Log

This menu item deletes the event log. Once the event log is deleted, the only item remaining on the log is the "Clear Log" event.

Touch **Back** to return to the EVENT LOG menu.

SCANNER TESTS

Scanner Calibration Reset

This option resets the scanner calibration values to factory default settings. This should be done after you replace the flatbed scanner unit.

For more information, see **"Calibrating the scanner" on page 4-195**.

Note: Be sure the scanner glass and backing material are clean before performing this test.

ASIC Test

This test initiates a scan of the scanner ASIC memory. This is a pass/fail test.

Press **Stop** (X) to clear the results message from the screen.

Feed Test

This test performs a continuous feed test of either the flatbed scanner or ADF without producing any printed output or incrementing any of the scanner-related counters.

For an ADF test, select a paper size. The ADF then performs a duplex scan using the chosen paper size settings. For a flatbed test, the scanner traverses the entire length of the flatbed.

Press **Stop** (X) to end the test.

Sensor Test

This test checks each scanner-related sensor and returns "Closed" or "Open" for each.

Sensor (ADF Paper Present)—"0" means paper is not present in the ADF.
Sensor (FB Cover Open)—"0" means the flatbed cover is down.
Sensor (Home Sensor)—"1" means the CCD is in the home position.
Sensor (Skew Sensor)—"0" means the actuator is in the up position.
Sensor (ADF Cover open)—"0" means the ADF cover is closed.
Sensor (ADF Exit)—"0" means paper is not present in exit sensor.
Sensor (ADF Scan Sensor)—"0" means paper is not present in the scan sensor.
Sensor (ADF Jam Sensor)—"0" means paper is not present in the jam sensor.
Sensor (FB short)—"0" means sensor open.
Sensor (FB medium)—"0" means sensor open.
Sensor (FB long)—"0" means sensor open.
Sensor (ADF long)—"0" means sensor open.
Sensor (ADF width 1)—"0" means sensor open.
Sensor (ADF width 2)—"0" means sensor open.

ADF Magnification

Use this menu to adjust the ADF magnification from -99 to 100. The default setting is 0.

EXIT DIAGNOSTICS

Select **EXIT DIAGNOSTICS** to exit the Diagnostics menu and return to normal mode.

Theory of operation

Printer engine

Electrophotographic Process (EP Process)

The method that all laser and LED printers use to print is called the electrophotographic process. These machines use differences in charge to manipulate and move toner from the toner cartridge to the printed page.

Even though the basic EP process is the same for every laser and LED printer, the specifics for each printer are different. We will discuss the print engine's method of printing.

MFP electrophotographic process basics

This printer is a four LED device that uses four toner cartridges (cyan, yellow, magenta, and black) to create text and images on media.

The printer has four photoconductors (called a photodeveloper cartridge or PC unit) and an image transfer unit (ITU). Each color toner is painted to it's respective photoconductor at the same time. The transfer belt passes under the four photoconductors and the four-color image is produced and transferred to the media in one pass.

During the printing process, the printer follows the six basic EP Process steps to create its output to the page. These six steps are:

1. Charge the photoconductor (PC unit).
2. Expose the photoconductor (PC unit) with the LED.
3. Develop toner on the photoconductor (PC unit).
4. First transfer to the ITU, and second transfer to the media.
5. Fuse the toner to the media.
6. Clean/erase the photoconductor and the ITU.

In summary, the printer's controller board receives print data and the command to print. The controller board then initiates the print process. The controller board is the command center for the EP process and coordinates the various motors and signals.

The high-voltage power supply sends charge to various components in the EP process. The laser fires on the photoconductors and alters the surface charge relative to the planed image for each photoconductor. Each photoconductor rotates past its respective developer roll, and toner is developed on the surface of each photoconductor. The four separate color images are then transferred to the transfer belt on the ITU as it passes under the photoconductors. After the image is transferred to the transfer belt, the photoconductors are cleaned and recharged.

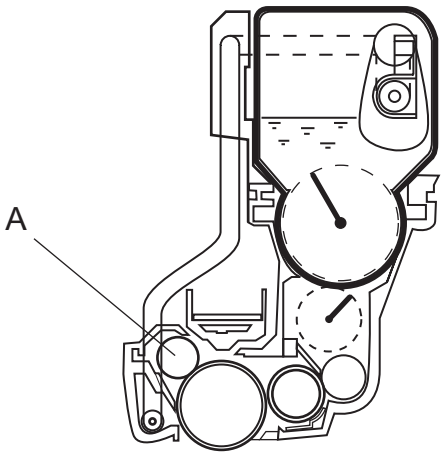
The transfer belt carries the four-colored image towards the transfer roll. Media is picked up from the tray and carried to the transfer roll where the image is transferred from the transfer belt to the media. The timing of the paper pick is determined by the speed of the transfer belt.

The media is carried to the fuser rollers where heat and pressure are applied to the page to permanently bond the toner to the page. The fuser rollers push the media into the output bin. The transfer unit is cleaned and the process begins again for the next page.

Step 1: Charge

During the charge step, voltage is sent from the high-voltage power supply to the charge roller (A) beside each of the four photoconductors. The charge roller is part of the photoconductor unit.

The charge roller (A) puts a uniform negative charge over the entire surface of the photoconductor to prepare it for the LED.



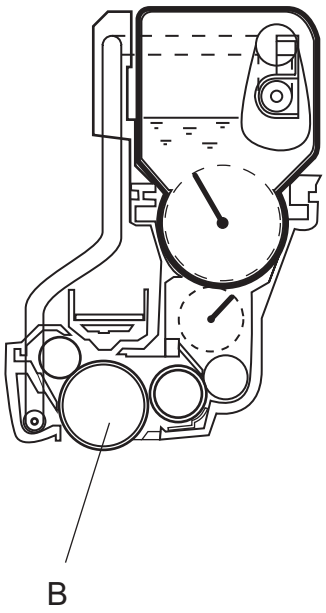
Service tips

- If the surface of the charge roller is damaged (such as a nick or pit), it will cause the charge to be uneven on the photoconductor. This will cause a repeating mark on the printed page. Check the service manual for the repeating marks table.
- If the charge roller is severely damaged, the surface of the photoconductor will not be charged properly, and heavy amounts of toner will be deposited on the photoconductor. This will cause the printed page to be saturated with 100% of each color. The imaging basket will need to be replaced sooner.

Step 2: Expose

During the expose step, the LED exposes the surface of each photoconductor (B) and writes an invisible image called a latent image or electrostatic image for each color.

The LED actually discharges the surface only where the beam hits the photoconductor. This creates a difference in charge potential between the exposed area and the rest of the photoconductor surface.



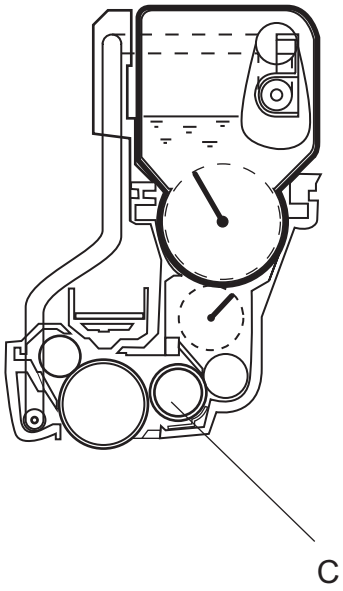
Service tips

- Never touch the surface of the photoconductor with your bare hand. The oil from your skin may cause a charge differential on the surface, and toner will not stick properly. The result would be repeating blotches of voids/light print on a page. Then the photoconductor will have to be replaced.
- The surface of the photoconductor is coated with an organic substance that makes it sensitive to light. Be sure and cover the photoconductor when you are working on the printer so you don't "burn" it. If exposed to light for too long, it will cause light/dark print quality problems and have to be replaced.

Step 3: Develop

Once the laser exposes the photoconductor, the high-voltage power supply sends charge to the developer roll (C). For each color, the toner cartridge engages the photoconductor so it is in contact with the surface. Because of the charge difference between the toner on the developer roller and the electrostatic image created by the laser, the toner will attract to the photoconductor only where the laser exposed the surface.

This process would be similar to using glue to write on a can and then rolling it over glitter. The glitter sticks to the glue but won't stick to the rest of the can.



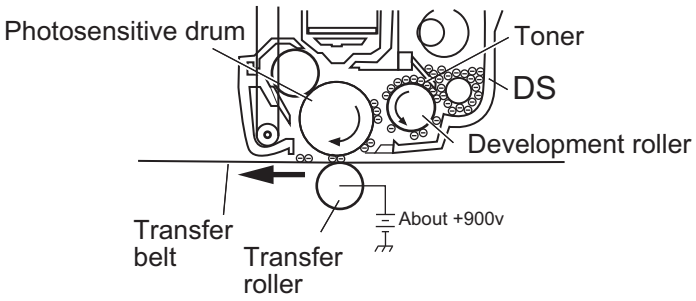
Service tips

- Never touch the surface of the developer roller with your bare hand. The oil from your skin may cause a charge differential on the surface, and toner will not stick properly. The result would be repeating blotches of voids/light print on a page. Then the affected cartridge will have to be replaced.
- If the developer roller is damaged, it will not contact the surface of the photoconductor properly. The result could be repeating marks, thin vertical voids, or thin vertical lines of color on the printed page. Check the surface of the developer for damage.

Step 4a: First transfer

When the latent images are developed on each Photoconductor, the high-voltage power supply sends voltage to the 1st Transfer Rollers inside the transfer belt unit.

The charge difference between the developed toner image on the Photoconductor surface and the 1st Transfer Roller causes the images to transfer to the surface of the transfer belt for each color. This takes place by a direct surface-to-surface contact between the Photoconductors and the transfer belt.



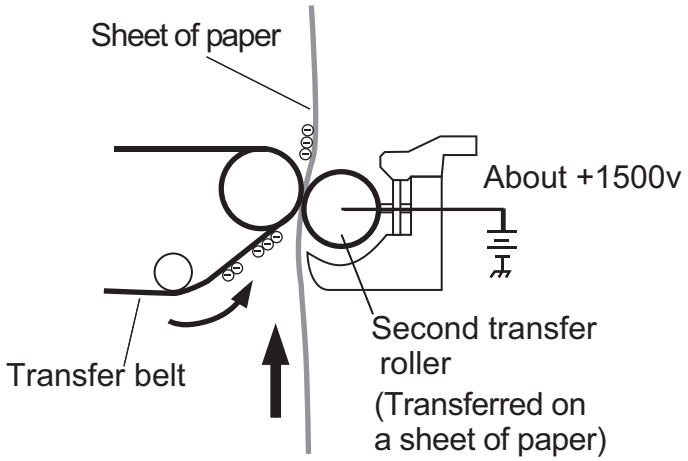
Service tips

- Never touch the surface of the transfer belt with your bare hand. The oil from your skin will cause a charge differential on the surface, and toner will not stick properly. The result would be repeating blotches of voids/light print on a page. Then the transfer belt will have to be replaced.
- Don't use solvents or other cleaners to clean the transfer belt surface. No matter how careful you are, the surface will be compromised, causing scratches or a charge differential that will produce a void or light blotch on the printed page. Then the transfer belt will need to be replaced.

Step 4b: Second transfer

Once the four planes of color are transferred to the transfer belt from the photoconductors, the image is carried towards the transfer roll. This transfer roll is mounted on the duplex unit. The paper passes between the transfer belt and transfer roll when the image on the belt reaches the second transfer area. The timing of the paper reaching the second transfer area is determined by the registration rolls located in the paperfeed unit.

The high-voltage power supply sends voltage to the transfer roll to create a positive charge. Once the image on the transfer belt reaches the transfer roll, the negatively charged toner clings to the media and the entire image is transferred from the transfer belt to the media.



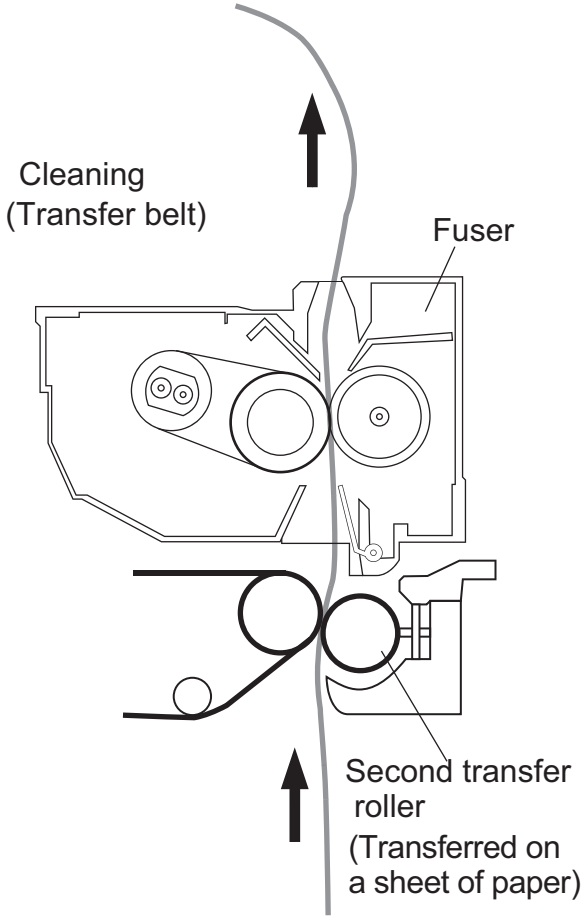
Service tips

- If the transfer roller has nicks, pits, or flat spots on it, the surface doesn't come into contact with the media and transfer unit properly. This will cause voids or light spots on the page or repeating voids/ light areas, because the toner can't be fully transferred due to the charge difference in the areas of damage.
- If the transfer roller does not engage the transfer unit, or does not have voltage coming from the high-voltage power supply, the toner will not fully transfer from the transfer unit; the entire page will be very light or blank. Any toner that does transfer will be due to a "contact" transfer instead of a "charge" transfer. Check the high-voltage power supply contacts to the transfer roller.

Step 5: Fuse

Once the image has been fully transferred to the media, the transfer roll helps move the paper into the fuser area.

The fuser applies heat and pressure to the page to melt the tiny toner particles and bond them permanently to the media. The fuser moves the paper to the redrive rolls which move the paper to the output bin.



Service tips

- If the fuser rollers are damaged, they can cause toner to be pulled off the page or cause paper jams.
- Toner that rubs off a printed page can be a sign of a malfunctioning fuser or an improper media setting. Always check the paper type setting before replacing the fuser. A common mistake is to print on heavier media (such as cardstock) with the paper type set to plain paper.
- When removing paper jams from the fuser, be sure to use the fuser release tabs to relieve the pressure on the page. In addition, never pull unfused toner through the fuser if you can help it; try to back the jammed page out of the fuser in the opposite direction it was travelling.

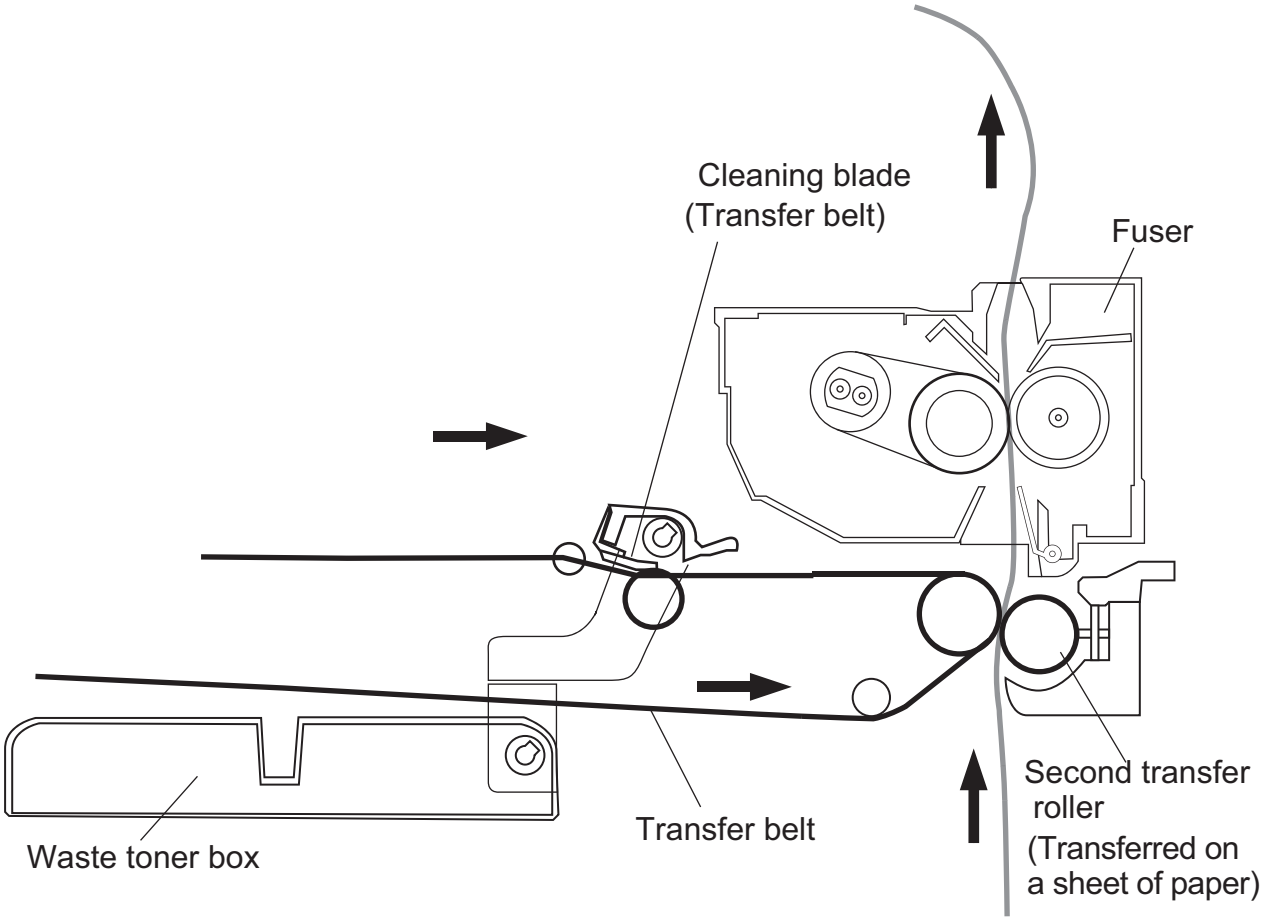
Step 6: Clean/Erase

There are two main cleaning processes that take place during the EP Process. One process cleans the transfer belt, and the other cleans the photoconductors.

Transfer Unit Clean

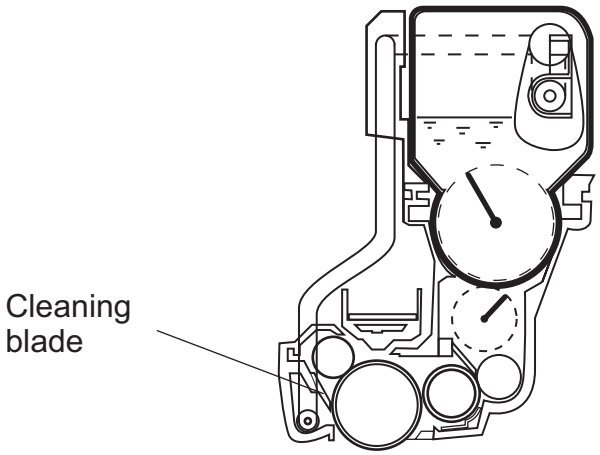
Once the toner image on the transfer belt has been transferred to the page, the transfer belt rotates around and is cleaned by the cleaning blade. This occurs for every page that is printed.

After the toner is moved to the cleaning blade, the toner is moved from the cleaning blade to the waste toner area using an auger system.



Photoconductor Clean/Erase

After each plane of color has been transferred to the transfer belt from the photoconductors, a cleaning blade scrapes the remaining toner from the surface of each photoconductor. This is the clean/erase process.



Now the photoconductor surface is prepared to begin the EP cycle once again. This cleaning/erasing cycle happens after each plane of color is transferred to the transfer belt.

Paper path components

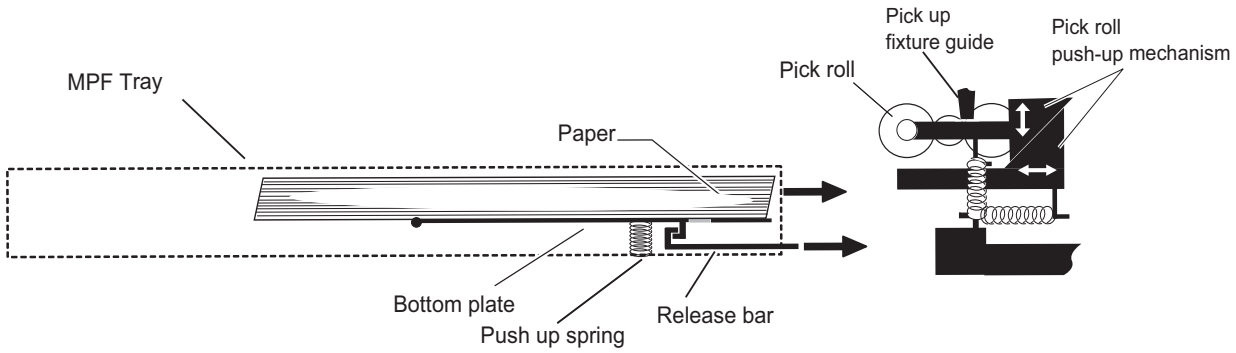
Paper feed

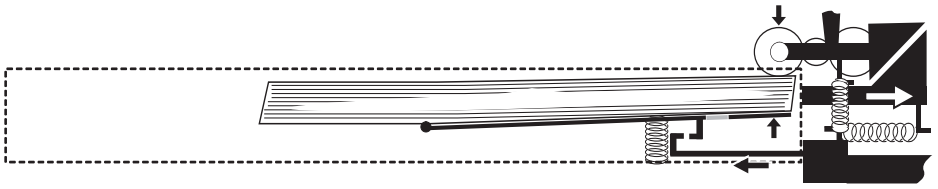
The standard paper feed sources consist of a multi-paper cassette (Tray 1), a standard paper cassette (Tray 2), and an MPF Tray. The paper feed system on the paper cassettes uses a separation roll/torque limiter to prevent multiple feeds. The MPF, on the other hand, uses a separation pad.

Tray 1 and Tray 2

Tray 1 uses a spring loaded plate to engage the media in the tray with the pickup roller. Tray 2 uses a tray lift motor to lift the paper to the paper feed mechanism.

Tray 1 holds approximately 150 sheets of 20lb paper and Tray 2 holds about 250 sheets of 20lb paper.

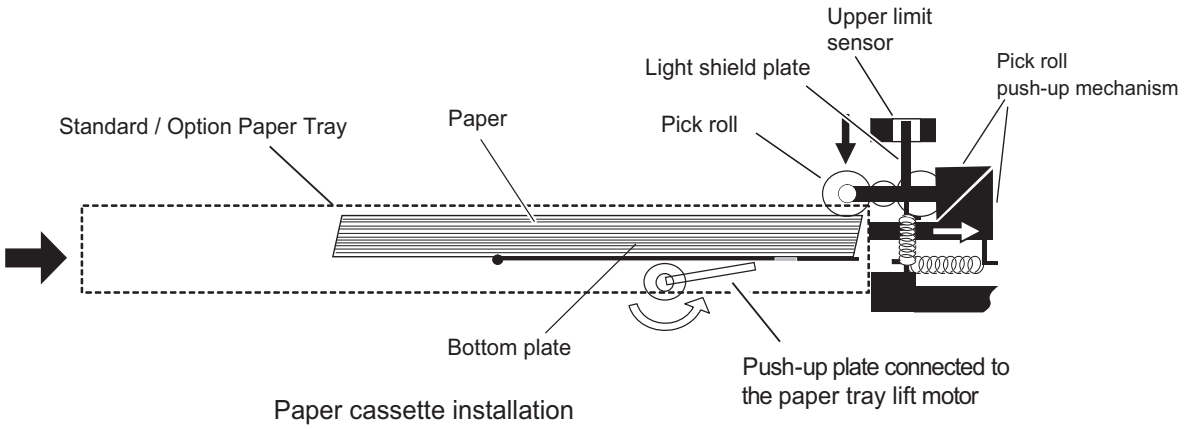




Tray 1 does not have automatic size sensing, therefore, the correct paper size must be set on the paper size wheel located on the front right of the trays (see pictures below).

Tray 2 and optional trays (3-5)

Trays 2 through Tray 5 use a motorized lift mechanism to engage the media in the tray with the pickup roller. Tray 1 holds up to150 sheets of 20 lb. paper and the optional Trays (3-5) can hold up to 500 sheets of 20lb paper.



Paper cassette installation

Trays 2-5 do have automatic size sensing and automatically tell the printer the paper size based on the position of the tray guides on the drawer.

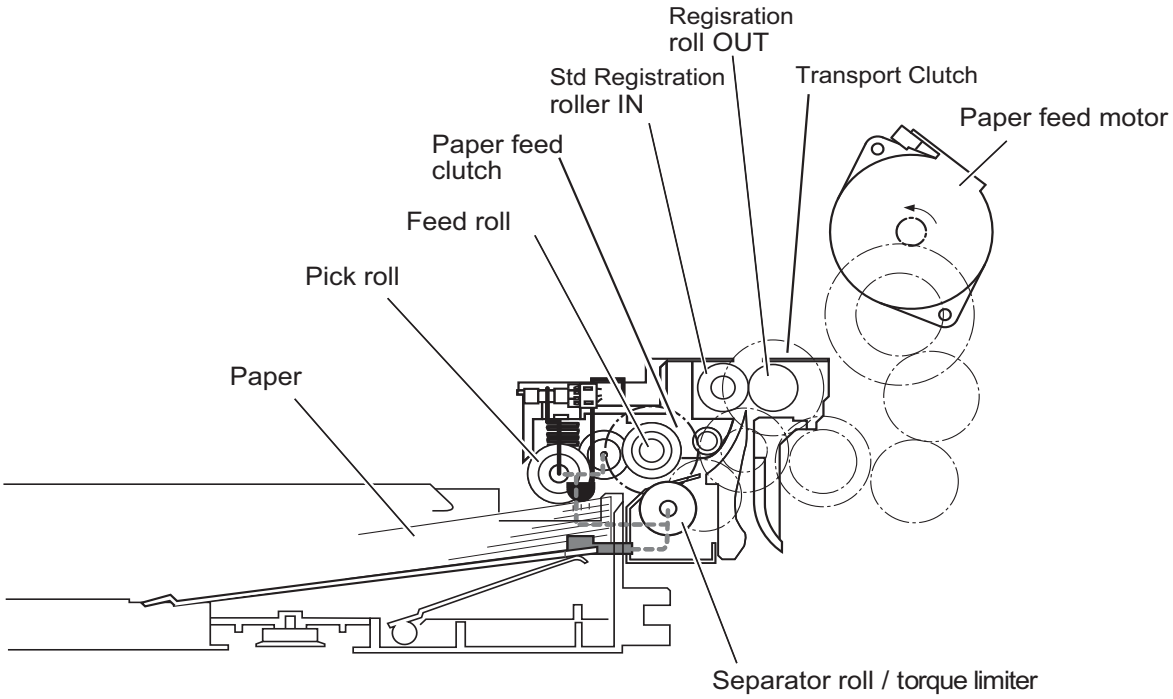
The sensor that detects the paper size is sensitive, so positioning the Tray Guides 1 or 2 notches out of position could result in an incorrect paper size reading. If any Paper Jams, 34 Short paper messages or other paper feed problems occur, check the paper size in the tray against the size the printer thinks is loaded. You can view the paper size in the Paper Menu.

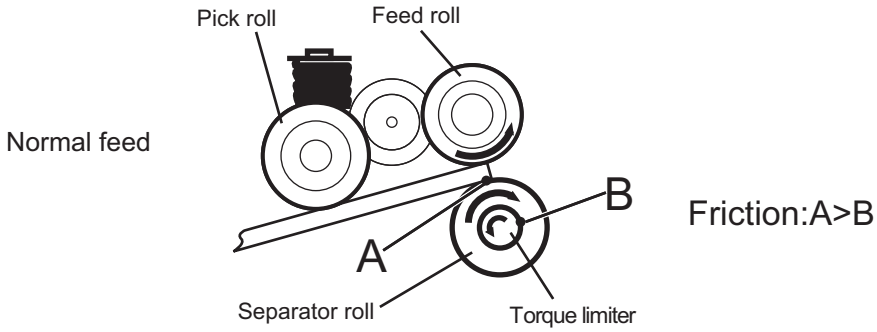
Multipurpose feeder

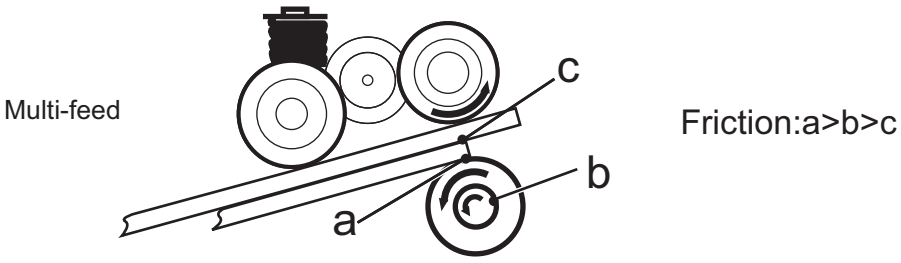
The MFP holds about 50 sheets of 20lb paper and does not have automatic size sensing; the size must be set within the Paper Menu.

Feeding paper from a tray

The printer controller sends a signal to turn on the paper feed clutch; the pick roll grabs the top sheet of paper while the separator roll rotates backwards to prevent multiple sheets of paper from feeding. The paper moves to the feed roll and is fed into the paper path.

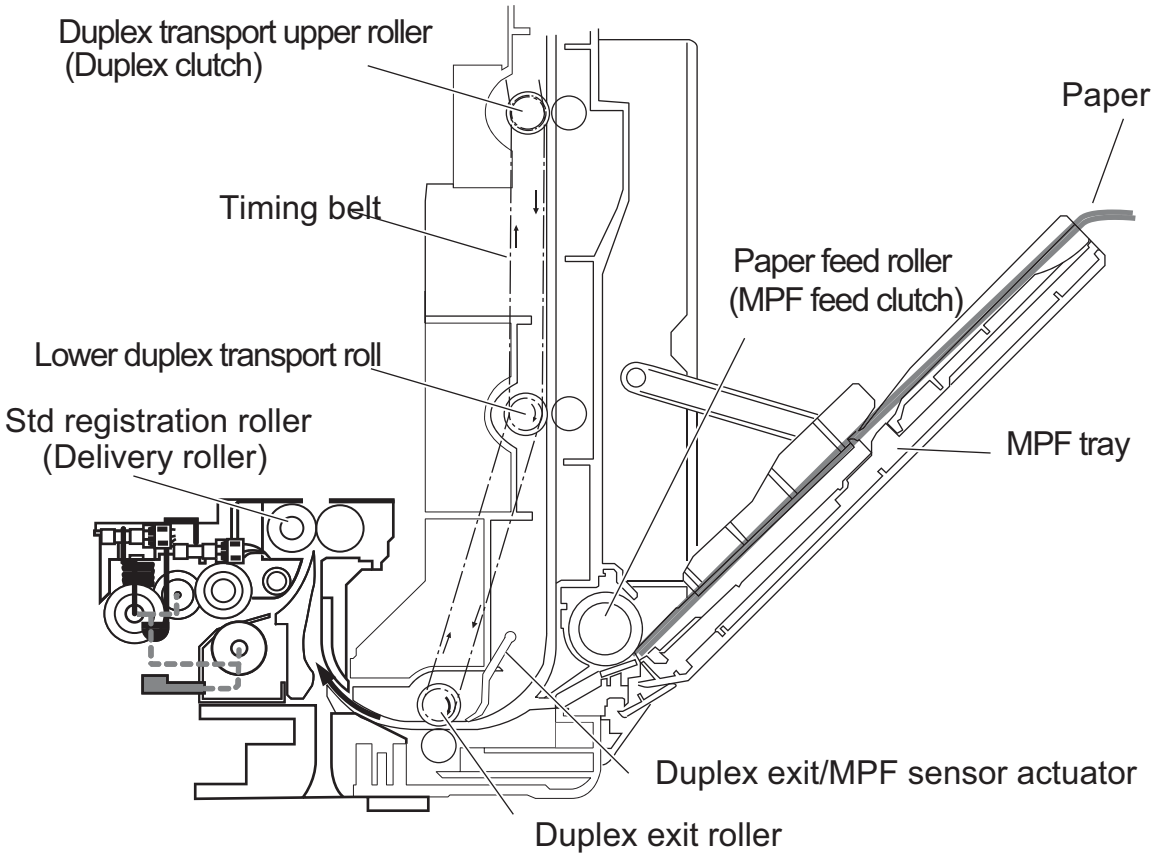






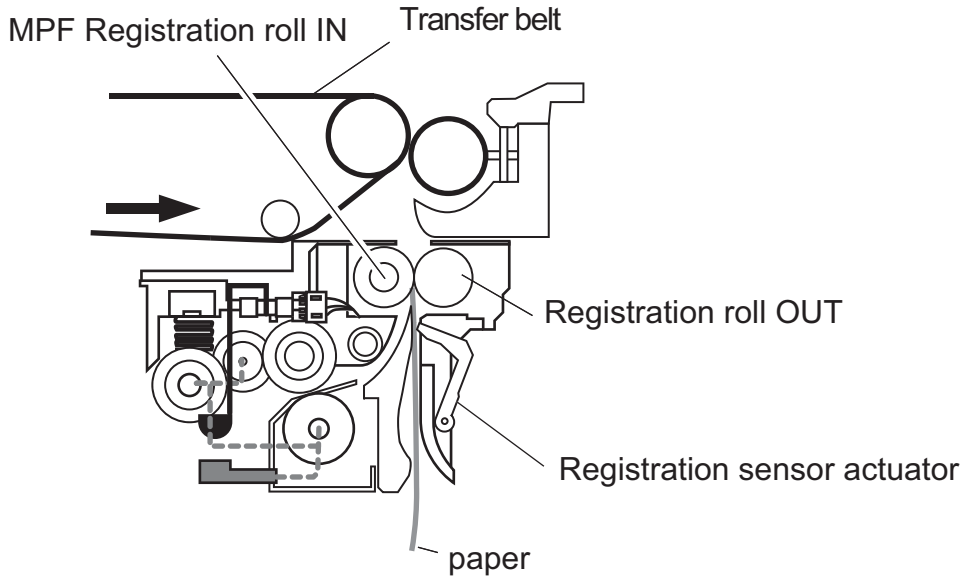
Feeding paper from the MPF

To start the paper feed, the printer controller sends a signal to turn on the MPF feed clutch; the paper feed motor starts turning to feed the top sheet of paper in the MPF tray one by one. Once the duplex exit/MPF detection lever senses the leading edge of the media at the duplex exit roller, it engages the duplex re-feed clutch to transport the sheet of paper into the paper path.



Paper registration

As the media trips the Registration Sensor, it briefly stops at the Registration Rollers. Here, the leading edge is adjusted so it is parallel with the image on the Transfer Belt and synchronized with the Belt's rotation. Next, the paper feed motor triggers the Registration Clutch to rotate the Registration Rollers to feed the paper toward the Transfer Belt and 2nd Transfer Roller.

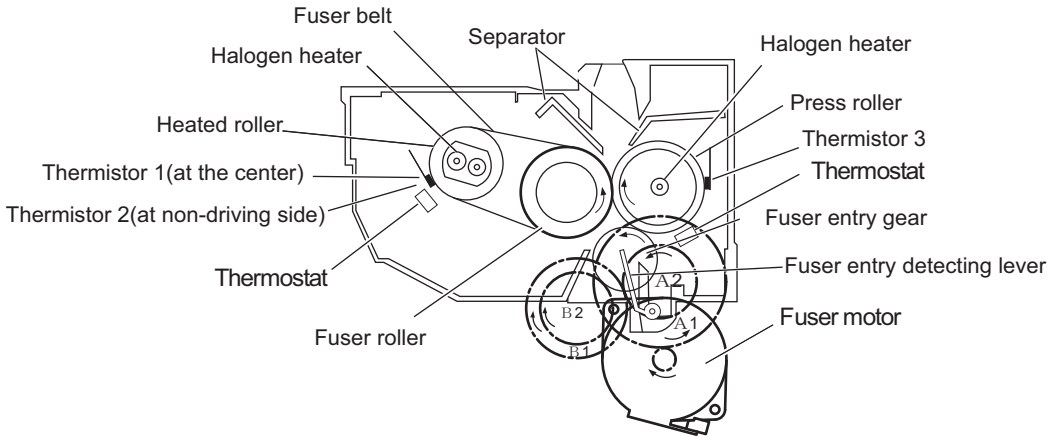


Transfer belt

The media passes between the Transfer Belt surface and 2nd Transfer Roller. Here, the image transfers to the page and continues upward toward the Fuser Rollers.

Fuser

The media passes the Fuser Entry Detection Sensor and enters the Fuser. Here, heat and pressure are applied to the page to bond the image permanently to the media. The toner is impregnated with wax, so it releases from the fuser rolls without the need of a wiper or oil coating roller. The Fuser Rollers continue to feed the paper upward to the Fuser Exit Sensor and Fuser Exit Rolls.



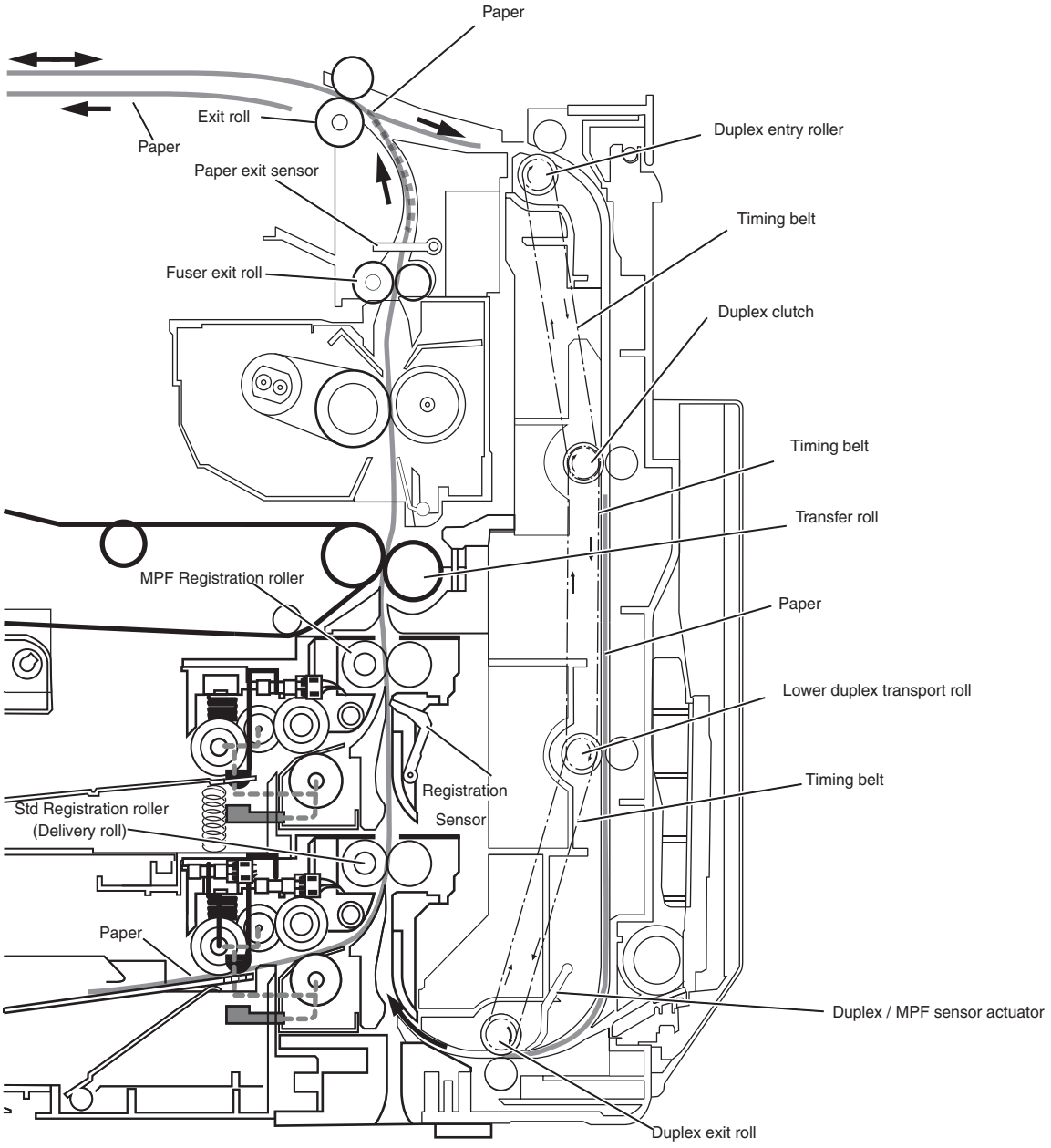
Paper exit

If the sheet is single-sided, the paper passes the fuser exit sensor and is fed into the standard bin by the exit rolls.

Duplexing

If a page is two-sided, a signal is sent to the Printer Controller Board once the trailing edge of the paper passes the Fuser Exit Sensor. The leading edge of the paper partially feeds from the Exit Rolls and then reverses direction and feeds into the Duplex Unit. This method of re-feed is called a “Peek-a-boo”.

The Duplex Entry Rollers pass the paper down to the Duplex Transport Rollers along the right side of the printer. Once the paper reaches the bottom, the Duplex Exit/MPF detection lever senses the leading edge of the media at the Duplex Exit Roller and it engages the Duplex re-feed clutch to transport the sheet of paper into the EP paper path.

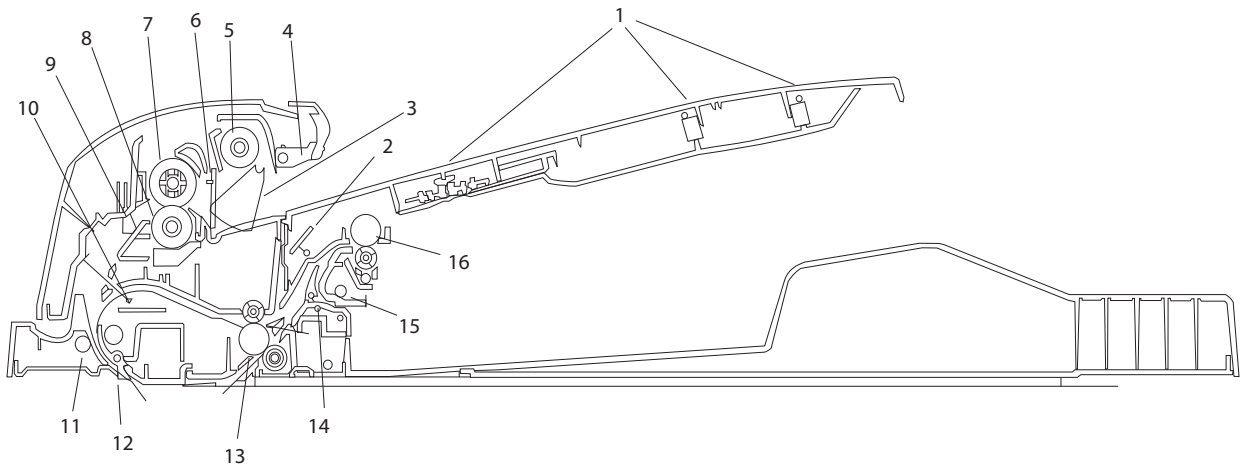


Note: Once the media reaches the Duplex Exit/MPF detection lever, it shares the same paper path as the MPF.

Scanner

Duplex ADF

The following illustration shows the paperpath, rollers and sensors used in the X925 duplex ADF.



Callout	Part name	Affected CRU / FRU part catalog name
1	ADF paper length and width sensors - photo reflect / multi-point contact	Tray paper size sensor
2	Paper pass sensor - photo reflect	Duplex timing sensor
3	ADF paper present - photo interrupt	ADF paper path sensor
4	ADF cover open	ADF paper path sensor
5	Pick roll	ADF pick roll (CRU)
6	Pick roll position sensor - Photo interrupt	ADF paper path sensor
7	Feed roll	ADF pick roll (CRU)
8	Separator roll	ADF Separator roll (CRU)
9	Paper gap sensor - photo interrupt	ADF paper path sensor
10	Paper in sensor - Photo reflect	Scan sensor
11	Scan roller	ADF main feed unit
12	Scan sensor - Photo interrupt	Scan sensor
13	Takeaway roll	ADF main feed unit
14	ADF paper exit sensor - Photo interrupt	Duplex out sensor
15	Stack roller	ADF main feed unit
16	Pass roller	ADF main feed unit

The X925 duplex ADF enables the user to create duplex scans automatically, eliminating the need to stop the scanning process to flip the media being duplicated over. The ADF uses a step motor, and a series of sensors to determine the media's position in the paper path during the scan process.

The following steps are performed in creating a duplex scan on the X925 duplex ADF.

1. To transfer text or an image from physical media to another piece of physical media or a digital file, the following steps occur. The first step of the process is the placement of the paper on the scanner. The paper is placed on the flatbed or the ADF paper tray. Once the paper is placed in the device the scan or copy command is initiated by the user. This command can be issued from a computer or on the scanner itself.

2. When the scan command is initiated, the ICC board on the scanner first polls the paper present sensor in the ADF to see if there is paper in the ADF unit. If the paper present sensor indicates the presence of paper, the size sensors are polled to determine the length and width of the paper. There are two paper length sensors. They are found on the ADF input tray. These sensors detect A4 vs. folio for non-US users, and letter vs. legal for US users. The ADF paper width sensor is composed of three photo interrupt sensors that are actuated by the paper guides on the ADF tray. The position of the guides places the three actuators on the guides in position to leave the sensor open or closed. The width sensors detect A4, B5, and A5 widths for non US users and statement, executive, and letter widths for US users.

3. With the size of the paper determined by the width and length sensors, the cover open sensor is polled to ensure the ADF top cover properly closed. If the cover is not properly closed and error is generated. If the cover is closed, the pick up sensor is polled. The pickup sensor determines if the pick roll is in the proper position. Before executing the pick, the pick roll is in the up position. If the sensor determines that the roll is in the up position, the pick roll is moved to the down position to initiate the pick.

4. With the pick roll in the proper position, the signal to pick is generated from the ADF relay card. The top sheet in the paper is pulled in to the ADF towards the feed roll. To prevent double feeds, a separator roll is present to provide resistance, holding the other sheets in the paper input tray.

5. Once the top sheet passes the feed roll, it moves into the ADF paper path and triggers the gap sensor. When the gap sensor is triggered by a physical actuator, it begins counting the time for the paper to pass over it. Based on the paper length, the gap sensor can determine if a jam is encountered. Also, the paper length and position in the paper path is determined by this sensor.

6. After passing over the gap sensor the paper reaches the paper in sensor. This is a reflective sensor that determines paper position in the paper path and activates the actual scan image process.

7. When the ADF scan sensor is actuated the paper advances to the scan area. While the paper is advancing to the scan area, the ADF motor generates pulses which are stored in an on-board counter. These counts along with the ADF scan sensor ensure that the media is travelling at the correct speed through the scan area. The speed the document travels through the ADF scan area is dependent on the image DPI specified by the user.

8. After a predetermined number of counts, the media reaches the scan area and the image acquisition process is initiated. While the image acquisition process is executing, the ADF scan sensor is being polled to determine if the trailing edge of the media has reached the sensor.

9. Once the trailing edge of the scan media has reached the ADF scan sensor, that sensor goes to the off position. After the ADF scan sensor is switched off, the image acquisition process continues for a predetermined length of time.

10. When the image acquisition process is completed, the trailing edge of the media continues to the reverse point. The duplex gate will be position by the gate solenoid to direct the paper to the pass through sensor.

11. The duplex gate is moved into position by a solenoid. After passing through the gate, the paper reaches the paper pass sensor. The paper pass sensor performs two tasks. It can determine whether a jam has taken place. The jam is triggered by the time it takes for the paper to pass through the sensor. The sensor also determines the position of the paper in the ADF paper path. Based on the size of the paper in the scan job, the sensor determines that the paper has left the ADF paper path. At this point, a signal is generated to trip the duplex gate, moving it to the position allowing the paper to enter the duplex paper path. Also, a signal is generated triggering the gear solenoid. The gear solenoid moves the reversing gear assembly into place, reversing the direction of the duplex paper rolls. This creates the peek a boo effect, pulling the paper into the duplex paper path. If the scan job is simplex, the duplex gate is positioned to direct the media to the exit roller and the media exits the ADF to the output bin.

12. The reversed exit roll pulls the paper back into the ADF. The transport roll then moves the media to the paper in sensor. When the paper in sensor is actuated, the exit roll stops. Also, the paper in sensor indicates that this is the second side of the media to be scanned.

13. The imaging process is repeated for the other side of the sheet of paper. After the image is created, the paper again proceeds to the paper pass sensor a second time

14. When the trailing edge of the media reaches the reverse point the second time, the solenoid again moves the diverter gate to the down position and reverses the exit roll. The paper goes back into the ADF unit for a third time. The paper passes through the paper path, but no imaging occurs. This pass is to turn the paper over to the original side up. On the third pass of the media trailing edge over the reverse point, the solenoid is not actuated. The paper proceeds to the exit rolls and passes out of the ADF to the exit bin.

Color theory

What is RGB color?

Red, green, and blue light can be added together in various amounts to produce a large range of colors observed in nature. For example, red and green can be combined to create yellow. Televisions and computer monitors create colors in this manner. RGB color is a method of describing colors by indicating the amount of red, green, or blue needed to produce a certain color.

What is CMYK color?

Cyan, magenta, yellow, and black inks or toners can be printed in various amounts to produce a large range of colors observed in nature. For example, cyan and yellow can be combined to create green. Printing presses, inkjet printers, and color laser printers create colors in this manner. CMYK color is a method of describing colors by indicating the amount of cyan, magenta, yellow, and black needed to reproduce a particular color.

How is color specified in a document to be printed?

Software programs typically specify document color using RGB or CMYK color combinations. Additionally, they allow users to modify the color of each object in a document. For more information, see the software program Help topics.

How does the printer know what color to print?

When a user prints a document, information describing the type and color of each object is sent to the printer. The color information is passed through color conversion tables that translate the color into the appropriate amounts of cyan, magenta, yellow, and black toner needed to produce the desired color. The object information determines the application of color conversion tables. For example, it is possible to apply one type of color conversion table to text while applying a different color conversion table to photographic images.

Should I use PostScript or PCL emulation? What settings produce the best color?

The PostScript driver is strongly recommended for best color quality. The default settings in the PostScript driver provide the preferred color quality for the majority of printouts.

Why doesn't the printed color match the color I see on the computer screen?

The color conversion tables used in Auto Color Correction mode generally approximate the colors of a standard computer monitor. However, because of technology differences that exist between printers and monitors, there are many colors that can also be affected by monitor variations and lighting conditions. For recommendations on how the printer color sample pages may be useful in solving certain color-matching problems, see **“How can I match a particular color (such as a corporate logo)?” on page 3-50**.

The printed page appears tinted. Can I adjust the color?

Sometimes a printed page may appear tinted (for example, everything printed seems to be too red). This can be caused by environmental conditions, paper type, lighting conditions, or user preference. In these instances, adjust the Color Balance setting to create a more preferable color. Color Balance provides the user with the ability to make subtle adjustments to the amount of toner being used in each color plane. Selecting positive or negative values for cyan, magenta, yellow, and black (from the Color Balance menu) will slightly increase or decrease the amount of toner used for the chosen color. For example, if a printed page has a red tint, then decreasing both magenta and yellow could potentially improve the color balance.

My color transparencies seem dark when they are projected. Is there anything I can do to improve the color?

This problem most commonly occurs when projecting transparencies with reflective overhead projectors. To obtain the highest projected color quality, transmissive overhead projectors are recommended. If a reflective projector must be used, then adjusting the Toner Darkness setting to 1, 2, or 3 will lighten the transparency. Make sure to print on the recommended type of color transparencies.

What is manual color correction?

When manual color correction is enabled, the printer employs user-selected color conversion tables to process objects. However, Color Correction must be set to Manual, or no user-defined color conversion will be implemented. Manual color correction settings are specific to the type of object being printed (text, graphics, or images), and how the color of the object is specified in the software program (RGB or CMYK combinations).

Notes:

- Manual color correction is not useful if the software program does not specify colors with RGB or CMYK combinations. It is also not effective in situations in which the software program or the computer operating system controls the adjustment of colors.
- The color conversion tables—applied to each object when Color Correction is set to Auto—generate preferred colors for the majority of documents.

To manually apply a different color conversion table:

How can I match a particular color (such as a corporate logo)?

From the printer Quality menu, nine types of Color Samples sets are available. These are also available from the Color Samples page of the Embedded Web Server. Selecting any sample set generates a multiple-page printout consisting of hundreds of colored boxes. Either a CMYK or RGB combination is located on each box, depending on the table selected. The observed color of each box is obtained by passing the CMYK or RGB combination labelled on the box through the selected color conversion table.

To print Color samples from the printer:

1. press **Menu** (⊶) to open the Admin menus.
2. Select **Settings**, and press **Select** (☑).
3. Select **Quality**, and press **Select** (☑).
4. Select **Color Samples**, and press **Select** (☑).
5. Select the **Color Conversion** table to print, and press **Select** (☑).

By examining Color Samples sets, a user can identify the box whose color is the closest to the desired color. The color combination labelled on the box can then be used for modifying the color of the object in a software program. For more information, see the software program Help topics. Manual color correction may be necessary to utilize the selected color conversion table for the particular object.

Selecting which Color Samples set to use for a particular color-matching problem depends on the Color Correction setting being used (Auto, Off, or Manual), the type of object being printed (text, graphics, or images), and how the color of the object is specified in the software program (RGB or CMYK combinations). When the printer Color Correction setting is set to Off, the color is based on the print job information; and no color conversion is implemented.

Note: The Color Samples pages are not useful if the software program does not specify colors with RGB or CMYK combinations. Additionally, certain situations exist in which the software program or the computer operating system adjusts the RGB or CMYK combinations specified in the program through color management. The resulting printed color may not be an exact match of the Color Samples pages.

What are detailed Color Samples and how do I access them?

Detailed Color Samples sets are available only through the Embedded Web Server of a network printer. A detailed Color Samples set contains a range of shades (displayed as colored boxes) that are similar to a user-defined RGB or CMYK value. The likeness of the colors in the set are dependent on the value entered in the RGB or CMYK Increment box.

To access a detailed Color Samples set from the Embedded Web Server:

1. Open a Web browser.
2. In the address bar, type the network printer IP address.
3. Click **Configuration**.
4. Click **Color Samples**.
5. Click **Detailed Options** to narrow the set to one color range.
6. When the Detailed Options page appears, select a color conversion table.
7. Enter the RGB or CMYK color number.
8. Enter an Increment value from 1–255.
   Note: The closer the value is to 1, the narrower the color sample range will appear.
9. Click **Print** to print the detailed Color Samples set.

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.

RIP board/operator panel replacement

This procedure should only be followed if both the RIP board and operator panel fail. If you only need to replace one of the FRUs follow the startup procedure described in the FRU's removal procedure.

CAUTION - POTENTIAL INJURY: There is danger of explosion if a lithium battery is incorrectly replaced. Replace it only with the same or an equivalent type of lithium battery. Do not recharge, disassemble, or incinerate a lithium battery. Discard used batteries according to the manufacturer's instructions and local regulations.

Warning: If the operator panel and the RIP board are being replaced at the same time, replace the parts in this order to avoid damage to the machine.

1. Replace the RIP card first. Note: Do not replace the new operator panel and RIP card in the machine at the same time.
2. After installing the new RIP card, and before installing the new operator panel, start the printer into diagnostics mode.
3. After the printer has completed startup, turn off the printer and replace the operator panel.
   Note: Note: If the operator panel display has failed, the printers' startup cycle is complete when the driver motor and fans shut down, and the machine is quiet.
4. After installing the new operator panel, start the printer in to diagnostics mode, and allow the printer to go through a complete startup cycle and the display to go to Ready.
5. If the problems persist, leave the new operator panel in the machine, place the old RIP card back in the machine, and start it up. After the machine startup, shut down the machine, and install the new RIP card. After installing the new RIP card, restart the machine, and let it go through the startup cycle.

After this procedure is completed successfully, there is no need to adjust any settings.

If the above procedure fails, you must contact the technical support center for further instructions.

Printhead controller board / engine board replacement

This procedure should only be followed if both the printhead controller board and engine board are being replaced. If you only need to replace one of the FRUs follow the startup procedure described in the FRU's removal procedure.

Warning: If the printhead controller board and the engine board are being replaced at the same time, replace the parts in this order to avoid damage to the machine.

1. Replace the printhead controller board first. Do not replace the printhead controller board and engine board in the machine at the same time.
2. After installing the new RIP card, and before installing the new operator panel, start the printer.
3. After the printer has completed startup, turn off the printer and replace the operator panel.
   Note: If the operator panel display has failed, the printers' startup cycle is complete when the driver motor and fans shut down, and the machine is quiet.
4. After installing the new operator panel, start the printer, and allow the printer to go through a complete startup cycle and the display to go to Ready.
5. If the problems persist, leave the new operator panel in the machine, place the old RIP card back in the machine, and start it up. After the machine startup, shut down the machine, and install the new RIP card. After installing the new RIP card, restart the machine, and let it go through the startup cycle.

After this procedure is completed successfully, there is no need to adjust any settings.

If the above procedure fails, you must contact the technical support center for further instructions.

eSF solutions backup

If a technician needs to replace the RIP board, the steps below should be taken to backup the eSF solutions and settings:

1. POR the printer into invalid engine code mode. See **“Accessing the service menus” on page 3-7**.
2. Open a Web browser and navigate to the printer’s Web page.
3. Navigate to **Settings**, and click the link.
4. Navigate to **Solutions** and click the link.
5. Navigate to Embedded Solutions and click the link.
6. On the Embedded Solutions page, select the apps to be exported by clicking the selection box next to the app.
7. Choose **Export**.

If the Web page cannot be accessed, or an error persists despite trying to boot in Invalid Engine code mode, then there is no way to backup the eSF apps. The technician needs to make the customer aware that the applications and their setting could not be saved.

> **Note:** There is a size limit on the export file - 128kb. Because of this, it is recommended that you don't use the “global” backup found in **Settings --> Import/Export ---> Export Shortcuts File, Export Settings File, Export Embedded Solutions Settings File and Export Security Setups File**. Customers with a large number of applications or settings may exceed the file size limit and have information truncated in the exported file.

Removal procedures

CAUTION

Remove the power cord from the 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 PCs/peripherals.

Arrangement of removals in this chapter

The removals in this chapter are arranged by area of printer. The areas are as follows:

“Cover Removals” on page 4-5

“Top removals” on page 4-26

“Front removals” on page 4-39

“Left side removals” on page 4-44

“Right side removals” on page 4-61

“Rear removals” on page 4-68

“Scanner area removals” on page 4-103

In addition to the sections, the duplex unit, and paperfeed unit sub-component removals have their own sections. They are:

“Duplex unit component removals” on page 4-162

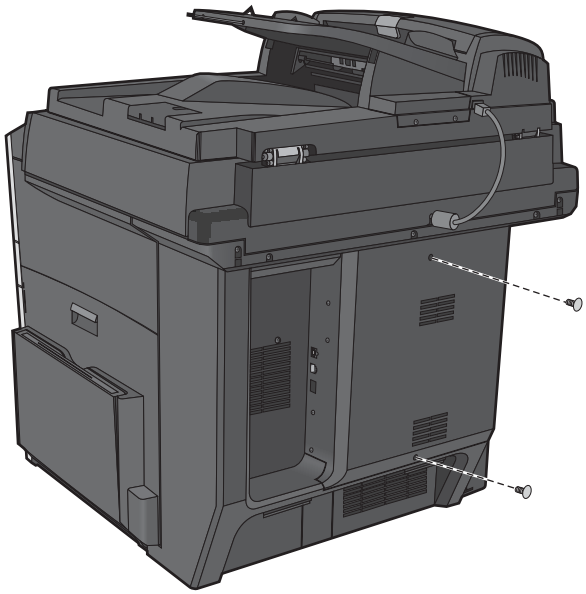
“Paperfeed unit component removals” on page 4-167

Note: Some removal procedures require removing cable ties. You must replace cable ties during reassembly to avoid pinching wires, obstructing the paper path, or restricting mechanical movement.

Cover Removals

RIP cover

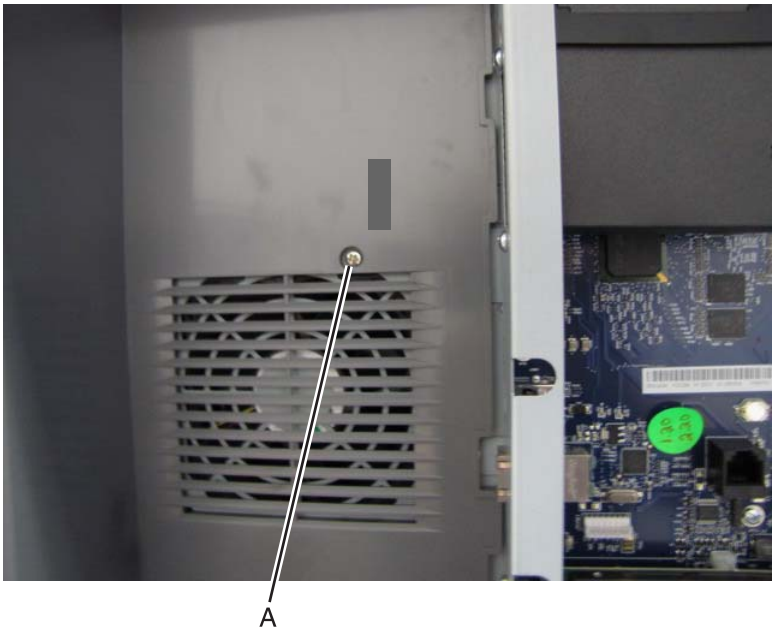
1. Remove the two screws securing the RIP cover to the RIP cage.



2. Remove the RIP cover.

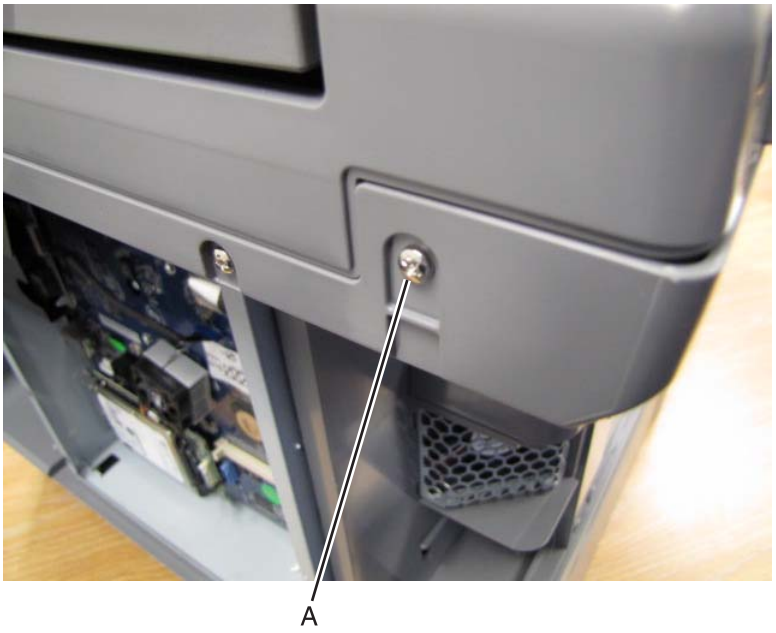
Scanner power supply access cover

1. Press the access cover inward at the arrow and pull back, removing the cover.

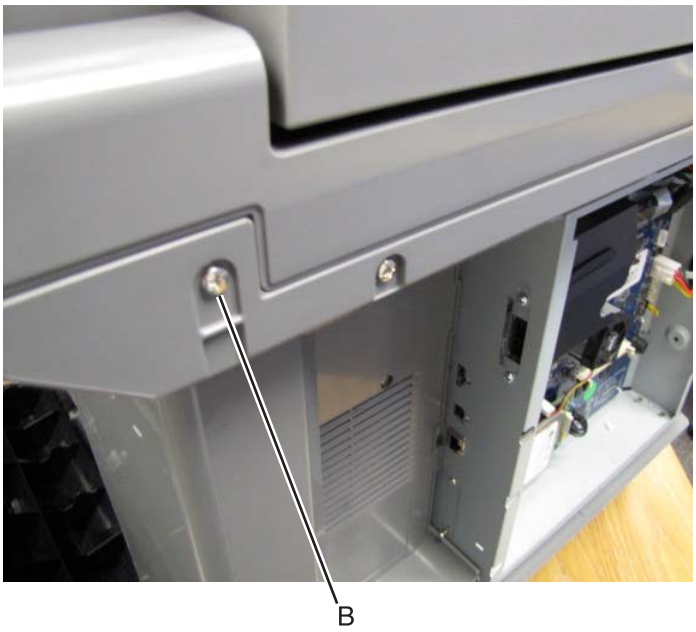


Cord cover

1. Remove the screw (A) securing the right side of the cord cover to the rear cover and scanner frame.



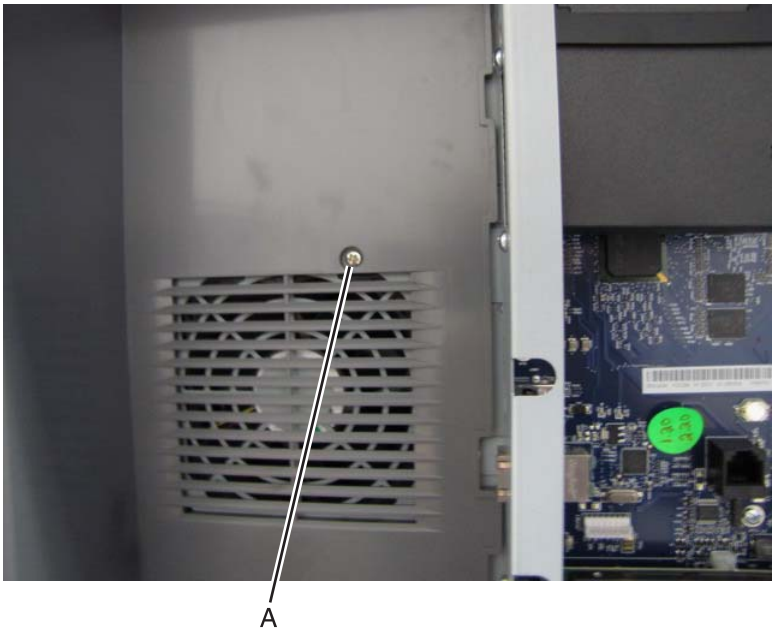
2. Remove the screw (B) securing the left side of the cord cover to the rear cover and scanner frame.



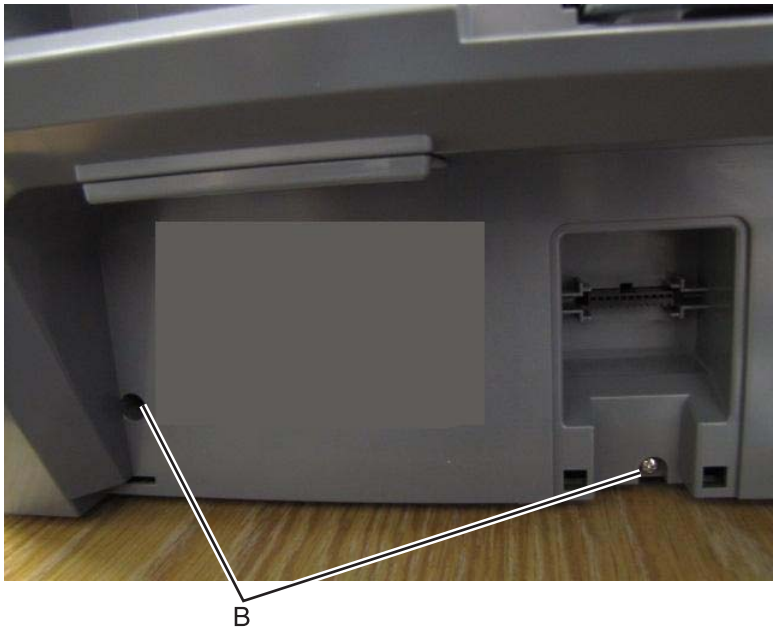
3. Tilt the cord cover back and lift it up and away from the rear of the scanner.

Rear cover

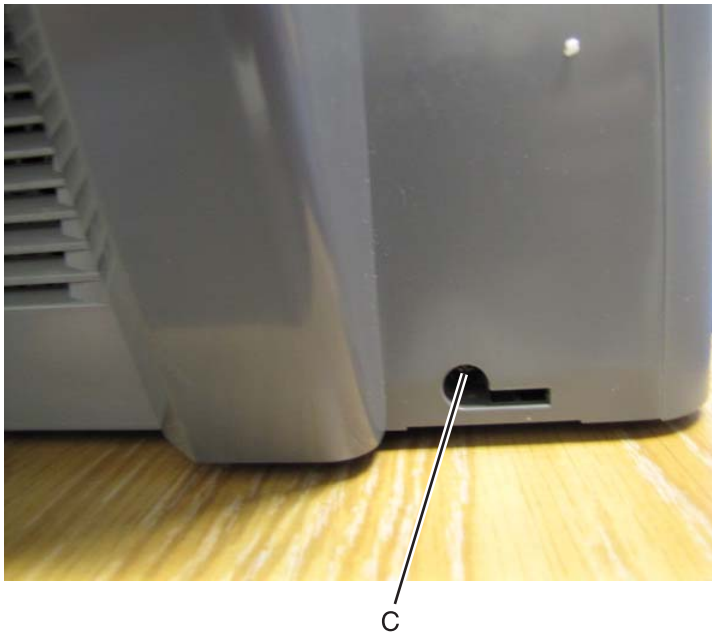
1. Remove the cord cover. See **"Cord cover" on page 4-6**.
2. Remove the screw (A) above the rear fan.



3. Remove the two screws (B) in the lower left corner.

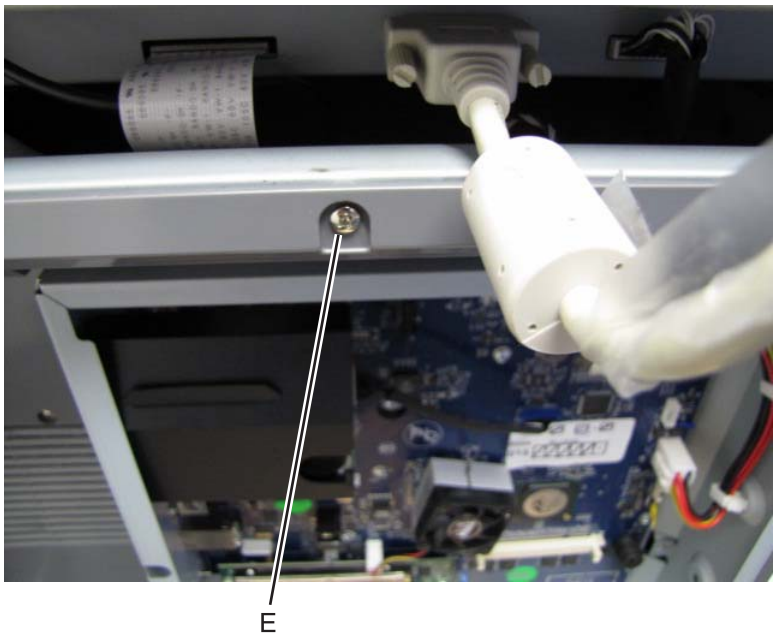


4. Remove the screw (C) in the lower left corner.



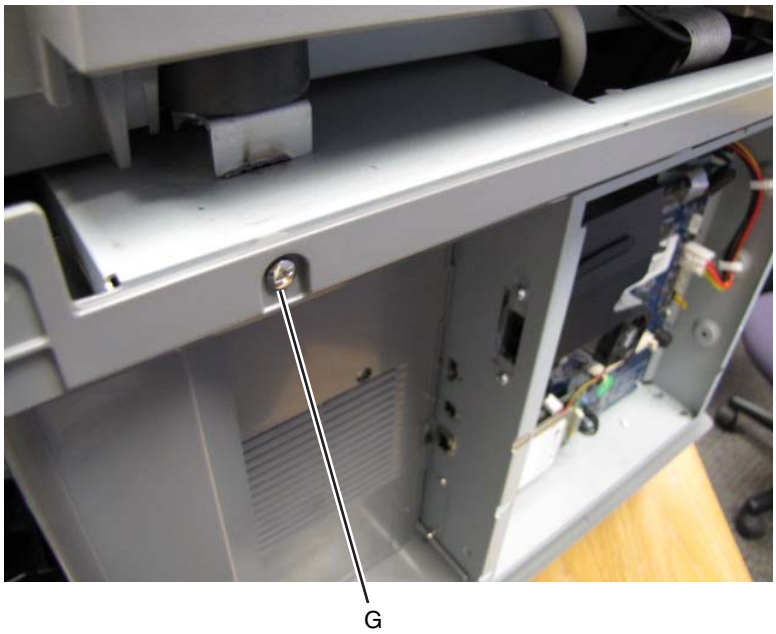
5. Remove the screw (D) in the upper right corner.

6. Remove the screw (E) in the top middle of the cover.



7. Remove the screw (F) in the upper left corner of the cover.

8. Open the duplex unit and remove the one plastite screw that secures the cover to the side frame.
9. Remove the option connector cover.
10. Use the flatblade screwdriver to pry the rear cover away from the side cover at the main fan.
11. Use a small flatblade screwdriver to release the tabs (G) that fasten the option connector cable to the rear cover.

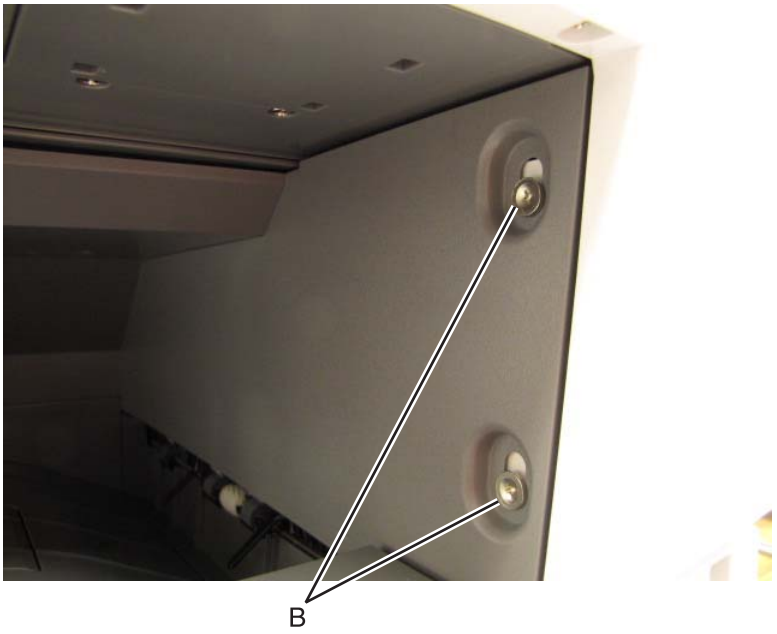


12. Pull the rear cover away from the device.
    Note: If there are ISP cards installed, remove the thumbscrews from the RIP cage.

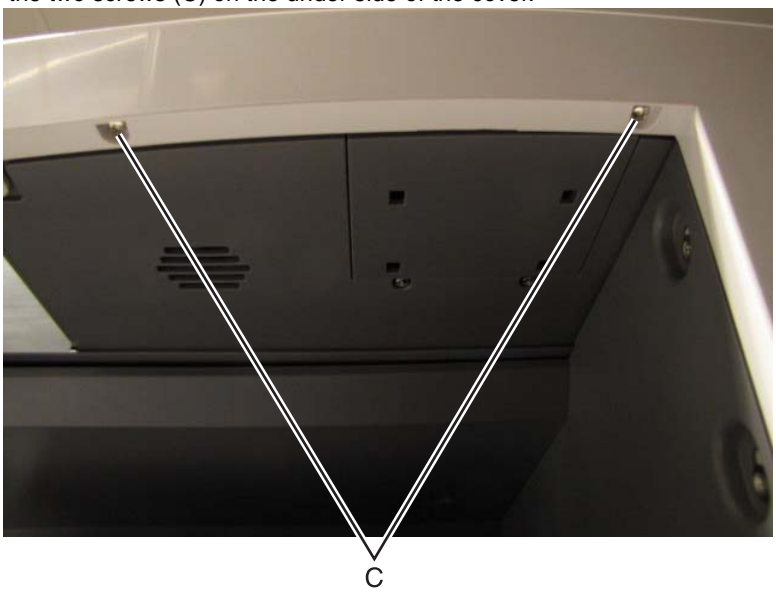
Front op panel cover

1. Remove the one screw (A) on the front left side.

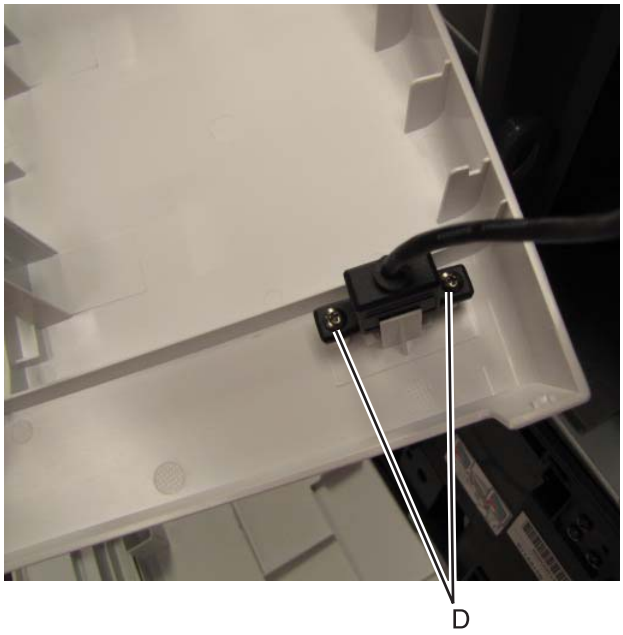
2. Remove the two screws (B) on the on the inner left side of the cover.



3. Remove the two screws (C) on the under side of the cover.



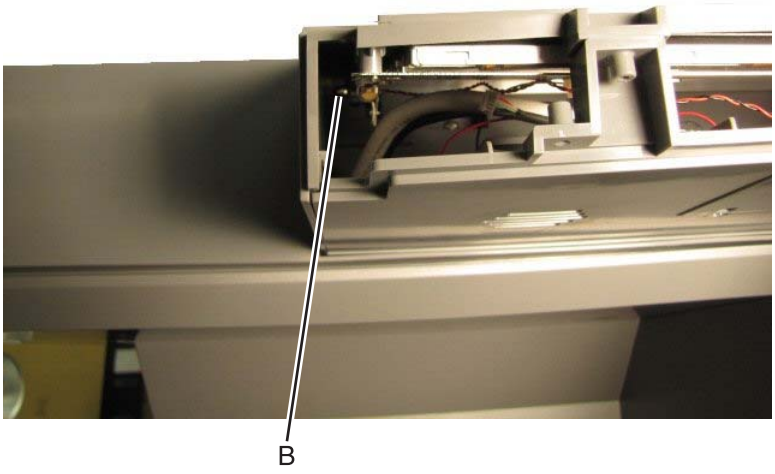
4. Pull the cover back.
5. Disconnect the USB cable (D) from the cover.



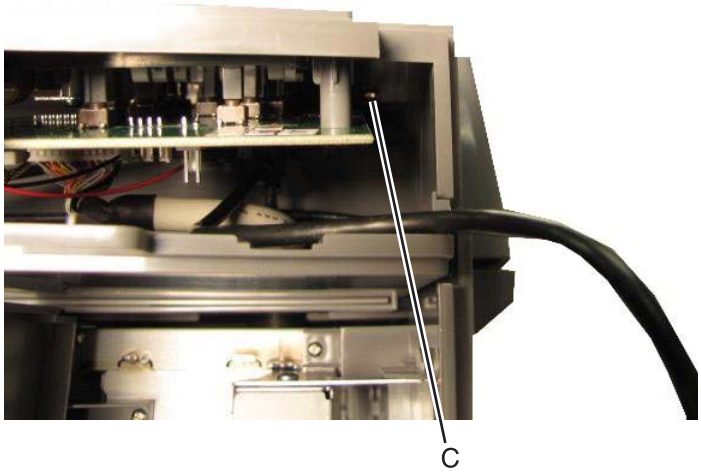
Op panel top cover

1. Remove the card reader cover. See **"Front op panel cover" on page 4-11**.
2. Remove the two screws (A) on the front of the cover.

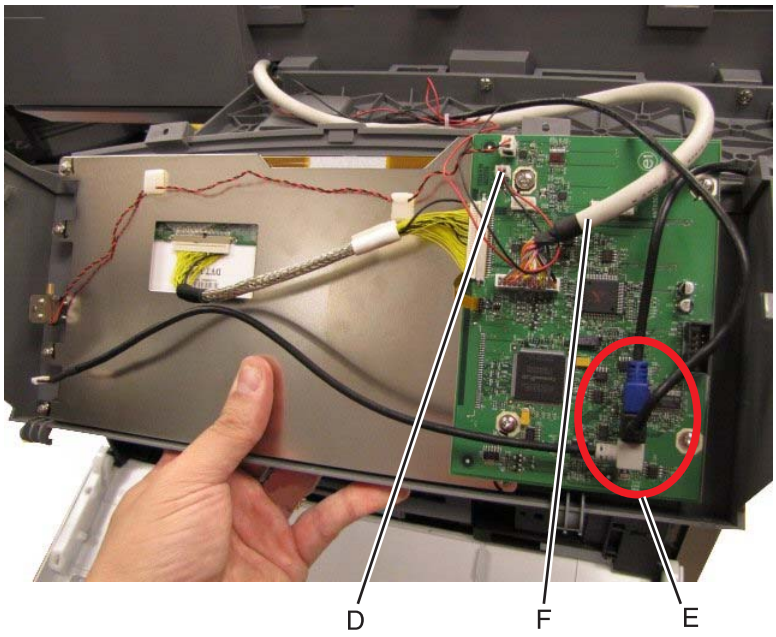
3. Remove the screw (B) in the upper left corner of the panel assembly.



4. Remove the screw (C) in the upper right corner of the panel assembly.



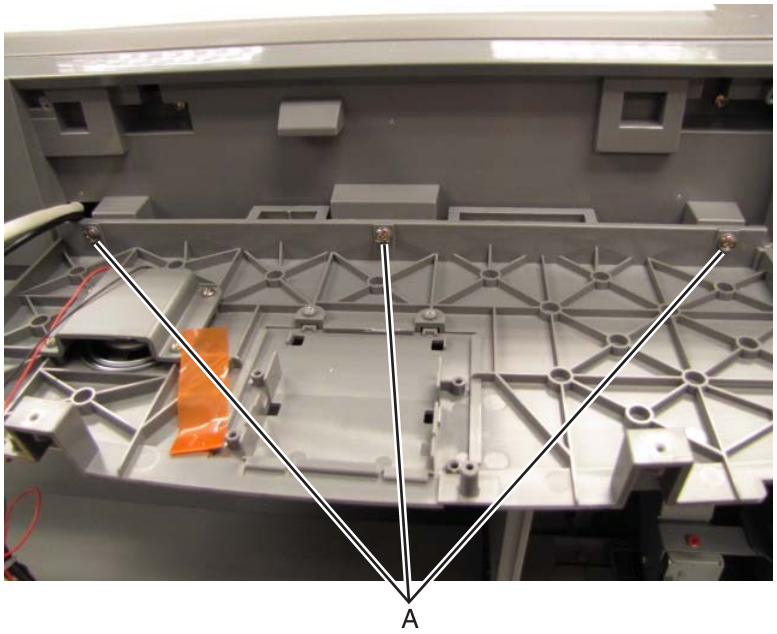
5. Release the tabs on the inside of the cover and gently lift the top cover assembly away from the bottom cover.
6. Disconnect the speaker cable (D) from the UICC.



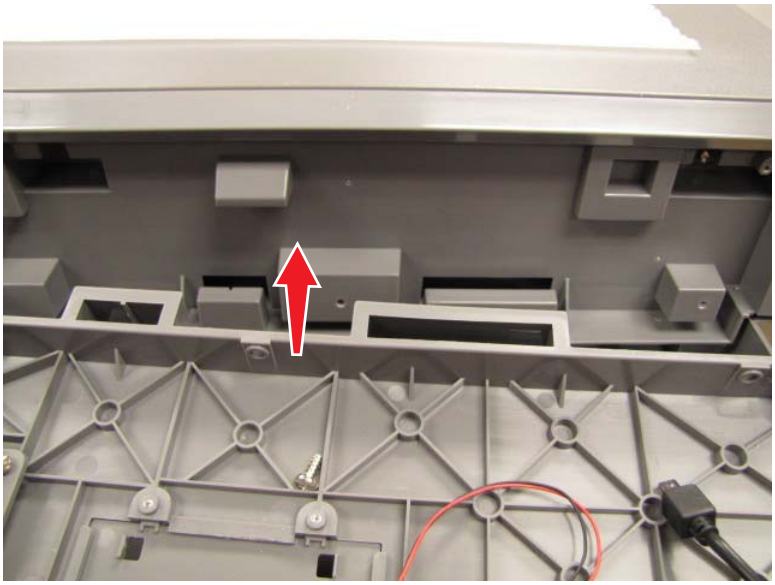
7. Disconnect the grey and blue USB cables (E) from the UICC.
8. Disconnect the RIP-UICC cable (F) from the UICC.

Op panel bottom cover

1. Remove the op panel top cover.
2. Remove the three screws (A) that secure the op panel bottom cover to the flatbed assembly.



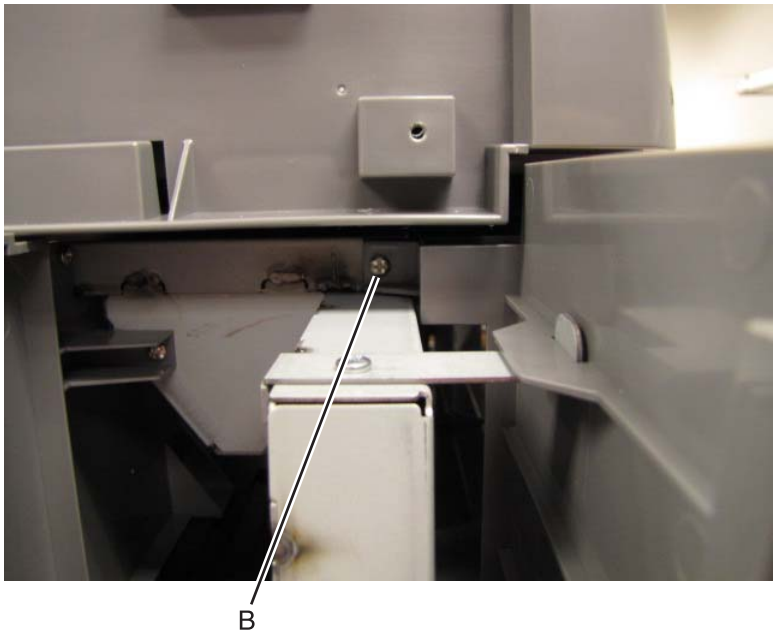
3. Lift the cover up and away from the flatbed assembly.



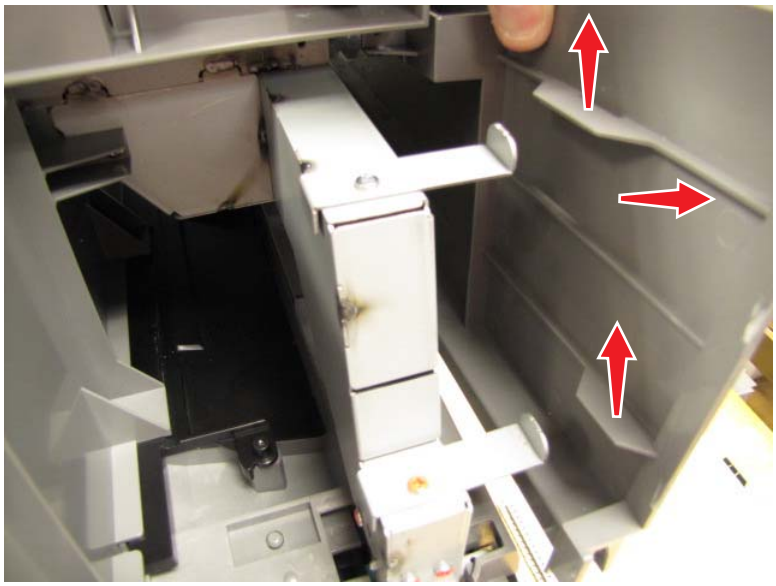
Upper right cover

1. Remove the op panel bottom cover. See **“Op panel bottom cover” on page 4-15**.
2. Remove the screw (A) at the rear of the cover.

3. Remove the screw (B) at the front of the cover.

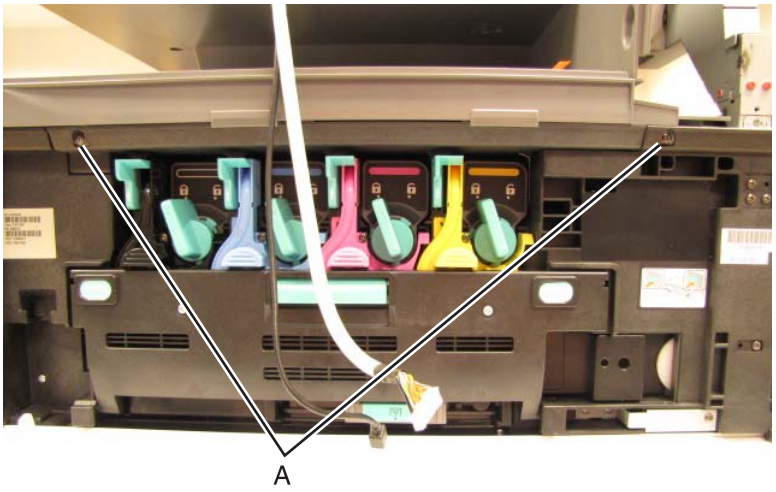


4. Lift the cover up so it clears the tabs (C), and pull it away from the printer.



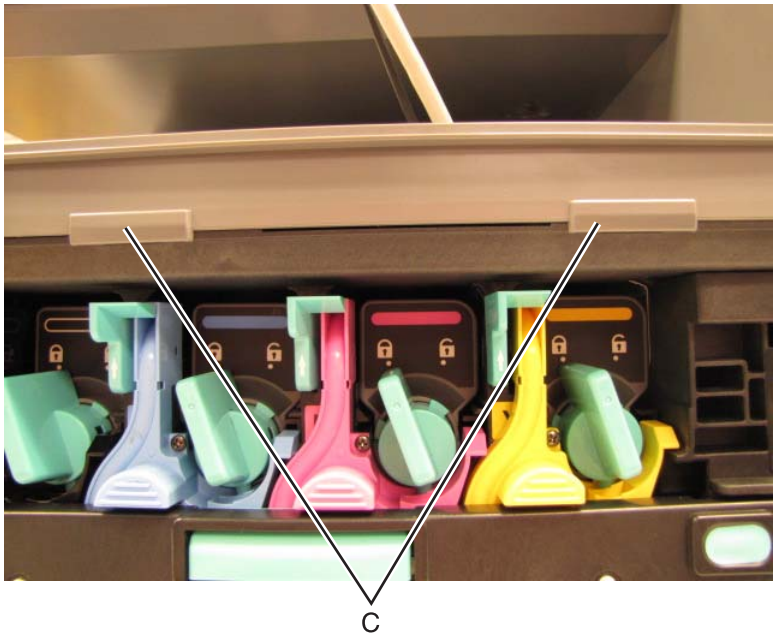
Output bin (print engine top) cover

1. Open the front cover.
2. Remove the two screws (A) securing the top cover to the printer frame.



3. Remove the one screw (B) on the left side above the scanner power supply door.

4. Use a flatbed screwdriver to release the tabs (C) on the top cover from the printer frame.

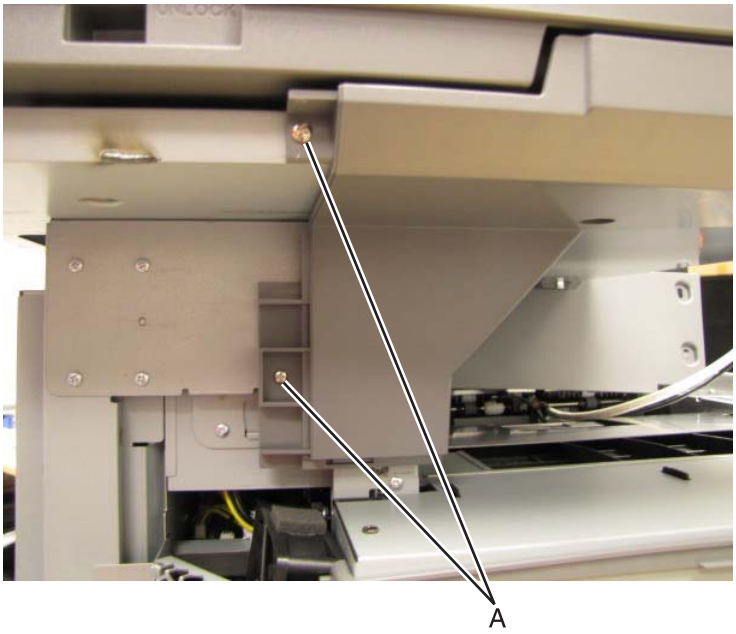


5. Lift and remove the top cover.

Back cave cover

1. Remove the inner right cover.
2. Remove the top cover.

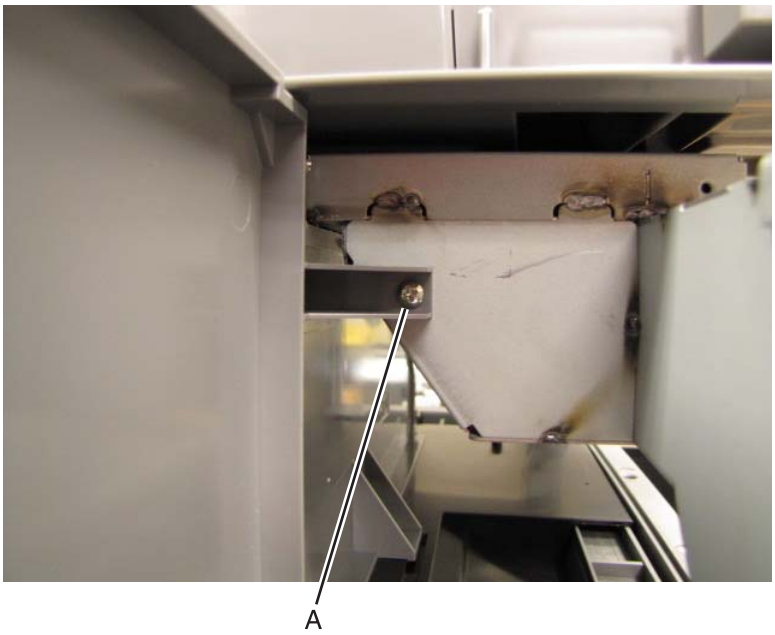
3. Remove the two screws (A) on the left side of the back cave cover.



4. Remove the cover.

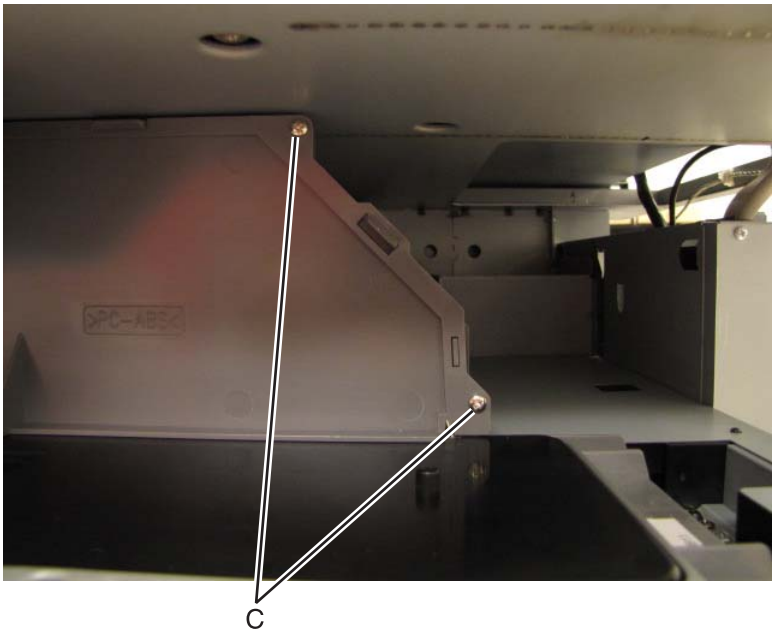
Inner right cover

1. Remove the upper right cover.
2. Remove the lower op panel cover.
3. Remove the front screw (A) that secures the inner right cover to the frame.

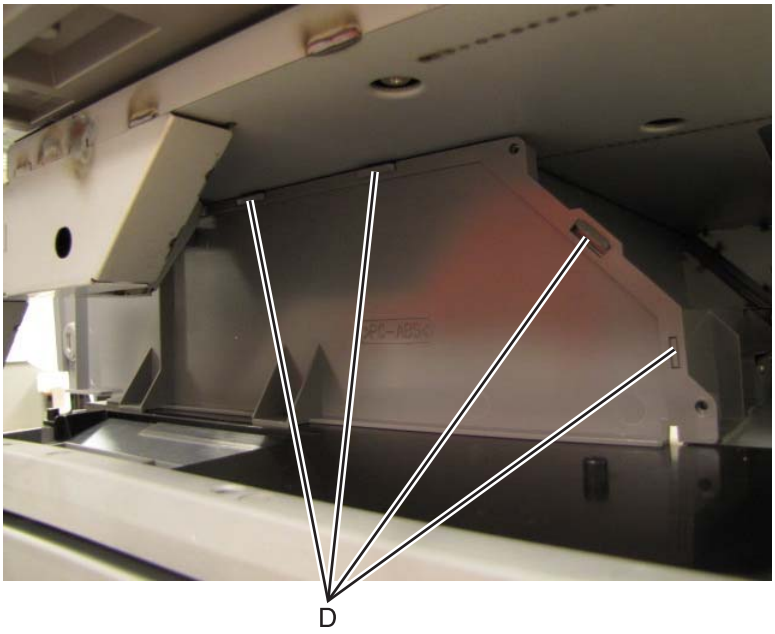


4. Remove the screw (B) that secures the front of the inner right cover to the back cave cover.

5. Remove the two screws (C) that fasten the rear cave cover to the inner right cover.



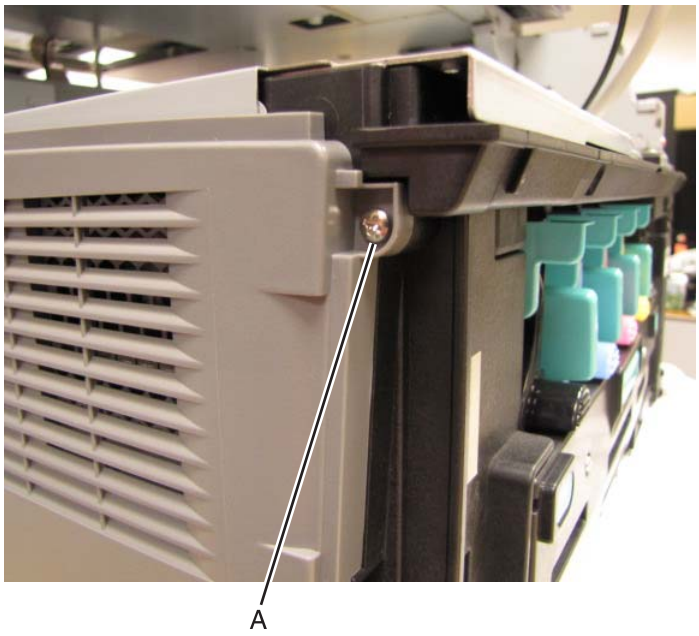
6. Use a screw driver to release the four tabs (D) that secure the inner right cover to the back cave cover.



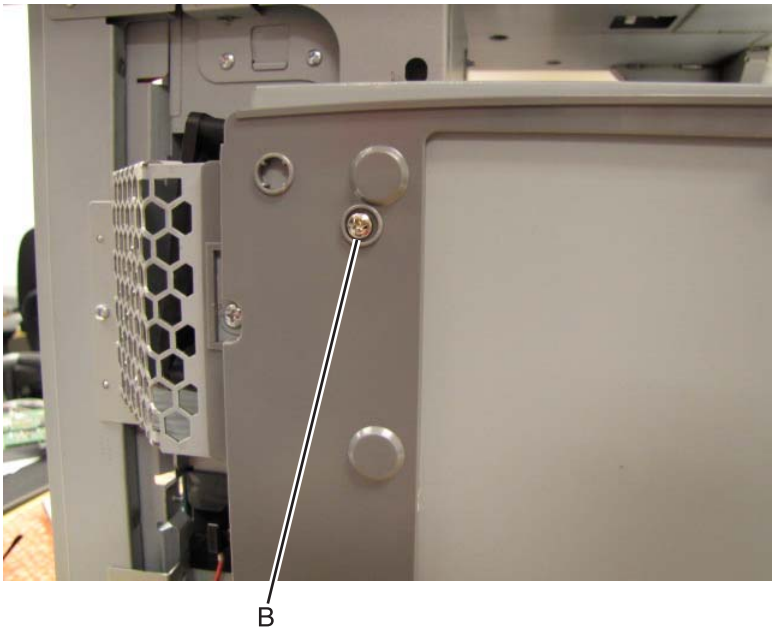
7. Pull the inner right cover forward and out of the device.

Left cover removal

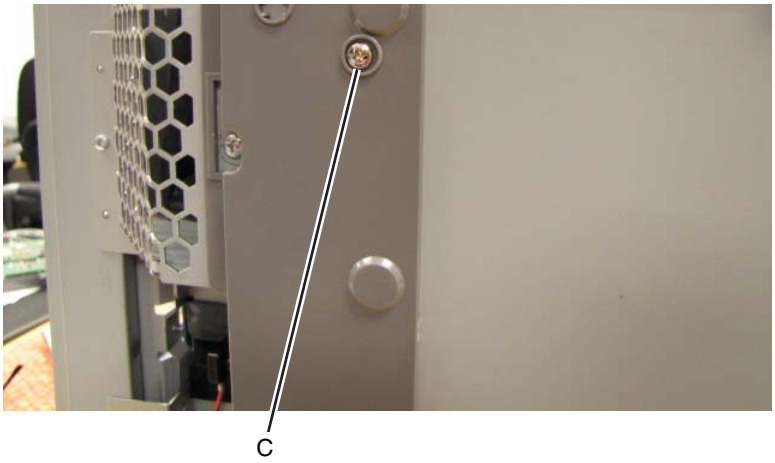
1. Remove the rear cover. See **“Rear cover” on page 4-7**.
2. Remove the top cover. See **“Output bin (print engine top) cover” on page 4-17**.
3. Remove the rear screw (A) securing the left cover to the printer frame.



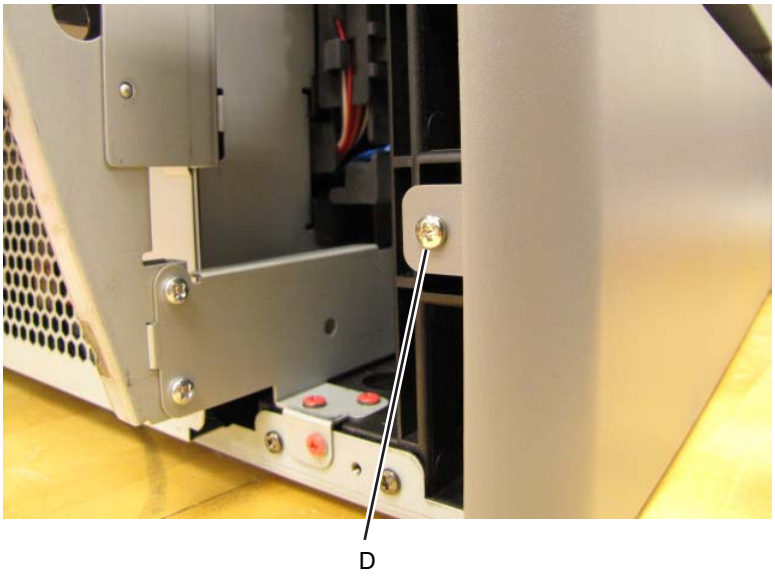
4. Remove the screw (B) securing the left cover to the left EMI shield.



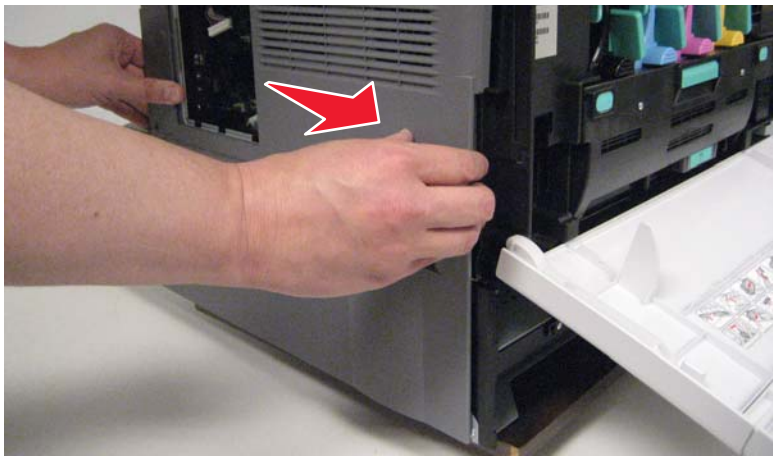
5. Remove the two screws (C) securing the left cover to the frame.



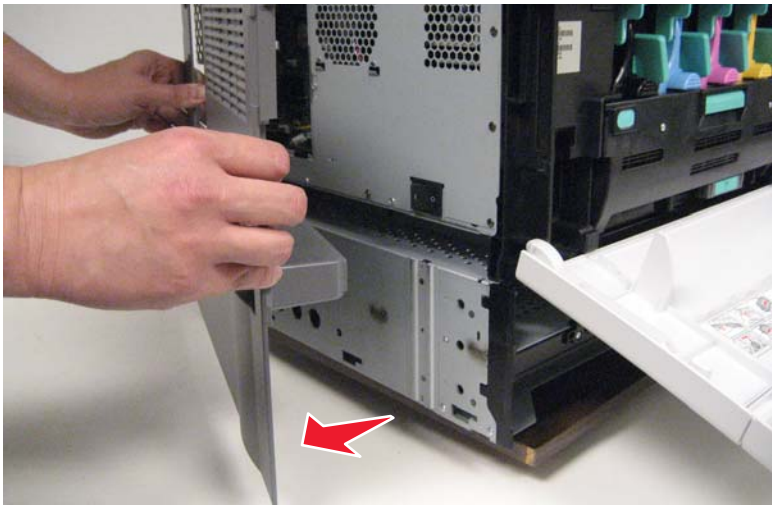
6. Remove the screw (D) securing the left cover to the printer frame.



7. Slide the left cover forward to release the tabs from the printer frame.

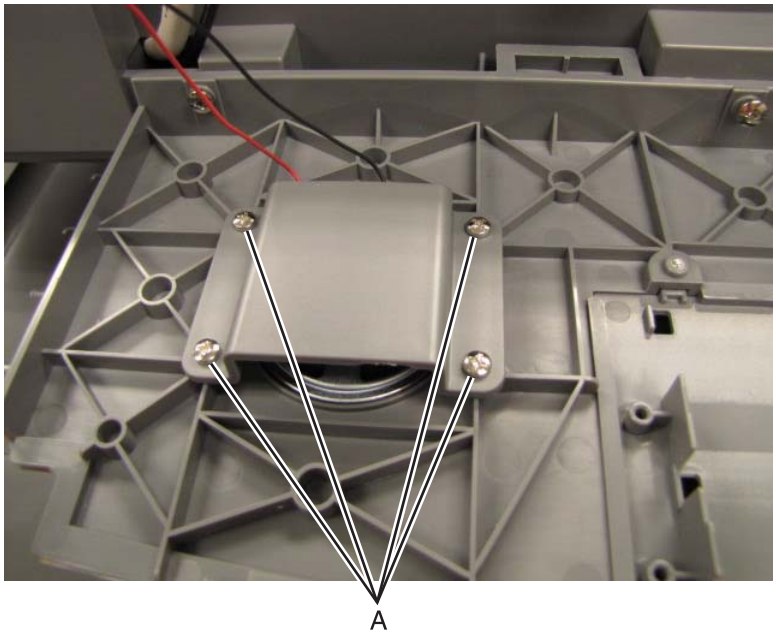


8. Pull the left cover away from the frame.



Speaker removal

1. Remove the front operator panel cover.
2. Remove the top operator panel cover.
3. Remove the four screws (A) that secure the speaker cover to the op panel bottom cover.

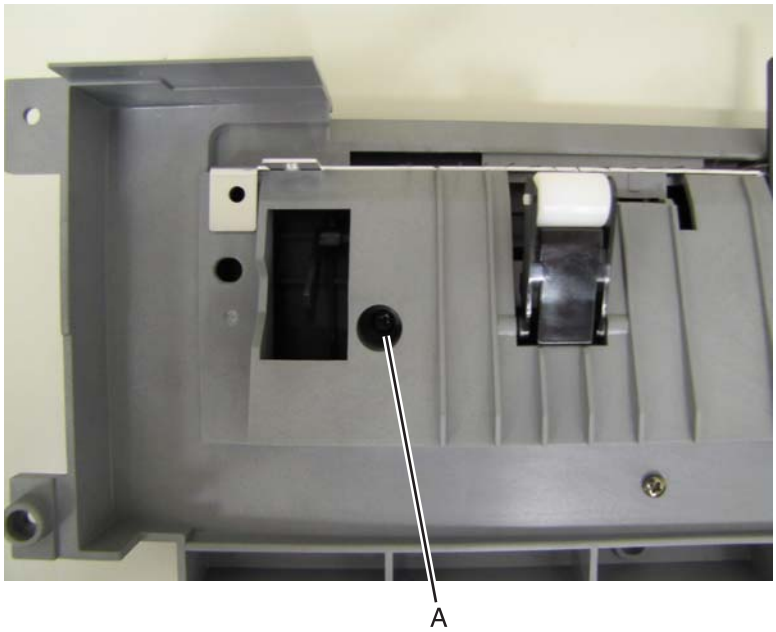


4. Remove the speaker.

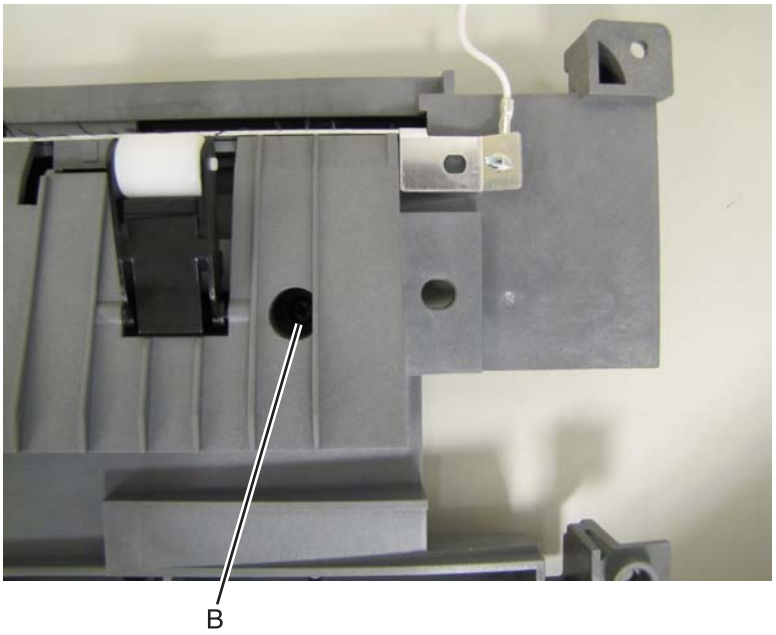
Top removals

Output bin full sensor actuator removal

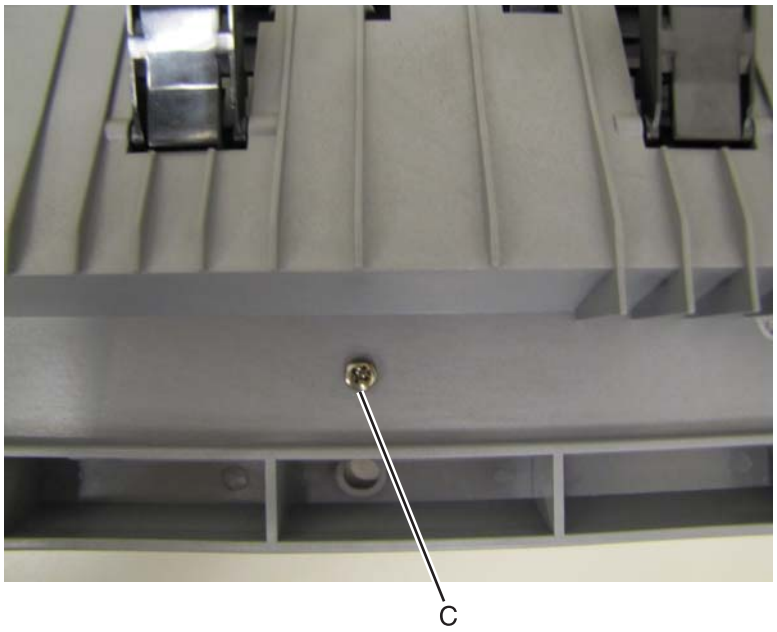
1. Remove the op panel paper exit guide. See **“Op panel paper exit guide removal” on page 4-31**.
2. Remove the screw (A) from the op panel paper exit guide.



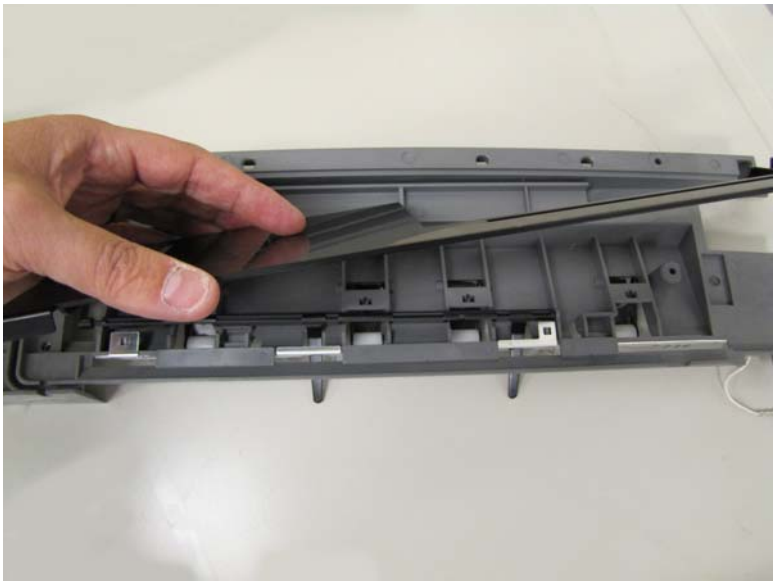
3. Remove the screw (B) from the op panel paper exit guide.



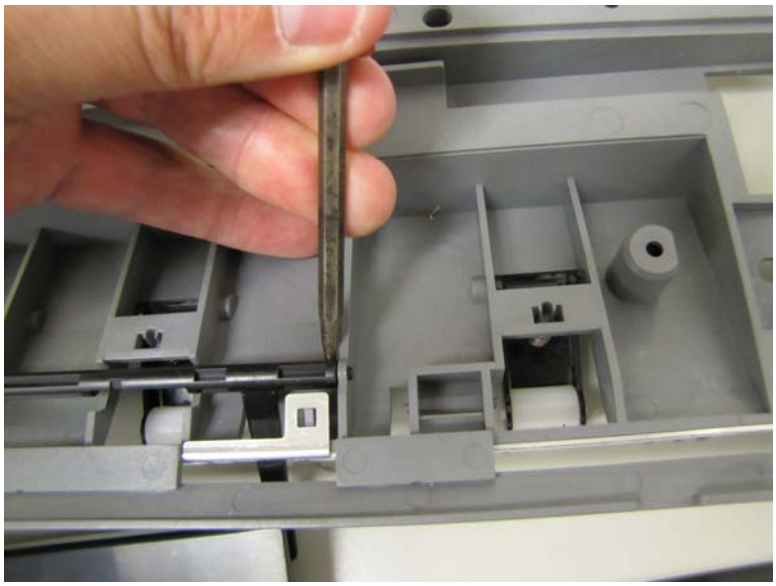
4. Remove the screw (C) from the op panel paper exit guide.



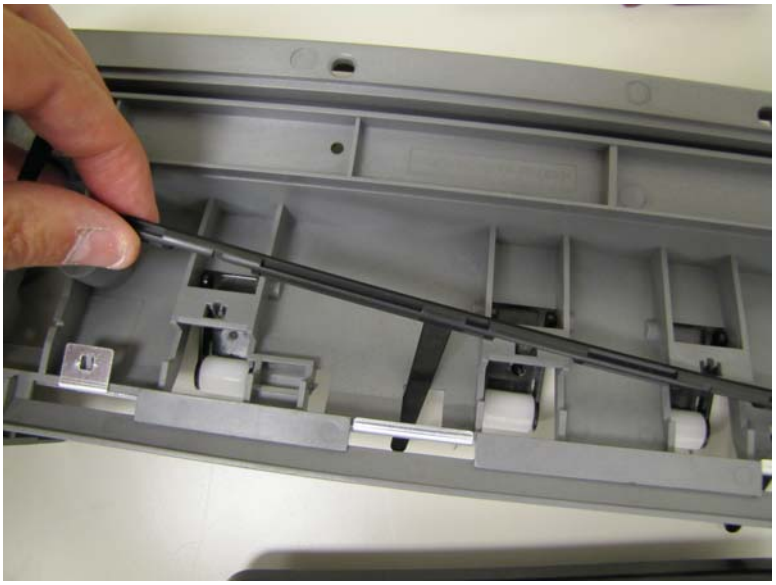
5. Remove the top cover of the guide.



6. Use a flatblade screwdriver to release the actuator from the exit guide.

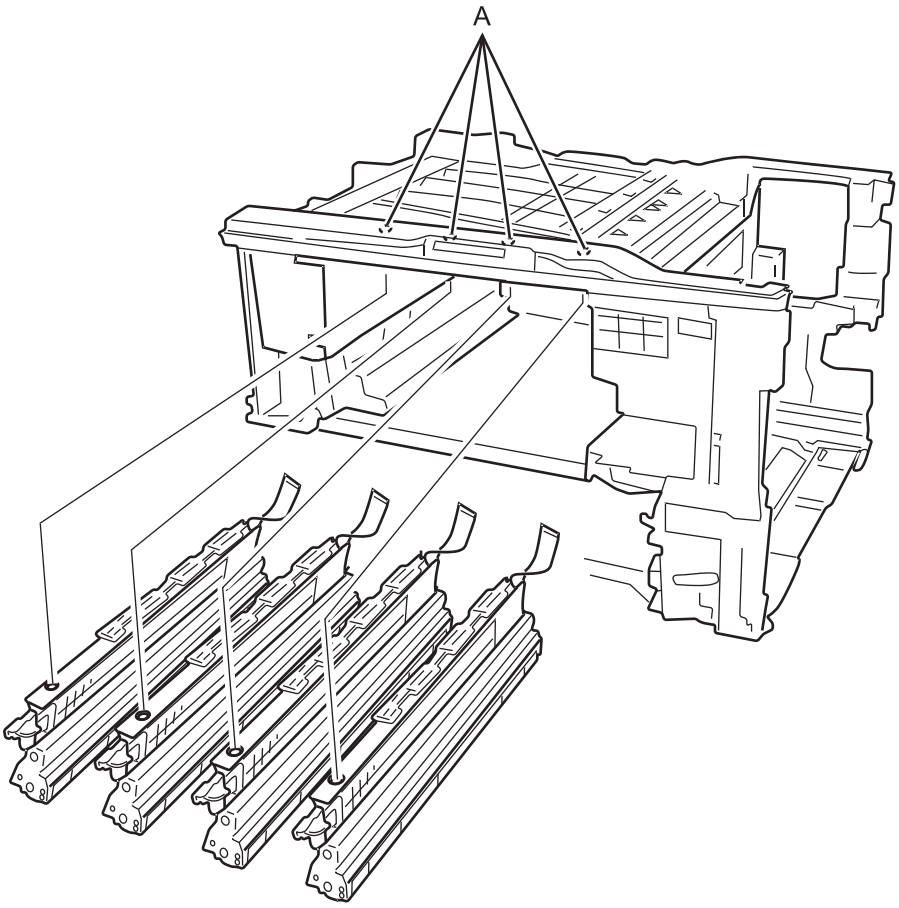


7. Remove the actuator.



LED assembly removal

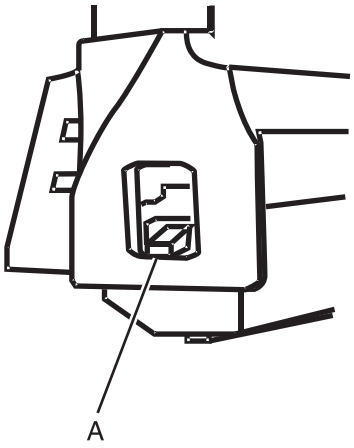
1. Remove the transfer belt. See **"Transfer belt – CRU" on page 4-39**.
2. Remove the top cover. See **"Output bin (print engine top) cover" on page 4-17**.
3. Remove the rear EMI shield. See **"Rear EMI shield – Not a FRU" on page 4-96**.
4. Disconnect the affected LED's ribbon cable from the printhead controller board.
5. Remove the head holder screw (A) securing the LED holder to the top frame.



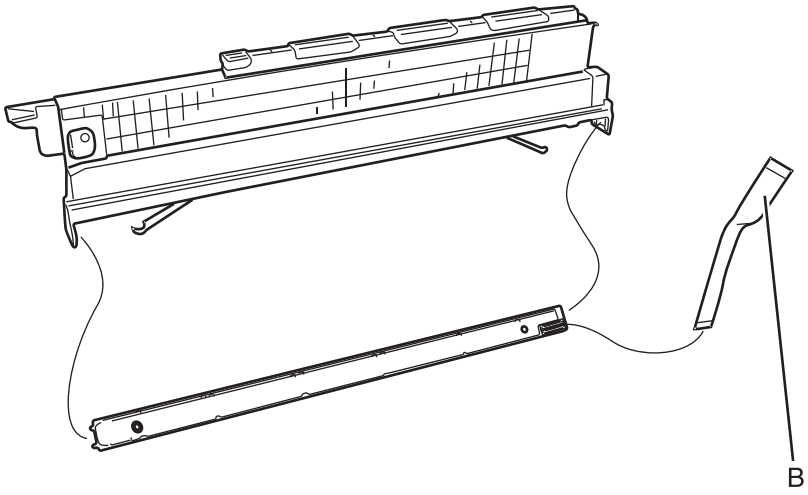
6. Slide the head holder to the front and out of the printer.

LED print head removal

1. Remove the LED assembly. See **"LED assembly removal" on page 4-29**.
2. Using a screw driver, pull the plastic casing (A) on the rear of the holder away from the tab on the printhead, releasing it from the printhead holder.

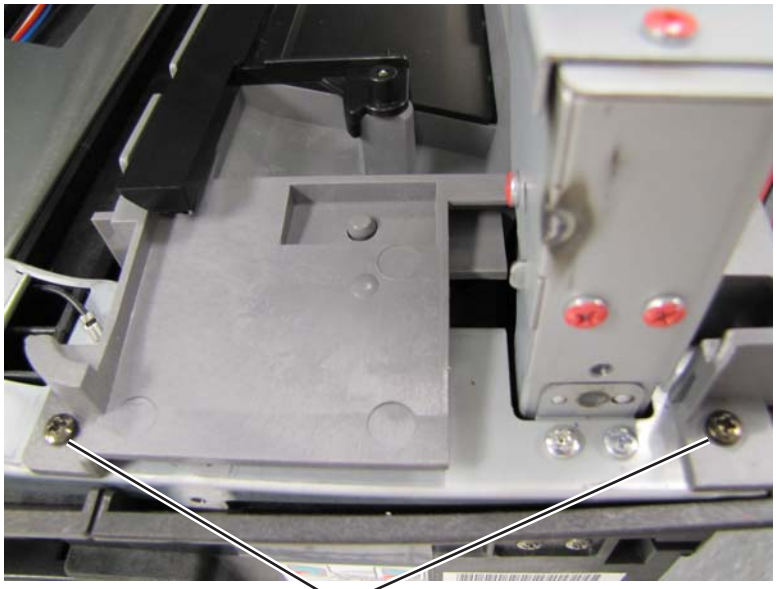


3. Repeat the previous step for the front of the printhead assembly.
4. Remove the printhead from the LED assembly.
5. Carefully remove the ribbon cable (B) from the printhead.

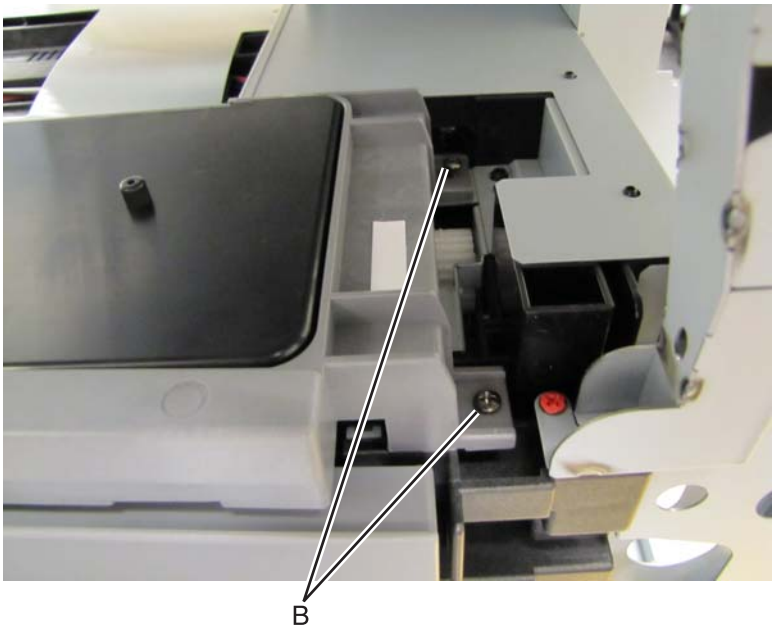


Op panel paper exit guide removal

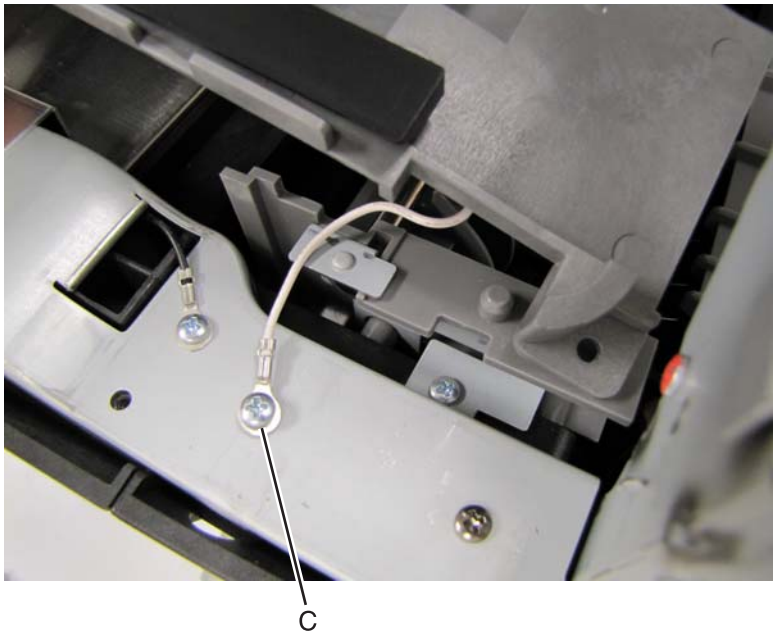
1. Remove the paper output bin. See **"Output bin (print engine top) cover" on page 4-17**.
2. Remove the two screws (A) on the front.



3. Remove the two screws (B) in the rear.

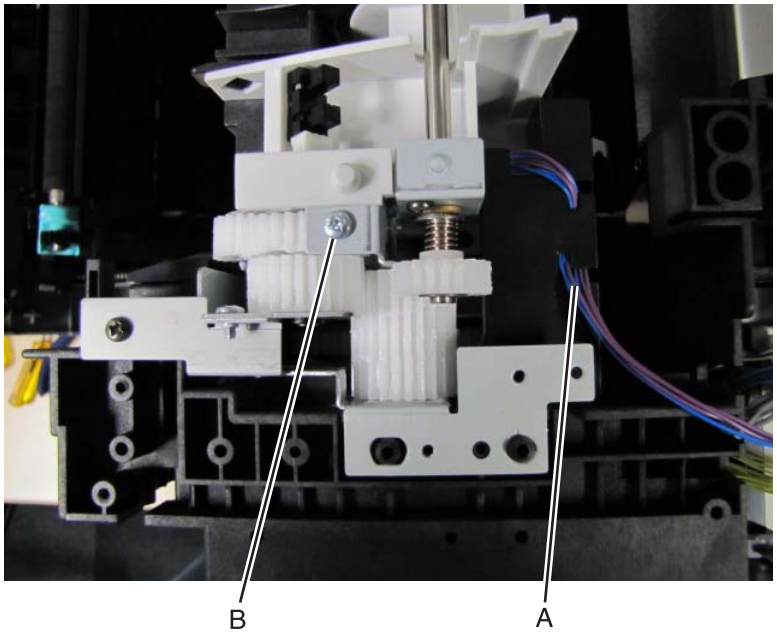


4. Remove the ground screw (C).



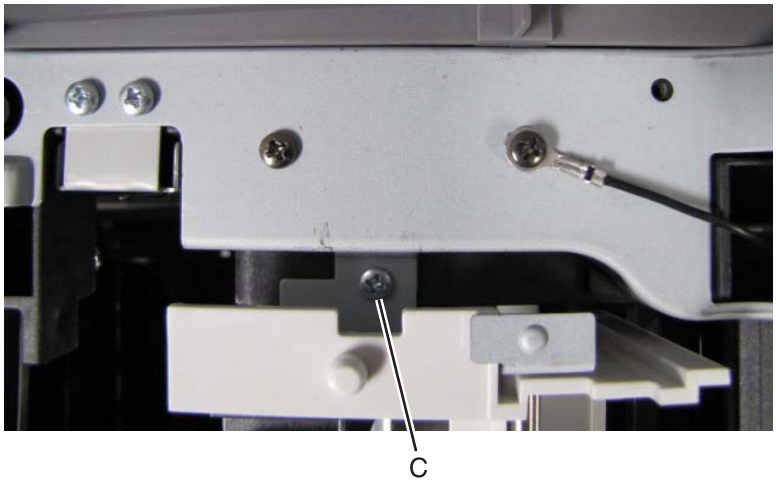
Paper exit guide removal

1. Remove the top cover.
2. Remove the op panel paper exit guide. See **“Op panel paper exit guide removal” on page 4-31**.
3. Disconnect the paper exit / bin full sensor cable from CN7 on the printhead controller board.
4. Thread the cable (A) through the fuser fan duct.



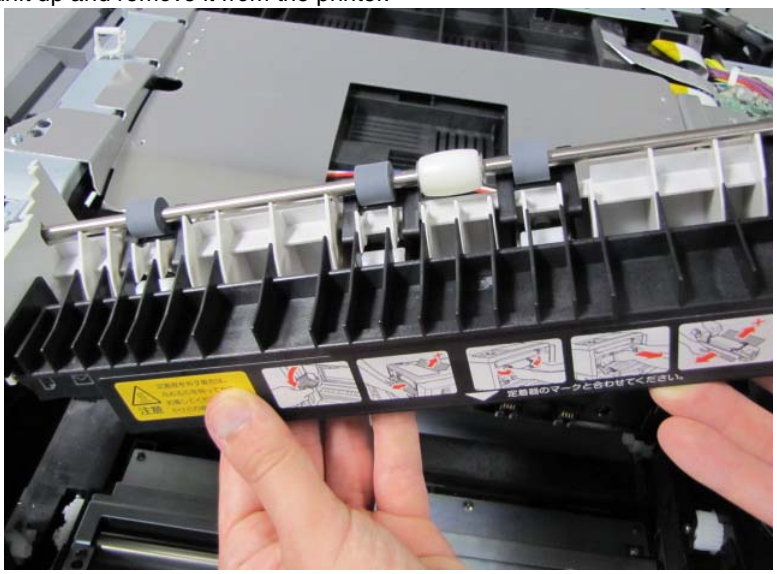
5. Remove the screw (B) securing the paper exit guide to the sub drive unit.

6. Remove the screw (C) securing the paper exit guide to the rear of the printer frame.

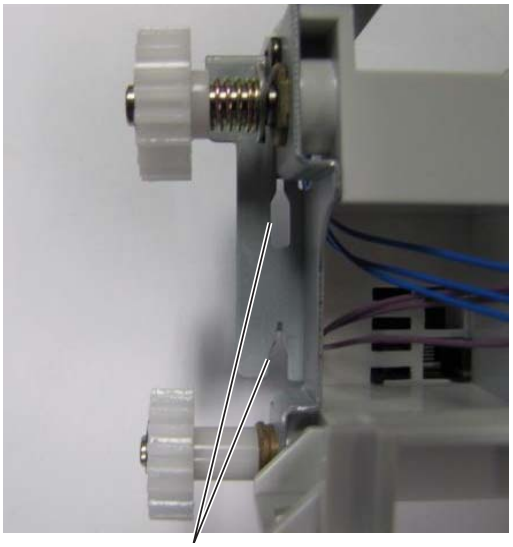


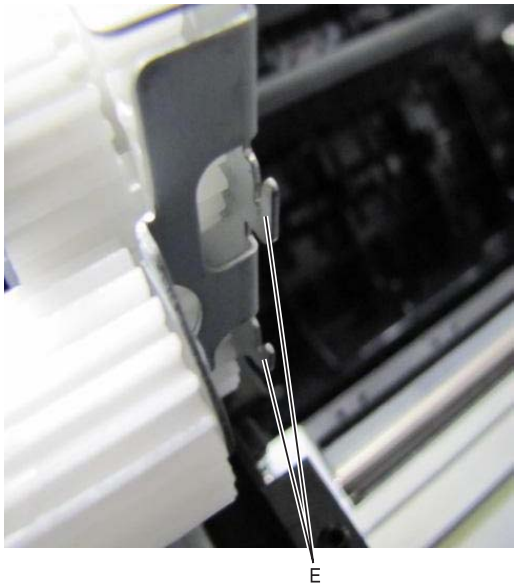
7. Pull the fuser duct back to provide some clearance for the paper exit unit.

8. Lift the unit up and remove it from the printer.



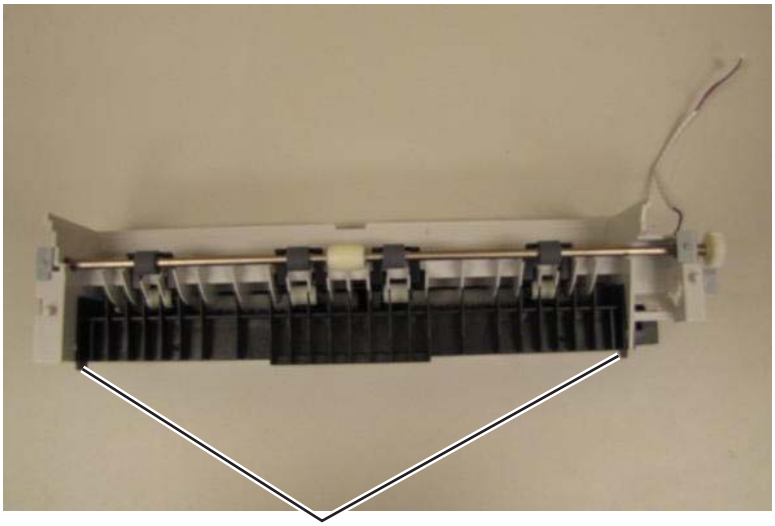
Note: When reinstalling the unit, line up the slots (D) on the paper exit unit with the tabs (E) on the sub drive unit before pushing the unit down in place.



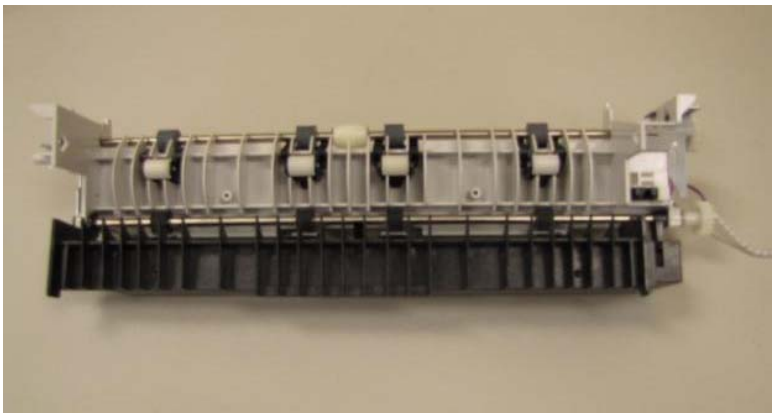


Bin full sensor removal

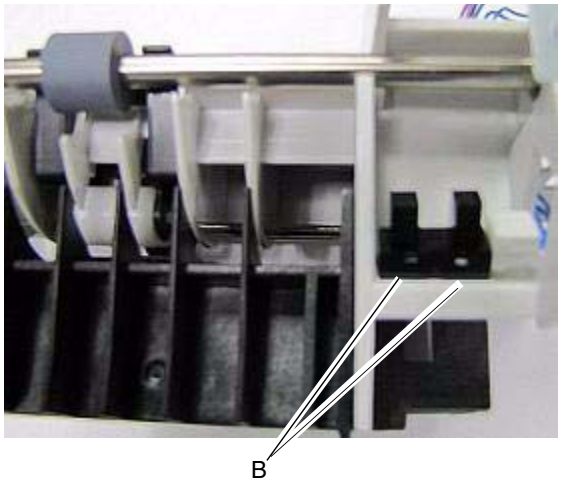
1. Remove the paper exit guide. See **"Paper exit guide removal" on page 4-32**.
2. Release the tabs (A) securing the black exit guide.



3. Open the guide, exposing the bin full sensor.



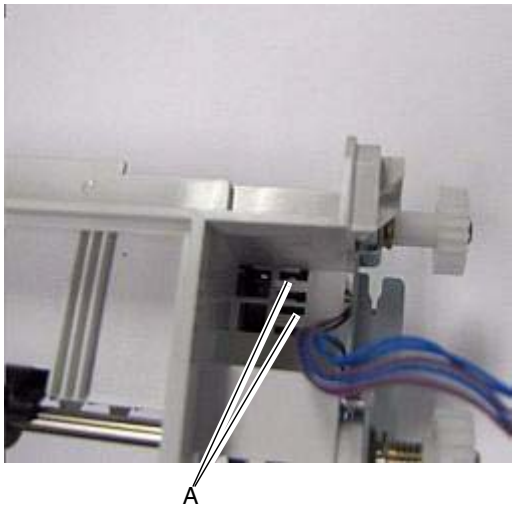
4. Release the tabs (B) securing the bin full sensor to the paper exit guide.



5. Disconnect the blue cable from the sensor.

Paper exit sensor removal

1. Remove the paper exit guide. See **"Paper exit guide removal" on page 4-32**.
2. Release the tabs (A) securing the paper exit sensor to the paper exit guide.



3. Disconnect the purple cable from the sensor.

Printhead controller board removal

Warning: When replacing any one of the following components:

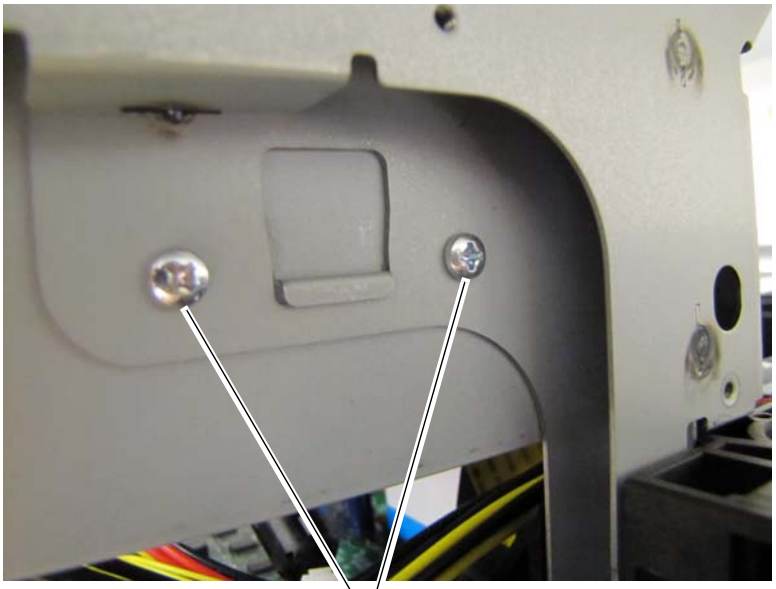
- Printhead controller board
- Engine) board

Replace only 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 both of the components listed above without a POR after installing each one, or the printer will be rendered inoperable.

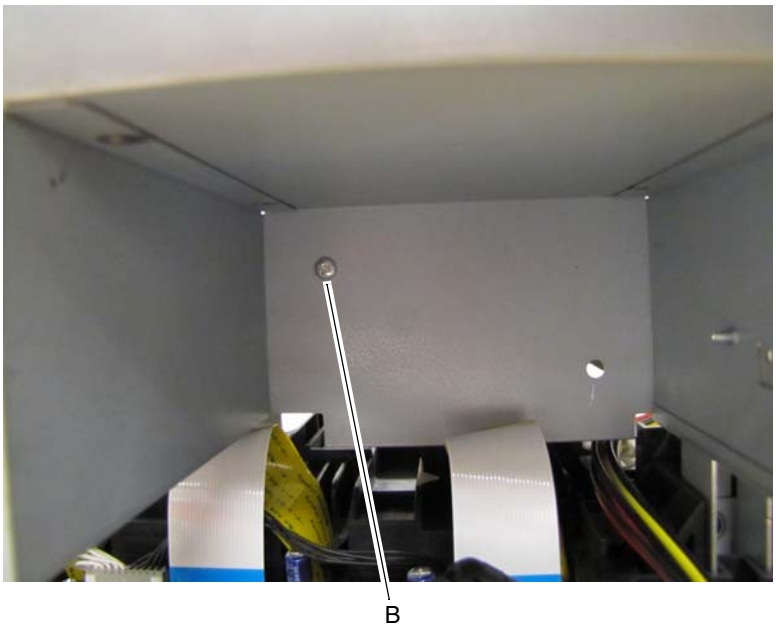
Warning:

1. Remove the rear cover. See **"Rear cover" on page 4-7**.
2. Remove the top cover. See **"Output bin (print engine top) cover" on page 4-17**.
3. Remove rear EMI shield. See **"Rear EMI shield – Not a FRU" on page 4-96**.

4. Remove the screws (A) securing the cable box to the scanner support.

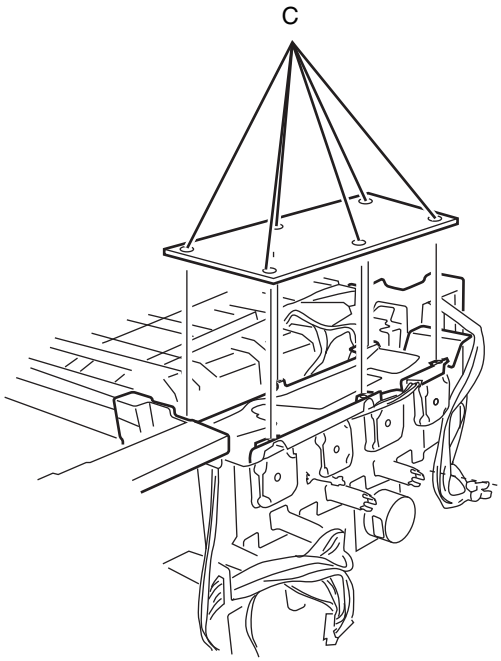


5. Remove the screw (B) securing the cable box to the top shield.



6. Remove the screws securing the top shield.
7. Disconnect all the cables from printhead controller board.
   Warning: Be careful to avoid damaging the ribbon cables when removing them from the printhead controller board.

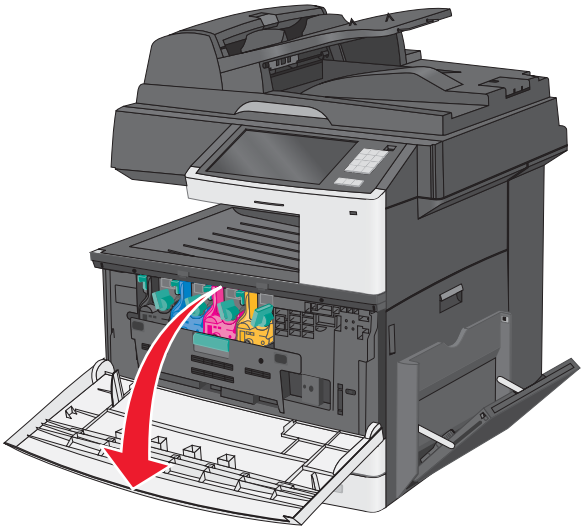
8. Remove the six screws (C) fastening the printhead controller board to the frame.



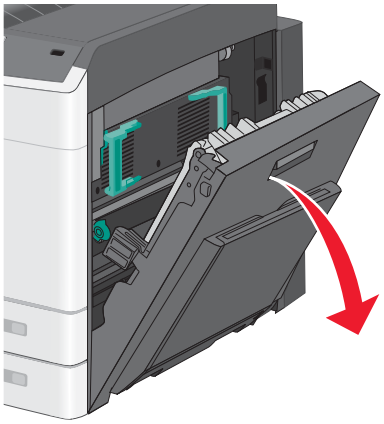
Front removals

Transfer belt – CRU

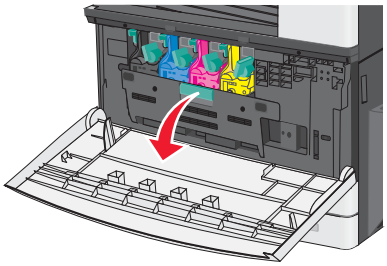
1. Open the front cover.



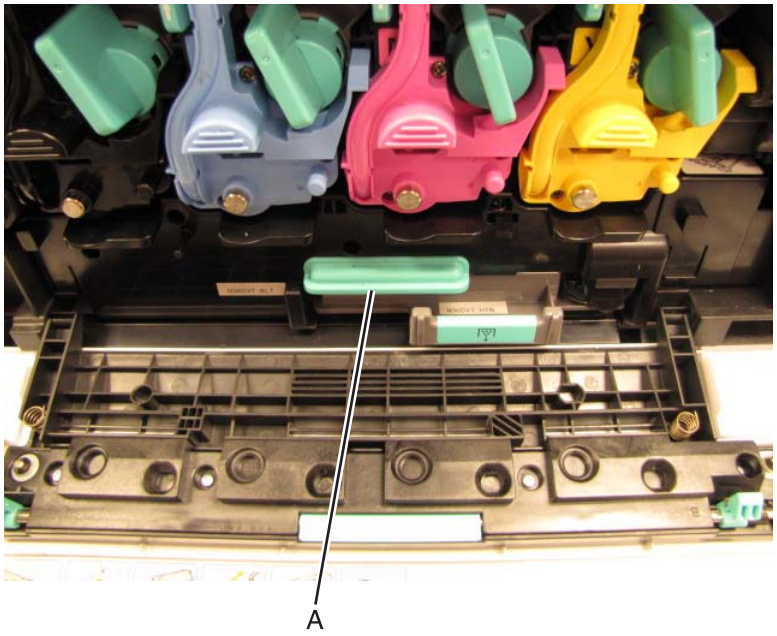
2. Open the right cover.



3. Lower the transfer belt door.



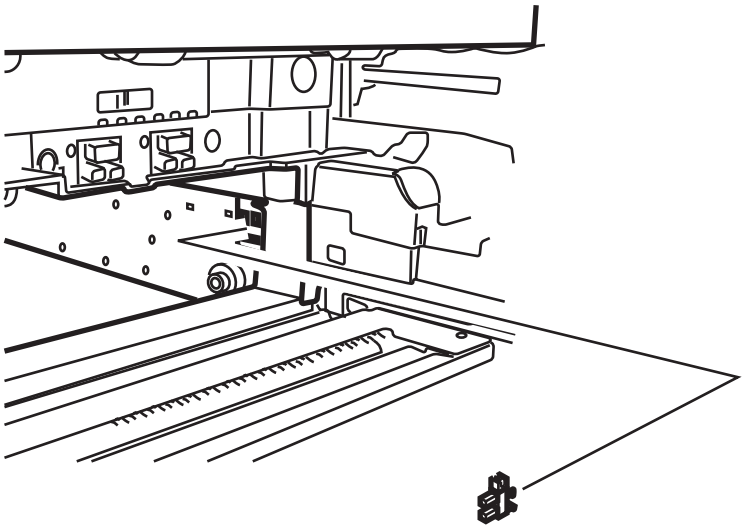
4. Using the handle on the transfer belt, pull the belt outward till the two green handles appear on the top of the unit.



5. Use the two handles to pull the unit all the way out.

Transfer belt position sensor removal

1. Remove the transfer belt.
2. Remove the sensor cable from the belt position sensor.

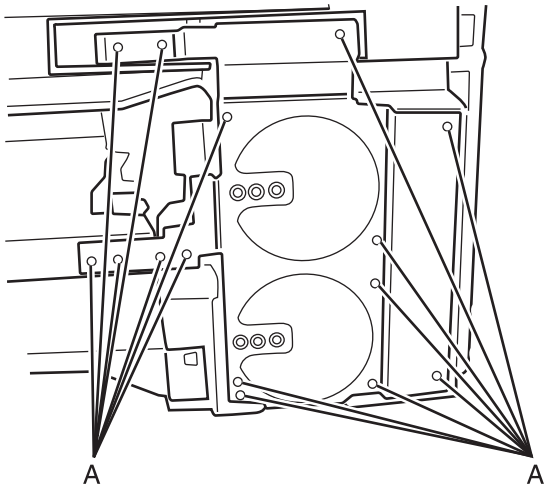


3. Press the tabs the fasten the belt position sensor to the printer frame.

Paper size sensor removal

This is the paper size sensor for the top MPF tray.

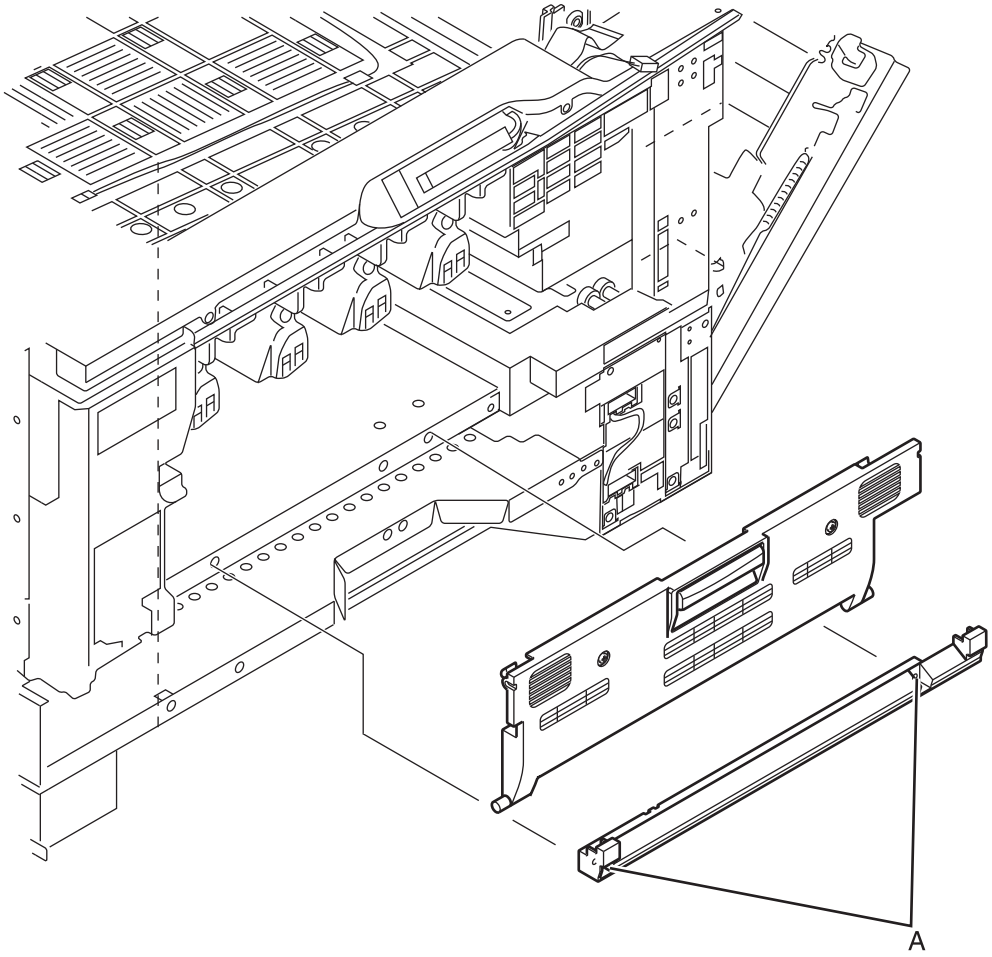
1. Remove the standard paper tray.
2. Remove the MPF paper tray.
3. Remove the 15 screws (A) securing the sensor support frame to the print engine frame.



4. Remove the paper size sensors.

Photoconductor lock removal

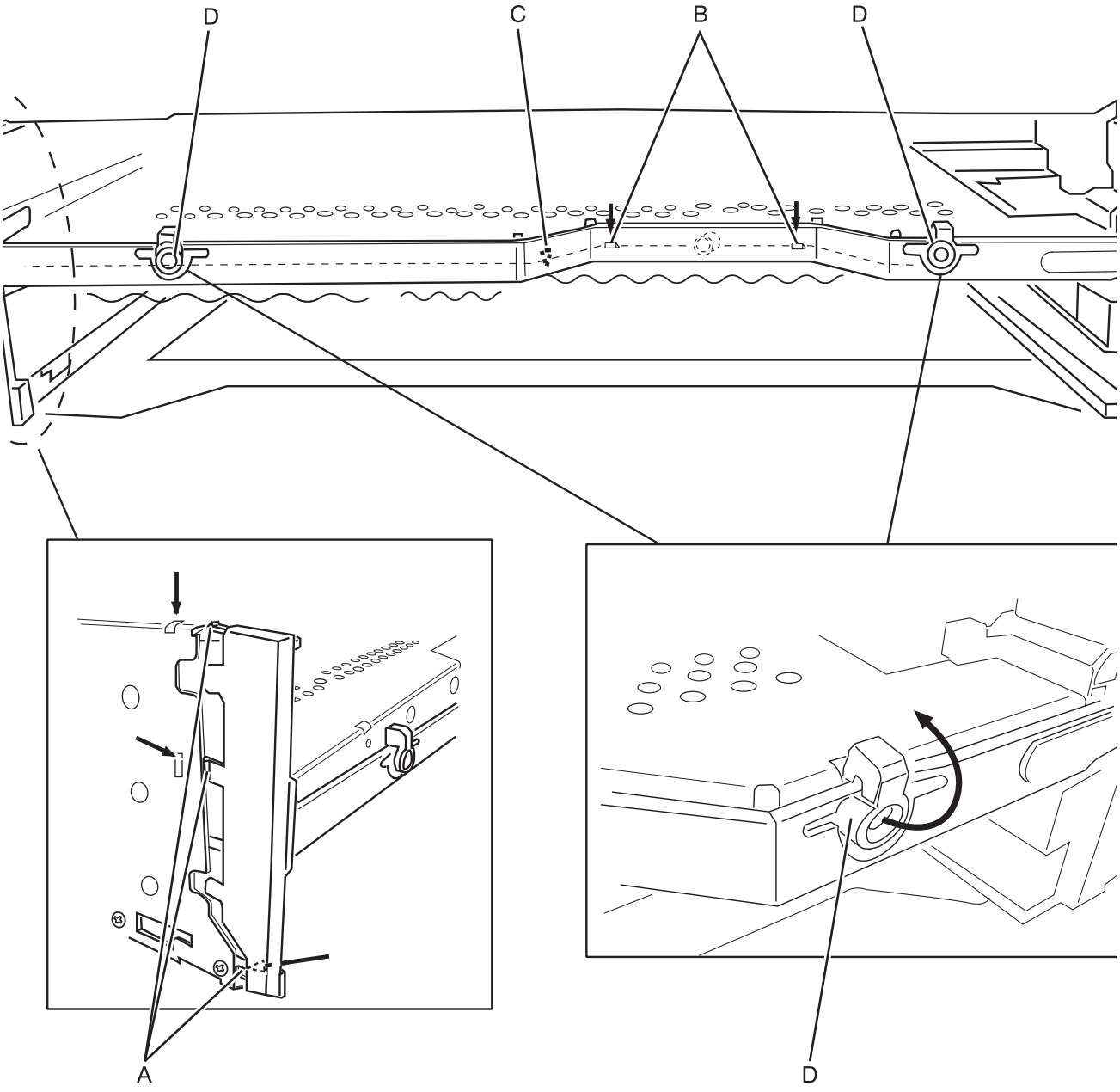
1. Remove the standard paper tray.
2. Remove the two screws (A) that secure the front metal cover to the printer frame.



3. Remove the photoconductor lock.

Cassette stopper removal

1. Remove the standard and MPF trays.
2. Disengage the tabs (A) securing the cassette stopper to the left side of the printer frame.

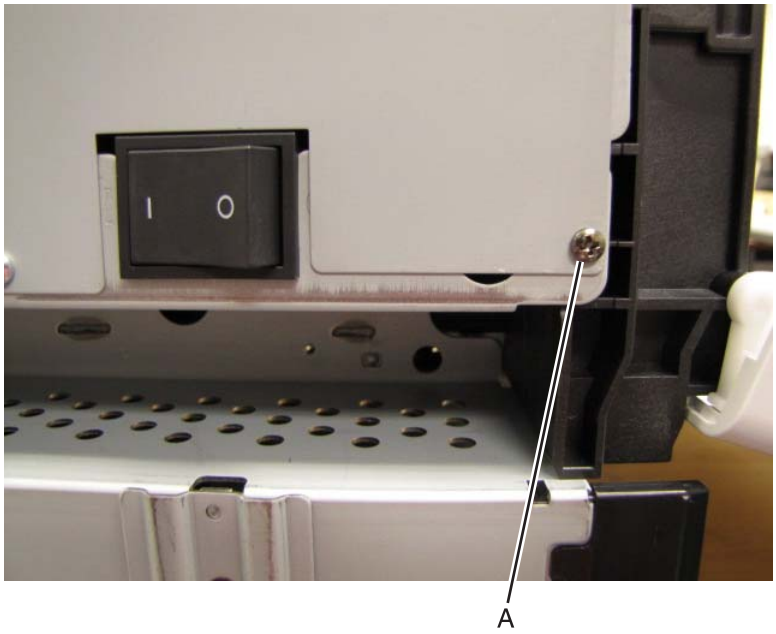


3. Twist the stopper downward to release the two pawls (B).
4. Insert a flat-blade screwdriver at point (C).
5. Pull the stopper forward to disengage the stopper from the printer frame.
6. Disengage the pawls (D) by tuning them in the direction indicated by the arrow.
7. Push the stopper up at point (C) to disengage the stopper from the frame.

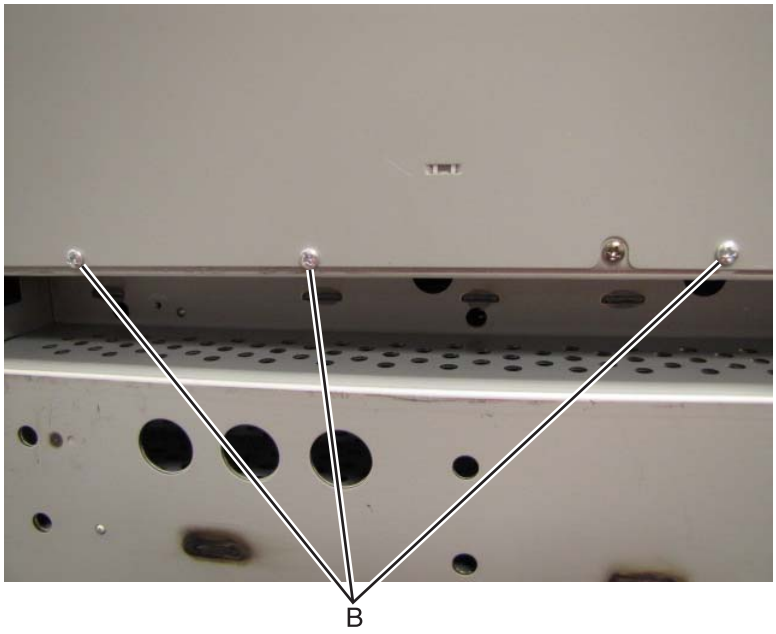
Left side removals

Left EMI shield removal (not a FRU)

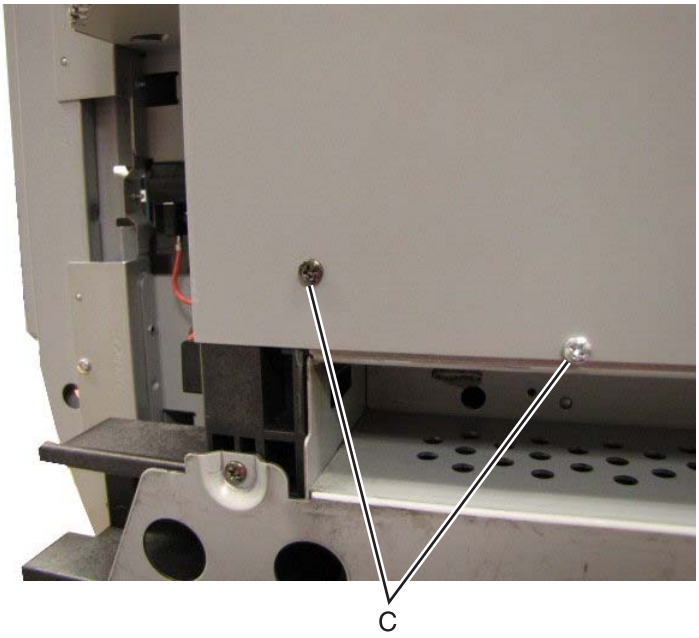
1. Remove the top cover. See **"Output bin (print engine top) cover" on page 4-17**.
2. Remove the left cover. See **"Left cover removal" on page 4-22**.
3. Remove the screw (A).



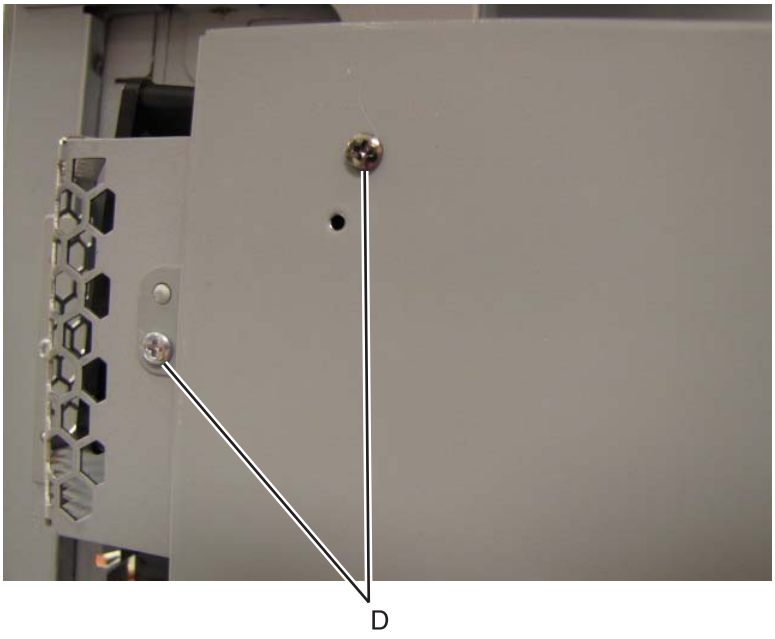
4. Remove the three screws (B).



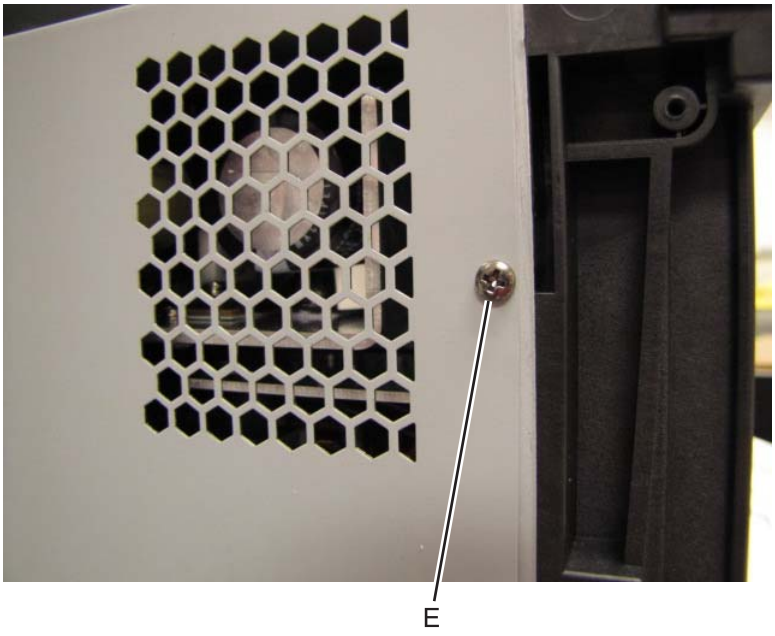
5. Remove the two screws (C).



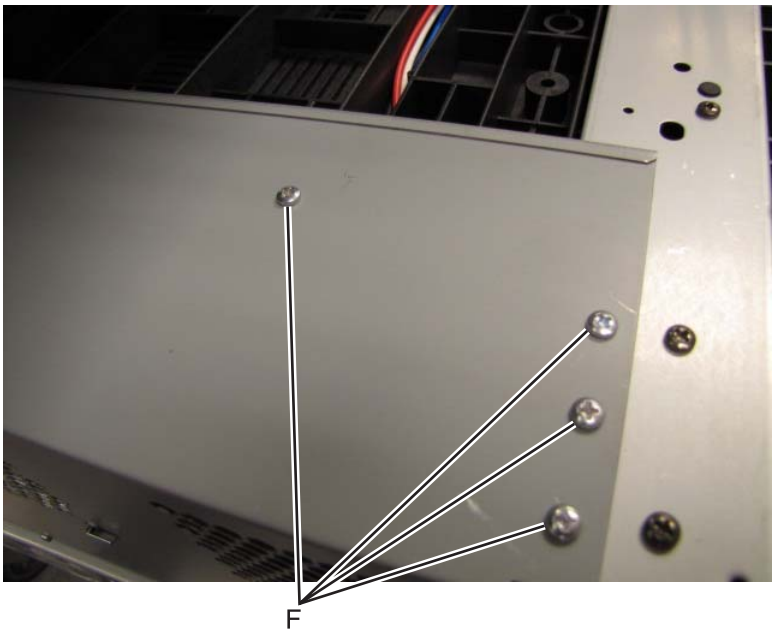
6. Remove the two screws (D).



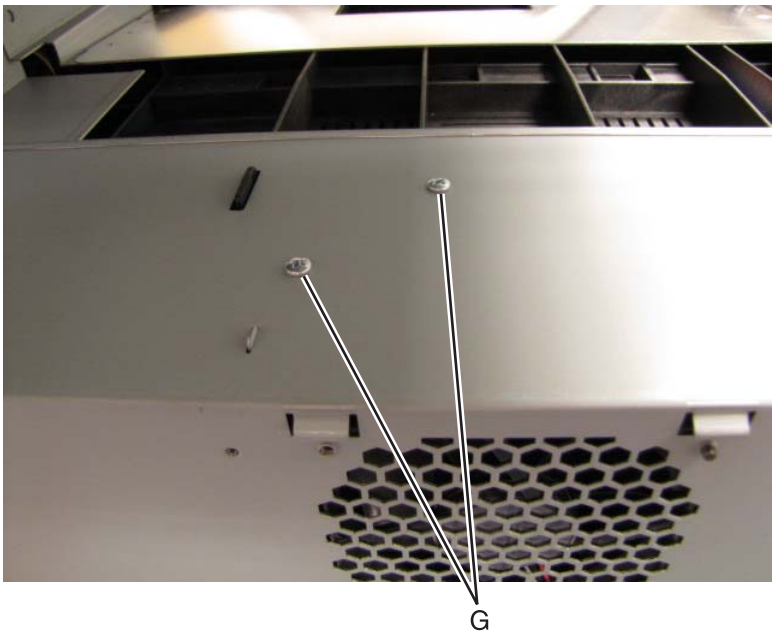
7. Remove the one screw (E).



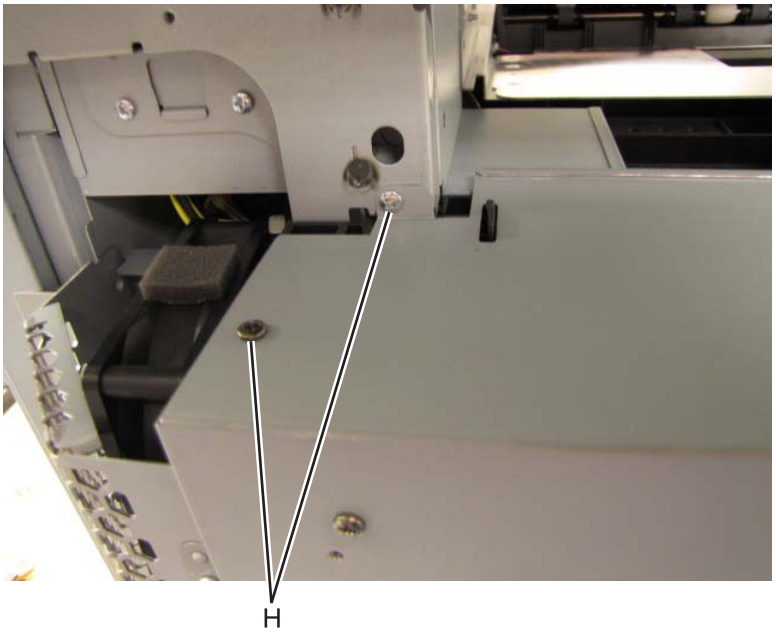
8. Remove the four screws (F) on top.



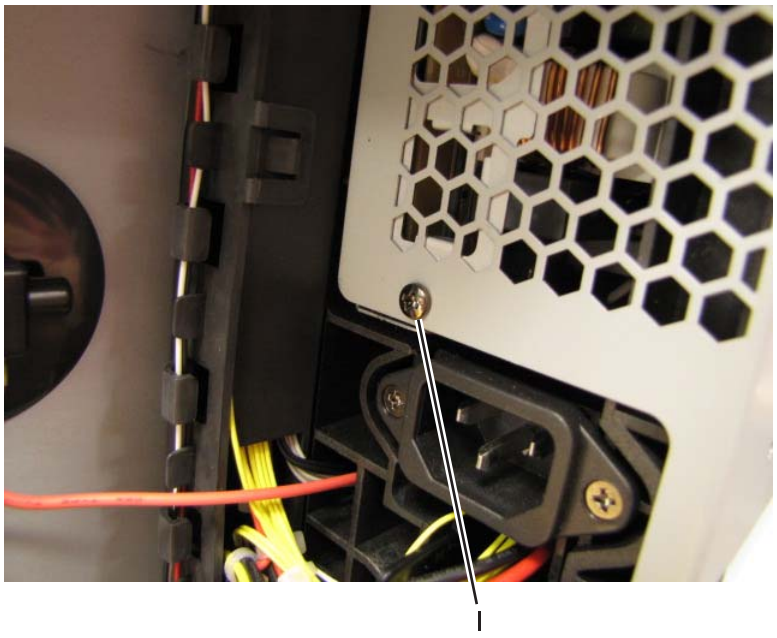
9. Remove the two screws (G) on top.



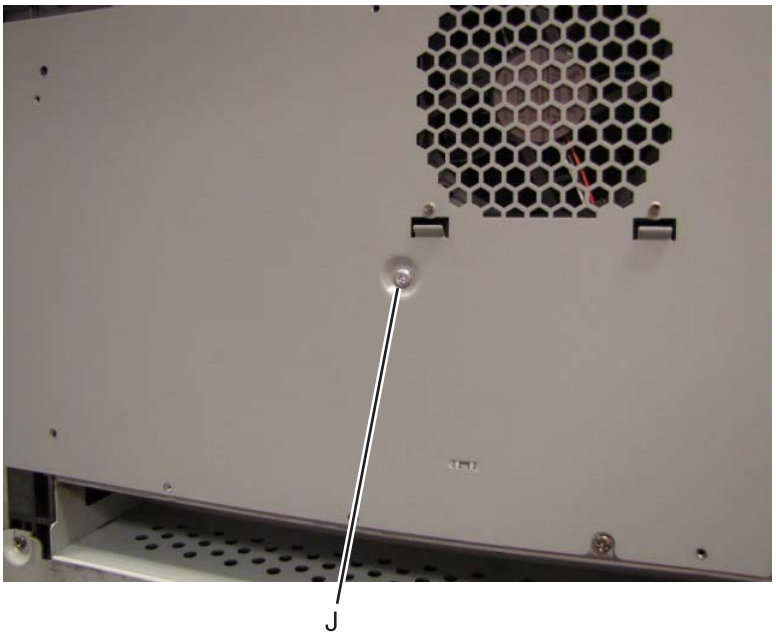
10. Remove the two screws (H).



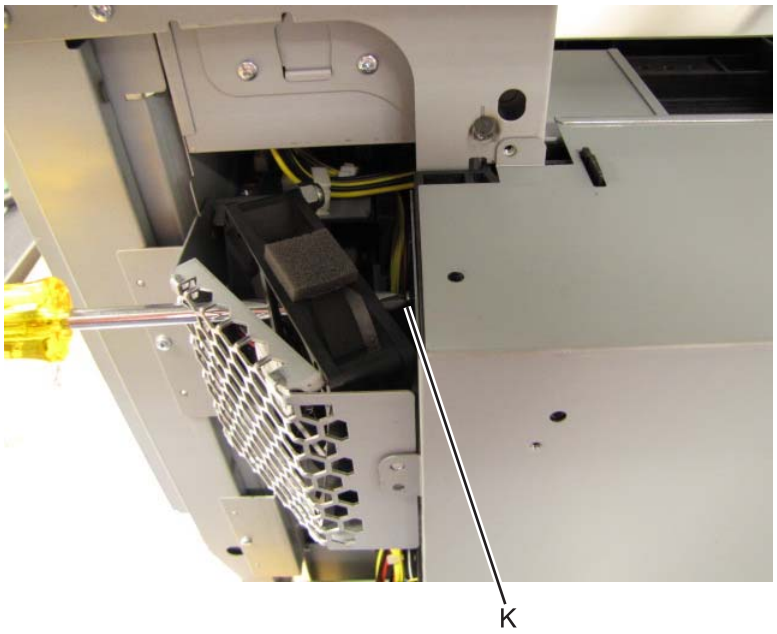
11. Remove one screw (I).



12. Remove the screw (J).



13. Carefully insert the screwdriver through the main fan and remove the one screw (K).



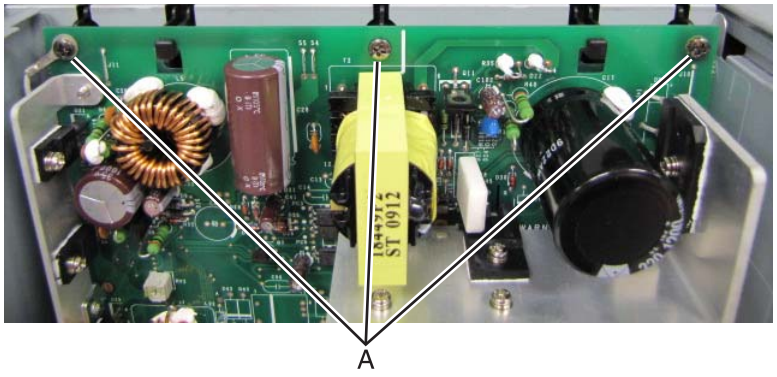
14. Remove the Left EMI shield.

Low volt power supply removal

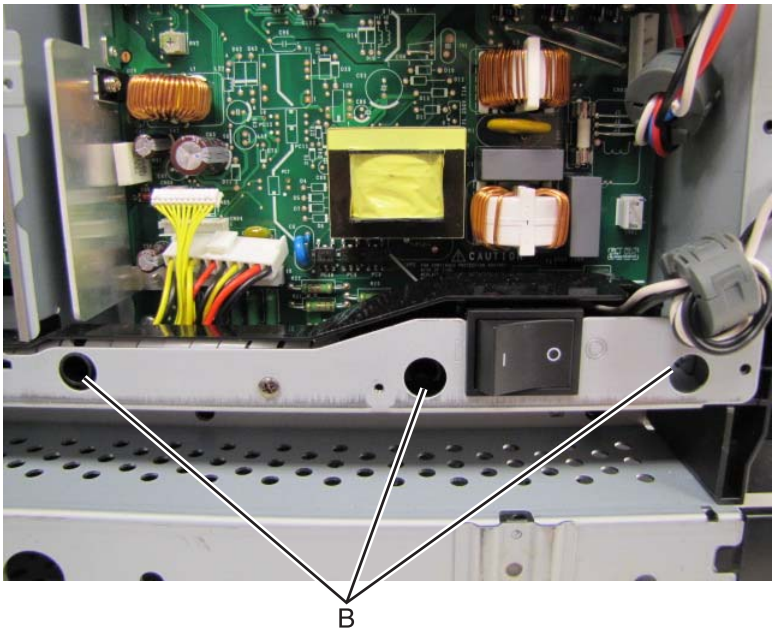
	**CAUTION-SHOCK HAZARD** Remove power from the printer before continuing or use caution if the product must be energized during this procedure. The heat sink transformer core presents risk of electric shock. Test before touching.

1. Remove the left side EMI shield.
2. Disconnect all the cables connected to the power supply.

3. Remove the three screws (A) securing the top of power supply to the power supply cage.

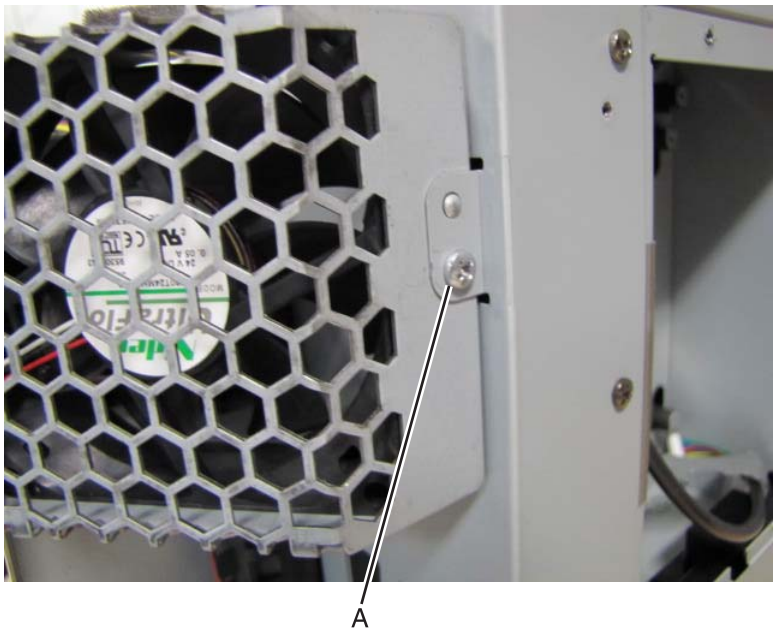


4. Remove the three screws (B) securing the bottom of power supply to the power supply cage.

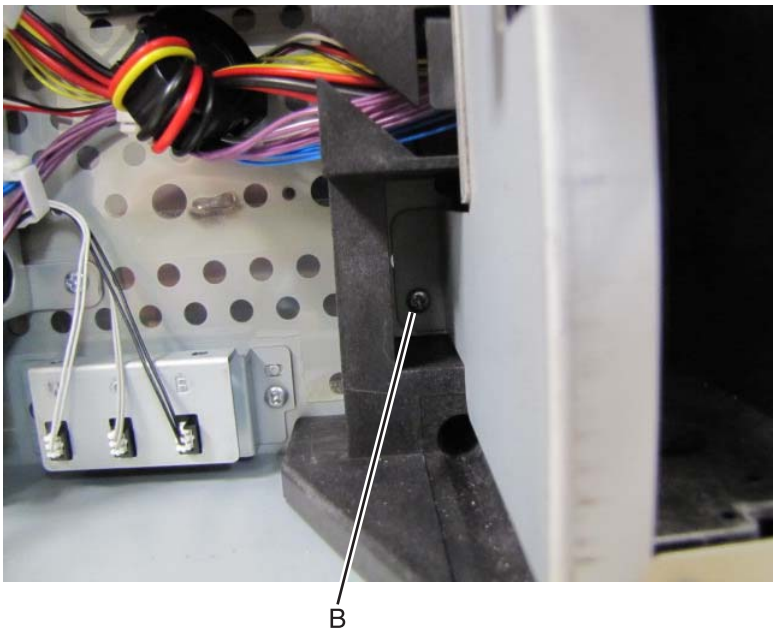


Main fan removal

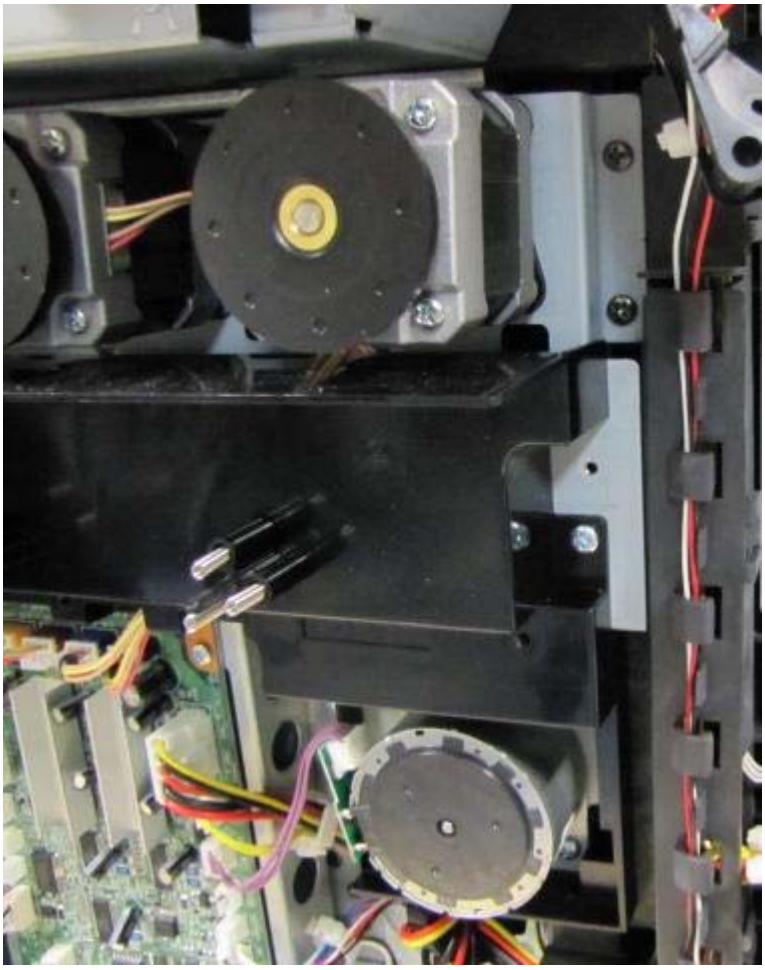
1. Remove the HVPS.
2. Remove the engine board fan.
3. Disconnect the main fan cable from CN22 on the engine board.
4. Remove the screw (A) fastening the main fan stay to the left EMI shield.



5. Remove the screw (B) fastening the main fan stay to the rear of the printer frame.



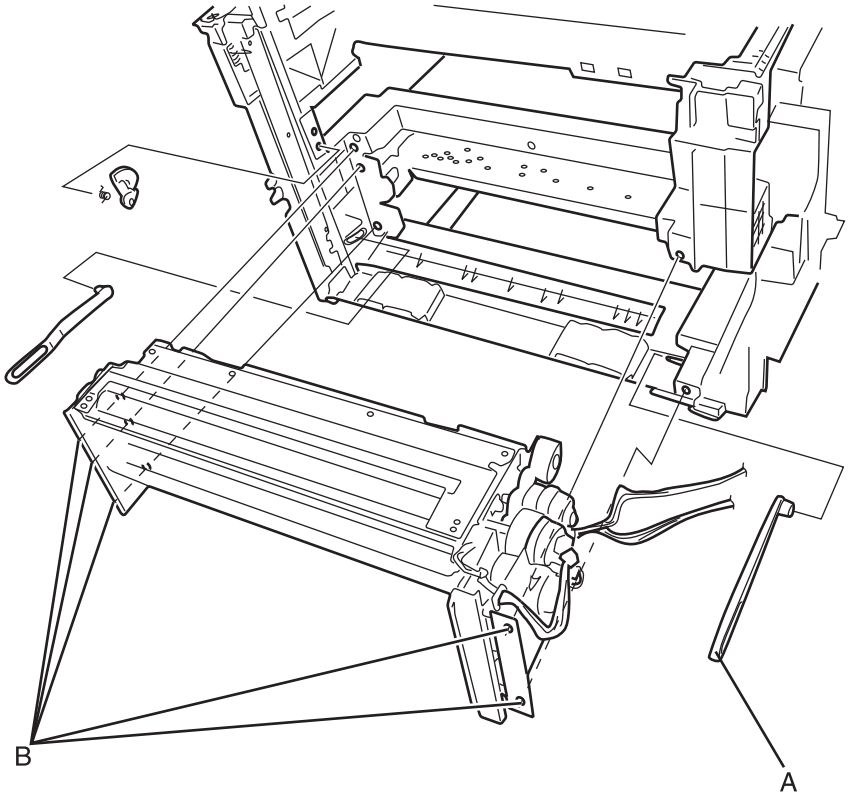
6. Thread the fan cable through the cable stay.



7. Lift the fan up and pull the main fan stay away from the printer.

Paper feed unit removal

1. Remove the complete duplex unit. See **"Duplex removal" on page 4-63**.
2. Remove the right link arm (A).



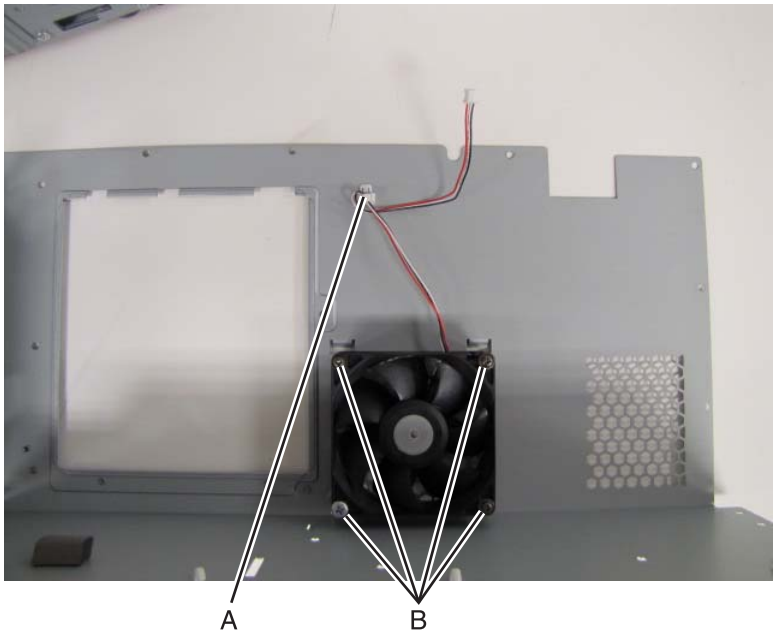
3. Disconnect the registration clutch harness from connector CN30 on the printhead controller board.
4. Disconnect the pick roll, separator roll, and feed roll clutch cables from connector CN6 on the MDCONT (Engine) board.
5. Disconnect the paper feed unit motor harness from connect or CN15 on the MDCONT (Engine) board.
6. Remove the five screws (B) securing the paper feed unit to the printer frame.

Note: See **"Paperfeed unit component removals" on page 4-167** for instructions to remove the paperfeed unit sub-components.

Power supply fan removal

Note: Fan needs to be mounted with label pointed outwards.

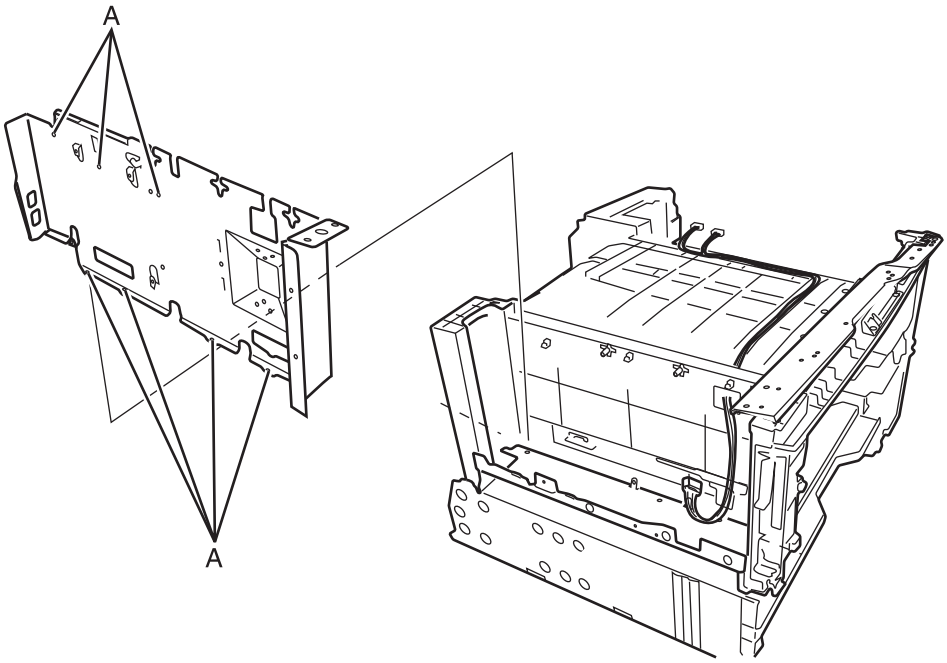
1. Remove the left side EMI shield.
2. Remove the fan's wiring harness from the connector (A) on the shield.
   Note: The harness must be routed in this matter when the fan is reinstalled.



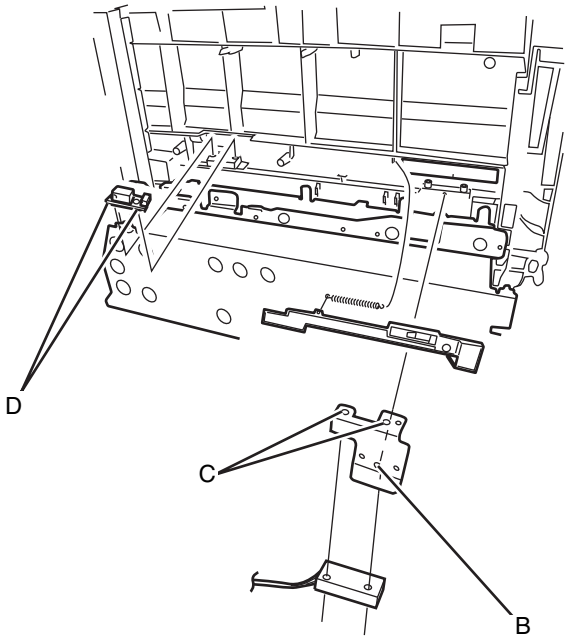
3. Turn the shield over, and remove the four screws (B) securing the fan to the shield.

Theta sensor removal

1. Remove the LVPS. See **“Low volt power supply removal” on page 4-50**.
2. Remove the scanner power supply. See **“Scanner power supply removal” on page 4-58**.
3. Remove the 7 screws (A) securing the power box shield to the printer frame.



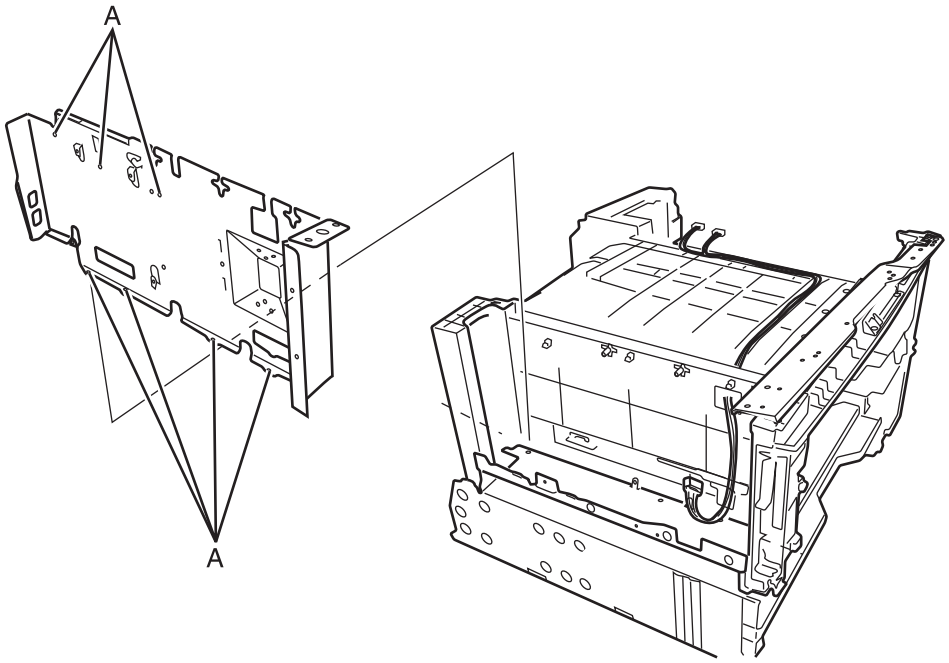
4. Disconnect the theta sensor harness from the theta sensor.
5. Remove the one screw (B) securing the theta sensor mounting plate to the printer frame.



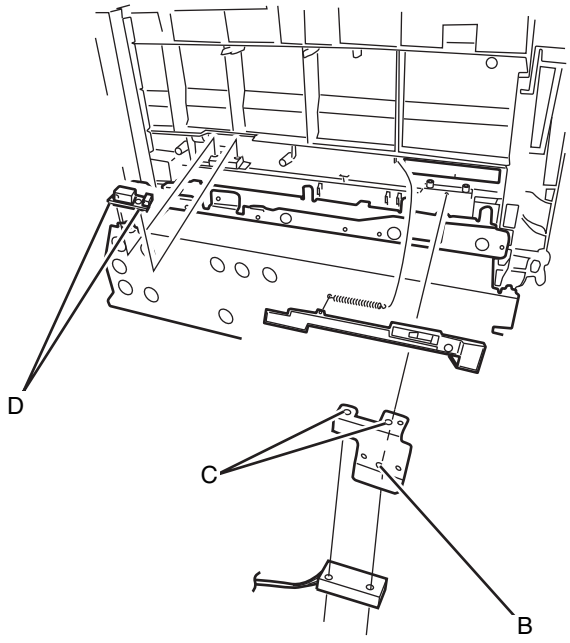
6. Remove the two screws (C) securing the theta sensor to the mounting plate.

Density sensor removal

1. Remove the LVPS. See **“Low volt power supply removal” on page 4-50**.
2. Remove the scanner power supply. See **“Scanner power supply removal” on page 4-58**.
3. Remove the 7 screws securing the power box shield to the printer frame.

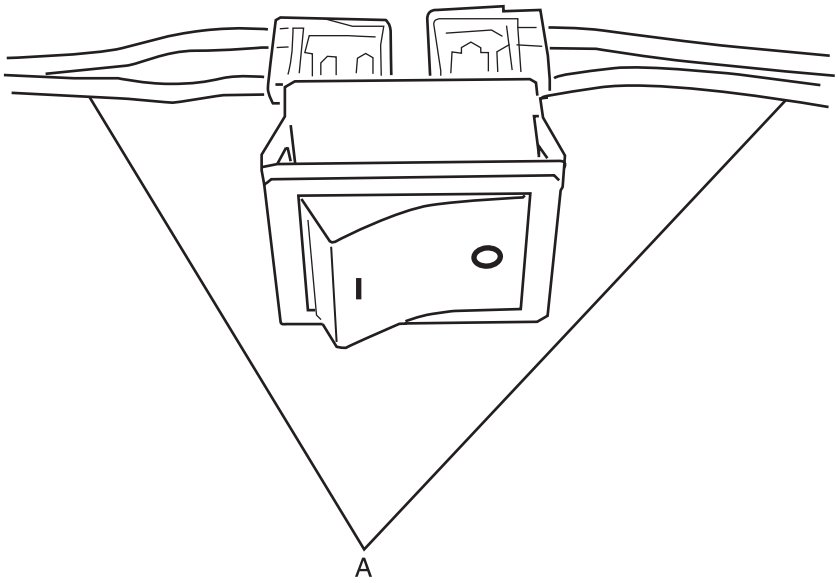


4. Disconnect the density sensor harness from the density sensor.
5. Remove the two screws (D) fastening the density sensor to the frame.



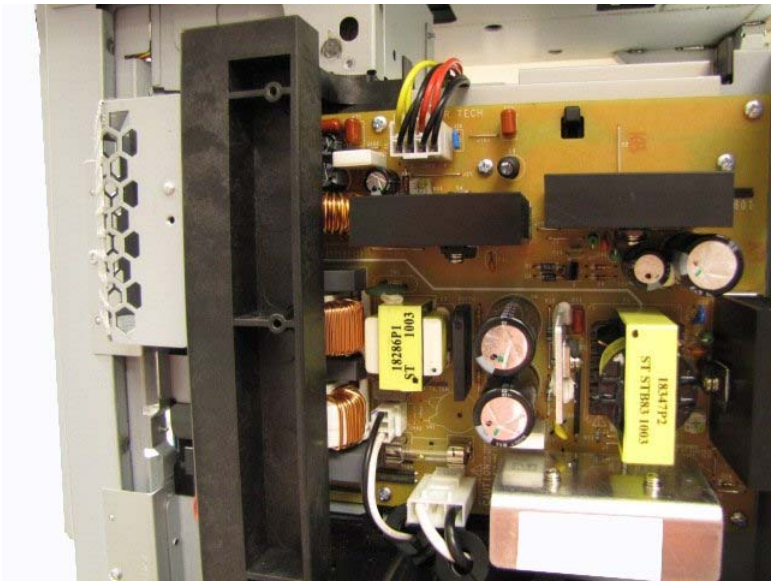
Main switch

1. Remove the main power switch cable.
2. Disconnect both harnesses (A) from the power switch.

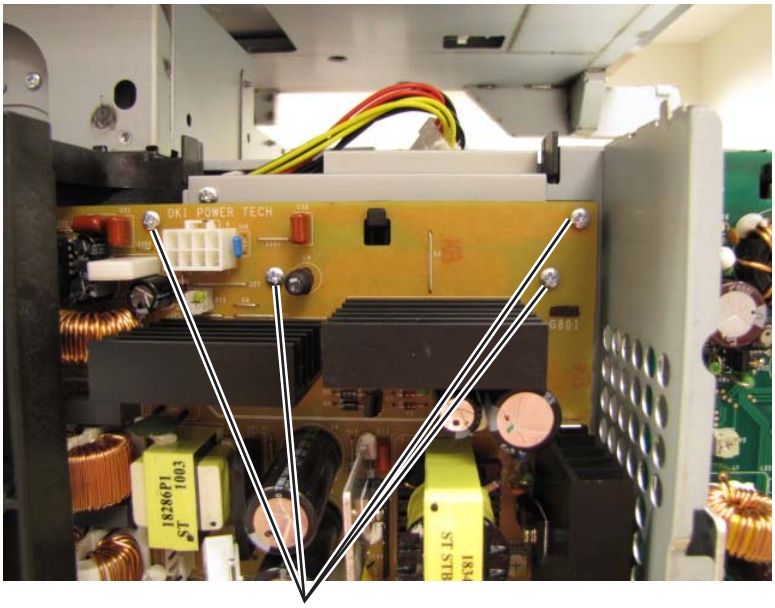


Scanner power supply removal

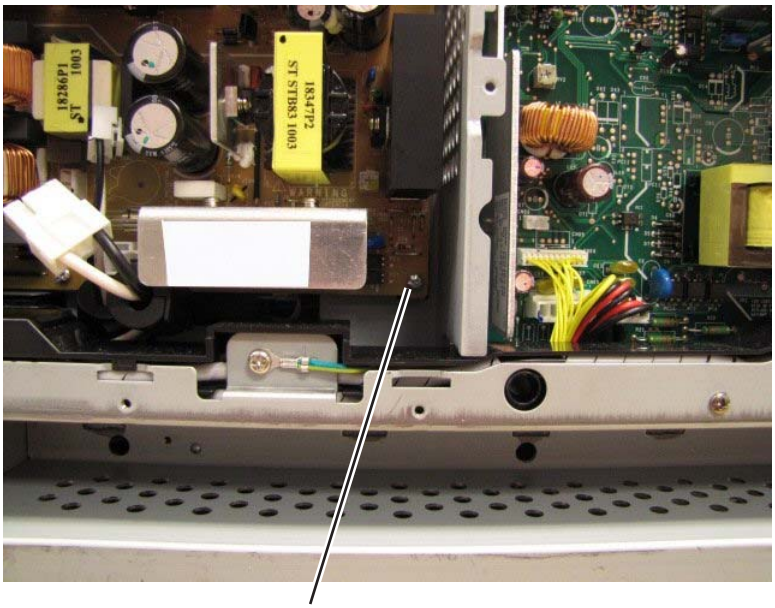
1. Remove the left cover
2. Remove the left EMI shield.
3. Disconnect the three cables from the scanner power supply.



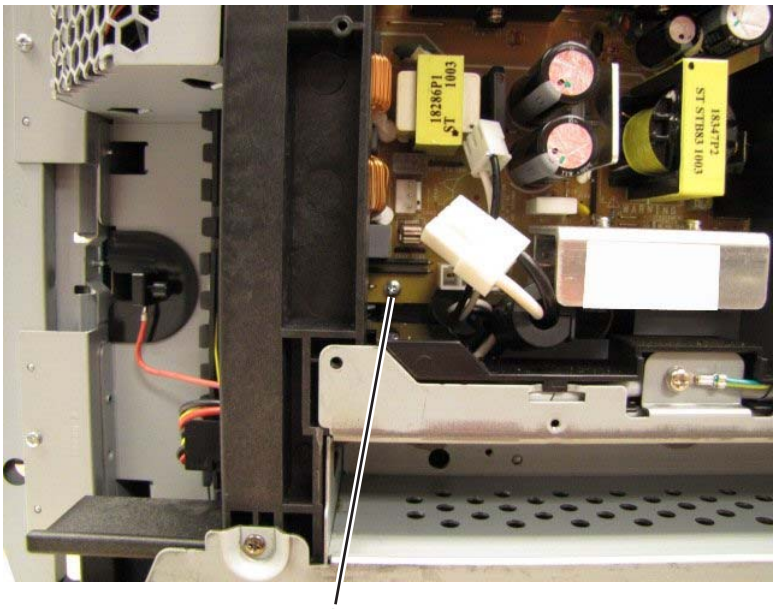
4. Remove the four screws (A) from the top of the scanner power supply.



5. Remove the screw (B) from the lower right corner of the scanner power supply.



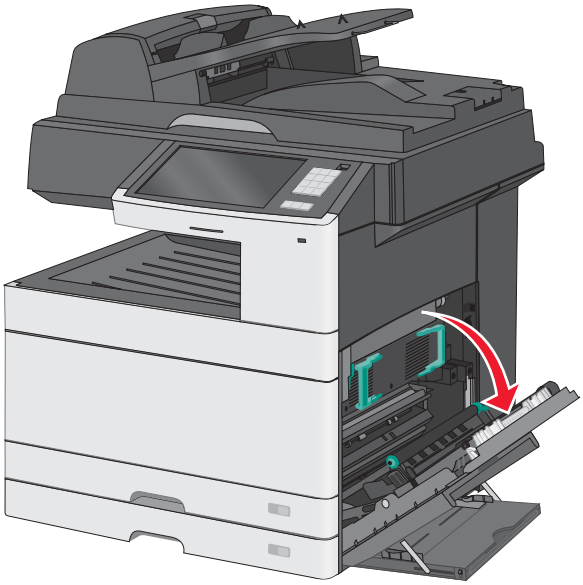
6. Remove the screw (C) from the lower left corner of the scanner power supply.



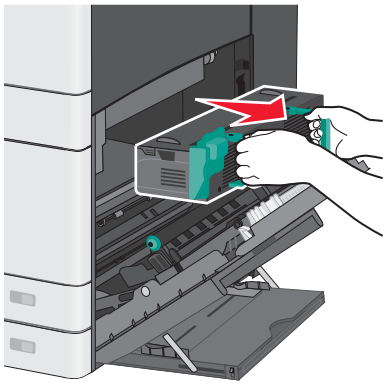
Right side removals

Fuser removal

1. Open the right side door.

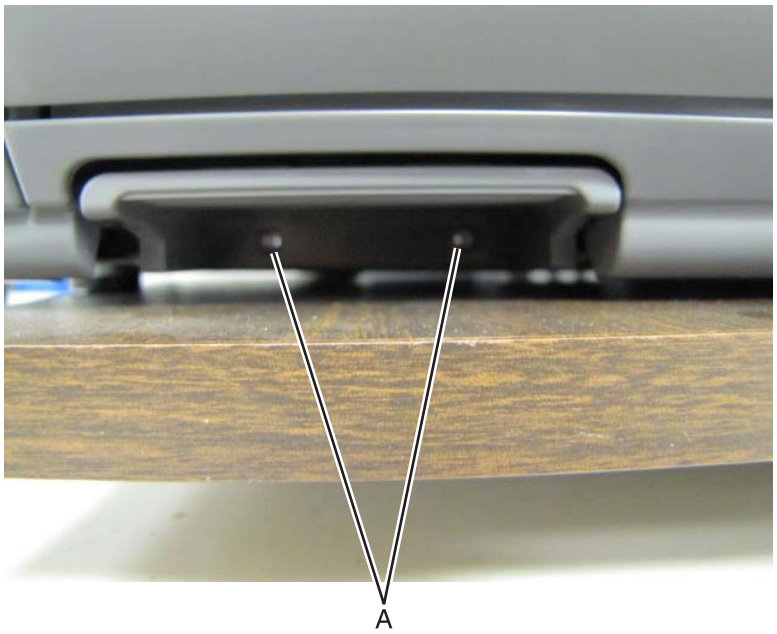


2. Grab the handles on the fuser and gently pull the fuser out of the print engine.



Handle cover removal

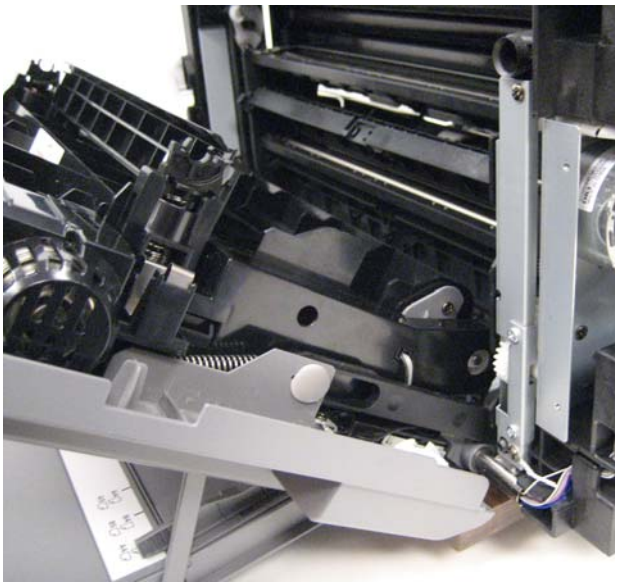
1. Remove the two screws (A) securing the handle covers to the printer frame.



2. Remove the handle cover.

Duplex removal

1. Remove the high voltage power supply.
2. Remove the handle covers. See **"Handle cover removal" on page 4-62**.
3. Open the right cover, and remove the transfer roll.
   Warning: Avoid damaging the transfer roll.

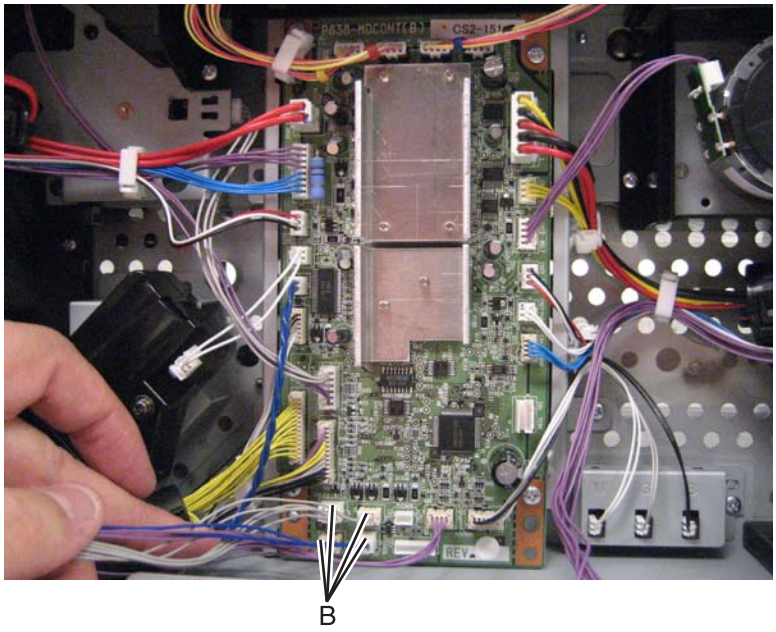


4. While holding the right cover, lift the duplex unit.

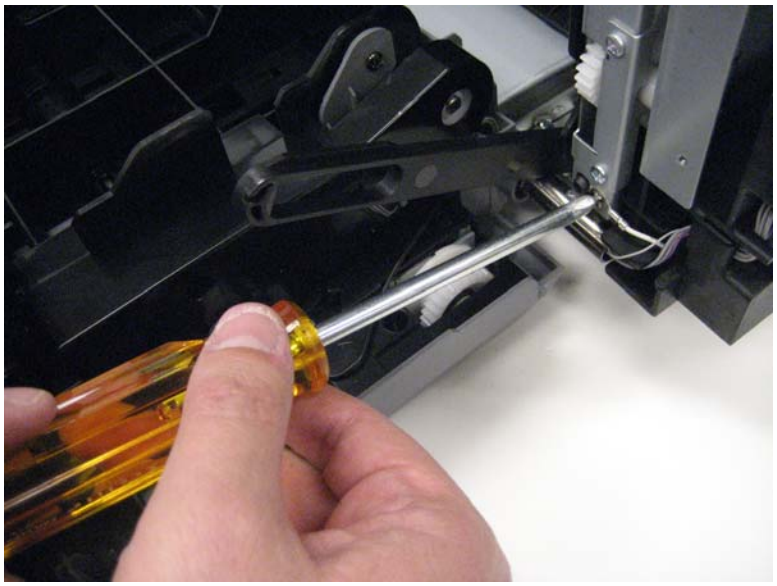
5. Disconnect the two springs from the right cover.

6. Disconnect the left and right link arms from the duplex pin covers on the right cover.

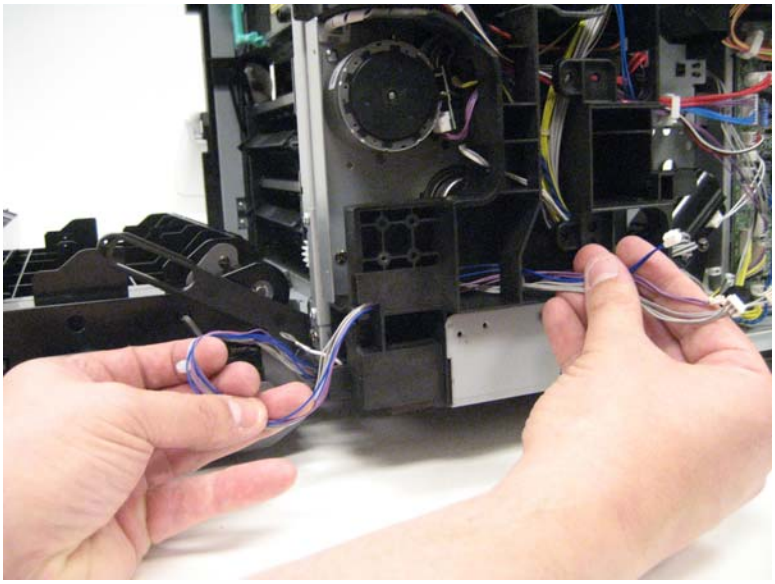
7. Disconnect the duplex clutch and sensor cables from the connectors (B) on the engine controller board.



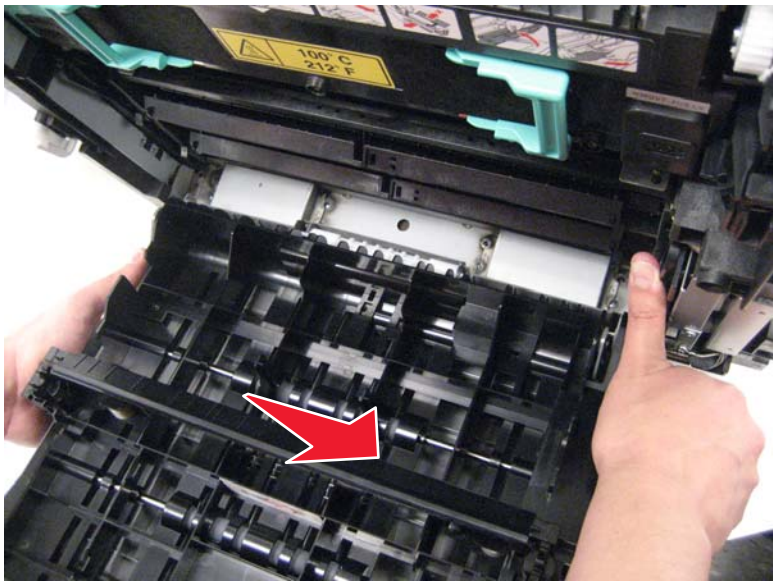
8. Disconnect the duplex ground wire from the frame.



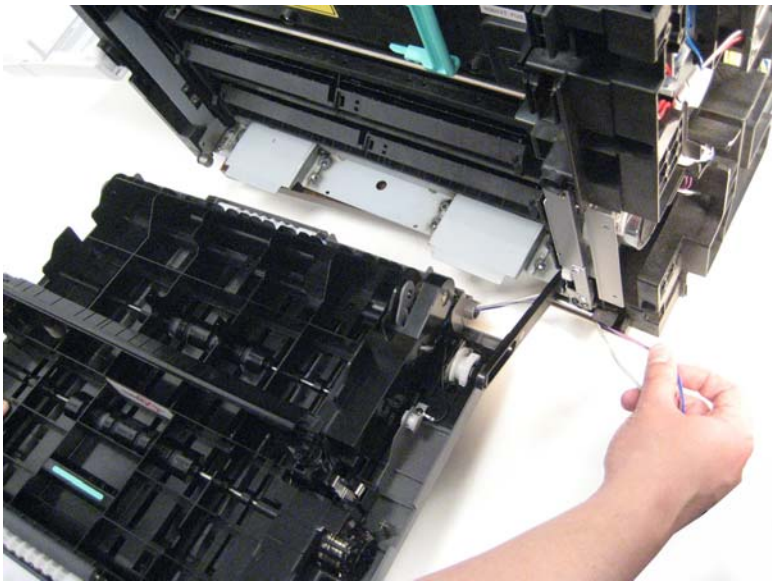
9. Route the duplex cables through the frame.



10. Slide the duplex to the right, freeing it from the left hinge.



11. Pull the duplex away from the printer while carefully routing the cables through the right hinge on the printer.

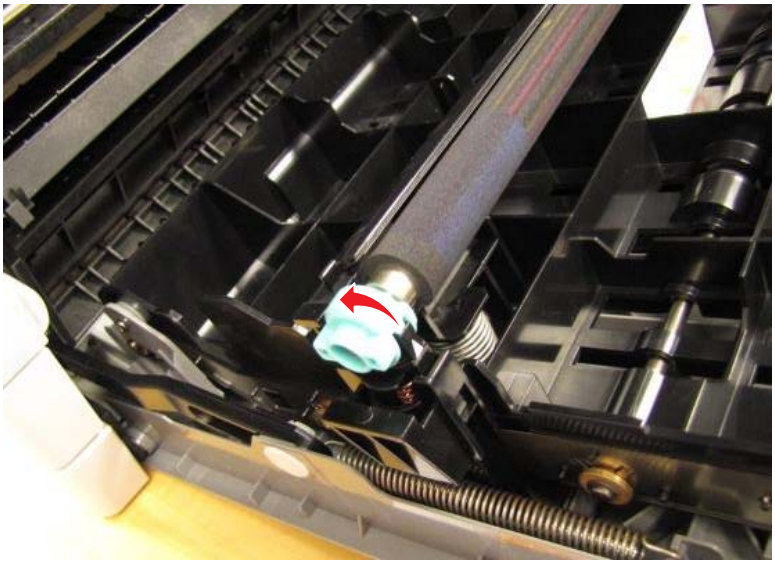


12. Remove the screws securing the duplex unit to the right cover.

Note: See **"Duplex unit component removals" on page 4-162** for instructions to remove the duplex sub-components.

Transfer Roll - CRU

1. Open the right side cover / duplex unit.
2. Turn the transfer roll fasteners to the unlocked position.



Rear removals

RIP board removal

Warning: Observe all ESD precautions while handling electrostatic-discharge sensitive parts. See **"Handling ESD-sensitive parts" on page 4-1**.

Warning: When replacing any one of the following components:

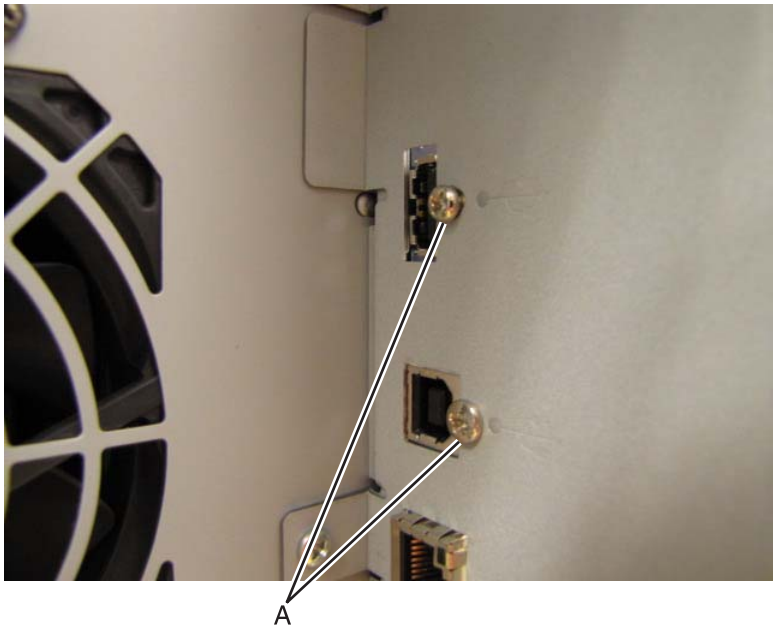
- Operator panel (UICC) assembly
- Controller (RIP) board

Replace only 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 both of the components listed above without a POR after installing each one, or the printer will be rendered inoperable.

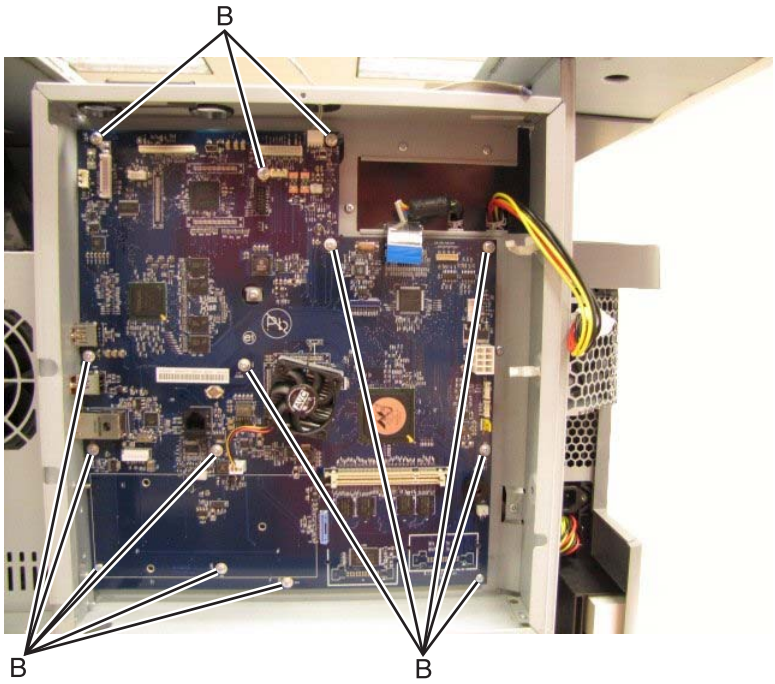
Warning: Never install and remove components listed above as a method of troubleshooting components. **Once a component has been installed in a printer, it cannot be used in another printer. It must be returned to the manufacturer.**

CAUTION - POTENTIAL INJURY: There is danger of explosion if a lithium battery is incorrectly replaced. Replace it only with the same or an equivalent type of lithium battery. Do not recharge, disassemble, or incinerate a lithium battery. Discard used batteries according to the manufacturer's instructions and local regulations.

1. Remove the RIP cover. See **"RIP cover" on page 4-5**.
2. Disconnect all the cables from the board.
3. Remove any ISP options that are installed.
4. Remove the modem. See **"Modem removal" on page 4-84**.
5. Remove the two screws (A) securing the USB ports to the RIP cage.

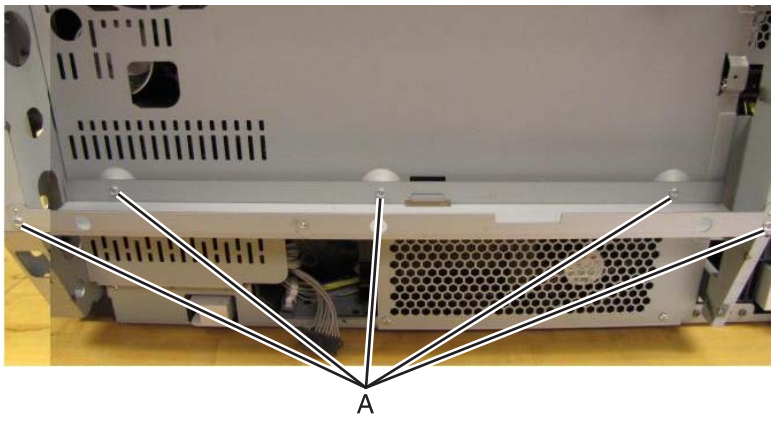


6. Remove the fourteen screws (B) securing the RIP board to the RIP cage.



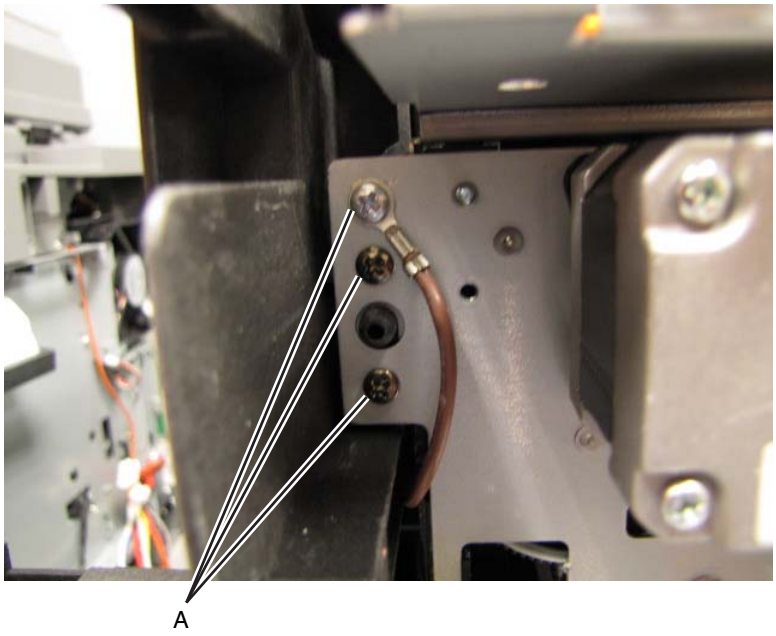
Crossbar removal (not a FRU)

1. Remove the RIP cage.
2. Remove the five screws (A) securing the cross bar to the rear EMI shield and the vertical scanner supports.

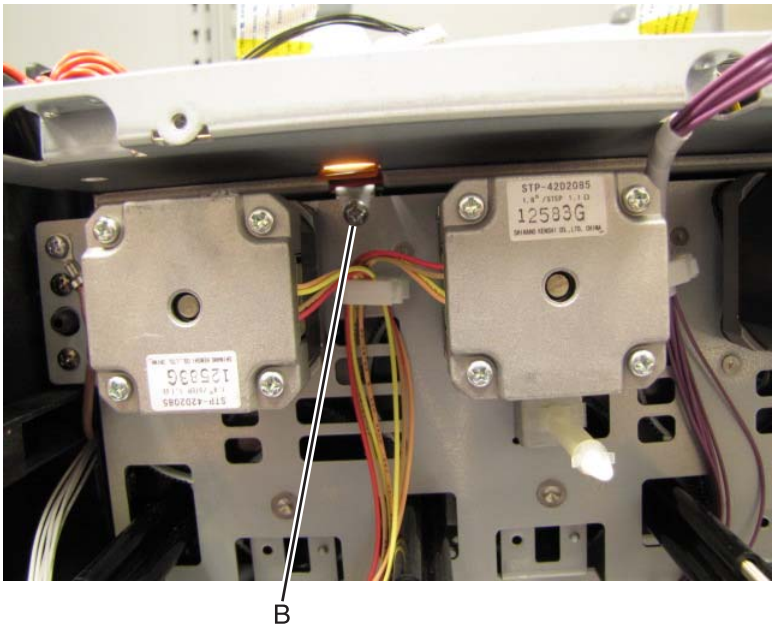


Drive unit

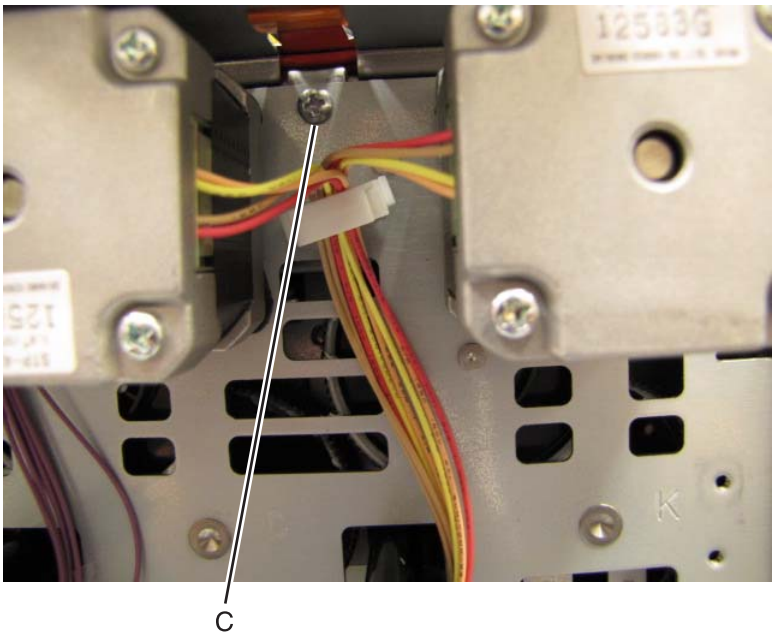
1. Remove the plastic drive unit cover.
2. Disconnect the drive motor wiring harnesses from the engine board.
3. Remove the three screws (A) in the upper left corner.



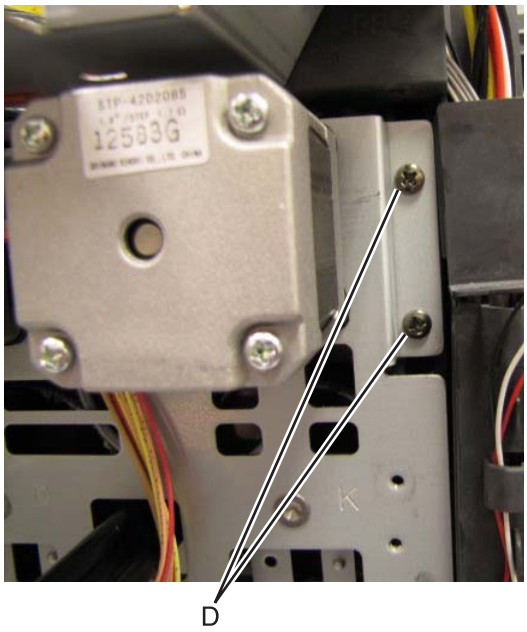
4. Remove the screw (B) between the two leftward motors.



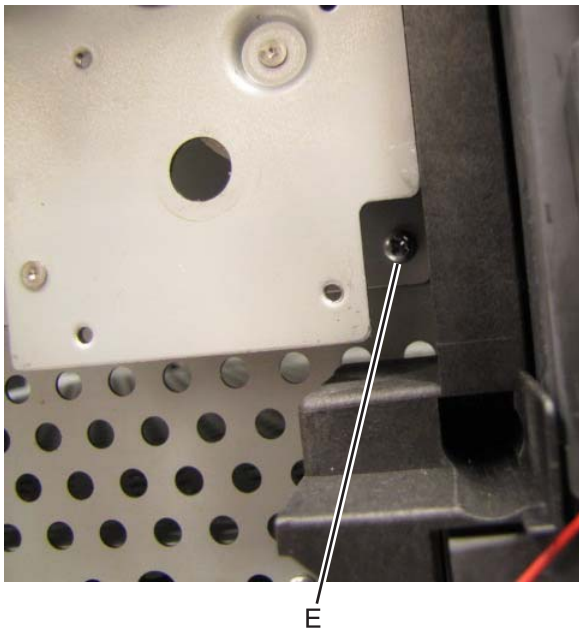
5. Remove the screw (C) between the two rightward motors.



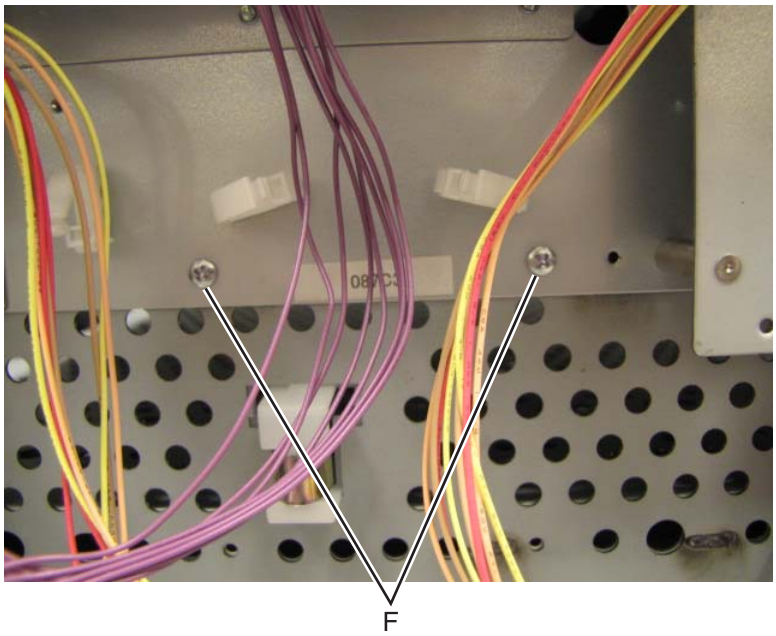
6. Remove the two screws (D) in the upper right corner.



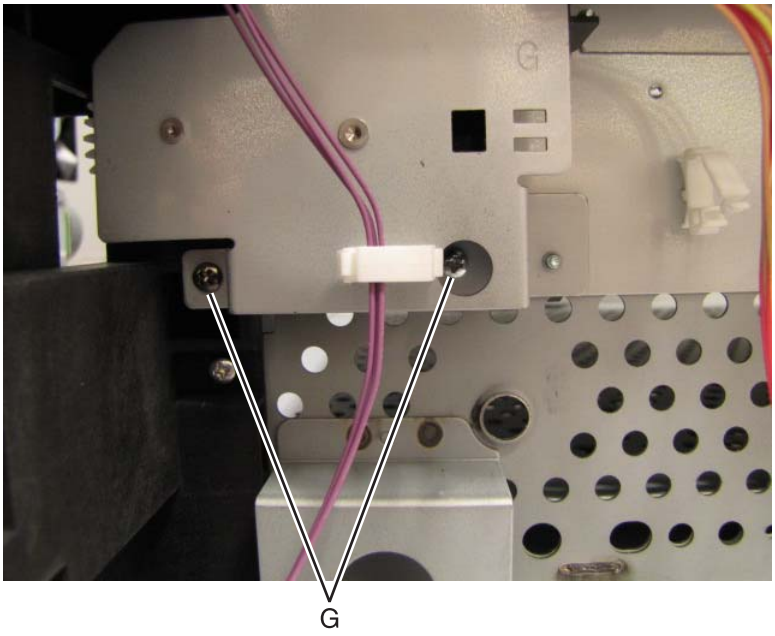
7. Remove the screw (E) in the lower right corner.



8. Remove the two screws (F) in the center bottom of the drive unit.



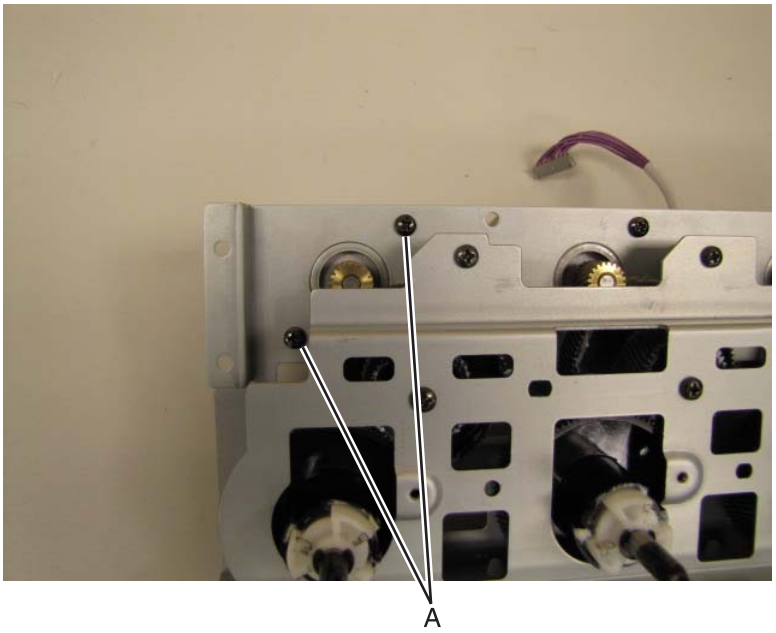
9. Remove the two screws in the lower left corner.



Drive unit motor C/M/Y/K

Note: All four motors use this procedure.

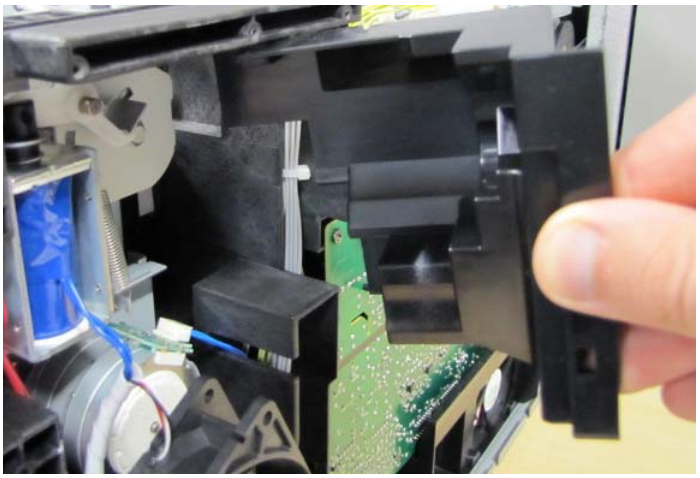
1. Remove the drive unit.
2. Place the drive unit with the motors down on a table.
3. Remove the two screws (A) securing the motor to the drive unit.



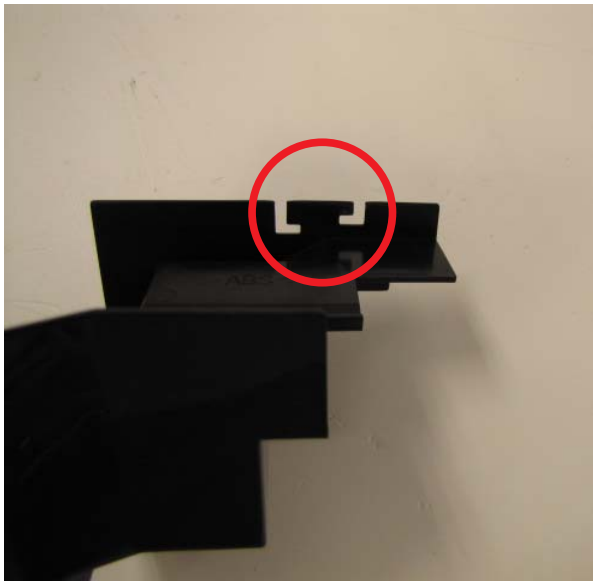
Note: Note: When replace the drive motor, be careful to not damage the gears in the drive unit with the metal gear on the motor.

Sub drive unit removal

1. Open the right cover and remove the fuser.
2. Remove the rear cover. See **“Rear cover” on page 4-7**.
3. Remove the top cover. See **“Output bin (print engine top) cover” on page 4-17**.
4. Remove the rear EMI shield. See **“Rear EMI shield – Not a FRU” on page 4-96**.
5. Remove the HVPS.
6. Remove the rear engine board fan.
7. Remove the op panel paper exit guide. See **“Op panel paper exit guide removal” on page 4-31**.
8. Remove the paper exit guide. See **“Paper exit guide removal” on page 4-32**.
9. Remove the fuser fan from the fuser duct. This part does not need to be removed from the machine.
10. Remove the black fuser duct. This is not a FRU.

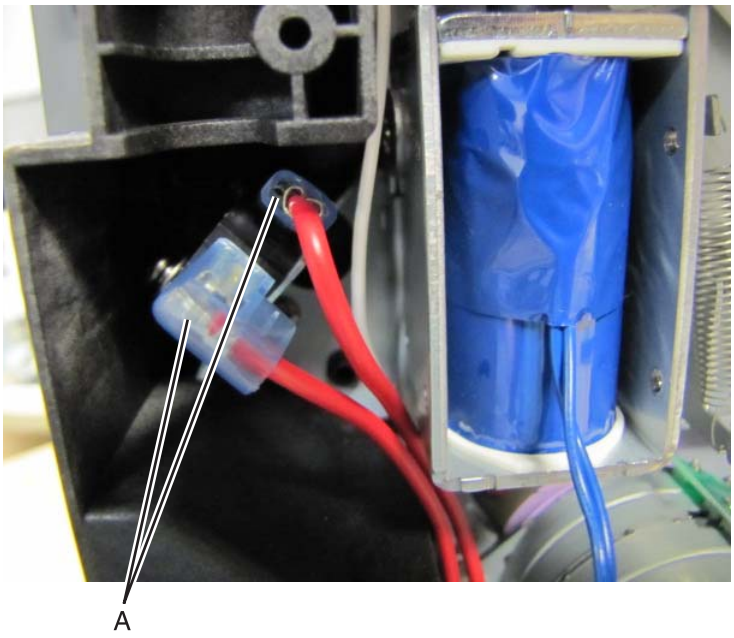


Note: You will need to route the bin full and exit sensor cables around the tab on top of the duct when reinstalling.

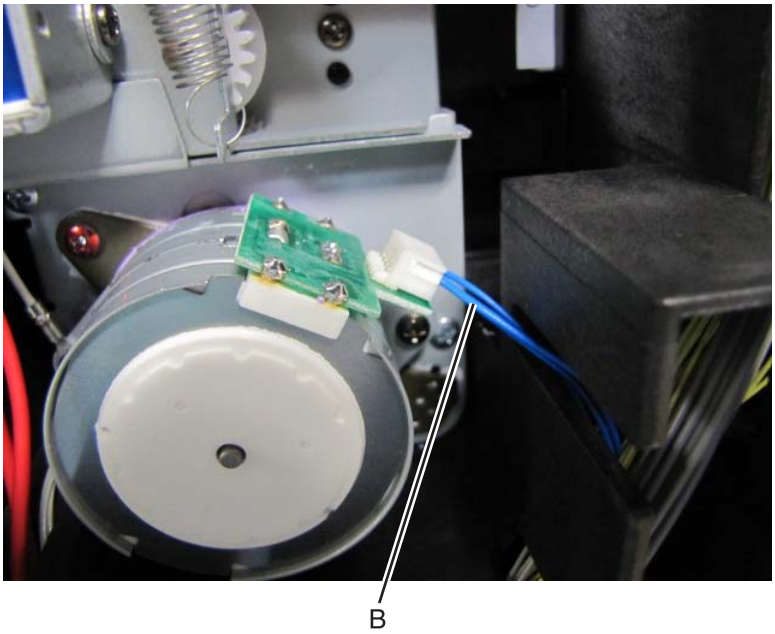


11. Disconnect the duplex solenoid cable from CN10 on the engine board.

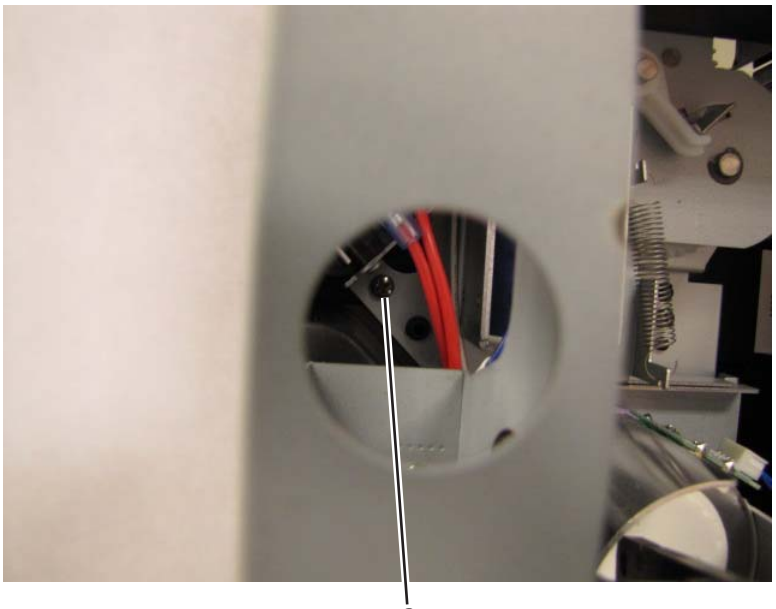
12. Disconnect the cables (A) from the blade connectors on the interlock switch.

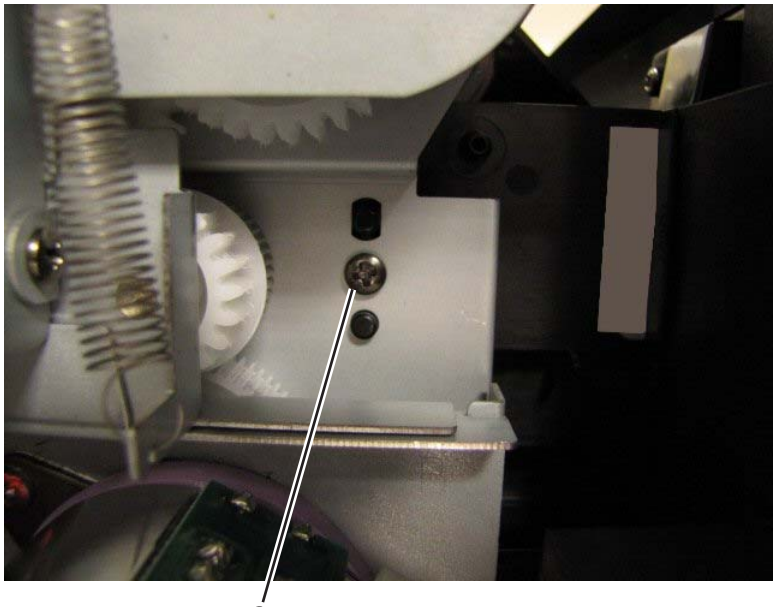


13. Disconnect the fuser / paper exit motor cable (B).



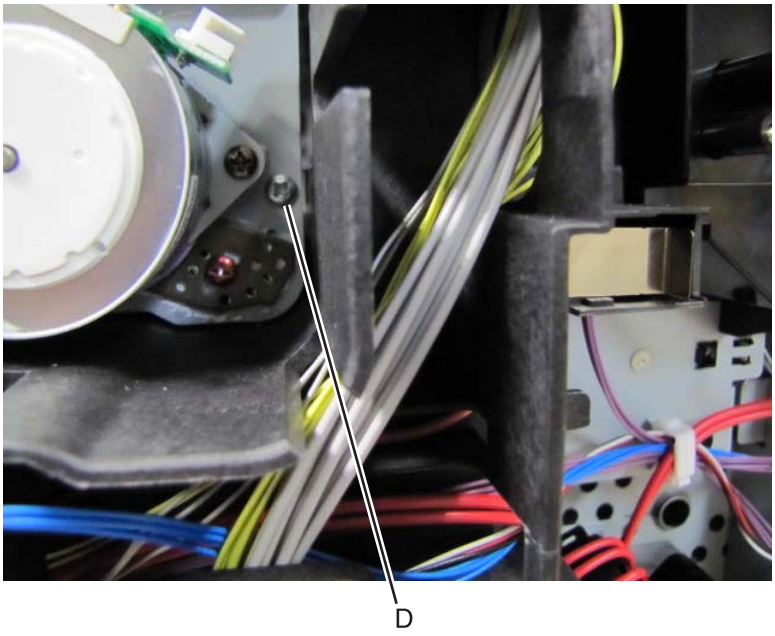
14. Using a long shaft screwdriver, remove the two black plastite screws (C) securing the sub drive cover to the sub drive unit.



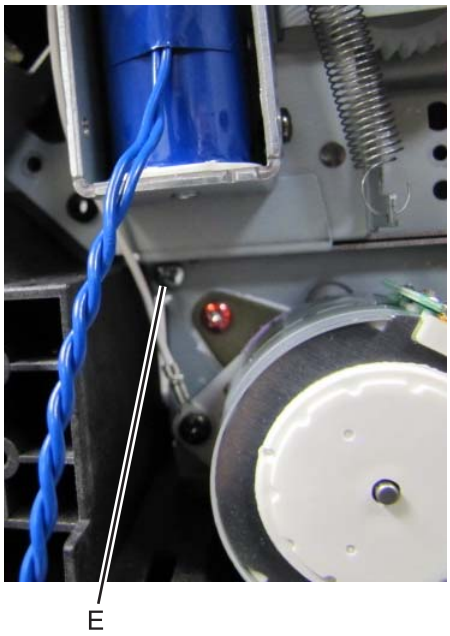


15. Remove the black plastic sub drive cover.

16. Remove the screw (D) at the bottom of the sub drive unit.

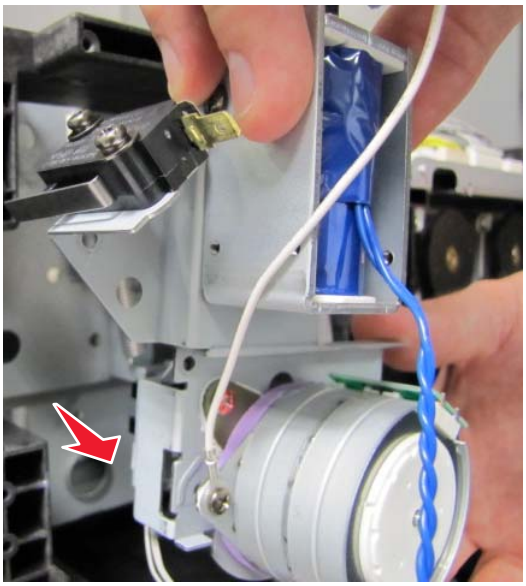


17. Remove the screw (E) at the middle of the sub drive unit above the fuser / paper exit motor.



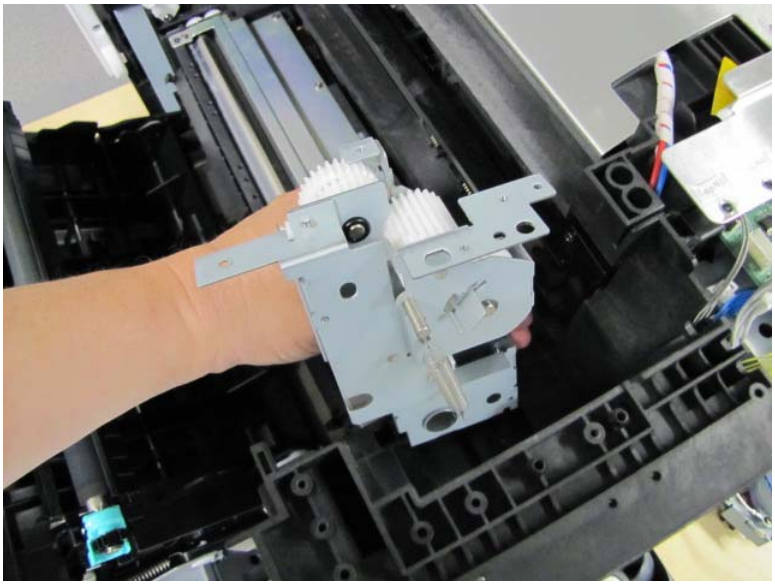
18. Remove the screw (F) at the top of the sub drive unit.
Note: If you are replacing the unit, place the ground wire on the new unit.

19. Pull the portion of the unit with the motor, and sensors out of the machine.



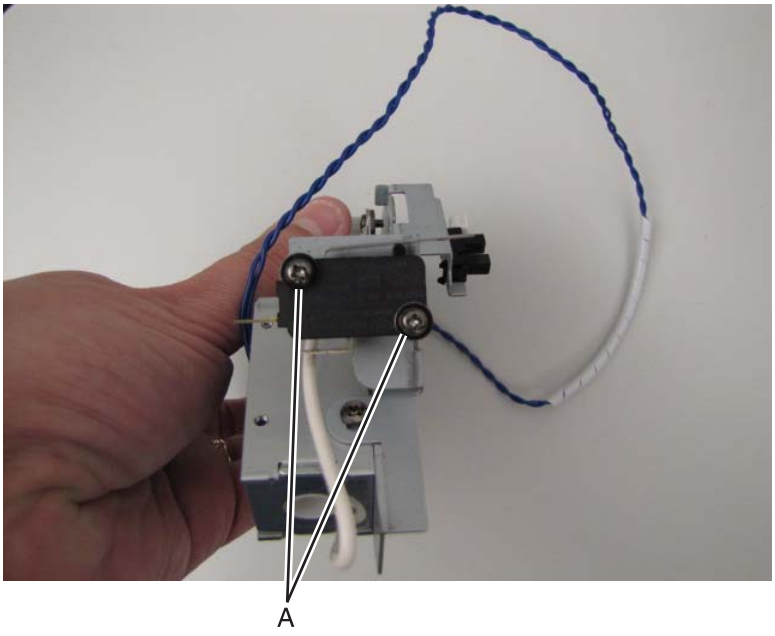
20. Disconnect the fuser entry sensor cable.

21. Lift and remove the gear train portion of the sub drive unit out of the printer.



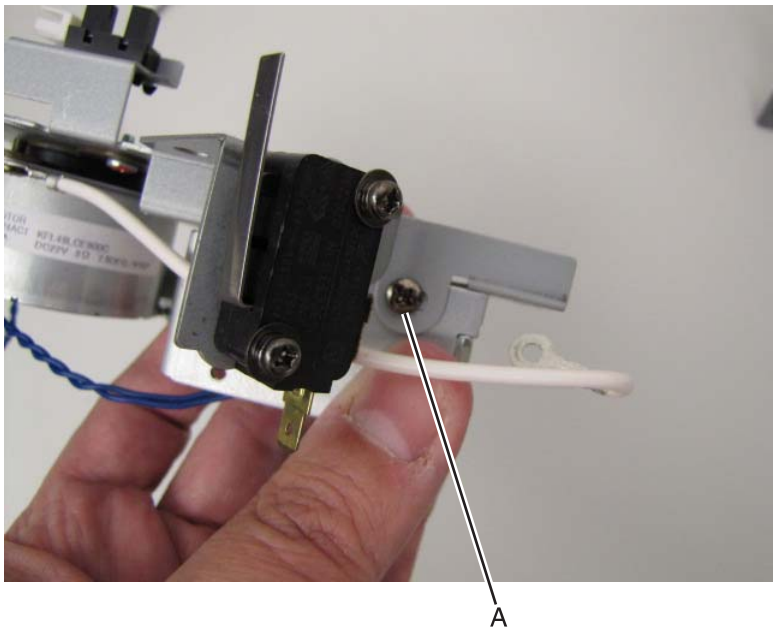
Door interlock switch removal

1. Remove the sub drive unit. See **“Sub drive unit removal” on page 4-74**.
2. Remove the two screws (A) securing the door interlock switch to the sub drive unit.

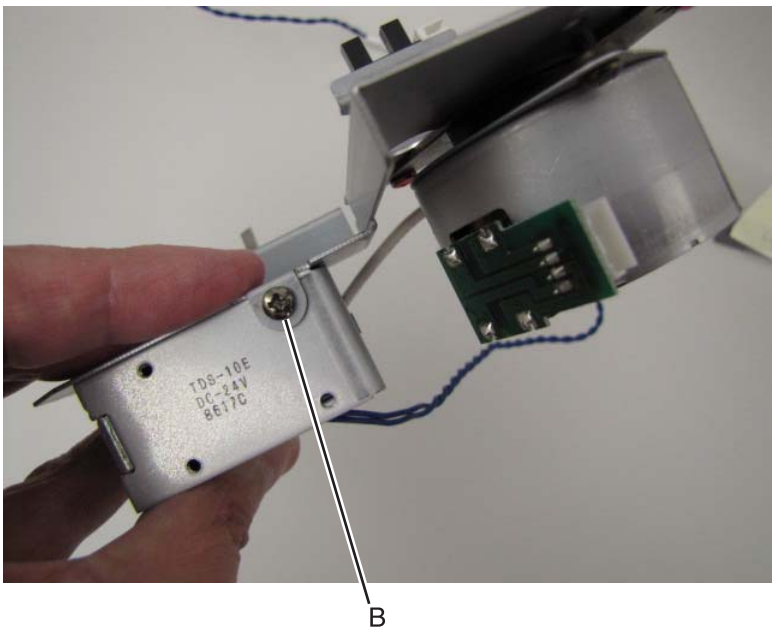


Duplex solenoid removal

1. Remove the sub drive unit. See **"Sub drive unit removal" on page 4-74**.
2. Remove the left screw (A) securing the solenoid to the sub drive unit.

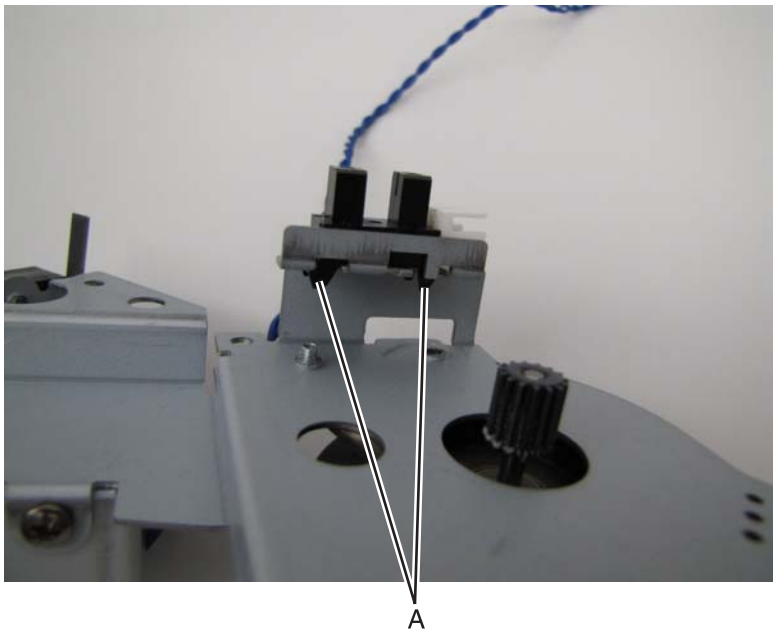


3. Remove the right screw (B) securing the solenoid to the sub drive unit.



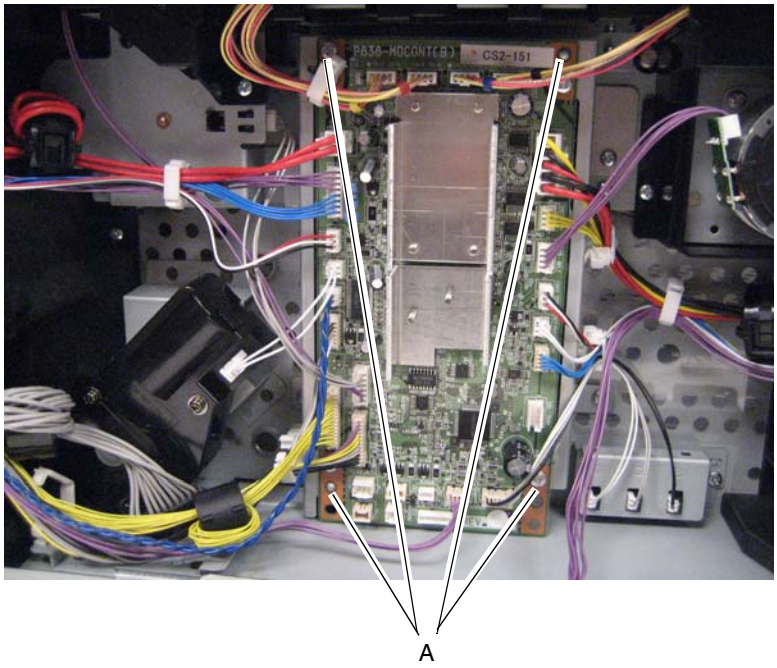
Fuser entry sensor removal

1. Remove the sub drive unit. See **“Sub drive unit removal” on page 4-74**.
2. Depress the tabs (A) fastening the fuser entry sensor to the sub drive unit.



Engine board (MDCONT)

1. Remove HVPS. See **"HVPS removal" on page 4-101**.
2. Remove the rear fan.
3. Disconnect the cables from the board.



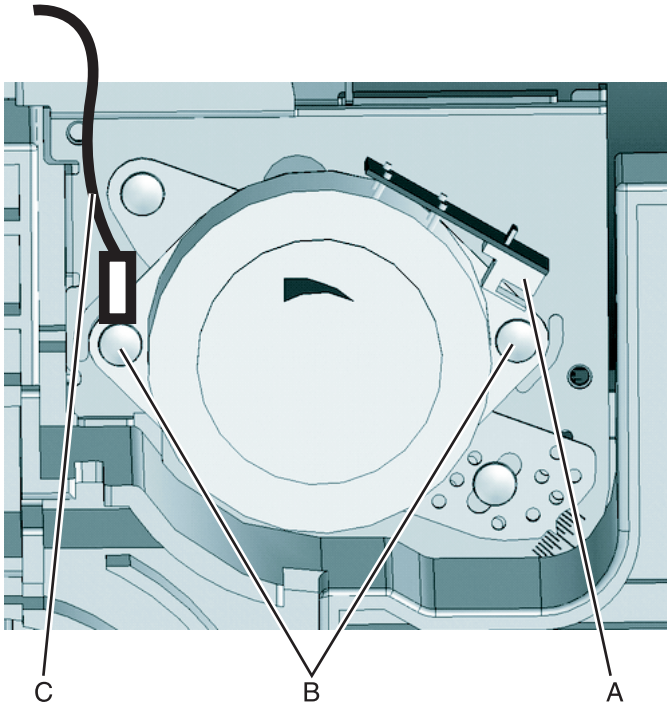
4. Remove the four screws (A) securing the board to the bracket.

Fuser Fan

1. Remove the rear EMI shield.See **"Rear EMI shield – Not a FRU" on page 4-96**.
2. Remove the fuser duct.
3. Remove the HVPS. See **"HVPS removal" on page 4-101**.
4. Remove the rear fan. See **"Rear fan" on page 4-92**.
5. Disconnect the fuser fan cable from CN21 the engine controller board.
6. Remove the fuser fan.
   Note: Make sure the rating label is facing outward when reinstalling the fan.

Fuser exit drive unit motor removal

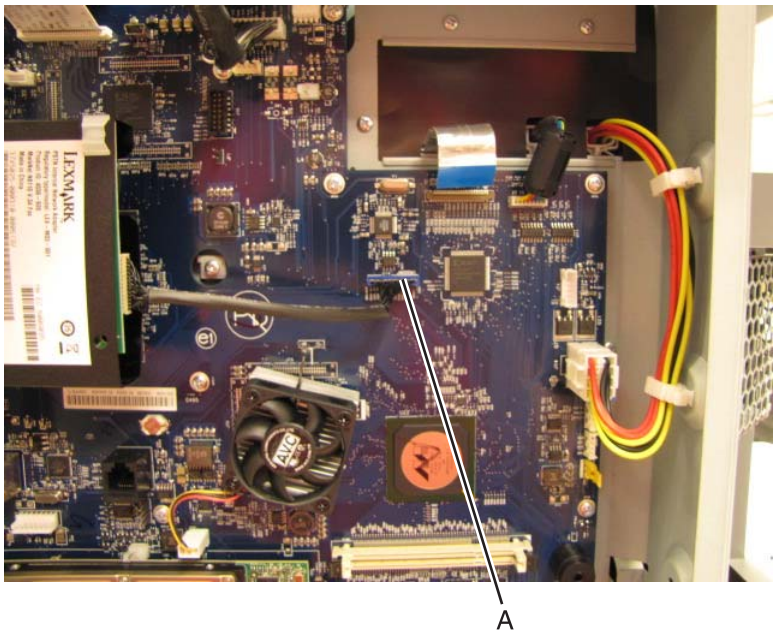
1. Remove the rear EMI shield.See **“Rear EMI shield – Not a FRU” on page 4-96**.
2. Disconnect the cable from the connector (A) exit drive unit motor.



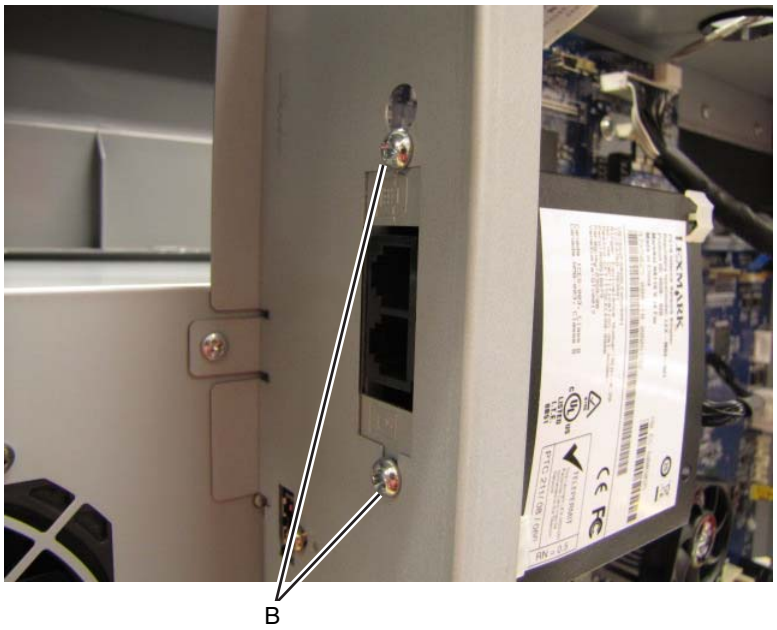
3. Remove the two screws (B) that secure the exit drive unit motor to the fuser motor damper.
   Note: The ground wire (C) is connected with one of the screws. Be sure to replace the ground wire when replacing the motor.

Modem removal

1. Disconnect the modem cable (A) from CN U14 on the RIP board.



2. Loosen the two screws (B) that secure the modem to the RIP cage.

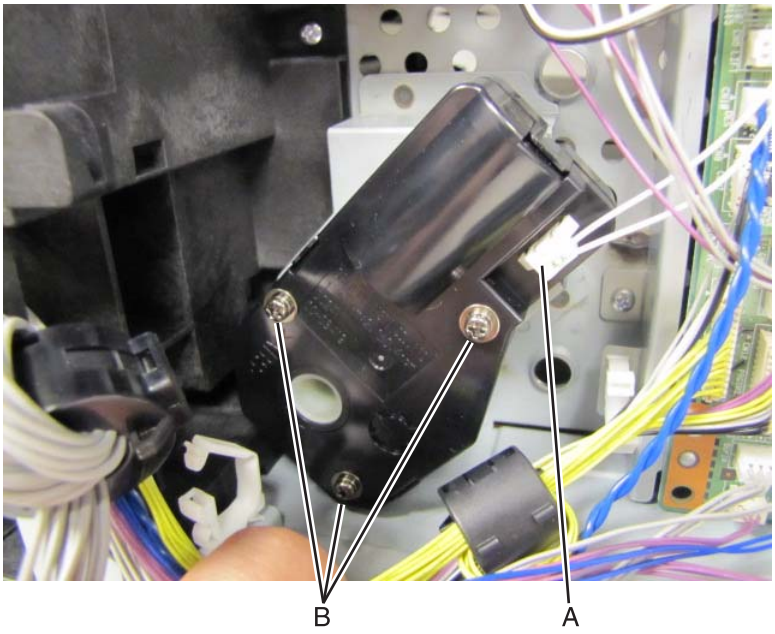


3. Pull the modem up and inward to remove it from the cage.

Papertray lift motor removal

1. Remove the HVU. See **“HVPS removal” on page 4-101**.
2. Remove the rear fan. See.**“Rear fan” on page 4-92**.

3. Disconnect the cable (A) from the DC Geared motor.

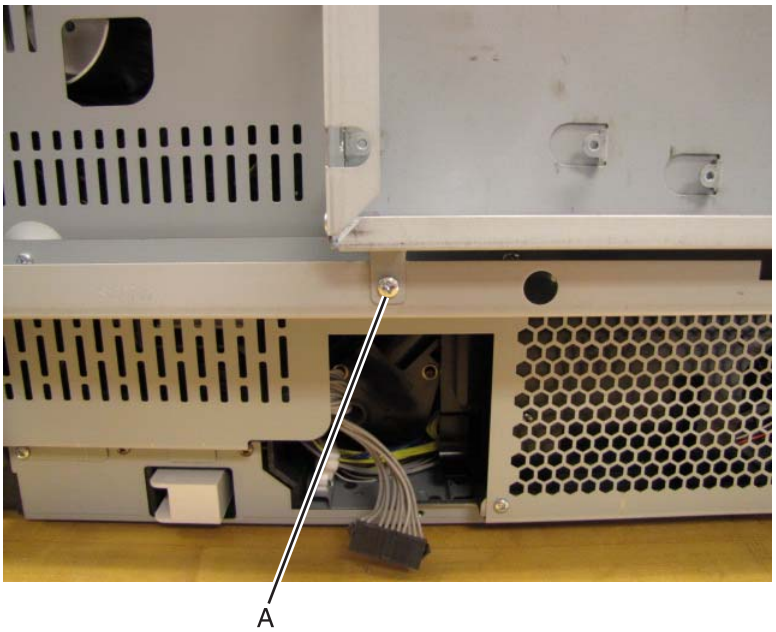


4. Remove the three screws (B) securing the paper tray lift motor to the frame.

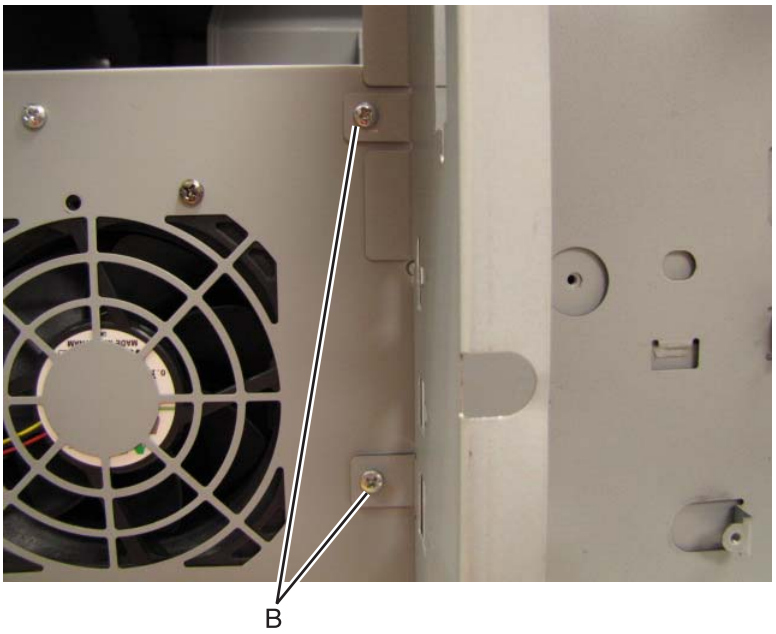
RIP cage removal

Note: The RIP board does not need to be removed to perform this procedure.

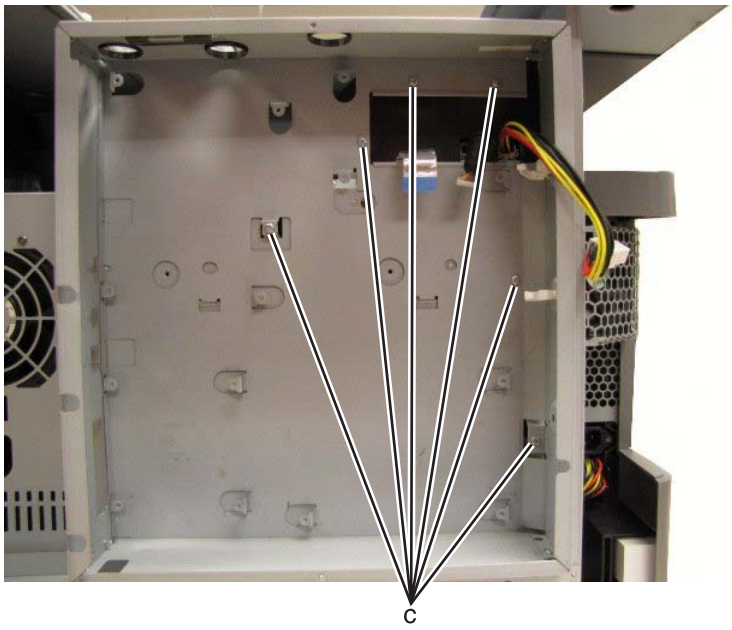
1. Remove the rear cover. See **"Rear cover" on page 4-7**.
2. Disconnect all the cables from the RIP board.
3. Remove the screw (A) securing the bottom of the RIP cage to the rear EMI shield and crossbar.



4. Remove the two screws (B) securing the upper left corner of the RIP cage to the EMI shield.

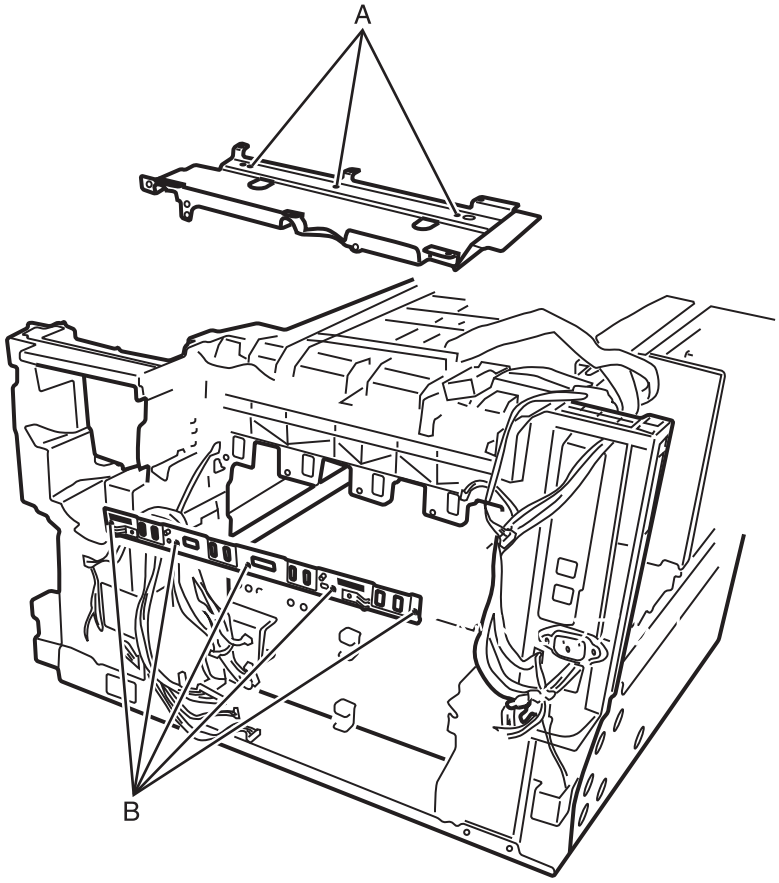


5. Remove the six screws (C) on the inside of the RIP cage.



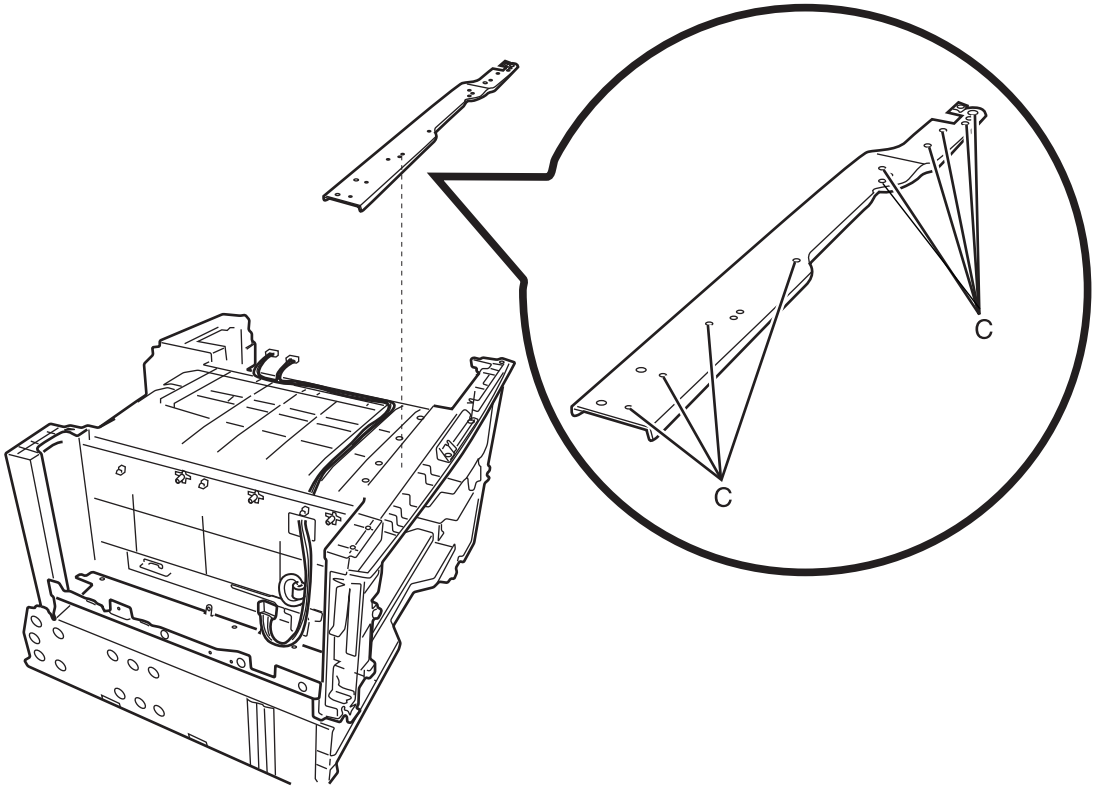
Toner sensor removal

1. Remove the drive unit. See **“Drive unit” on page 4-70**.
2. Remove the printhead controller board.**“Printhead controller board removal” on page 4-36**.
3. Remove the three screws (A) securing the board stay to the printer frame.



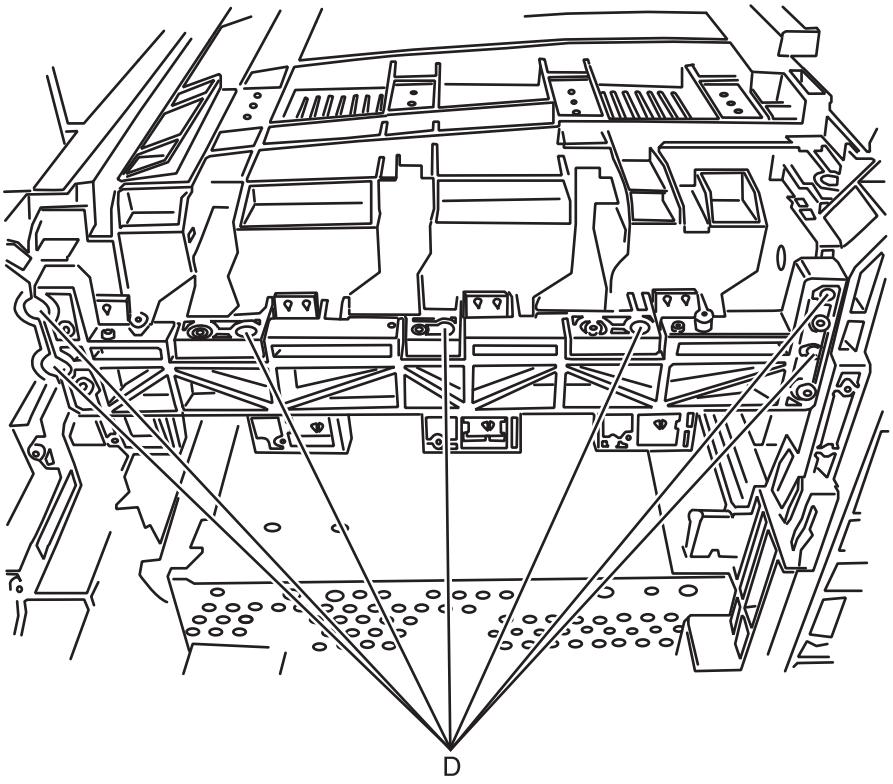
4. Remove the five screws (B) securing the head pin plate to the printer frame.

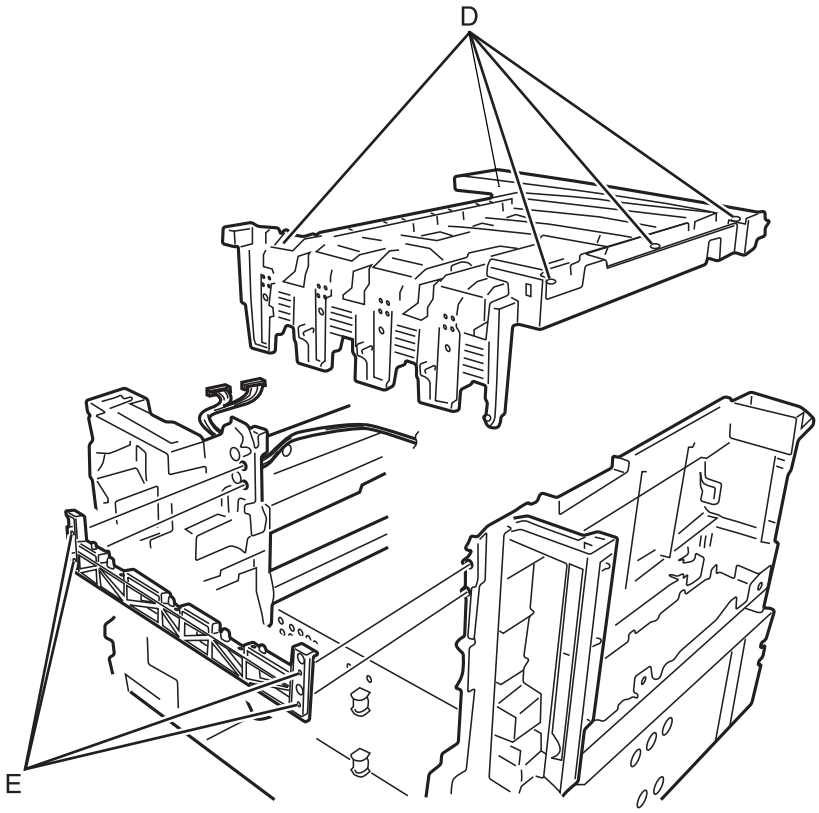
5. Remove the ten screws (C) securing the top support rail (not a FRU) to the top frame.



6. Remove the four printhead assemblies. See **“LED assembly removal” on page 4-29**.

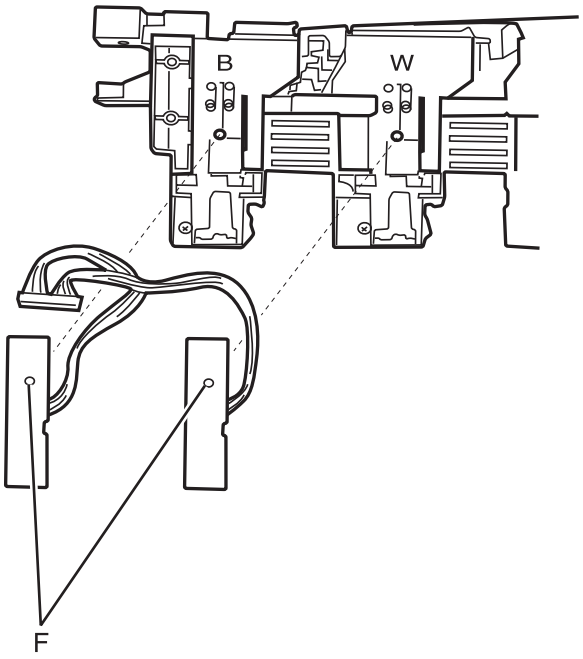
7. Remove the twelve screws (D) securing the top frame to the printer.





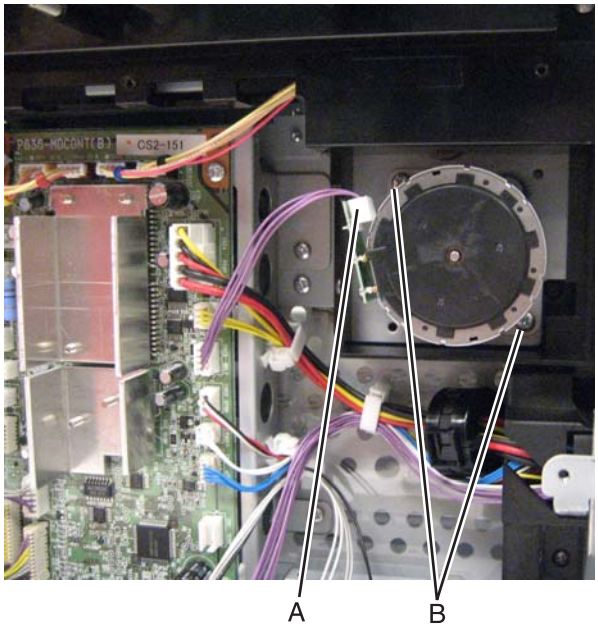
8. Remove the four screws (E) securing the plastic body back to the left and right printer frames.

9. Remove the screws (F) securing the toner sensors to the top frame.



Transfer belt motor removal

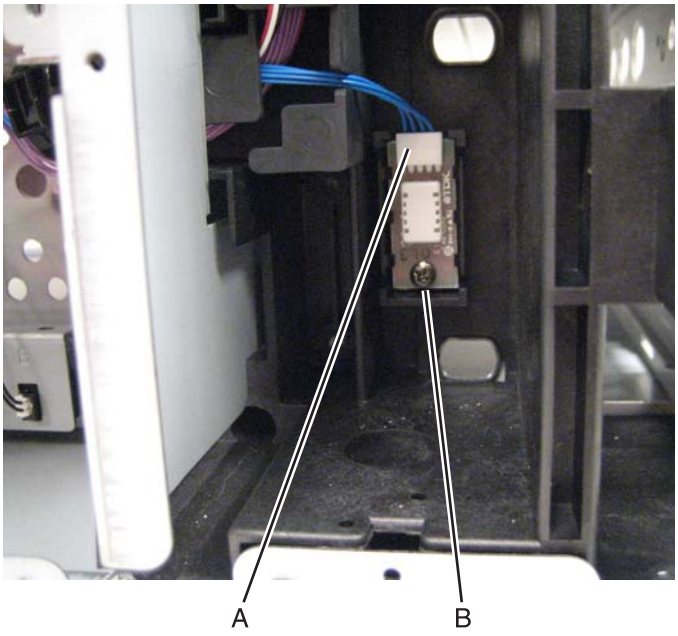
1. Remove the HVPS.
2. Disconnect the motor harness (A) from the transfer belt.



3. Remove the two screws (B) securing the motor to the frame.

Temperature and humidity sensor removal

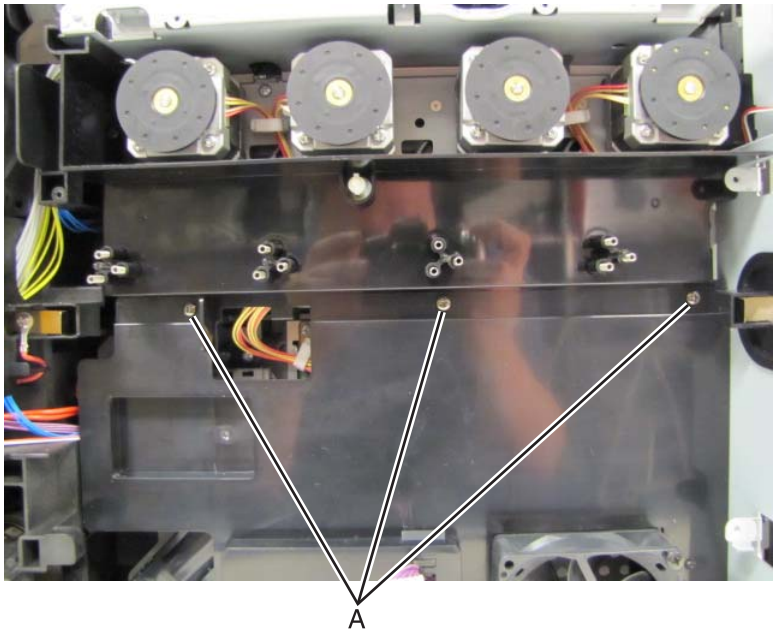
1. Remove the rear cover. The sensor will be located to the right side of the right rear scanner support.
2. Disconnect the sensor cable (A) from the sensor.



3. Remove the screw (B) securing the sensor to the printer frame.

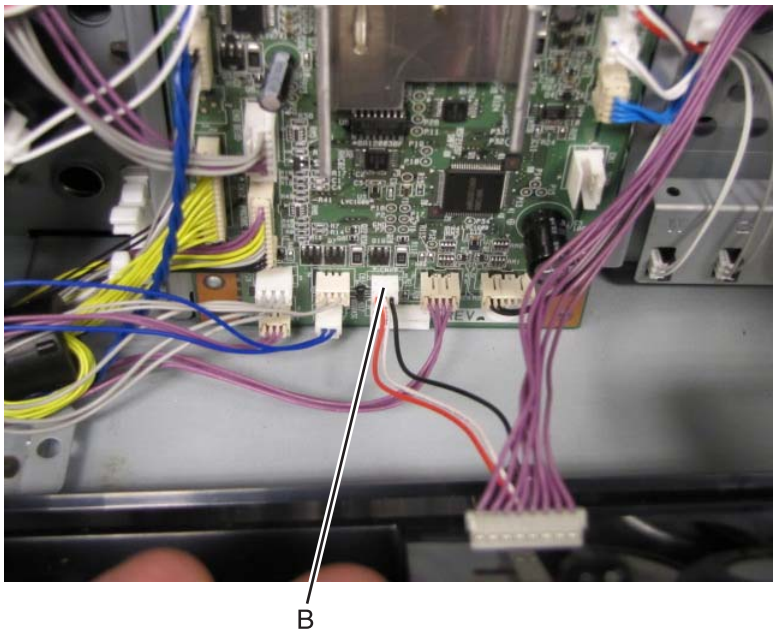
Rear fan

1. Remove the high volt power supply. See **“HVPS removal” on page 4-101**.
2. Remove the three screws (A) securing the fan mounting duct to the printer.



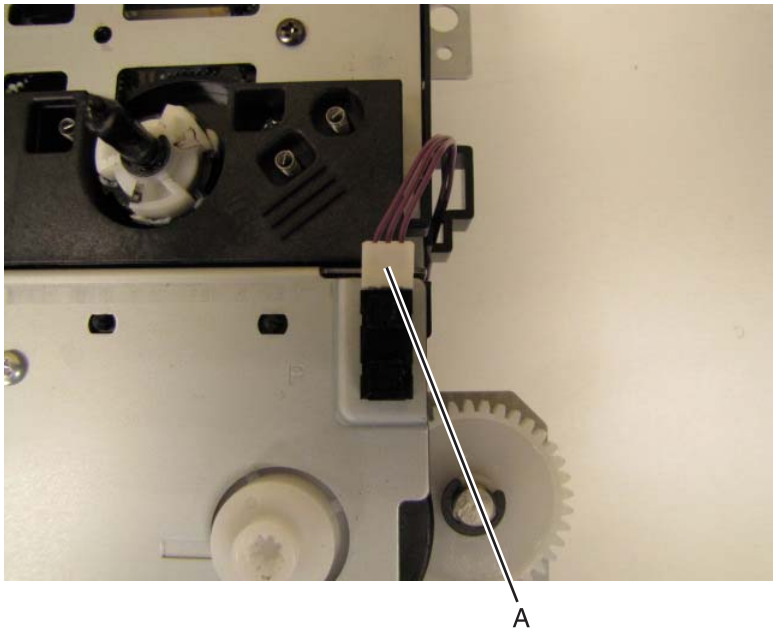
3. Route the high volt power supply cable the fan mounting duct.

4. Disconnect the fan cable (B) from the MDCONT (engine) board.

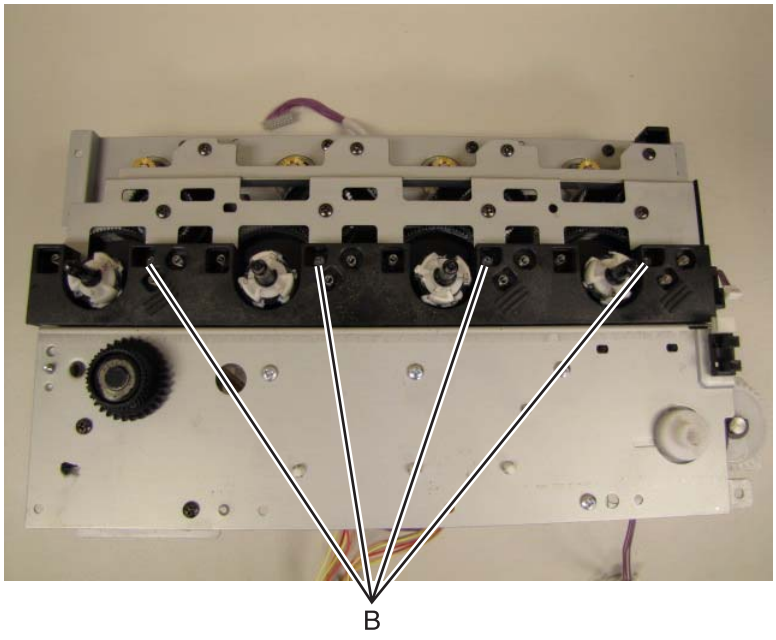


Sub frame unit

1. Remove the drive unit.
2. Disconnect the belt up down sensor harness (A) if it is connected.

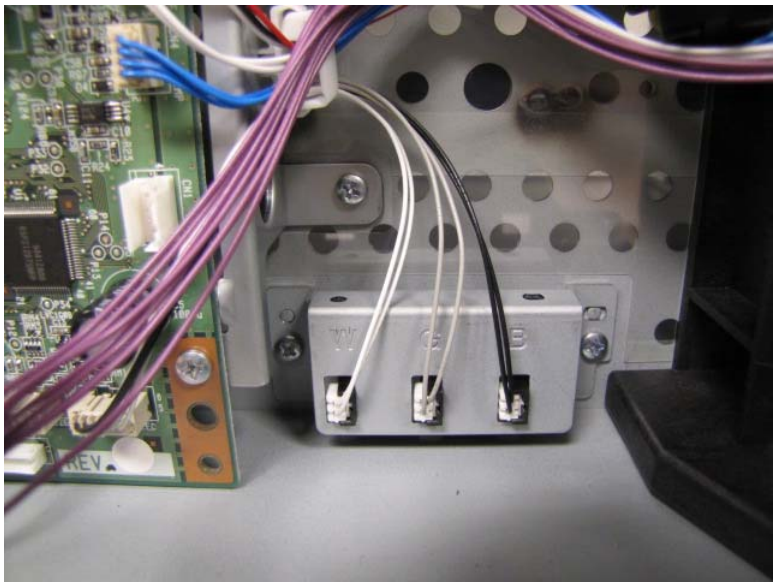


3. Remove the four screws (B) securing the sub unit to the head in plate.

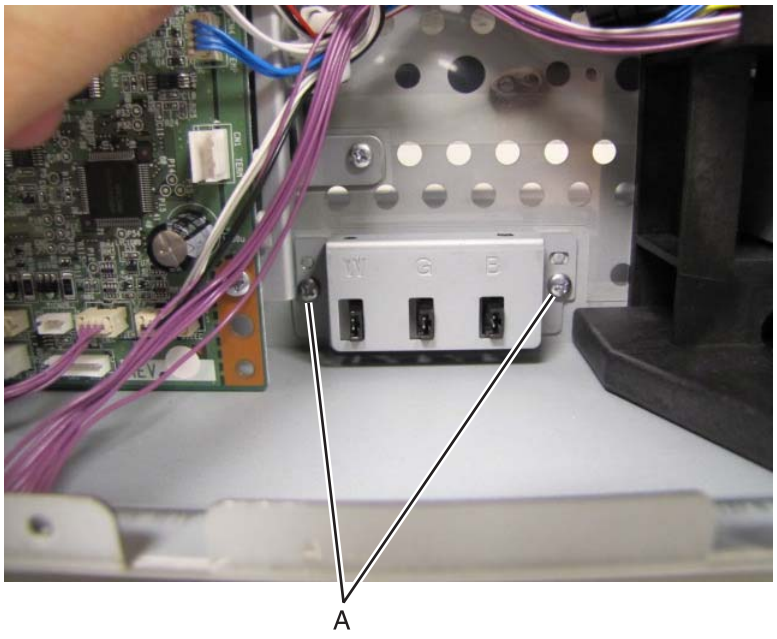


Paper size switch removal

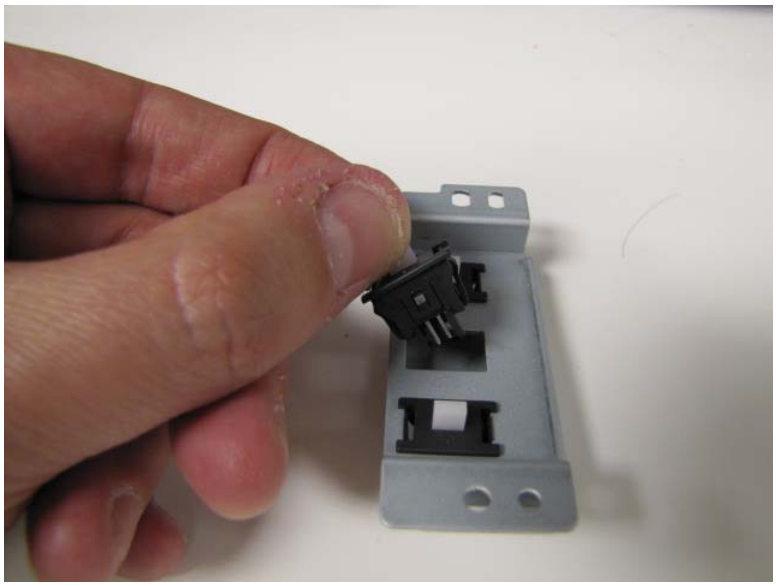
1. Remove the HVPS. See **"HVPS removal" on page 4-101**.
2. Disconnect the three cables.



3. Remove the two screws (A) securing the sensor mount to the printer frame.

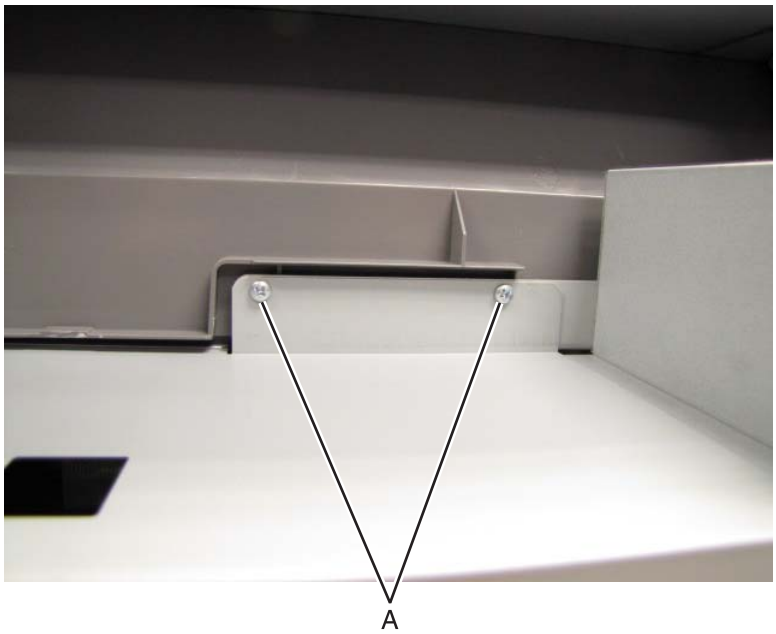


4. Depress the tabs holding the sensor in place.

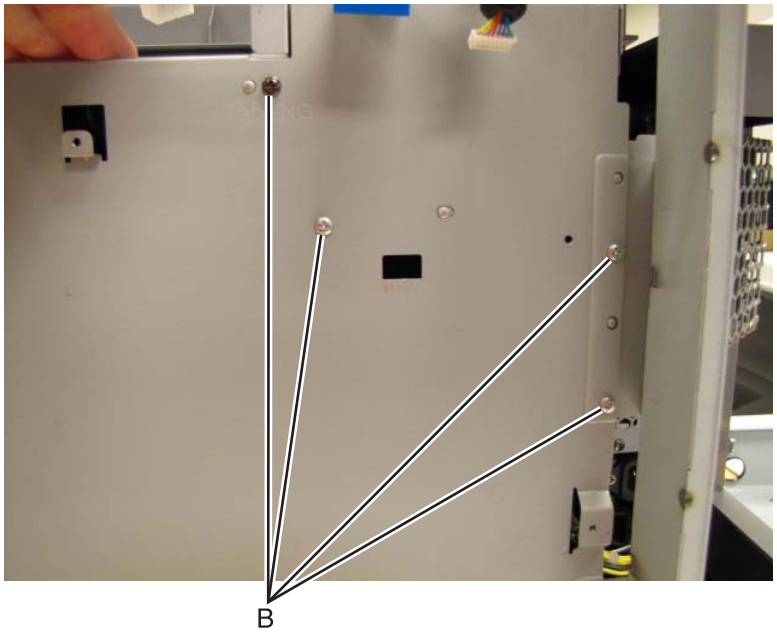


Rear EMI shield – Not a FRU

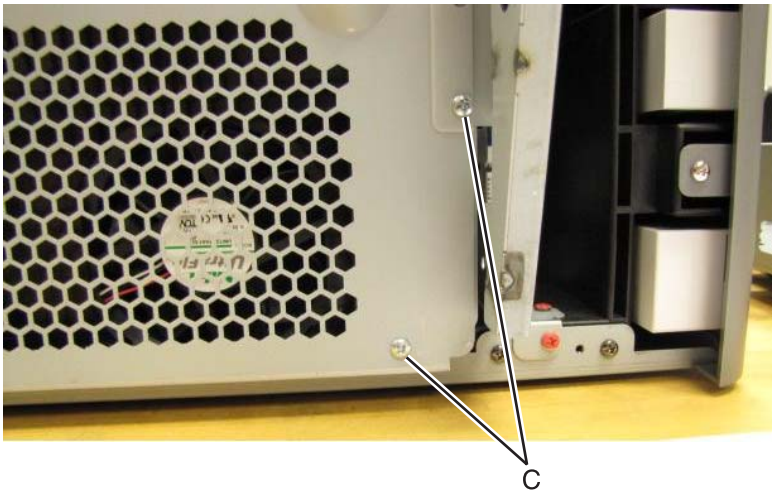
1. Remove the rear cover. See **"Rear cover" on page 4-7**.
2. Remove the RIP cage. See **"RIP cage removal" on page 4-85**.
3. Remove the cross bar. See **"Crossbar removal (not a FRU)" on page 4-69**.
4. Remove the two silver screws (A) securing the top rear of the EMI shield to the frame.



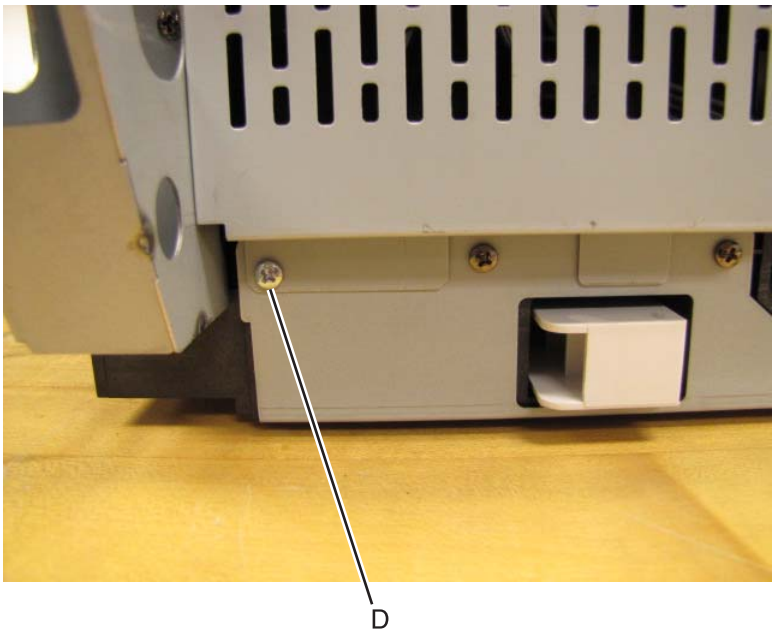
5. Remove the four screws (B) on the upper right side of the shield.



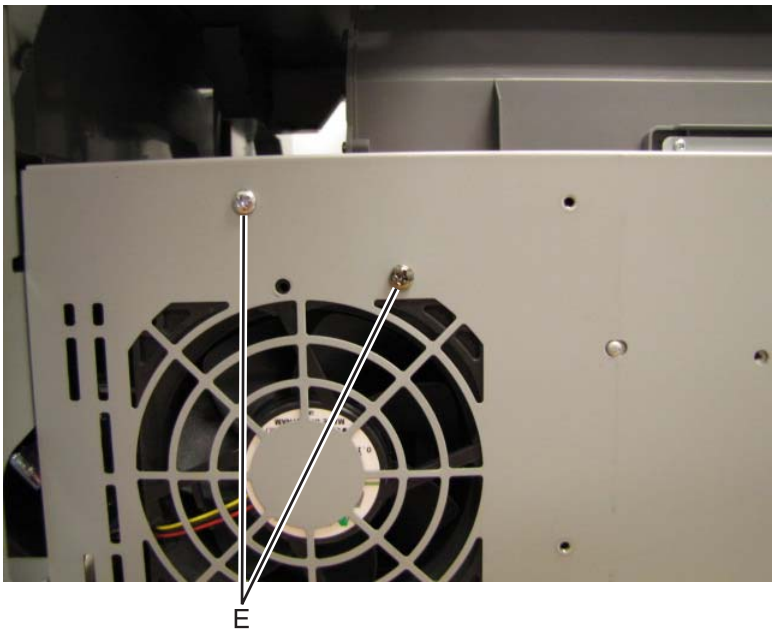
6. Remove the two screws (C) on the lower right side of the shield.



7. Remove the screw (D) in the lower left corner of the shield.

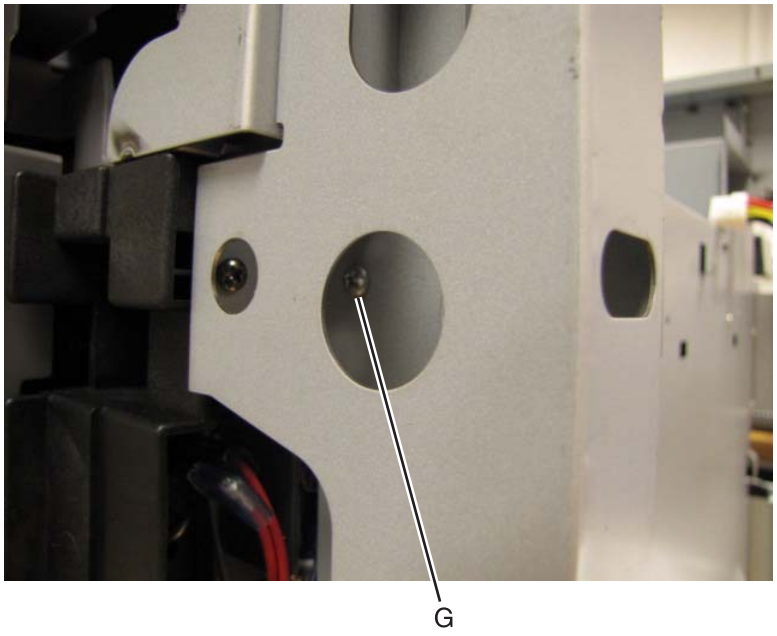


8. Remove the two screws (E) in the upper left corner.

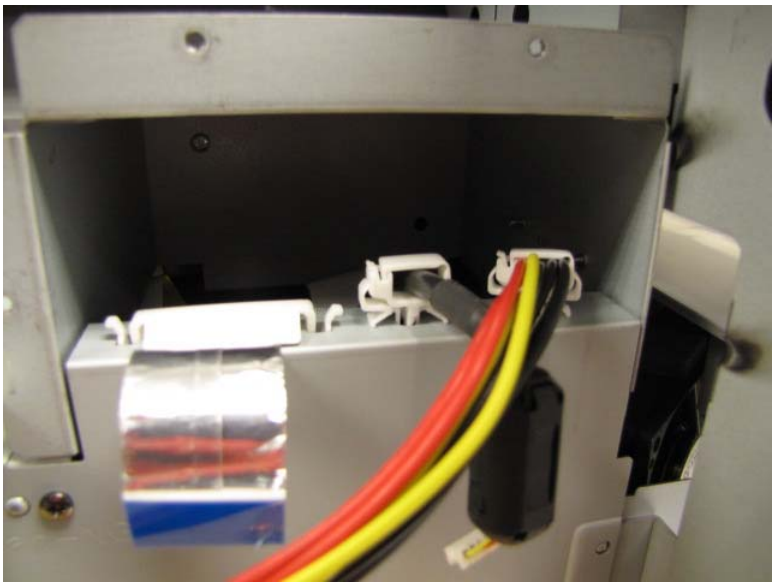


9. Remove the upper screw (F) securing the emi shield to the cage.

10. Remove the lower screw (G) securing the emi shield to the cage.

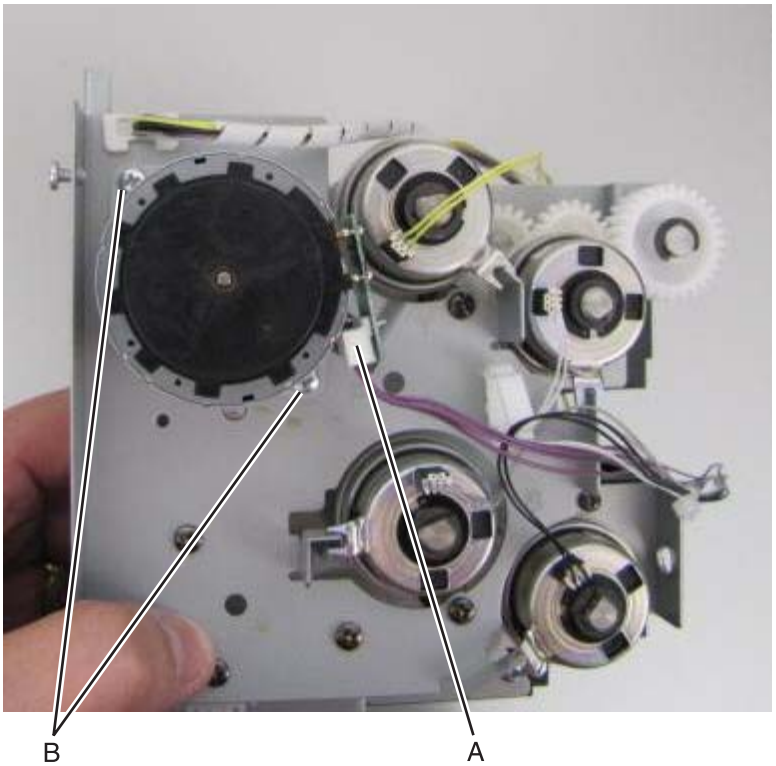


11. Remove the three cables out of the guides.



Paper feed motor removal

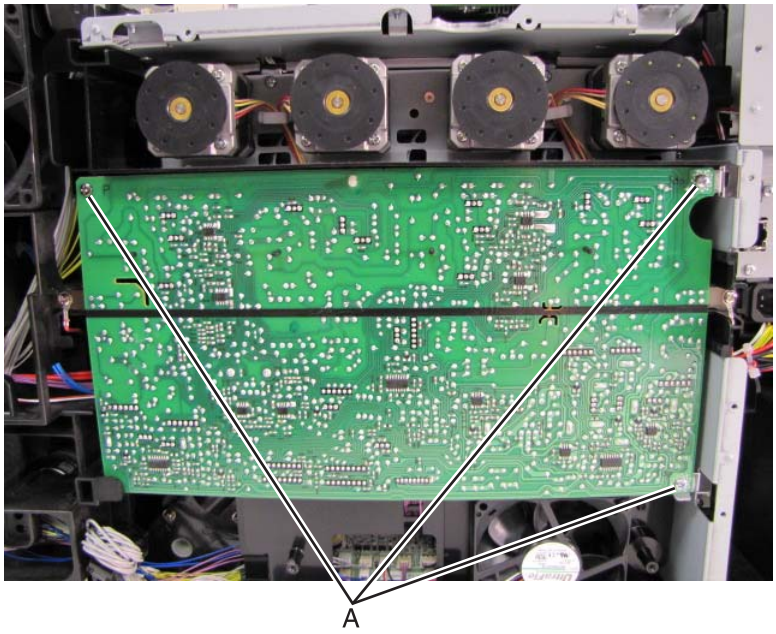
1. Remove the paper feed unit. See **"Paper feed unit removal" on page 4-54**.
2. Disconnect the cable (A) from the paper feed motor.



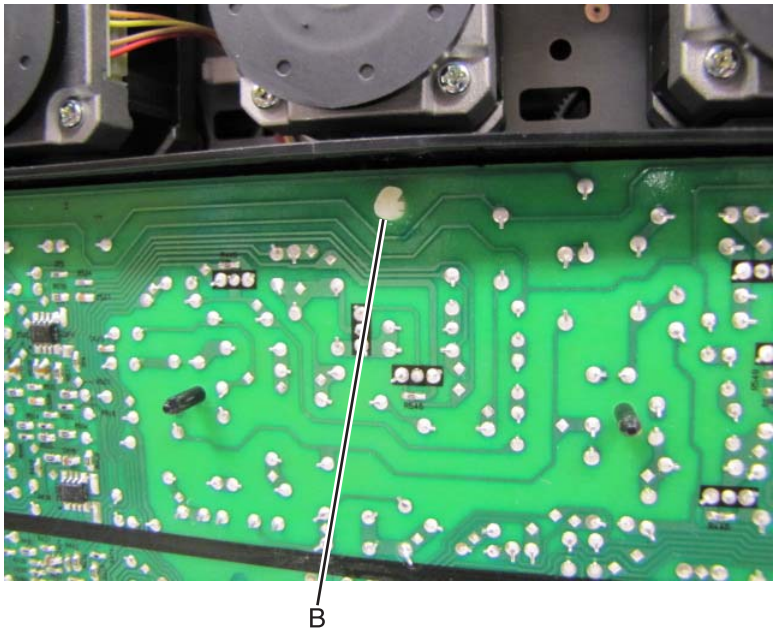
3. Remove the two screws (B) securing the paper feed motor to the paper feed unit.

HVPS removal

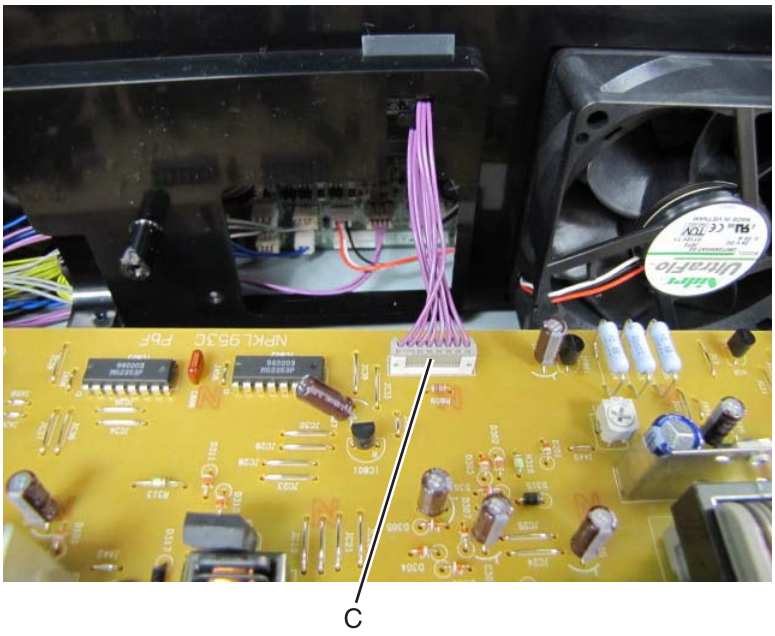
1. Remove the rear cover. See **"Rear cover" on page 4-7**.
2. Remove the top cover. See **"Output bin (print engine top) cover" on page 4-17**.
3. Remove rear EMI shield. See **"Rear EMI shield – Not a FRU" on page 4-96**.
4. Remove three screws (A) attaching the HVU to the frame.
   Note: The upper left screw is different than the other two.



5. Pinch the nylon retainer (B) to free the board.

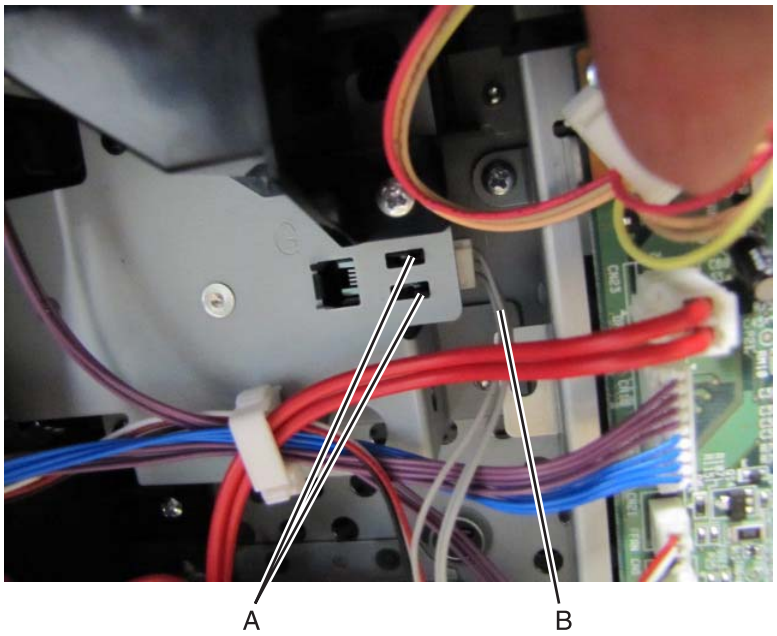


6. Disconnect the power cable (C) from the HVU.



Waste toner sensor removal

1. Remove the HVPS. See **"HVPS removal" on page 4-101**.
2. Remove the rear fan. See **"Rear fan" on page 4-92**.
3. Depress the tabs (A) securing the waste toner sensor to the frame and push the sensor in. After the sensor is detached, pull it out of the frame.



4. Disconnect the waste toner sensor cable (B) from the sensor.

Scanner area removals

Note: After replacing the ADF assembly, the flatbed unit, or CCD, you will need to run the scanner registration procedure and scanner calibration procedure. These are located in the Diagnostics menu and Calibration menu. For more information see **"Adjustments" on page 4-195**.

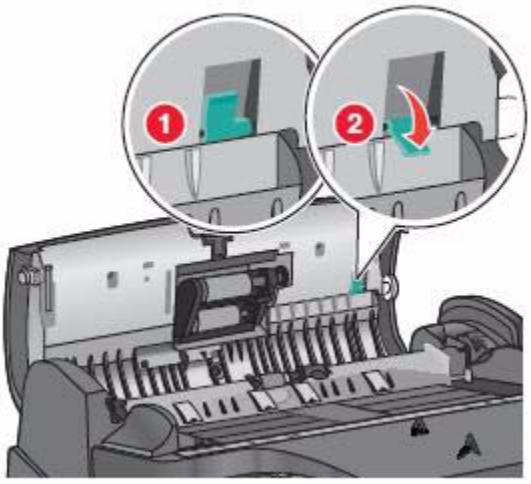
ADF assembly removal

1. Remove the cord cover. See **"Cord cover" on page 4-6**.
2. Remove the rear cover.
3. Remove the two thumbscrews (A) that secure the ADF cable to the flatbed assembly.

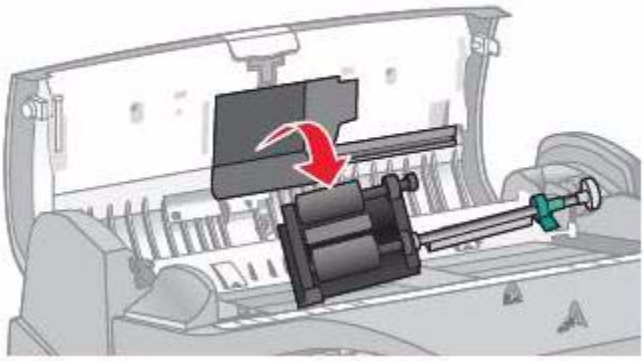
4. Remove the thumbscrews securing the ADF and flatbed hinges to the flatbed.
5. Tilt the ADF assembly up and lift it away from the flatbed assembly.
   Note: After installing the new ADF assembly, perform the scanner calibration procedures. See **"Adjustments" on page 4-195**.

ADF pick roll removal

1. Open the ADF top cover.
2. Pull the tab(1) down (2).

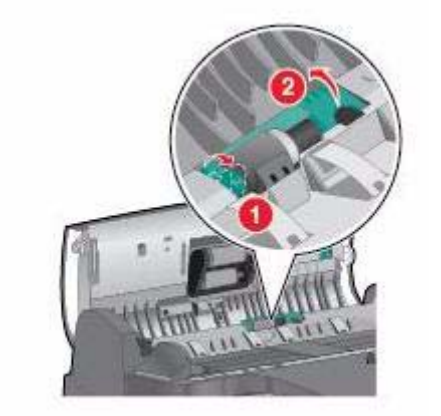


3. Remove the ADF pick roll.

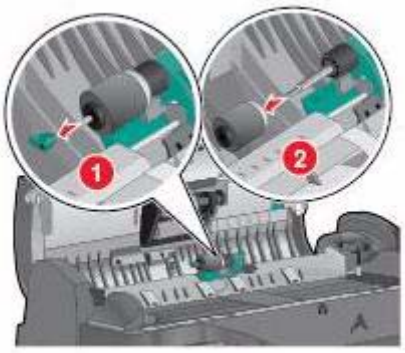


ADF separator roll removal

1. Open the ADF top cover.
2. Pull the separator roll lock (1) up.



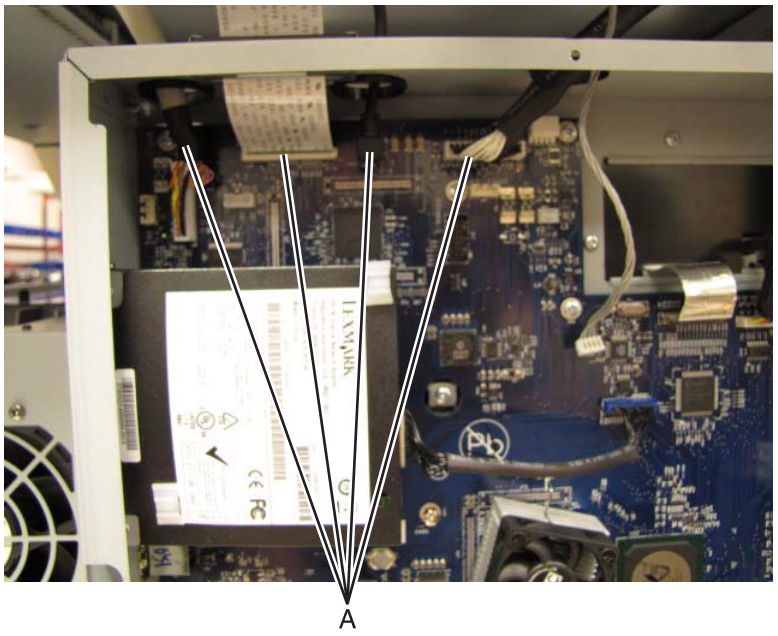
3. Pull the separator roll shaft holder (2) up.
4. Pull the lock (3) off the shaft.



5. Take the separator roll (4) off the shaft.

Flatbed assembly removal

1. Remove the op panel assembly. See **"Op panel top cover" on page 4-13** and **"Op panel bottom cover" on page 4-15**.
2. Remove the ADF assembly. See **"ADF assembly removal" on page 4-103**.
3. Remove the RIP cover. See **"RIP cover" on page 4-5**.
4. Remove the rear cover.See **"Rear cover" on page 4-7**.
5. Disconnect the flatbed cables (A) from the RIP.

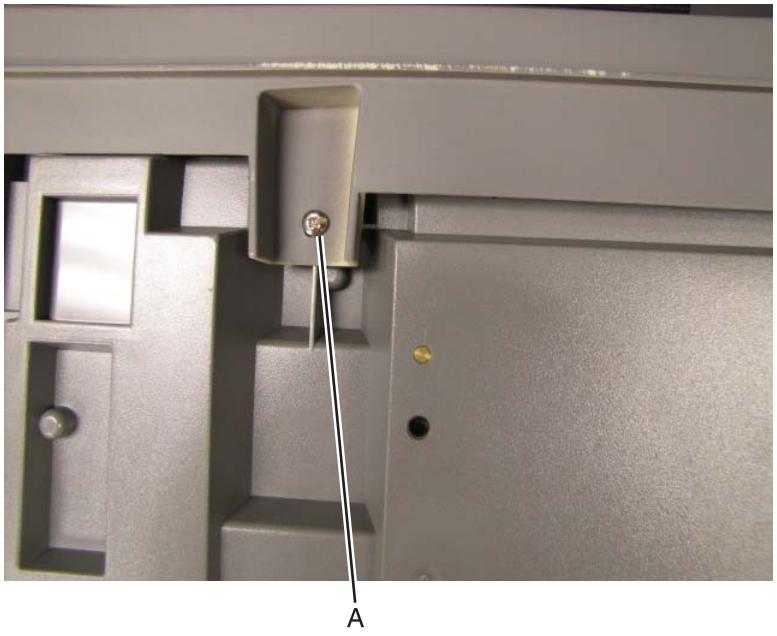


6. Using a short handle screw driver, remove the two screws (B) on the left underside of the flatbed platform.
7. Using a short handle screw driver, remove the two screws (C) on the right underside of the flatbed platform.
8. Remove the flatbed from the scanner platform.
9. Remove the flatbed front cover. See **"Flatbed front cover" on page 4-107**.

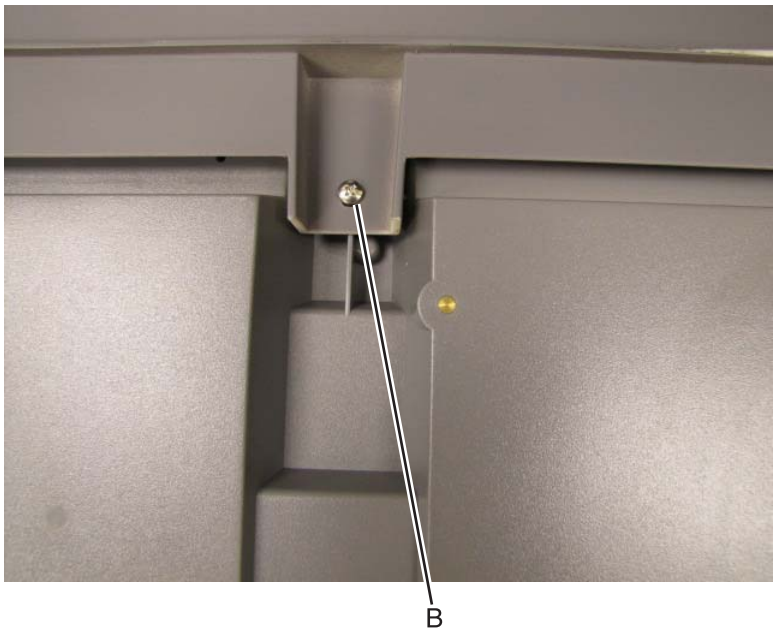
   Note: After installing the new flatbed, perform the scanner calibration procedures. See **"Adjustments" on page 4-195**.

Flatbed front cover

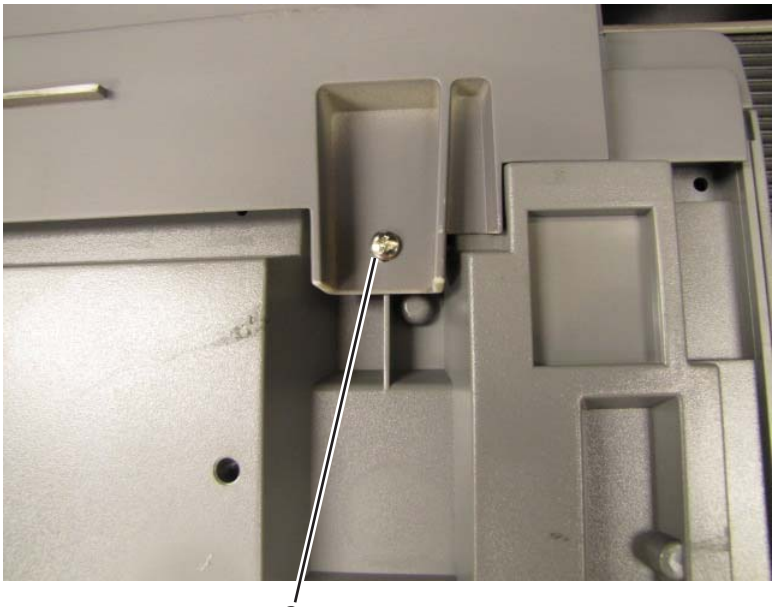
1. Remove the flatbed assembly from the flatbed platform.
2. Turn the flatbed over on a non marring surface.
3. Remove the screw (A).



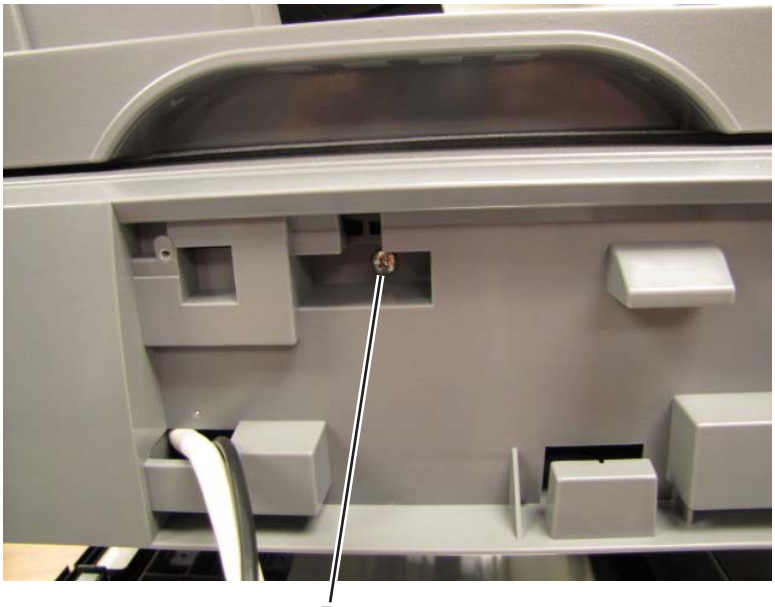
4. Remove the screw (B).



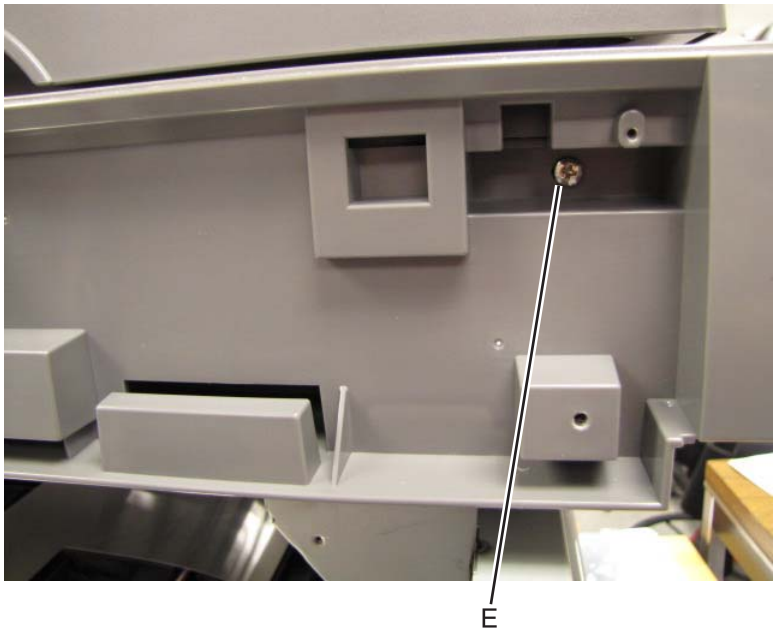
5. Remove the screw (C).



6. Remove the screw (D).

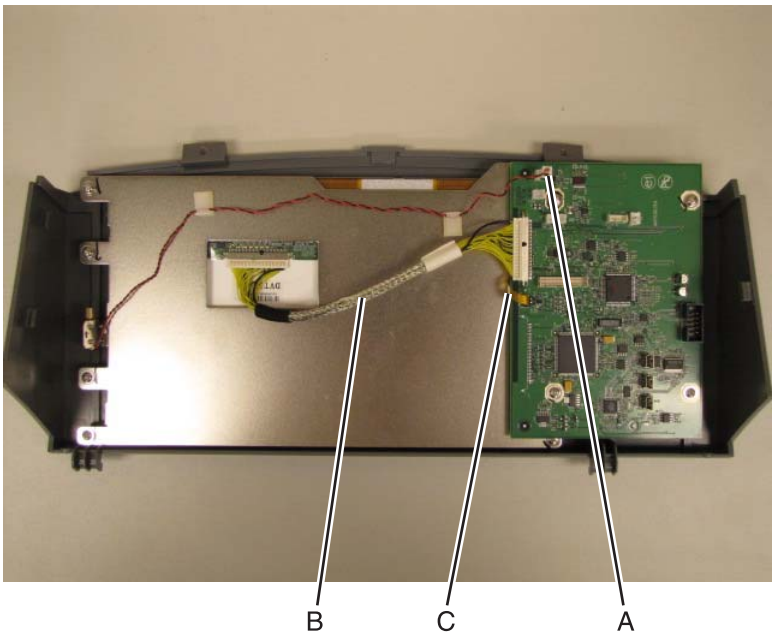


7. Remove the screw (E).

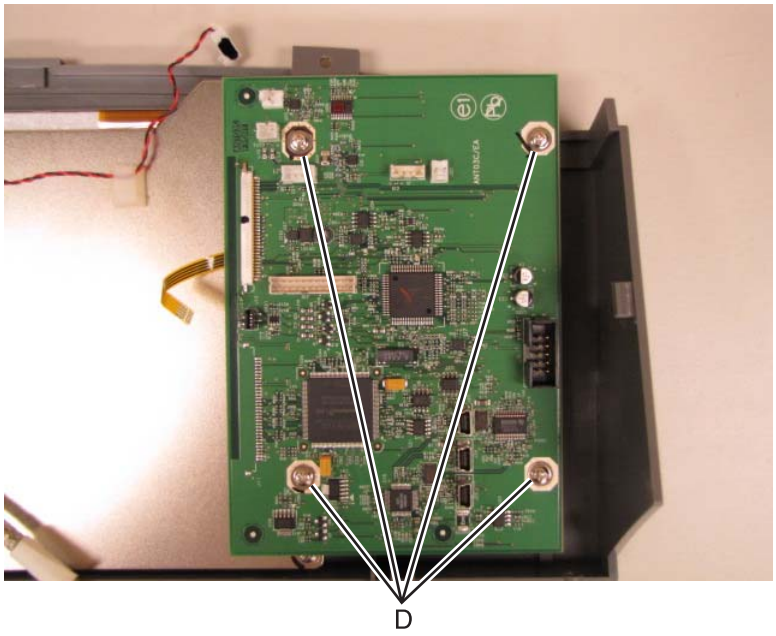


UICC removal

1. Remove the upper operator panel top cover. See **“Op panel top cover” on page 4-13**.
2. Disconnect the haptics cable (A) from the UICC.

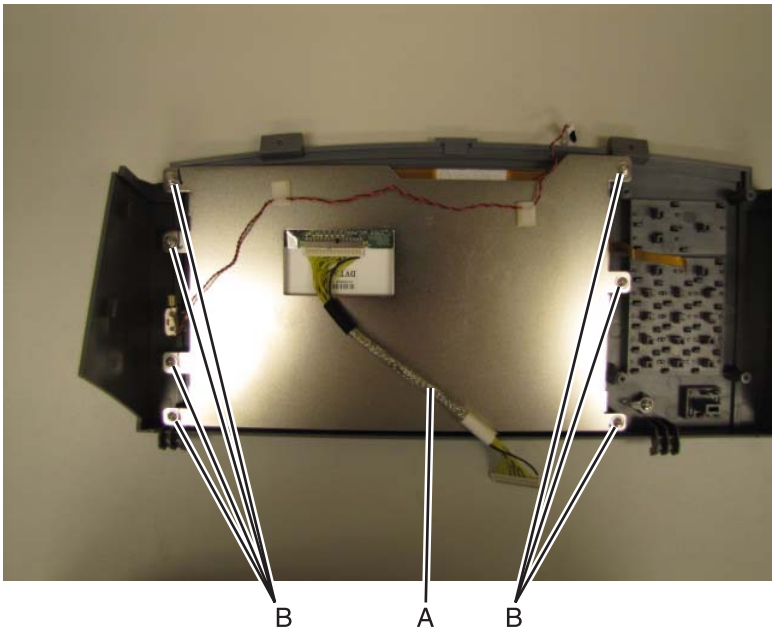


3. Remove the UICC cable (B) from the UICC.
4. Disconnect the ribbon cable (C) from the UICC.
5. Remove the four screws (D) securing the UICC to the upper operator panel assembly.



Touchscreen assembly removal

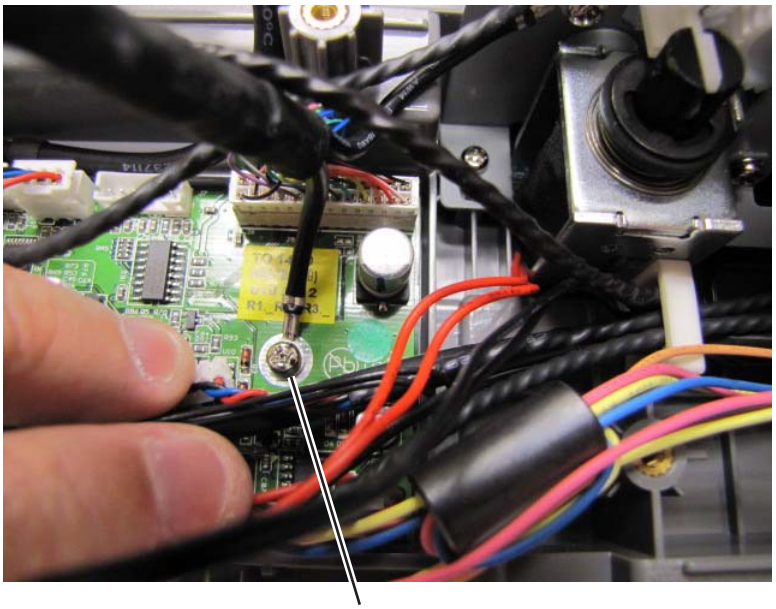
1. Remove the upper operator panel assembly.
2. Remove the UICC. See **"UICC removal" on page 4-110**.
3. Disconnect the UICC cable (A) from the touchscreen from the touchscreen.



4. Remove the seven screws (B) securing the touchscreen to the upper operator panel assembly.

ADF relay board

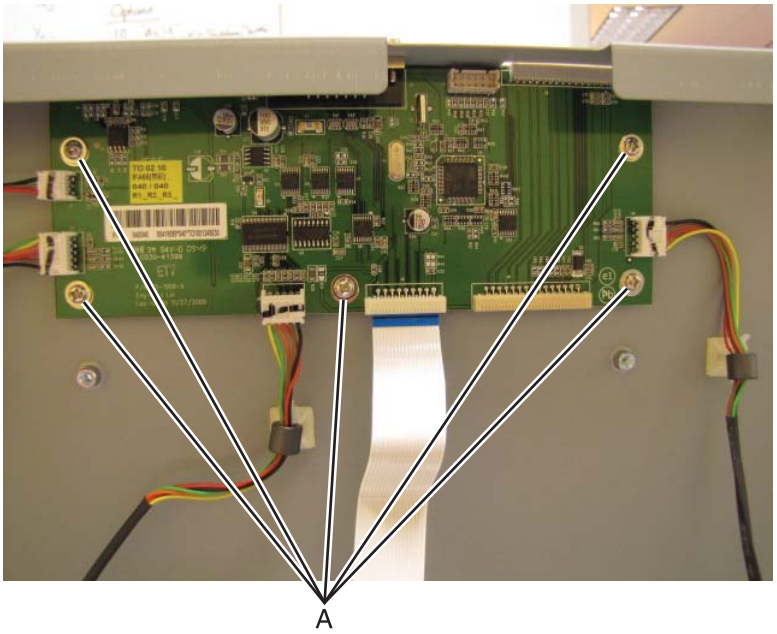
1. Remove the ADF relay board cover. See **“ADF relay card cover” on page 4-157**,
2. Disconnect the ADF cable ground (A) from the relay board.



3. Disconnect all the cables from the relay board.
4. Remove the other screw securing the board to the ADF assembly.

ICC board

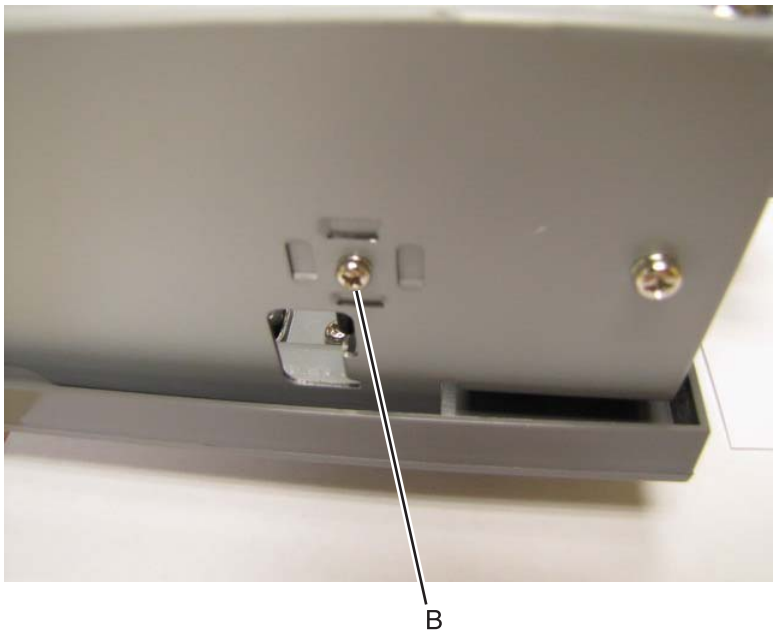
1. Remove the ADF assembly from the flatbed. See **"ADF assembly removal" on page 4-103**.
2. Remove the flatbed assembly from the print engine.
3. Place the scanner, glass side down, on a non marring surface.
4. Remove the 5 screws securing the shield to the flatbed assembly.
5. Remove the shield from the flatbed assembly.
6. Remove the two screws that secure the ADF cable connector to the bottom shield.
7. Disconnect all the cables from the ICC board.
8. Remove the five screws (A) securing the board to the flatbed assembly.



CCD chassis

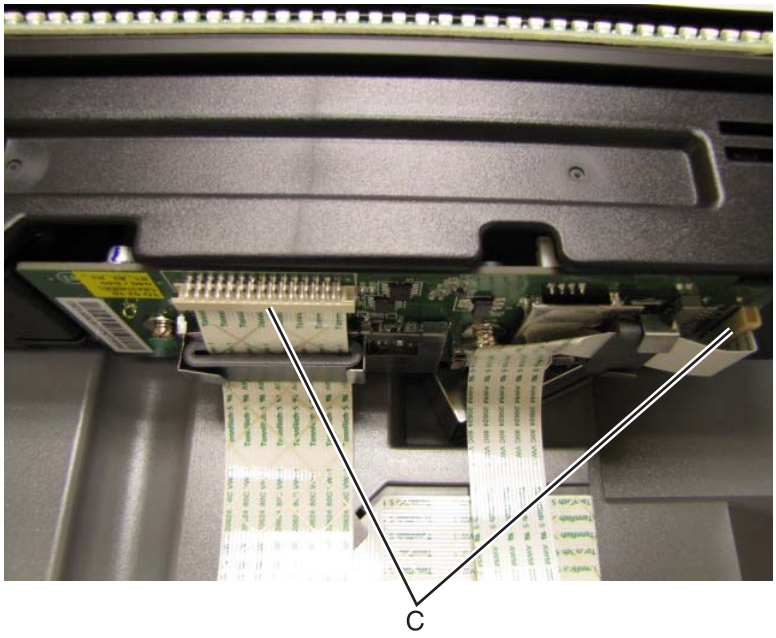
1. Remove the flatbed upper cover.
2. Remove the screw (A) securing the CCD guide rod to the flatbed frame.

3. Remove the screw (B) securing the CCD guide rod to the flatbed frame.

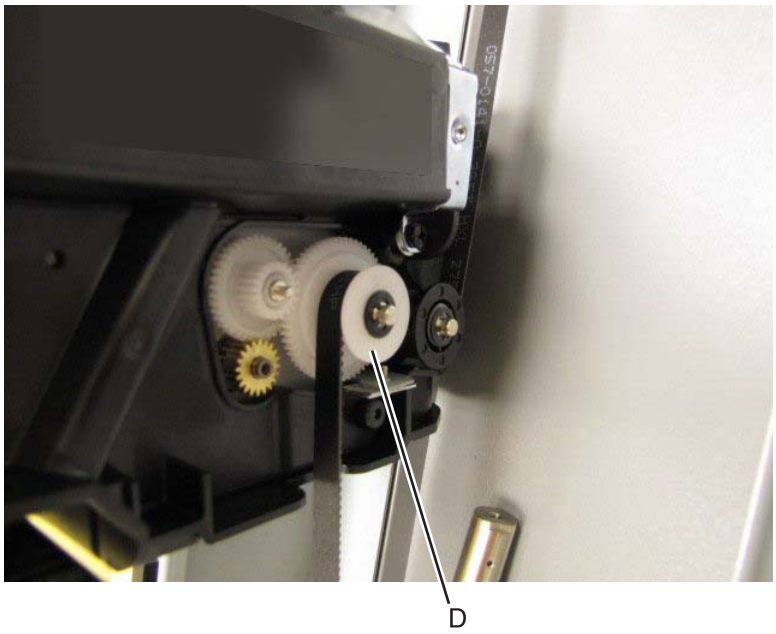


4. Slide the guide rod towards the CCD chassis and remove the chassis from the rod.

5. Disconnect the ribbon cables (C) from the CCD chassis.



6. Remove the belt from the gears on the bottom of the CCD chassis.



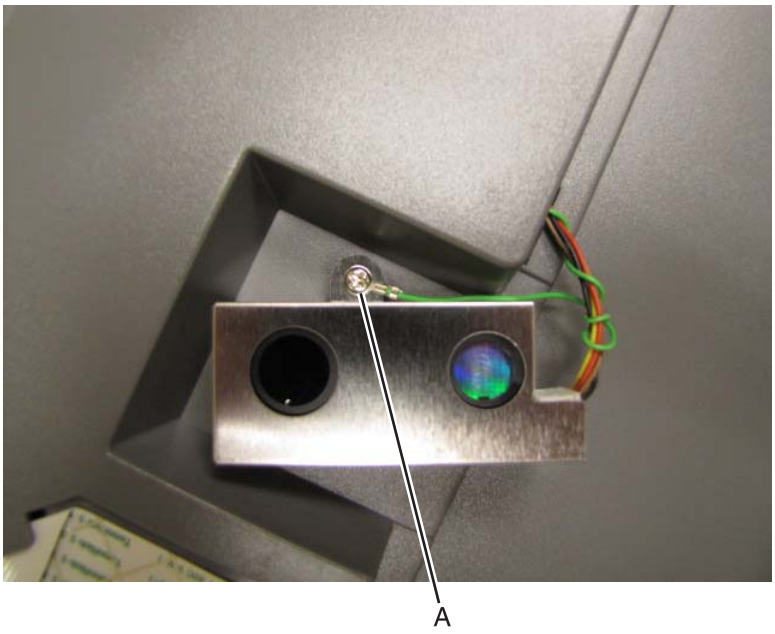
Note: After installing the new CCD, perform the scanner calibration procedures. See **"Adjustments" on page 4-195**.

CCD belt

1. Remove the flatbed upper cover.
2. Disconnect the belt from the clip on the right side.
3. Disconnect the belt from the spring on the left side of the flatbed.
4. Remove the belt from the CCD chassis.

Optical paper size sensor

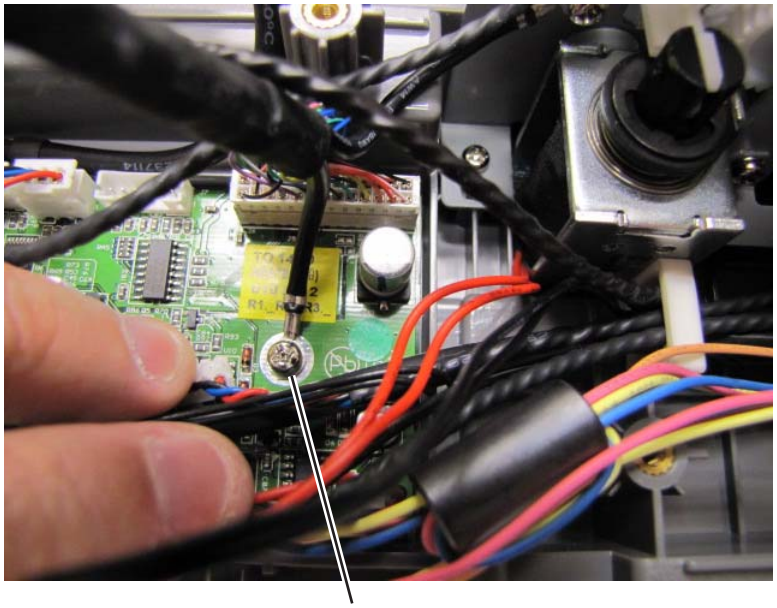
1. Remove the flatbed unit from the printer.
2. Place the flatbed unit facedown on a non marring surface, and remove the bottom shield.
3. Disconnect the affected sensor's cable from the ICC board.
4. Turn the flatbed rightside up.
5. Remove the flatbed upper cover.
6. Remove the screw (A) securing the affected sensor to the flatbed assembly.



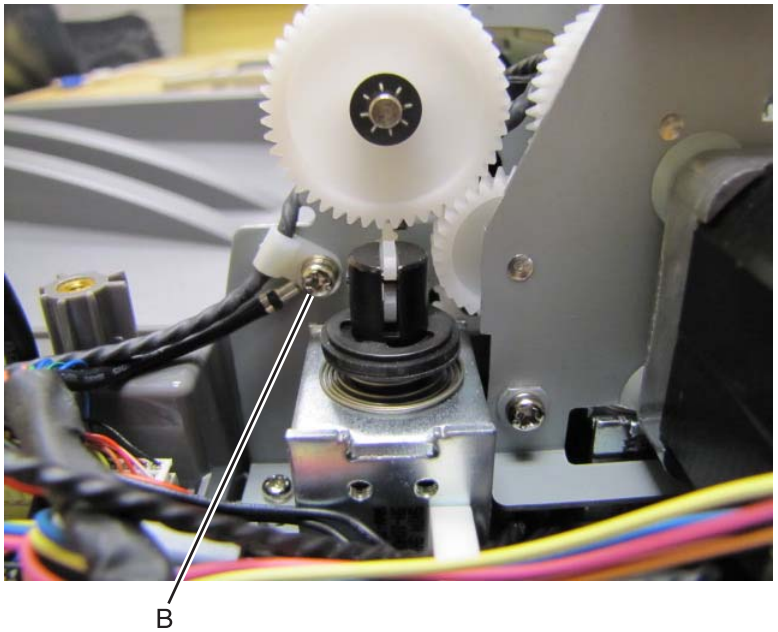
7. Lift the sensor and thread the sensor cable through the bottom of the flatbed assembly.

ADF cable

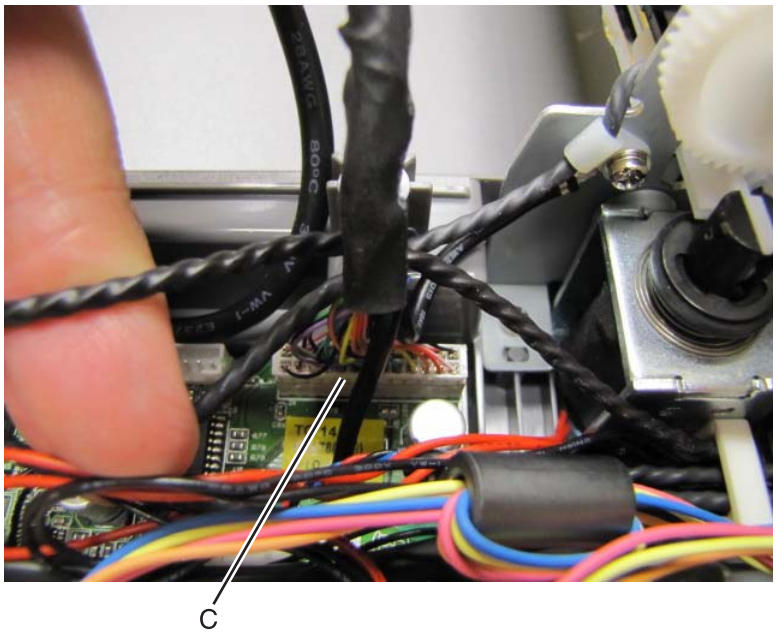
1. Remove the cord cover. See **“Cord cover” on page 4-6**.
2. Remove the left ADF cover.
3. Remove the ADF relay card cover.
4. Disconnect the ground cable from the ADF relay board (A).



5. Disconnect the ground cable from the ADF main feeder chassis (B).

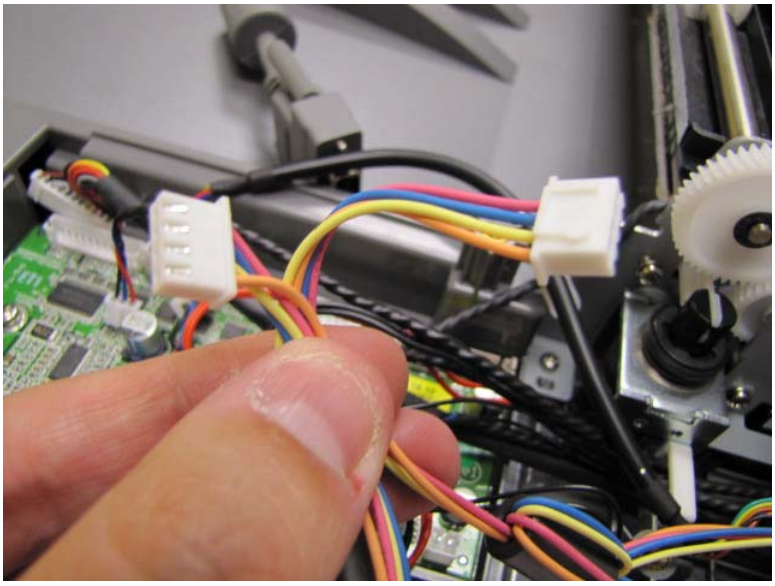


6. Disconnect the ADF cable (C) from the ADF relay board.

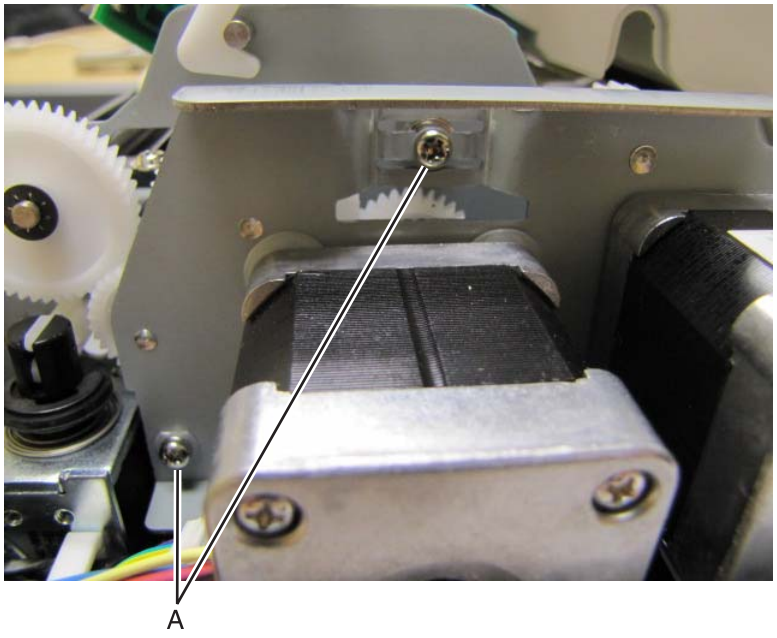


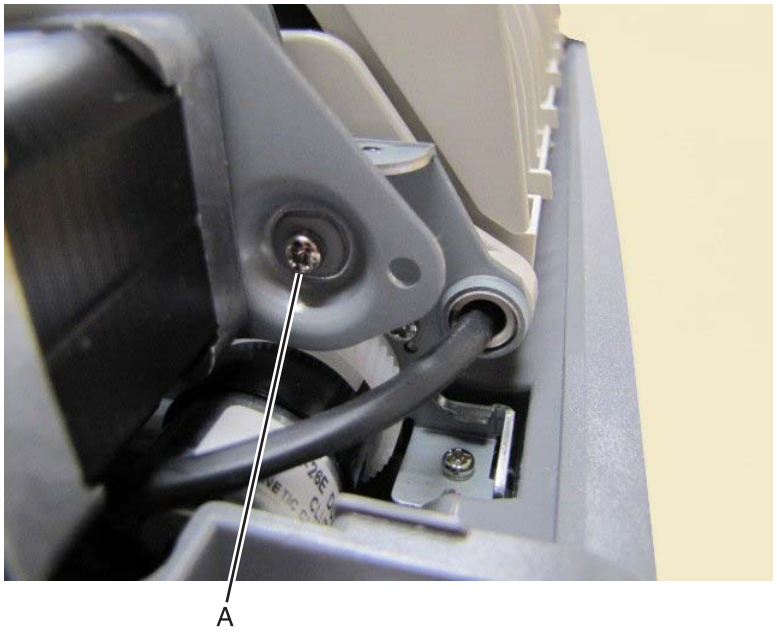
ADF motor frame

1. Remove the left ADF cover.
2. Disconnect the motor cables from the ADF relay card.

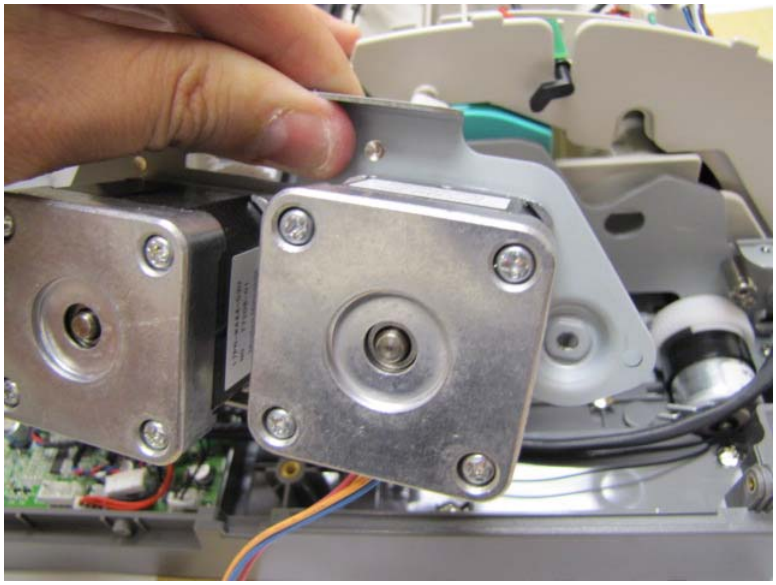


3. Remove the two screws (A) securing the motor frame to the ADF main feeder unit.

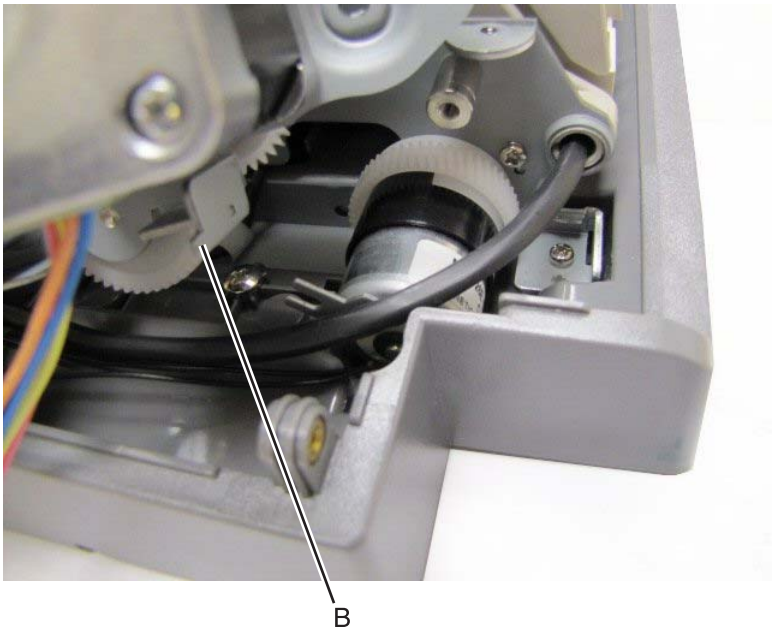




4. Remove the motor frame from the ADF unit.

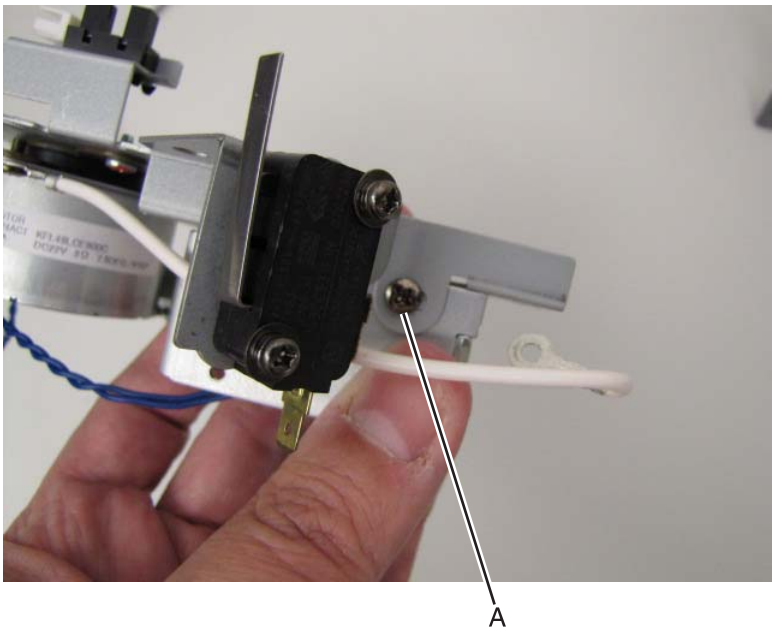


Note: When replacing the frame, make sure the ADF drive clutch stop (B) is properly aligned with the clutch.



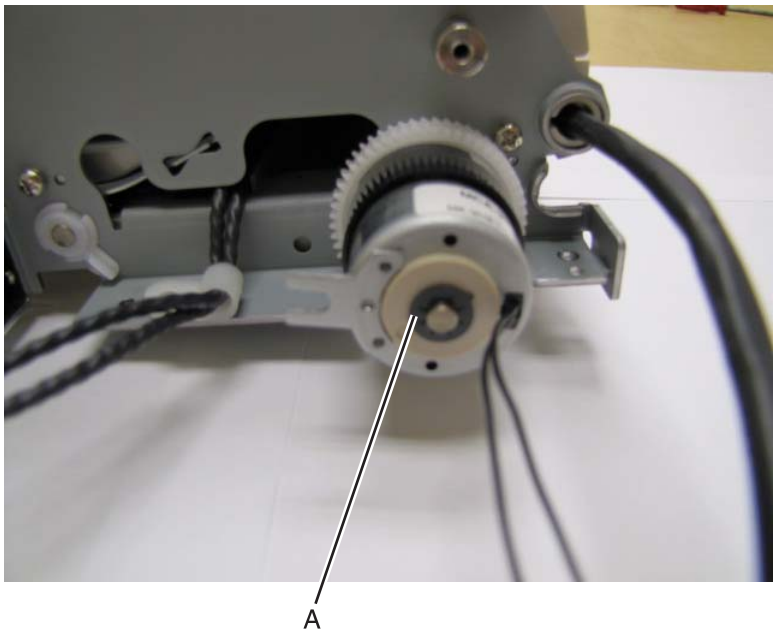
ADF solenoid

1. Remove the ADF main feeder.
2. Remove the four screws (A) securing the solenoids to the ADF main feeder.



ADF drive clutch

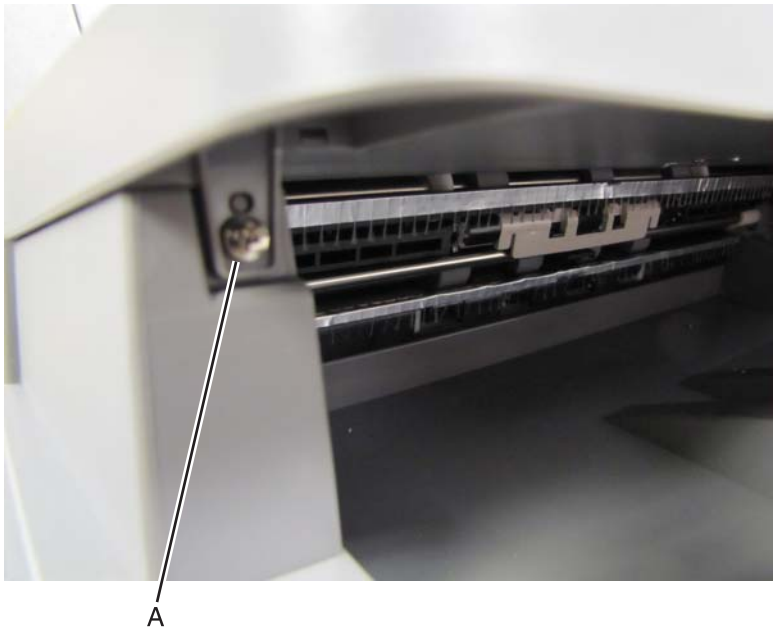
1. Remove the ADF main feeder unit.
2. Remove the clip (A) securing the ADF drive clutch to the shaft.



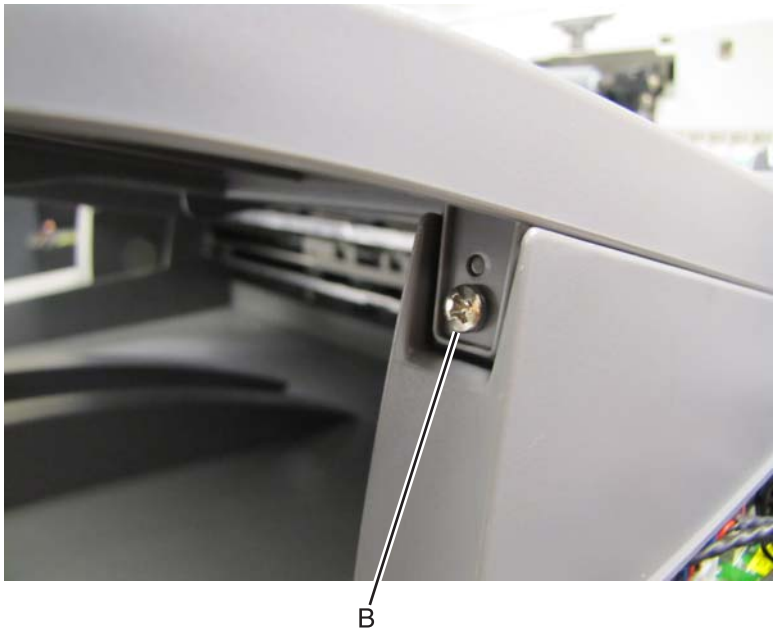
3. Slide the ADF drive clutch off the shaft.

ADF input tray

1. Remove the screw (A) under the front side of the ADF input tray.



2. Remove the screw (B) under the rear side of the ADF input tray.

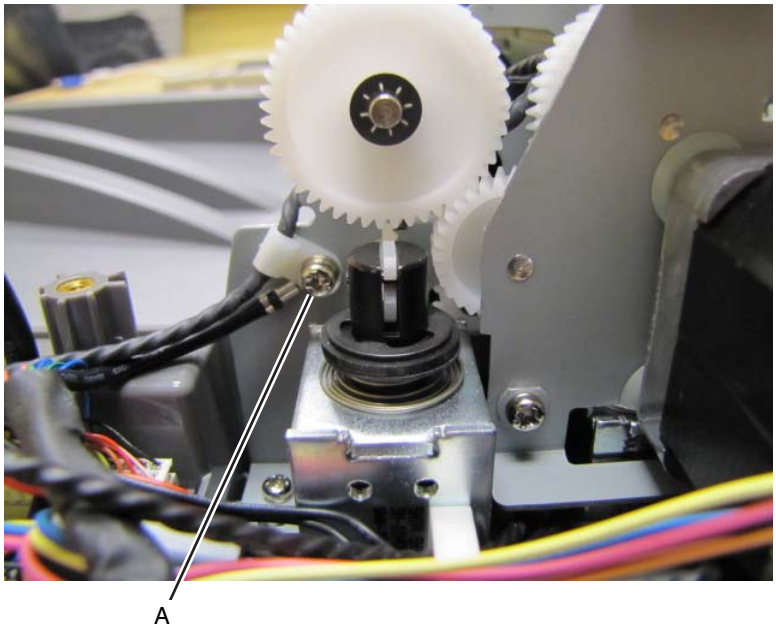


3. Open the ADF top cover.

4. Lift the ADF input tray and disconnect the tray paper present sensor cable.

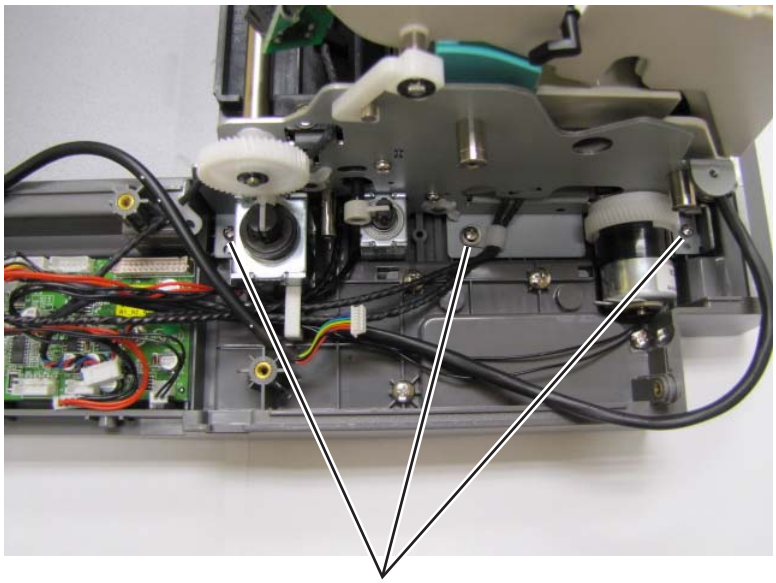
ADF main feeder

1. Remove the left ADF cover.
2. Remove the right ADF cover.
3. Disconnect the cables from the ADF relay card.
4. Disconnect the ground wire (A) from the ADF main feeder.

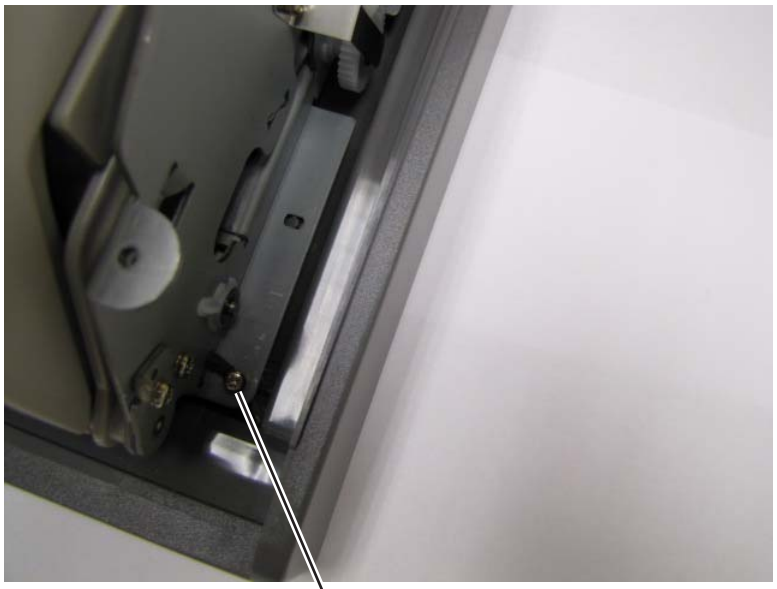


5. Remove the ADF motor frame assembly.

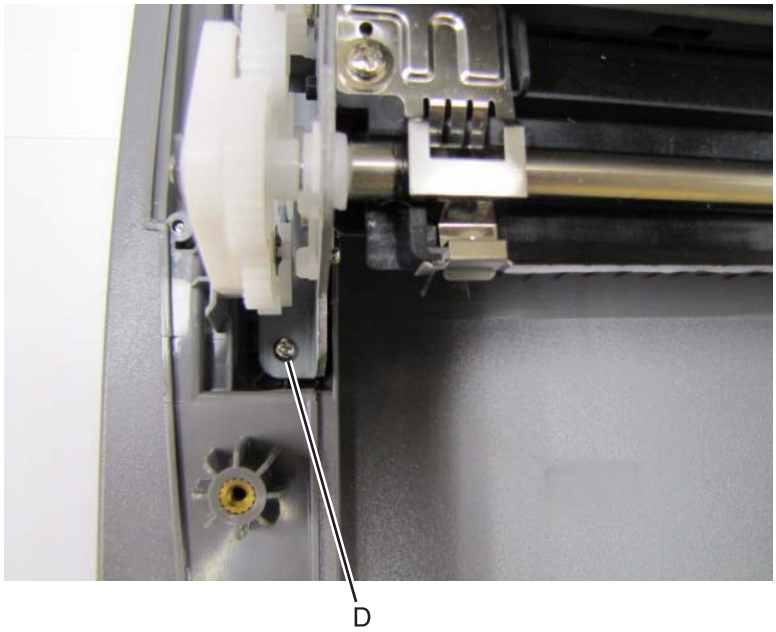
6. Remove the three screws (B) securing the right side of the ADF main feeder to the top flatbed cover.



7. Remove the screw (C) securing the right side of the ADF main feeder to the top flatbed cover.



8. Remove the screw (D), beneath the spur gear, securing the right side of the ADF main feeder to the top flatbed cover.

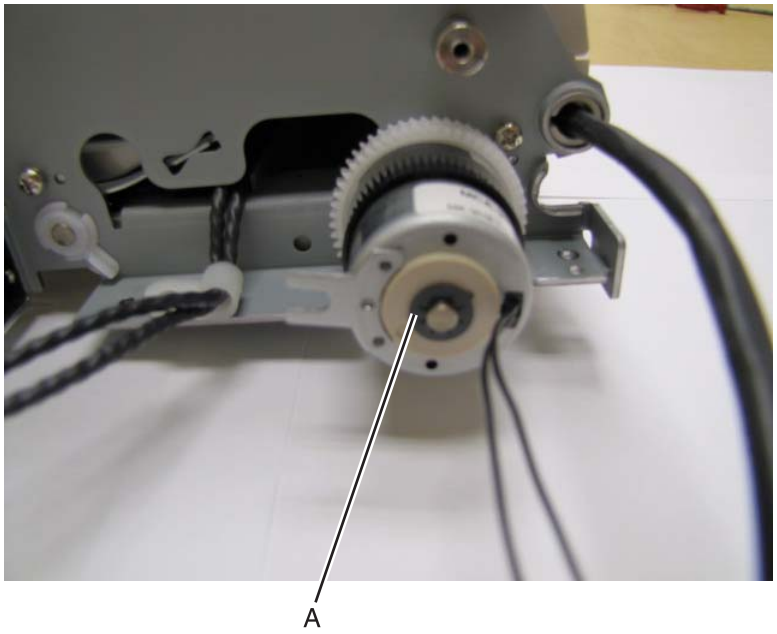


9. Remove the main feeder from the flatbed cover.
10. Remove the solenoids.
11. Remove the ADF clutch.
12. Remove the Inner ADF top cover.
13. Remove the ADF paper guide.

Note: After reinstalling the new component, perform the scanner calibrations. See **"Adjustments" on page 4-195**.

ADF clutch

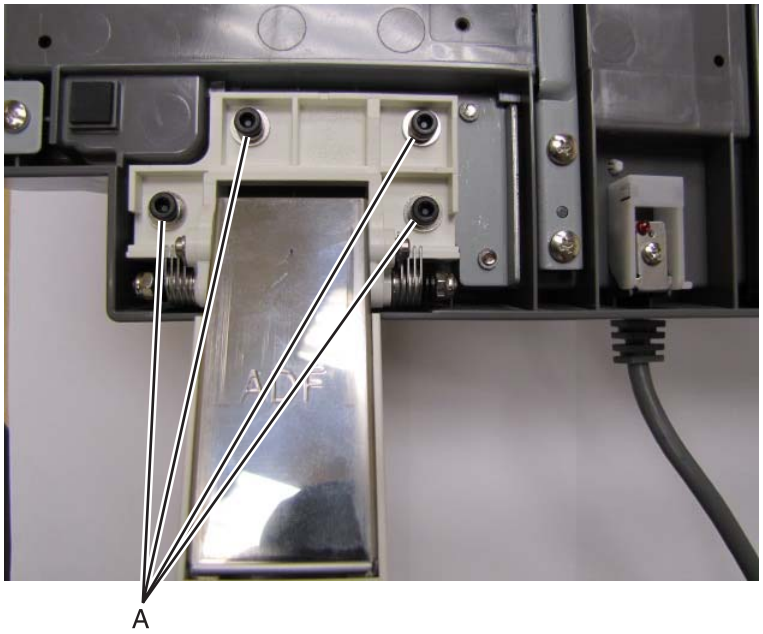
1. Remove the ADF main feed unit. See **"ADF main feeder" on page 4-124**.
2. Remove the clip (A) securing the ADF clutch to the transport roll shaft.



3. Slide the clutch off the shaft.

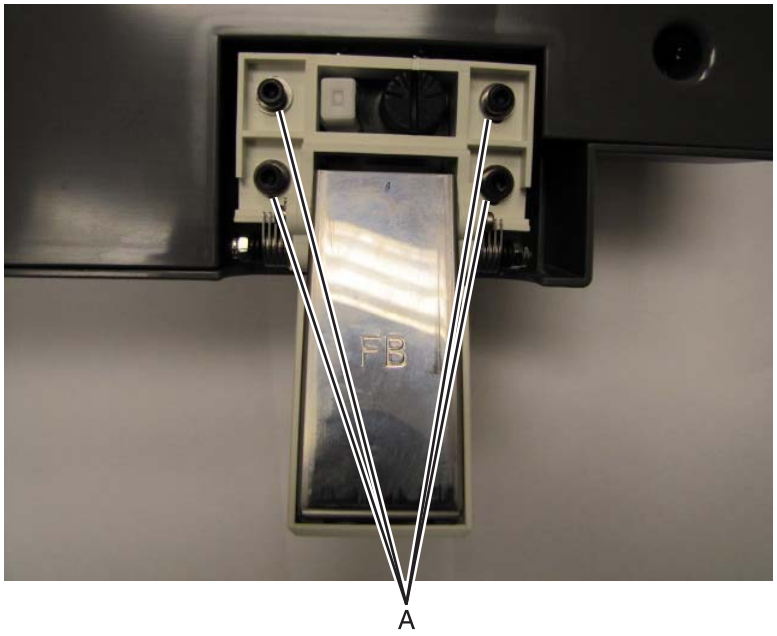
ADF hinge

1. Remove the ADF unit from the scanner assembly.
2. Place the ADF unit upside down on a non-marring surface.
3. Remove the four screws (A) the secure the hinge to bottom of the flatbed cover.



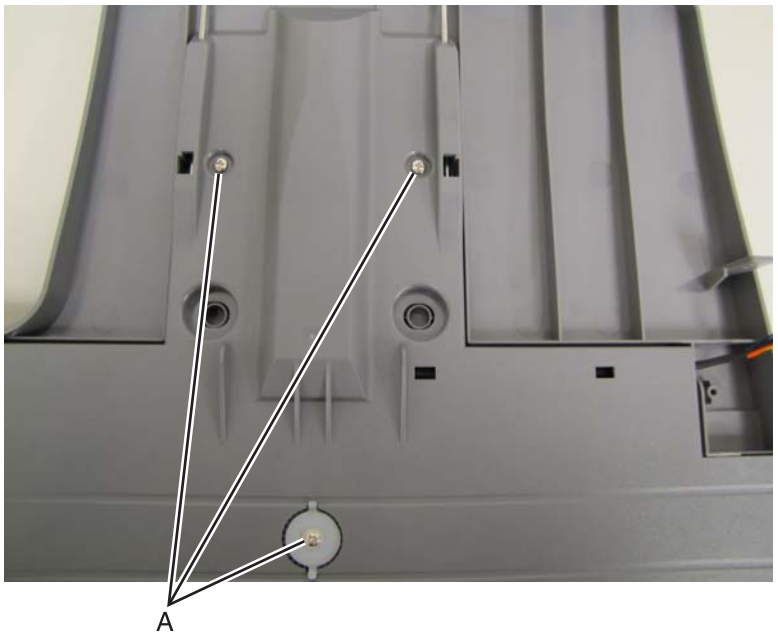
FB hinge

1. Remove the ADF unit from the scanner assembly.
2. Place the ADF unit upside down on a non-marring surface.
3. Remove the four screws (A) the secure the hinge to bottom of the flatbed cover.

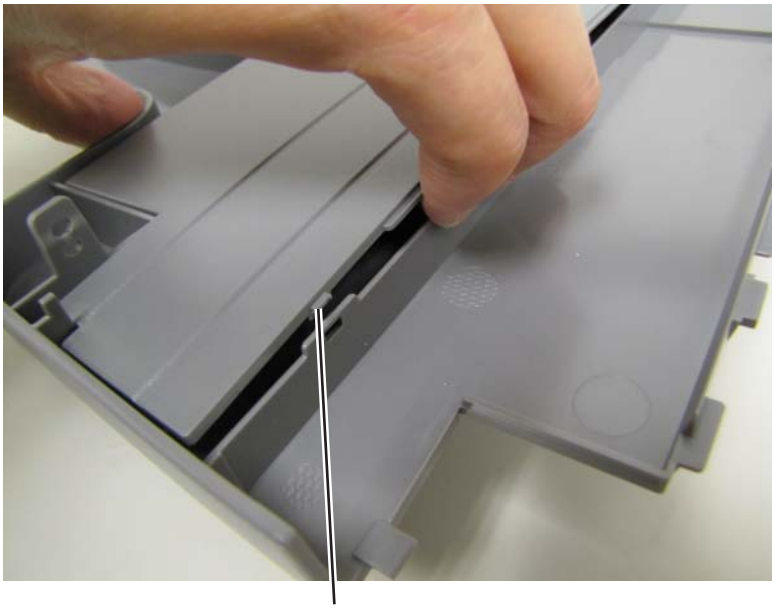


Tray paper size sensors

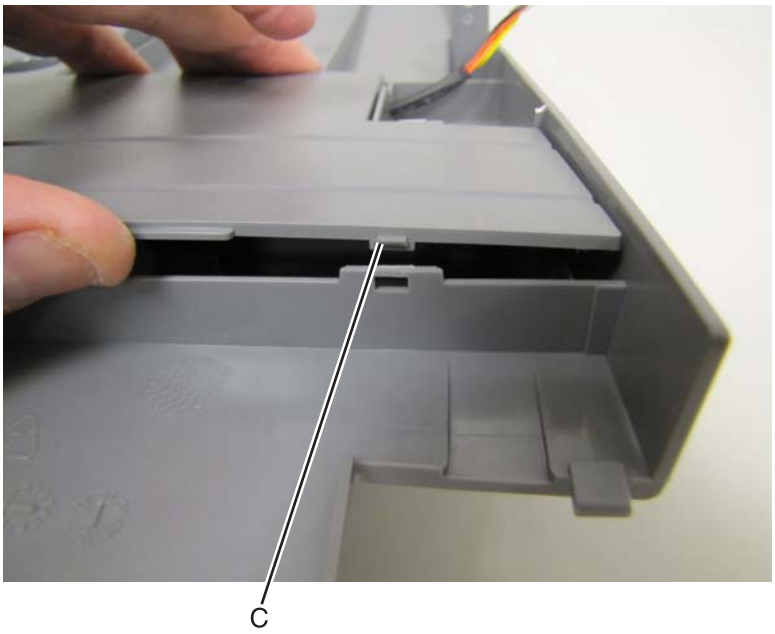
1. Remove the ADF input tray from the ADF unit.
2. Remove the three screws (A) fastening the tray bottom to the ADF input tray top.



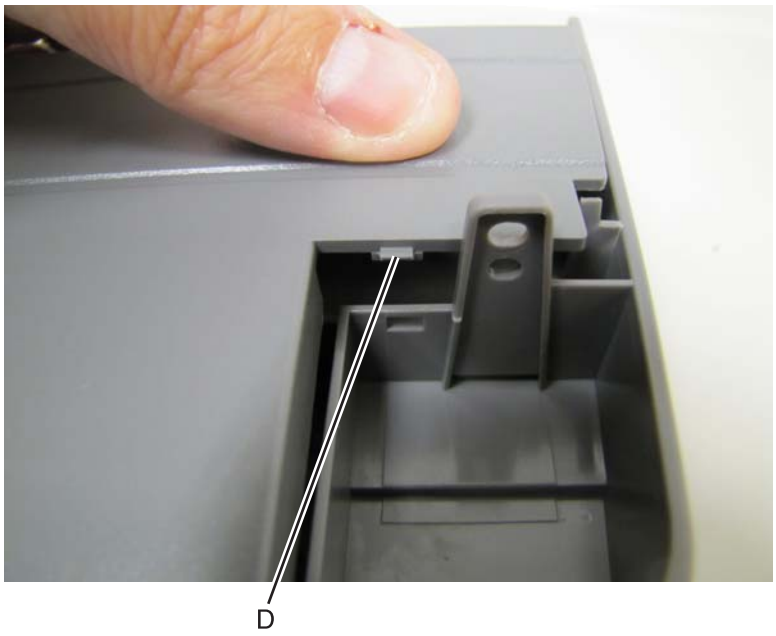
3. Release the tab (B) securing the tray top to the tray bottom.



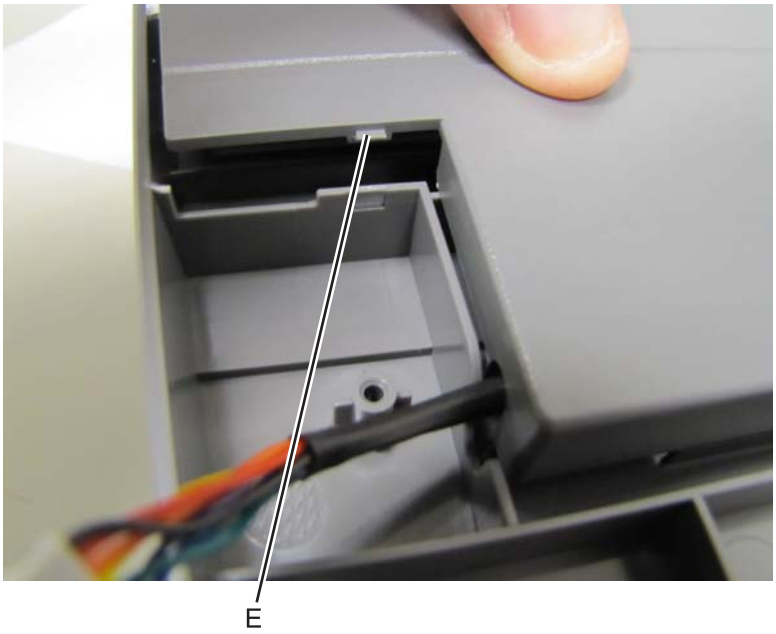
4. Release the tab (C) securing the tray top to the tray bottom.



5. Release the tab (D) securing the tray top to the tray bottom.

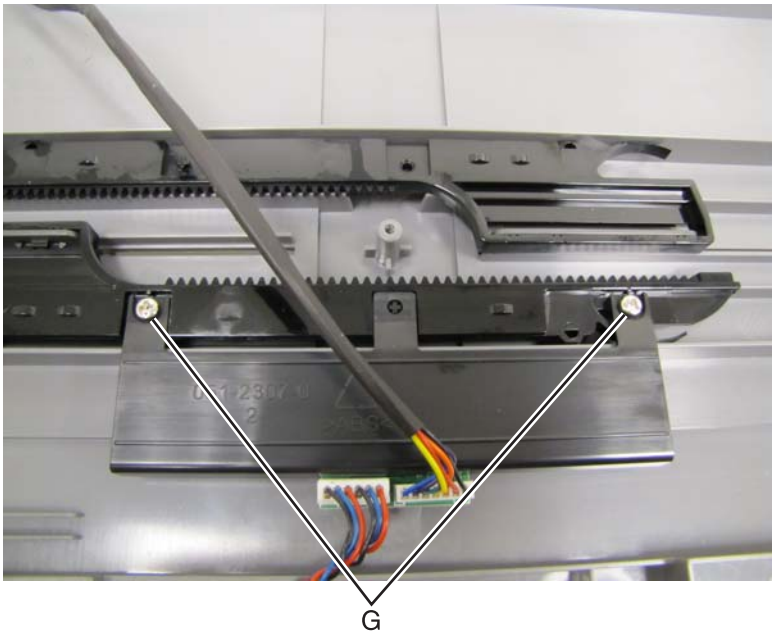


6. Release the tab (E) securing the tray top to the tray bottom.



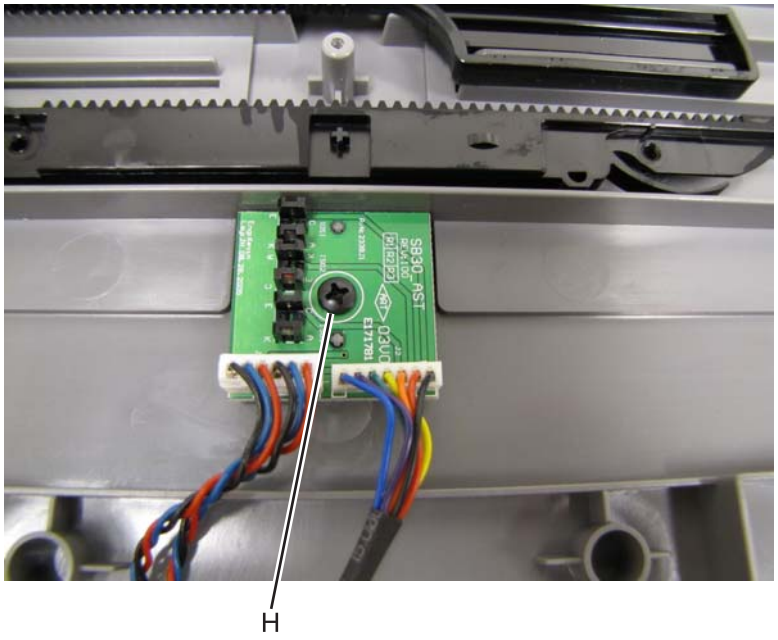
7. Pull the tabs (F) back to release the width sensor cable from the tray bottom.

8. Remove the two screws (G) securing the paper width actuator to the rack gear.



9. Remove the size sensors from the ADF input top.

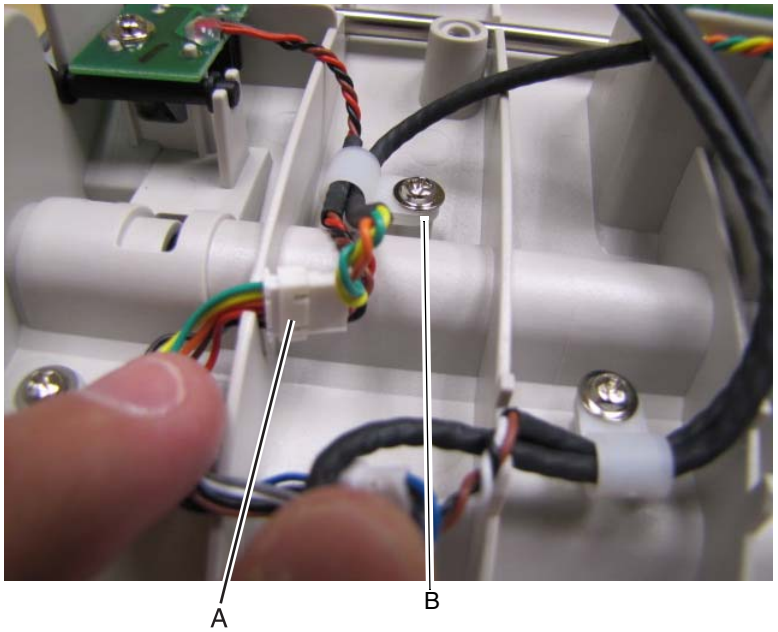
10. Remove the screw (H) securing the width sensor to the ADF paper tray.



ADF cover open / ADF pick sensor

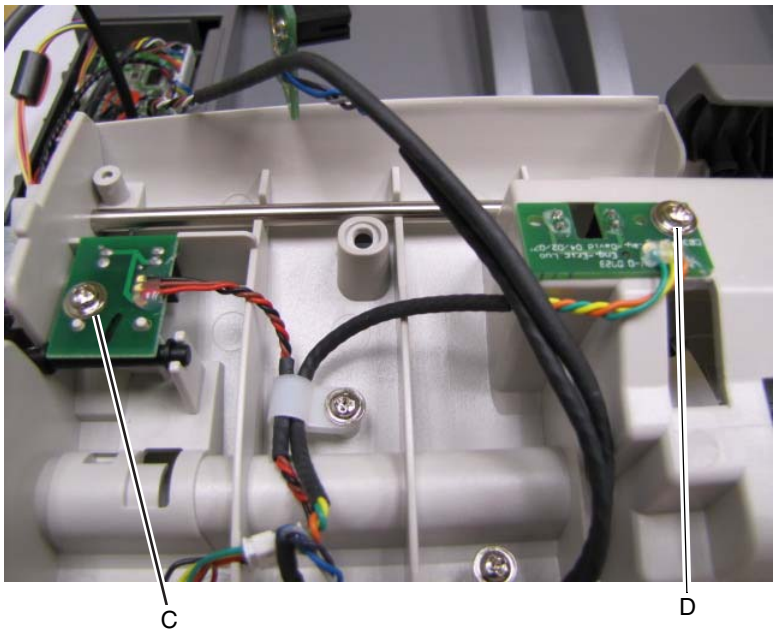
Note: The ADF cover open and ADF pick sensor are one assembly.

1. Remove the flatbed upper cover.
2. Disconnect the sensor cable (A) from the connector on the sensor.



3. Remove the screw (B) securing the sensor cable to the ADF inner cover.

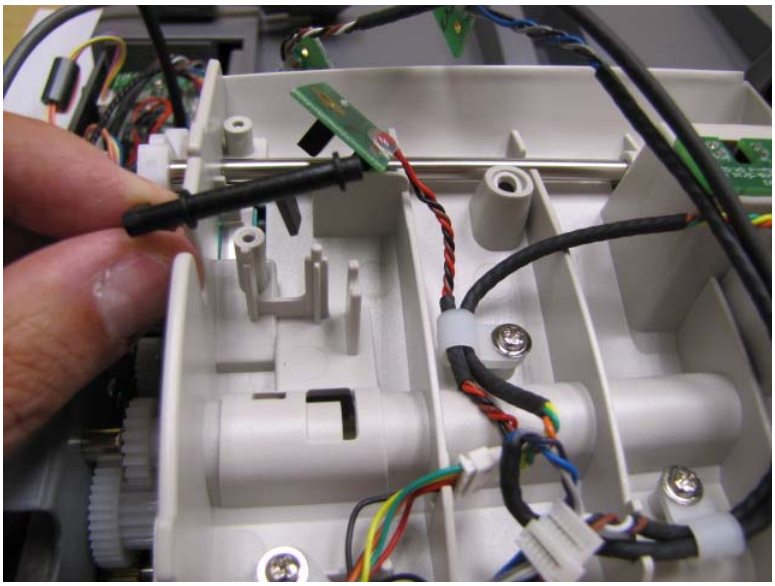
4. Remove the screw (C) securing the sensor to the inner cover.



5. Remove the screw (D) securing the ADF pick sensor to the inner cover

ADF cover open sensor actuator

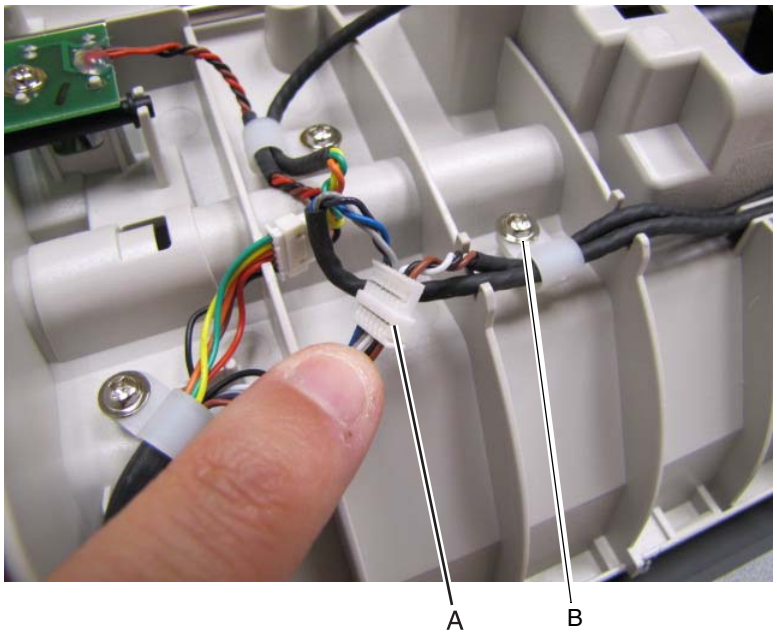
1. Remove the screw securing the cover open sensor to the ADF inner cover.
2. Remove the ADF cover open sensor actuator.



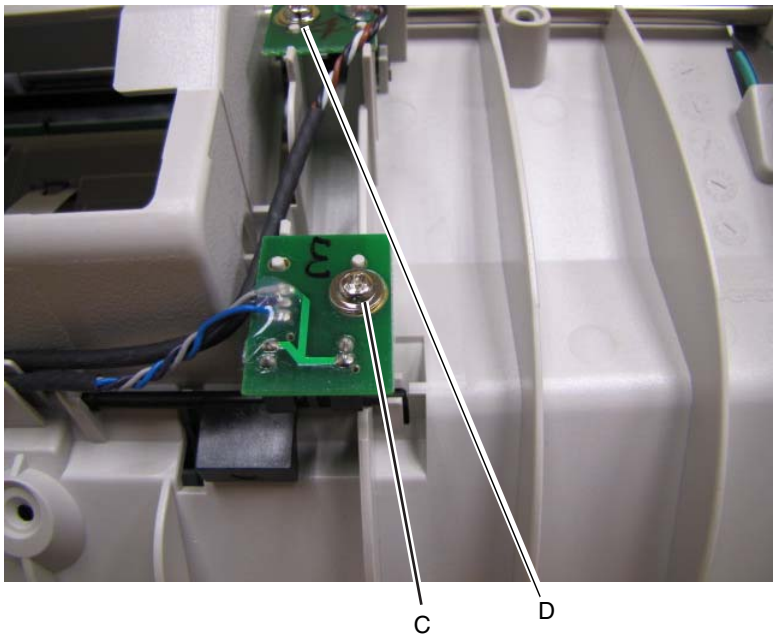
Paper present / paper in sensor

Note: The ADF paper in and ADF paper present sensors are one assembly.

1. Remove the ADF outer cover.
2. Disconnect the sensor assembly (A) cable from the main cover sensor cable.



3. Remove the screw (B) holding the cable to the ADF inner cover.
4. Remove the screw (C) securing the ADF paper in sensor to the ADF inner cover.



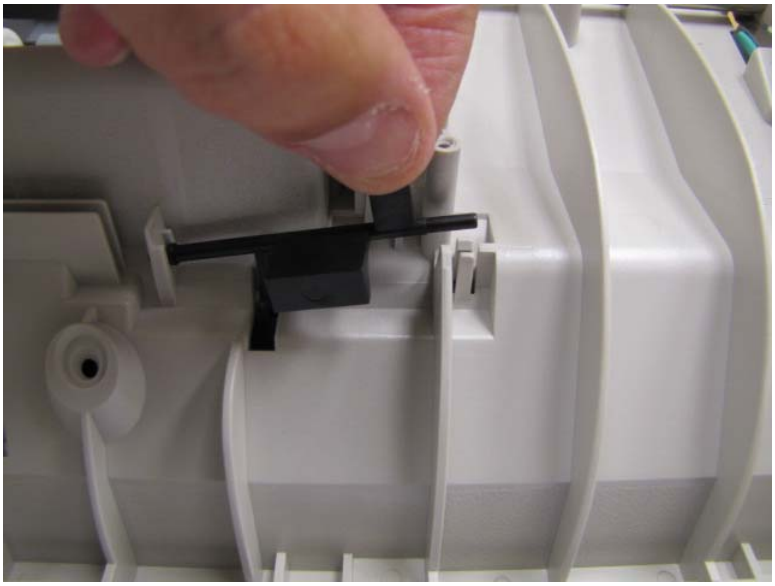
5. Remove the screw (D) securing the paper present sensor to the ADF inner cover.

Paper present sensor actuator

1. Remove the screw securing the ADF paper present sensor to the ADF inner cover.
2. Turn the actuator up and carefully remove the actuator from the inner ADF to cover.

Paper in sensor actuator

1. Remove the ADF paper in sensor.
2. Carefully remove the actuator from the inner ADF to cover.



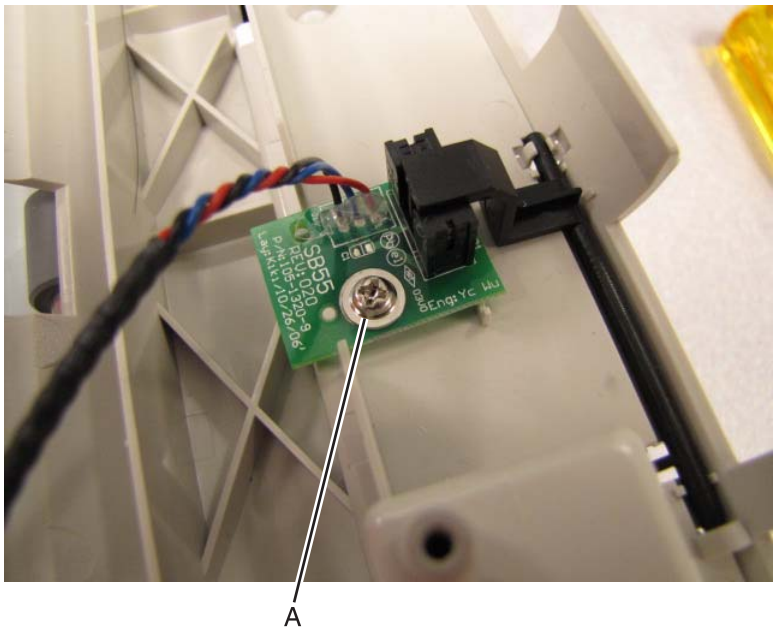
Paper path sensor

See **“Scan sensor” on page 4-136**.

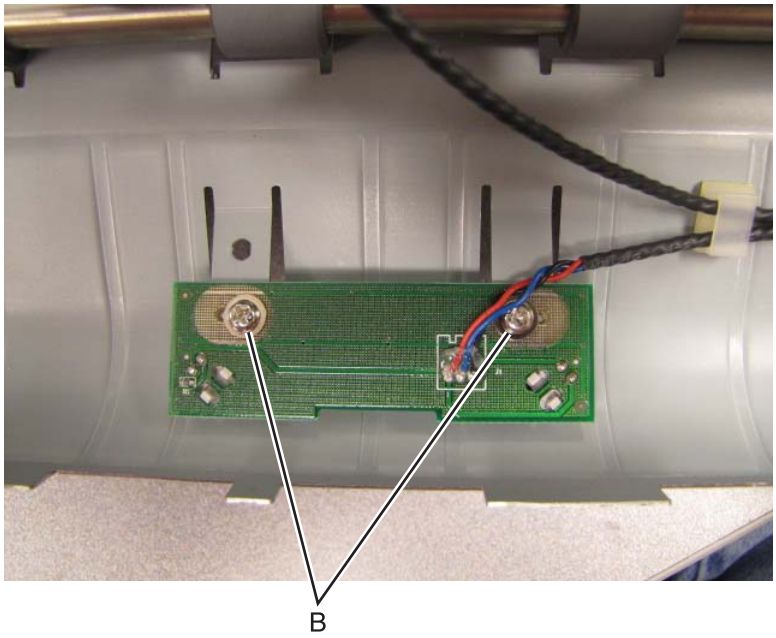
Scan sensor

Note: The scan sensor FRU assembly is made of the scan sensor and an optical (paper path) jam sensor.

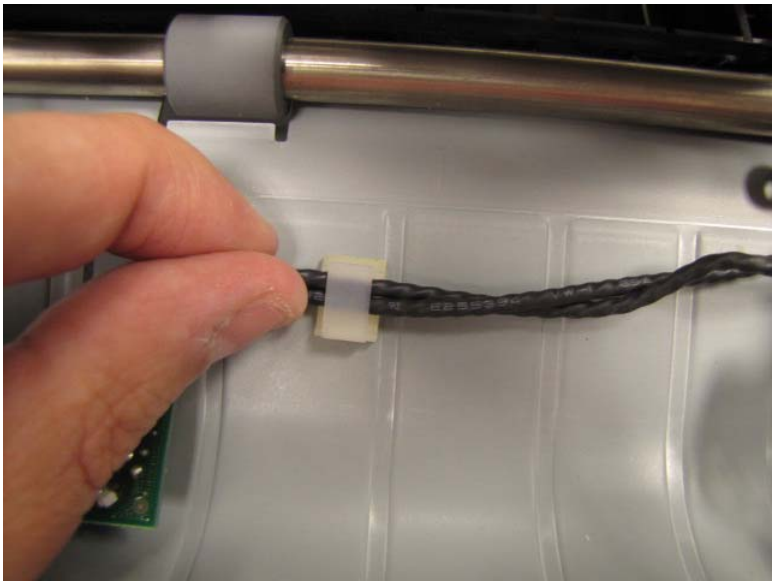
1. Remove the ADF main feed unit.
2. Remove the scan sensor cover.
3. Remove the screw (A) securing the scan sensor to the scan sensor cover.



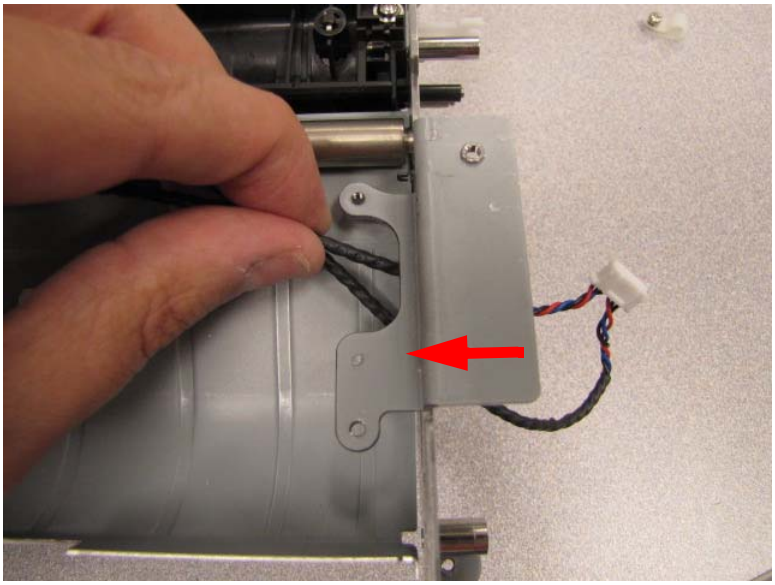
4. Remove the two screws (B) securing the paperpath sensor to the ADF main feed unit.



5. Pull the scan sensor cable through the clip on the ADF main feed unit.



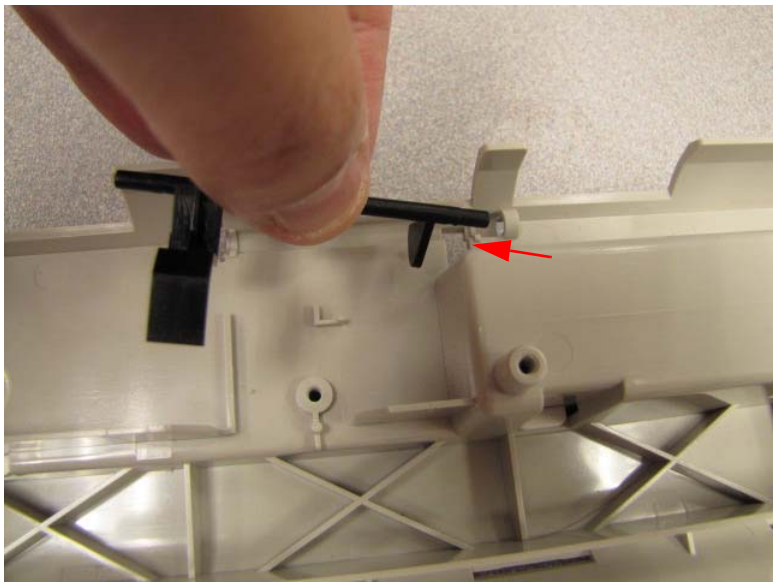
6. Pull the sensor cable through the side of the ADF main feed unit.



Scan sensor actuator

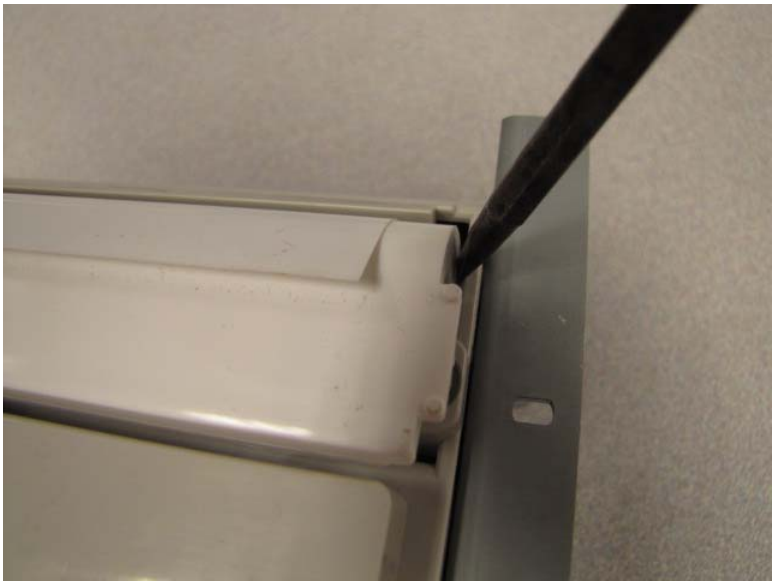
1. Remove the scan sensor.
2. Use a flatbed screwdriver to free the actuator from the scan sensor cover.

3. Remove the actuator.

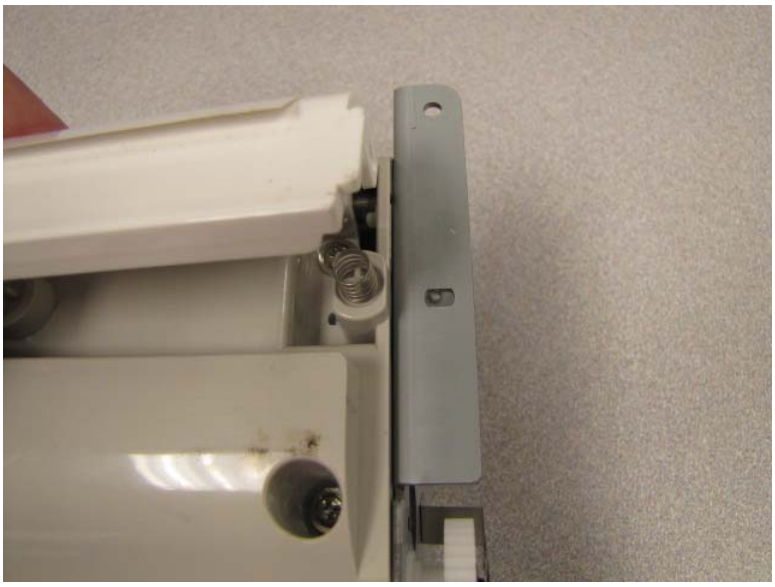


Scan sensor cover (not a fru)

1. Remove the ADF main feed unit.
2. Use a flatblade screwdriver to remove the guide on the bottom of the ADF main feed unit.

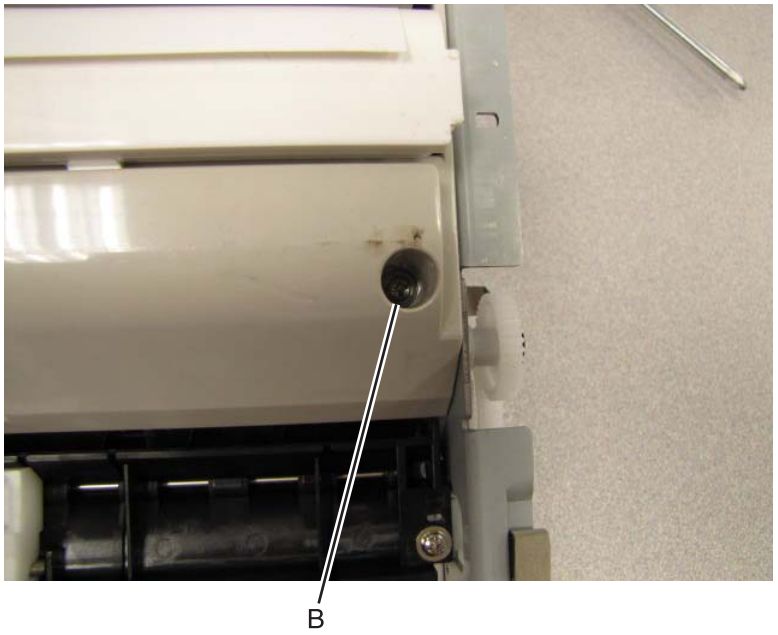


3. Pull the guide out of the ADF main feed unit.

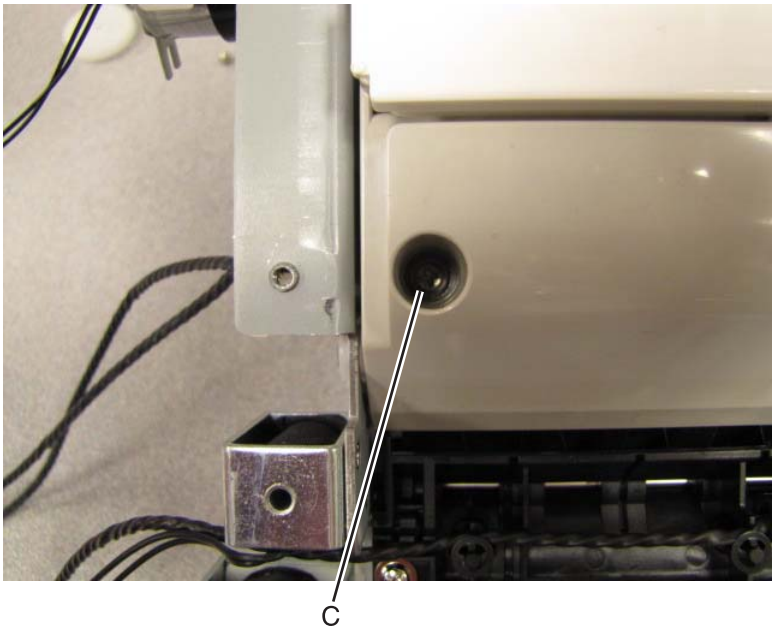


4. Remove the screw (A) securing the scan sensor cover to the ADF main feed unit.

5. Remove the screw (B) securing the scan sensor cover to the ADF main feed unit.

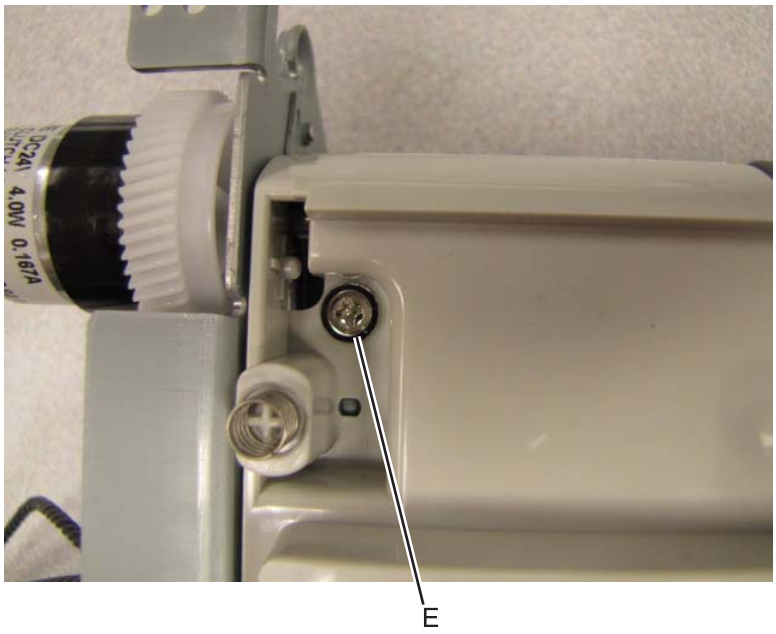


6. Remove the screw (C) securing the scan sensor cover to the ADF main feed unit.



7. Remove the screw (D) securing the scan sensor cover to the ADF main feed unit.

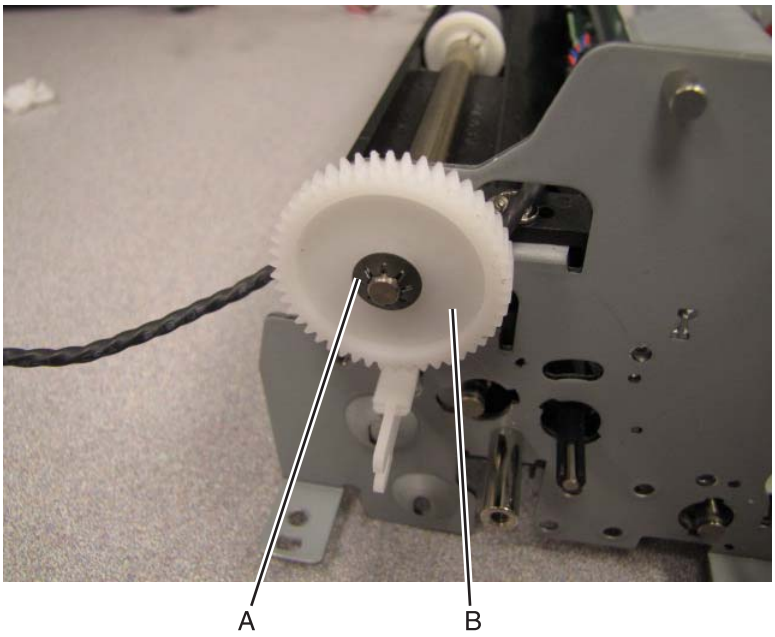
8. Remove the screw (E) securing the scan sensor cover to the ADF main feed unit.



9. Remove the scan sensor cover.

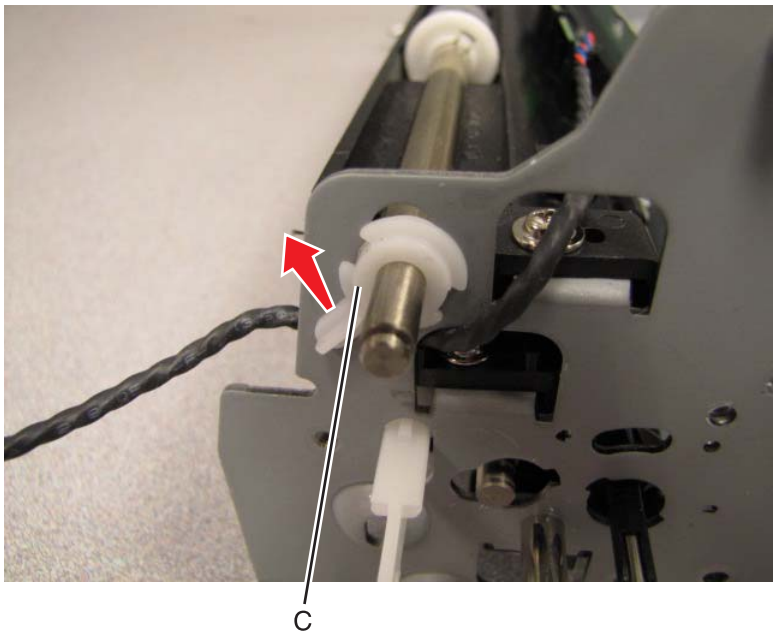
Duplex timing sensor

1. Remove the ADF main feed unit.
2. Remove the fastener (A).

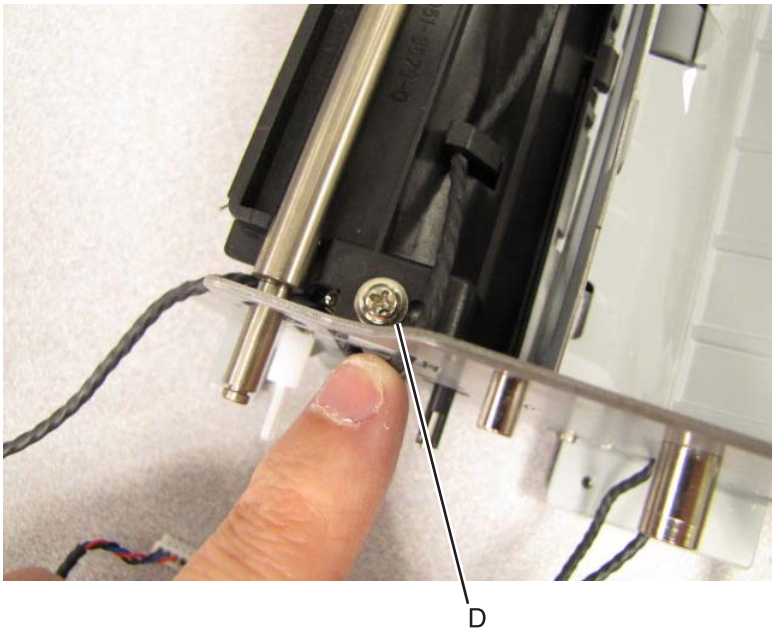


3. Remove the gear (B).

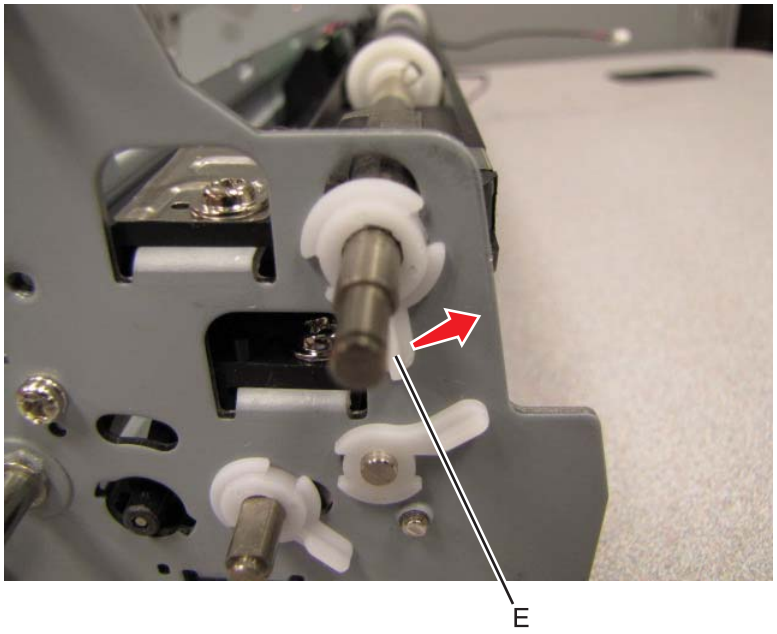
4. Turn the bushing (C) to release it from the ADF main feed unit.



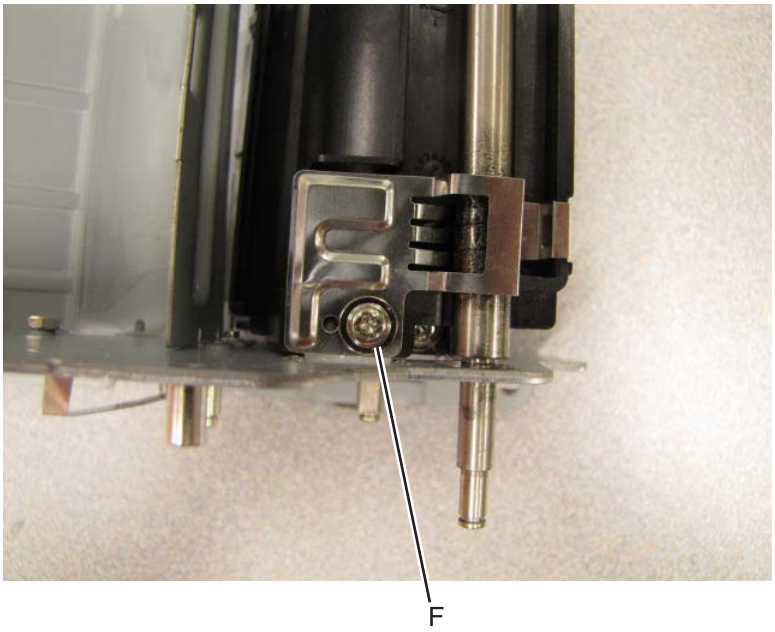
5. Remove the screw (D) securing the paper guide to the ADF main feed unit.



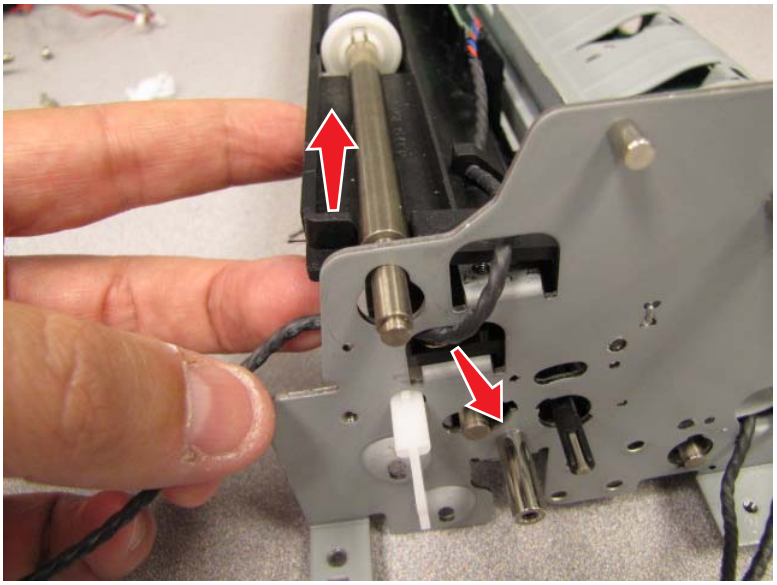
6. Turn the bushing (E) to release it from the ADF main feed unit.



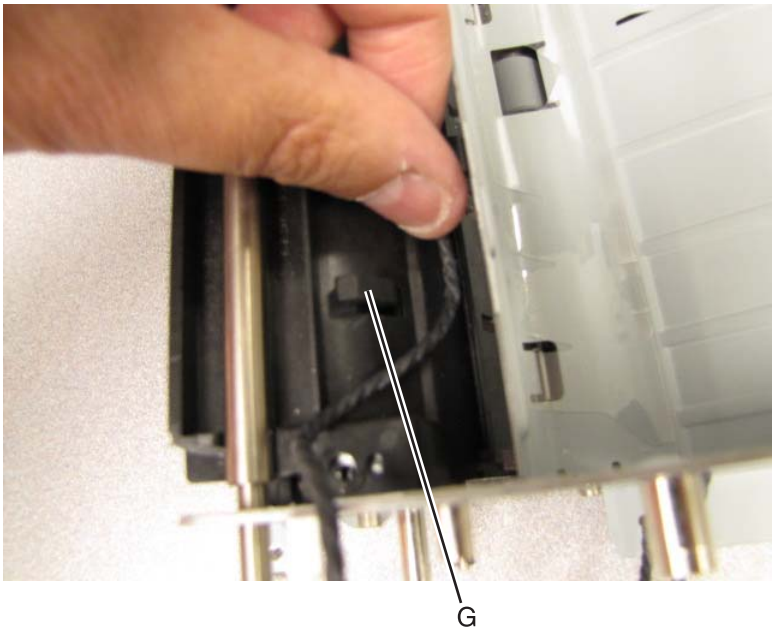
7. Remove the screw (F) securing the paper guide to the ADF main feed unit.



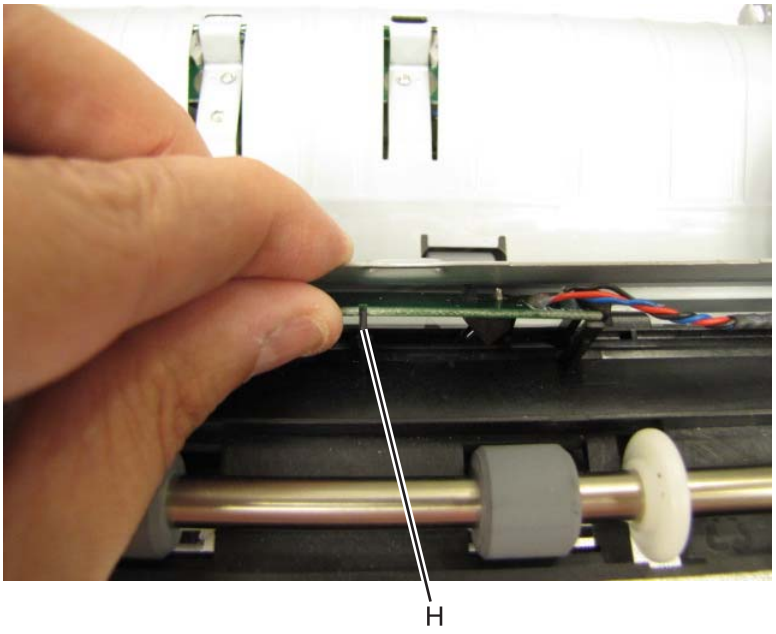
8. Lift the paper guide up and feed the duplex pass timing sensor cable through the ADF main feeder frame.



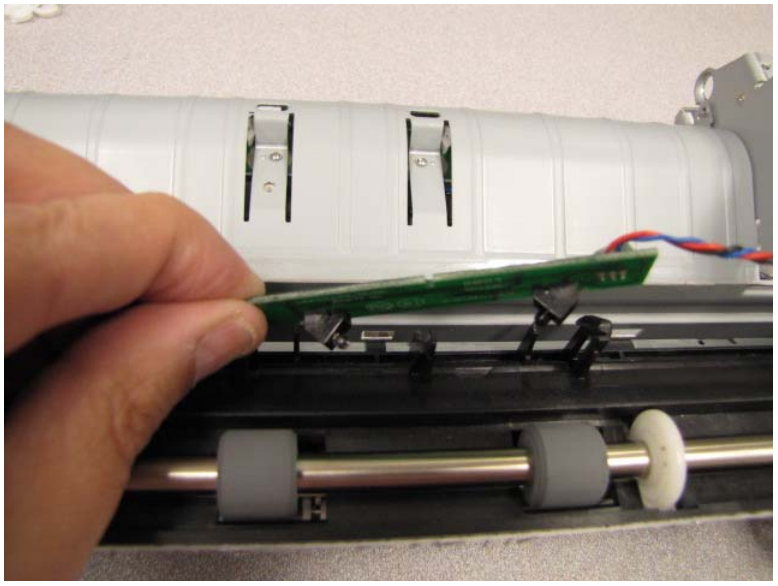
9. Release the cable from the clip (G) on the paper guide.



10. Carefully pull the sensor PCBA away from the retainer (H) on the paper guide.

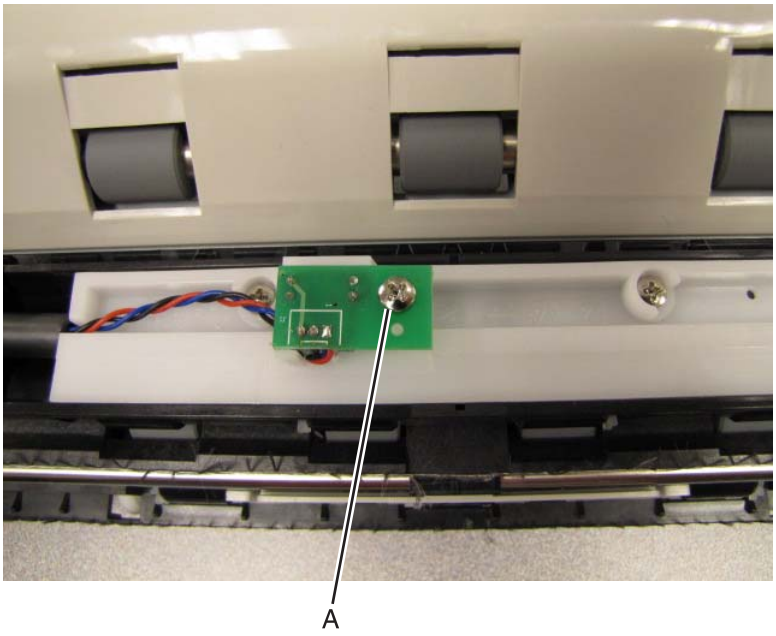


11. Carefully lift the sensor up and away from the paper guide.

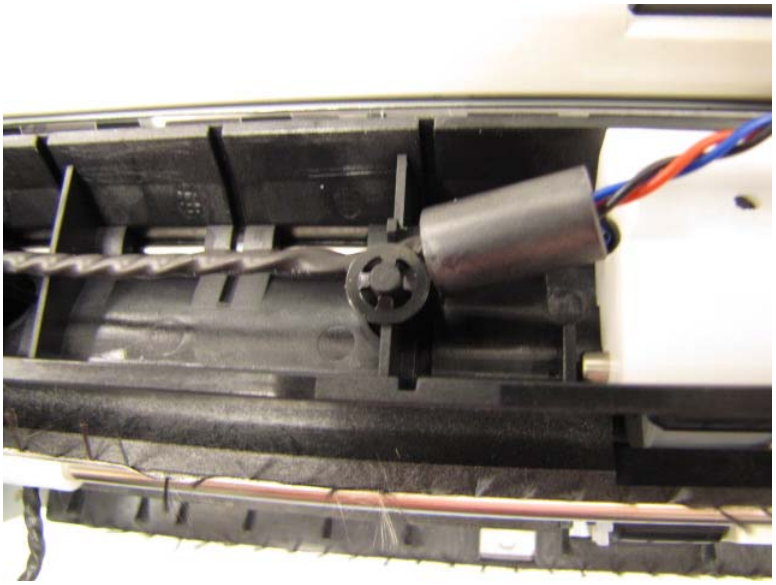


Duplex out (scan out) sensor

1. Remove the ADF main feed unit.
2. Remove the screw (a) securing the duplex out sensor to the ADF main feed unit.

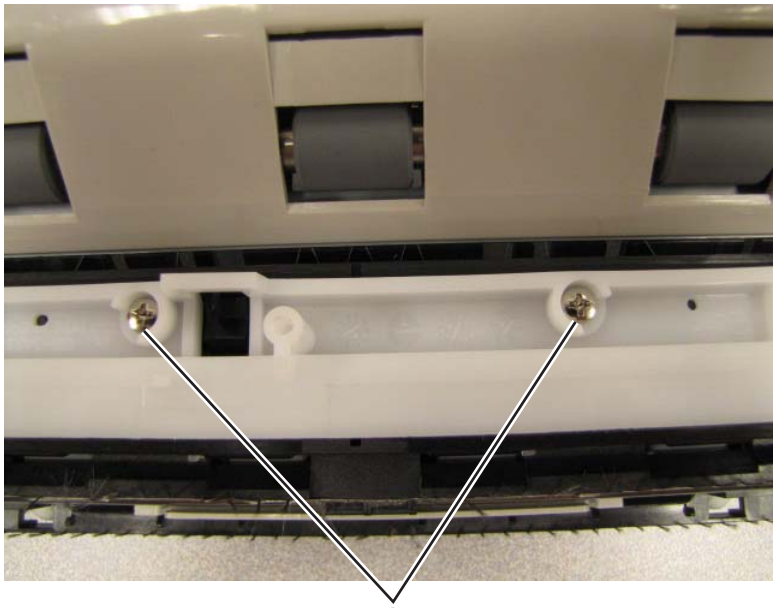


3. Route the cable out of the main feed unit, removing the clips if needed.

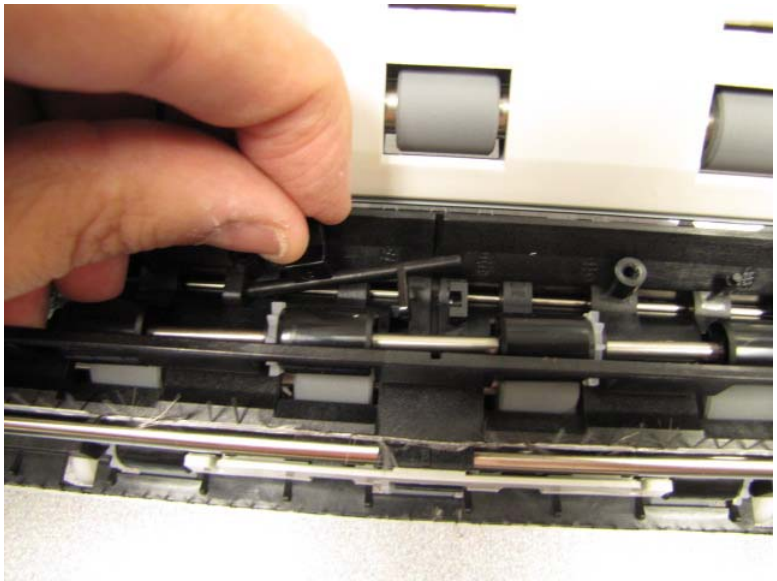


Duplex out sensor actuator

1. Remove the duplex out sensor.
2. Remove the two screws (A) that fasten the sensor mount to the ADF main feed unit.

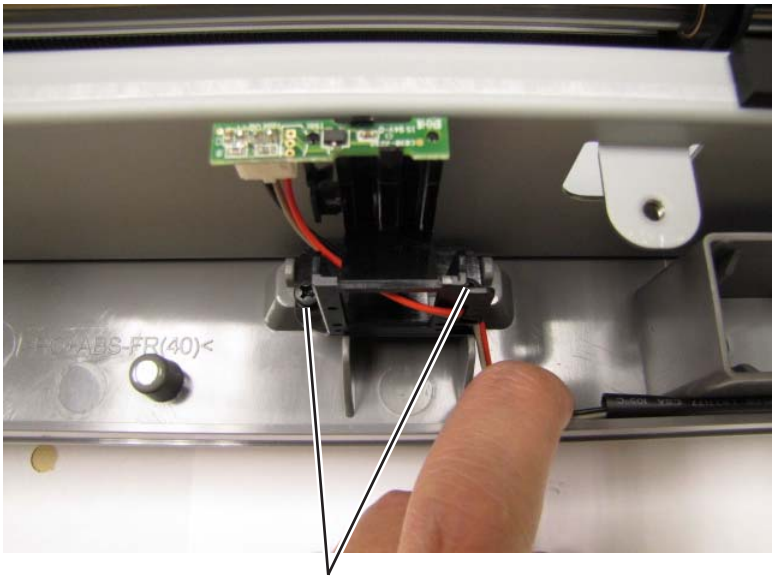


3. Lift the actuator out of the ADF main feed unit.

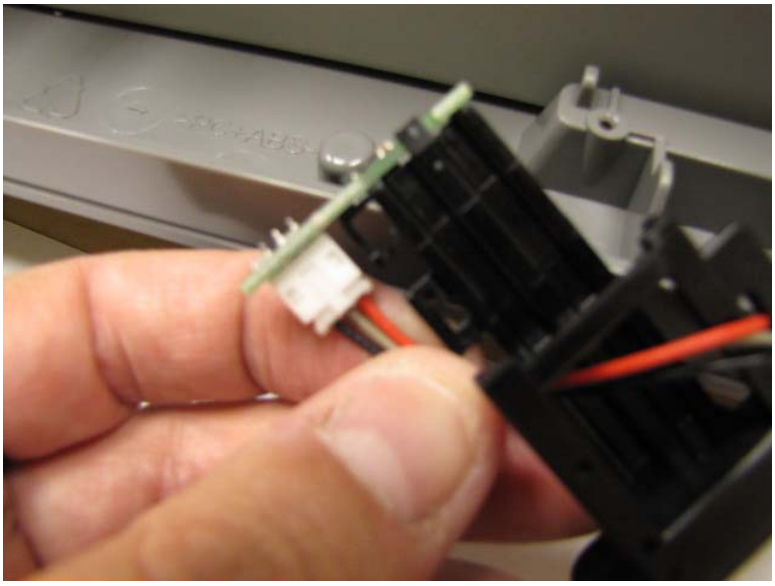


Flatbed cover closed sensor

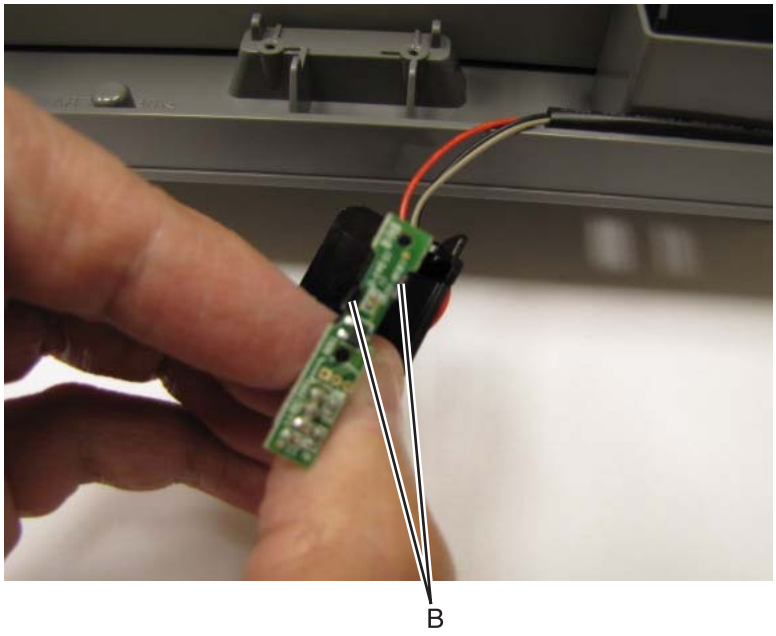
1. Remove the flatbed upper cover. See **"Flatbed upper cover" on page 4-151**.
2. Remove the two screws (a) securing the sensor mounting bracket to the flatbed chassis.



3. Remove the sensor cable from the connector.

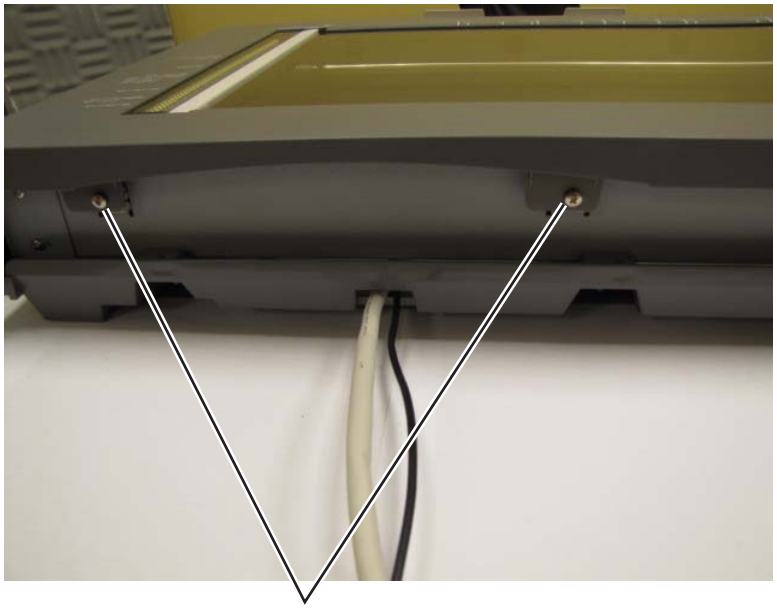


4. Pull the two tabs (B) back to release the sensor from the mounting bracket.

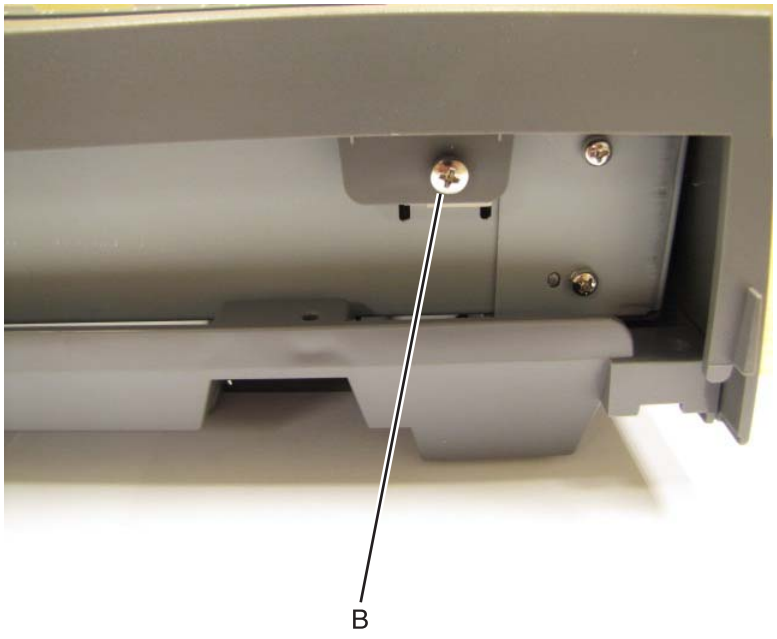


Flatbed upper cover

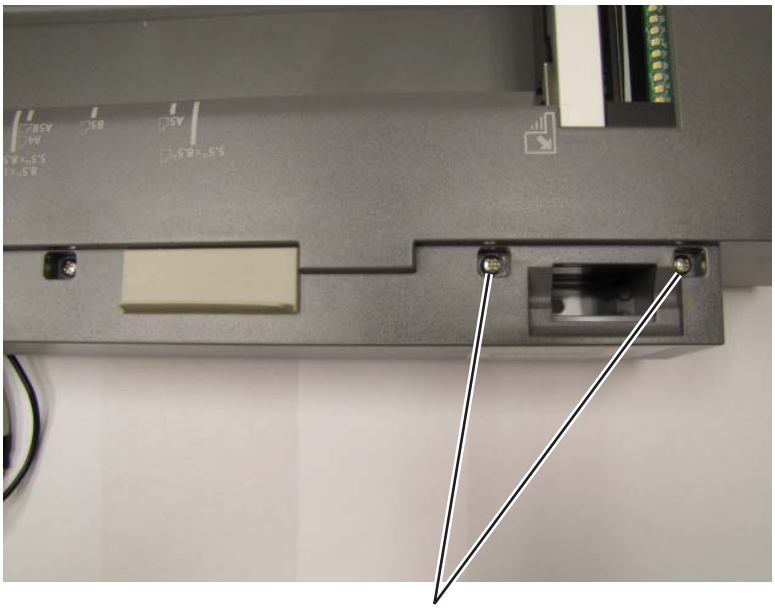
1. Remove the flatbed assembly. See **"Flatbed assembly removal" on page 4-106**.
2. Remove the flatbed front cover. See **"Flatbed front cover" on page 4-107**.
3. Remove the two screws (A) on the front of the flatbed unit.



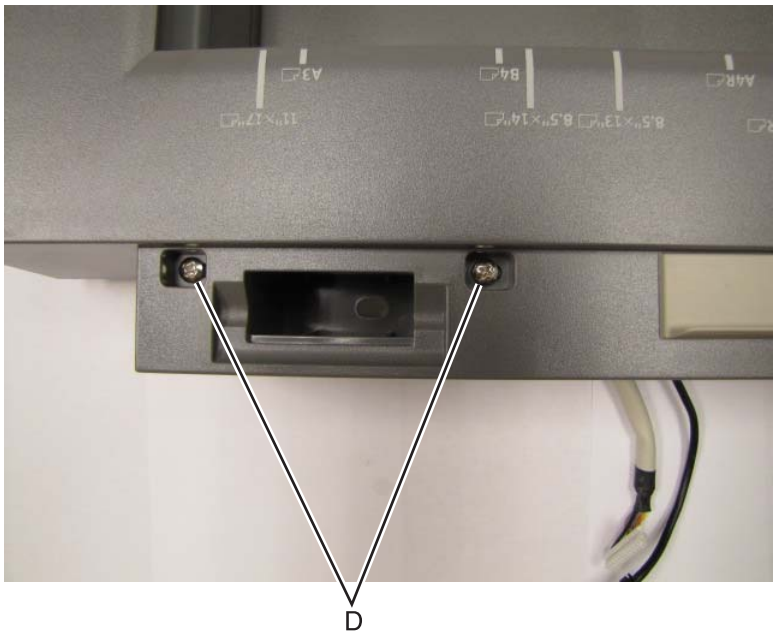
4. Remove the screw (B) on the front of the cover.



5. Remove the two screws (C) on the top rear of the cover.



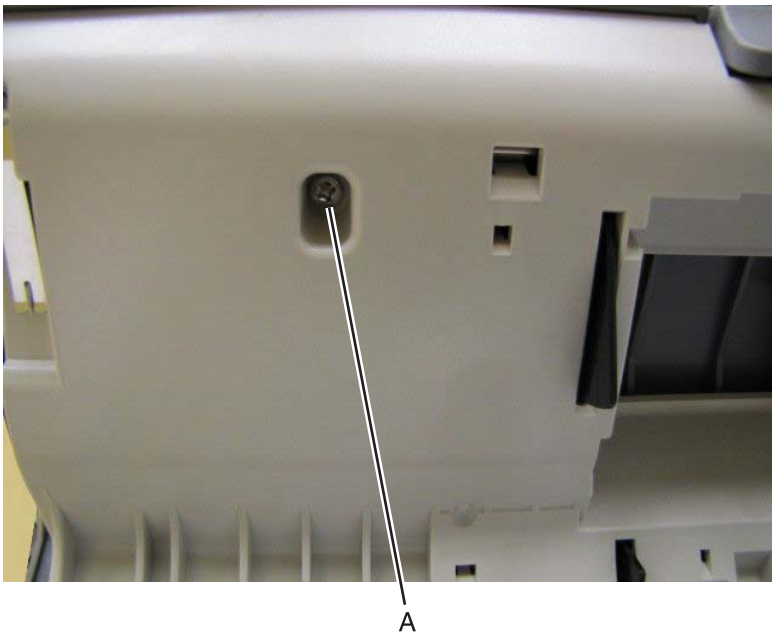
6. Remove the two screws (D) on the top rear of the cover.



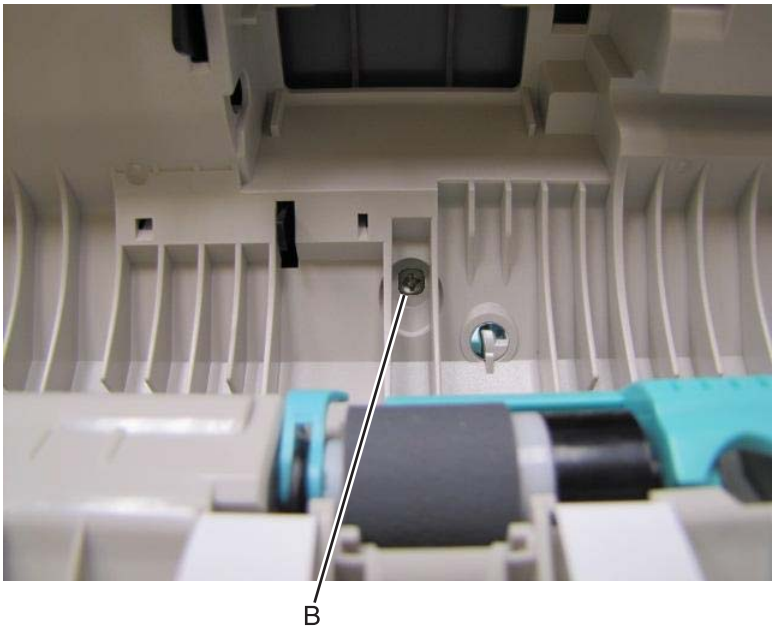
7. Lift the cover off of the flatbed chassis.

Outer ADF top cover

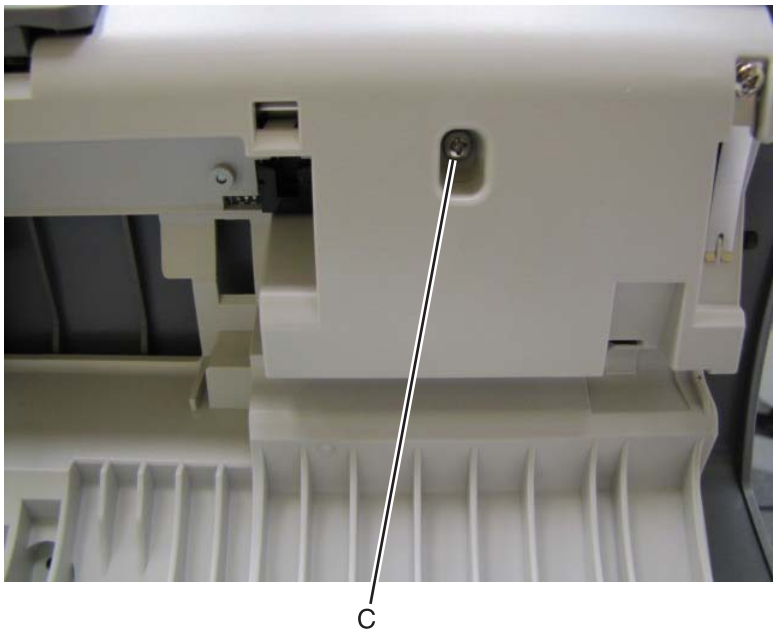
1. Open the ADF top cover.
2. Remove the left cover screw (A) that secures the outer cover to the inner cover.



3. Remove the middle cover screw (B) that secures the outer cover to the inner cover.

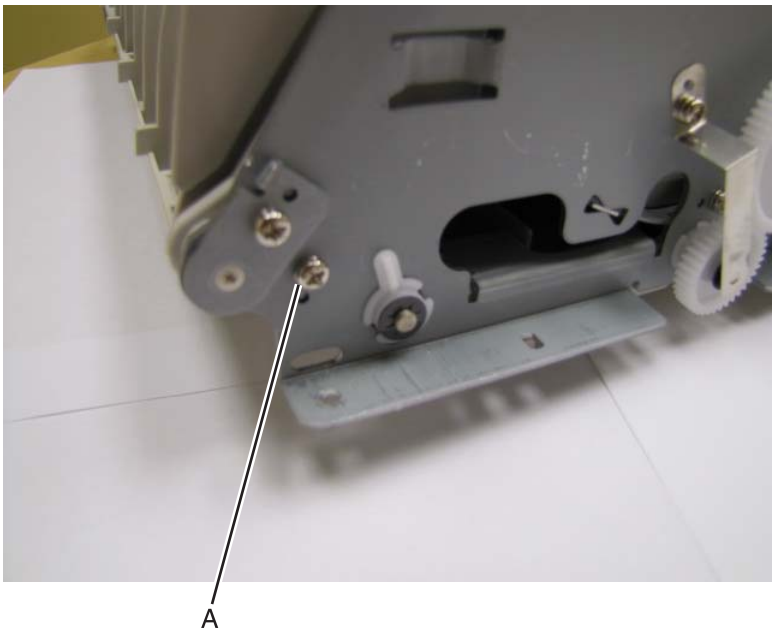


4. Remove the right cover screw (C) that secures the outer cover to the inner cover.



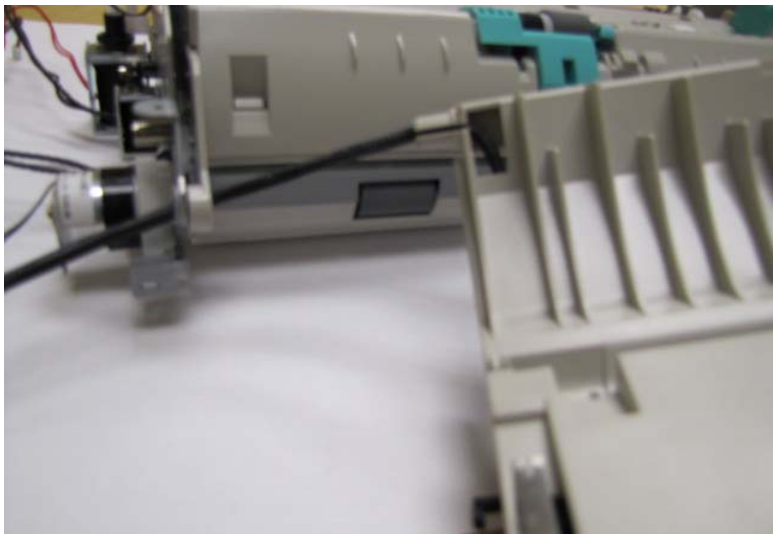
Inner ADF top cover

1. Remove ADF outer top cover.
2. Remove the ADF main feeder.
3. Remove the screw (A) securing the hinge to the main feeder.

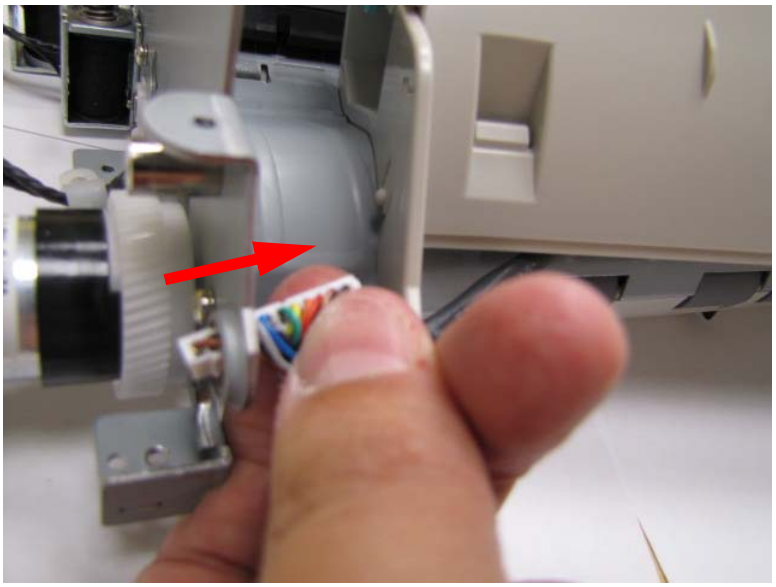


4. Remove the hinge.

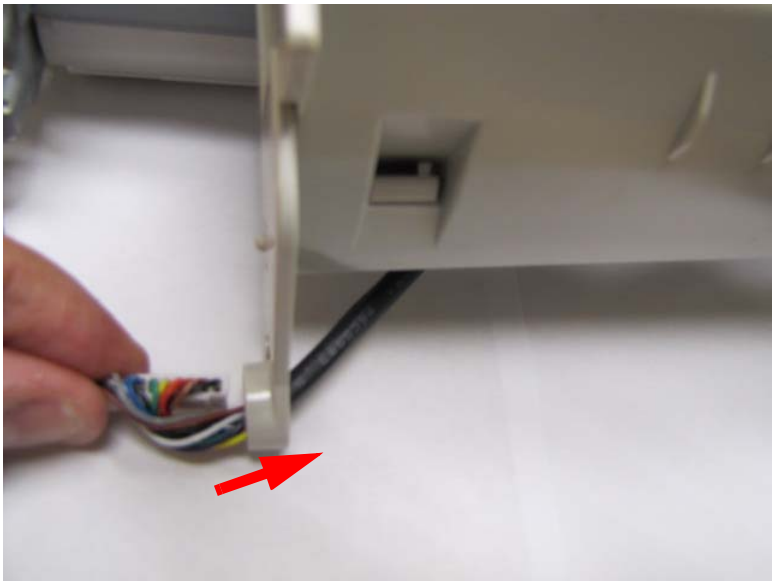
5. Pull the inner top cover away from the ADF main feeder.



6. Carefully feed the sensor assembly cable through the ADF main feeder.



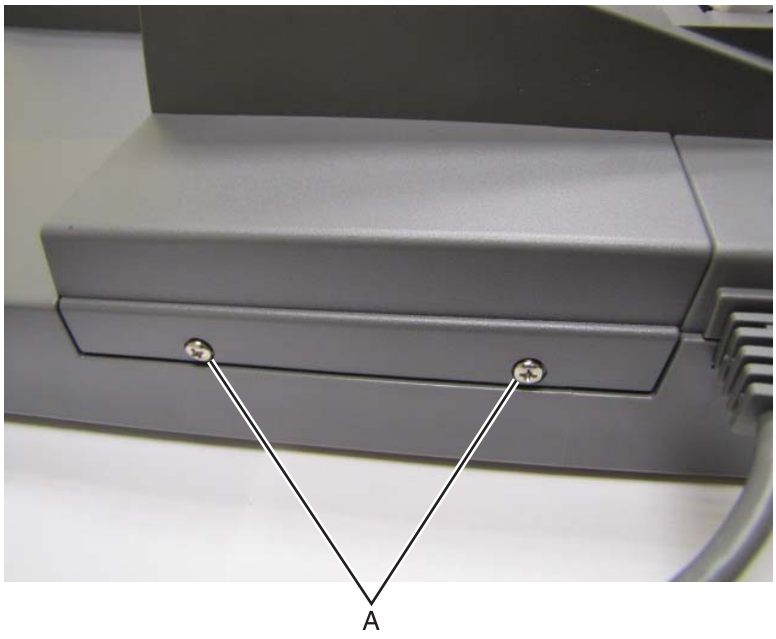
7. Carefully feed the sensor assembly cable through the ADF paper guide assembly.



8. Remove sensors, and hinges from the inner cover to place on the new cover.

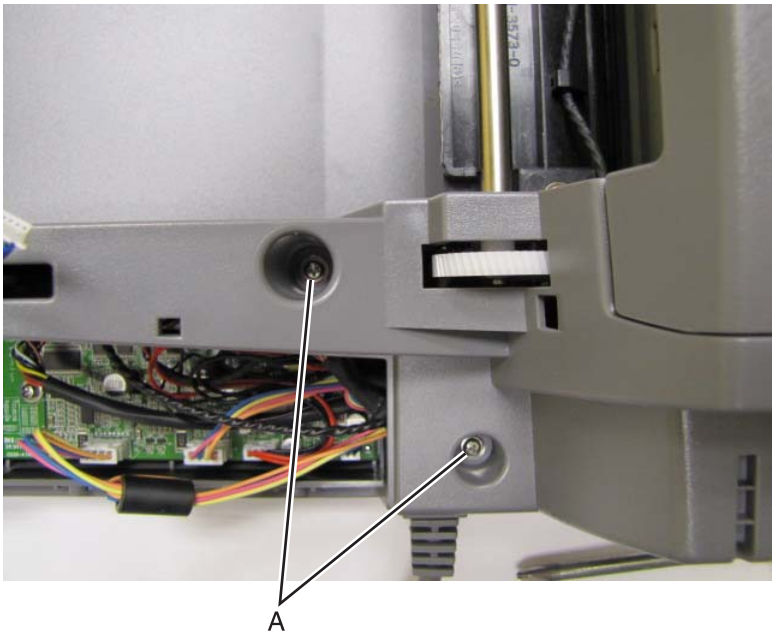
ADF relay card cover

1. Remove the two screws (A) securing the relay cover to the ADF assembly.



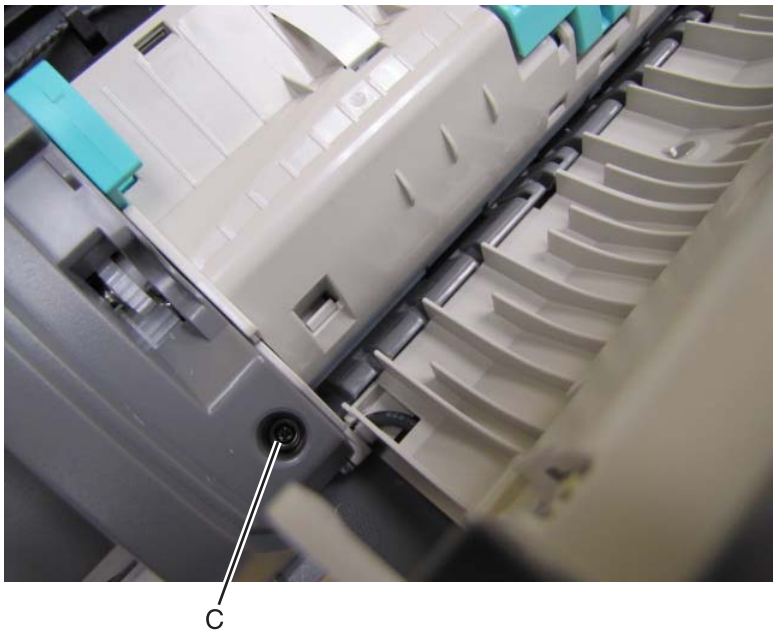
Left ADF cover

1. Remove the two screws (A) on top of the left ADF cover.

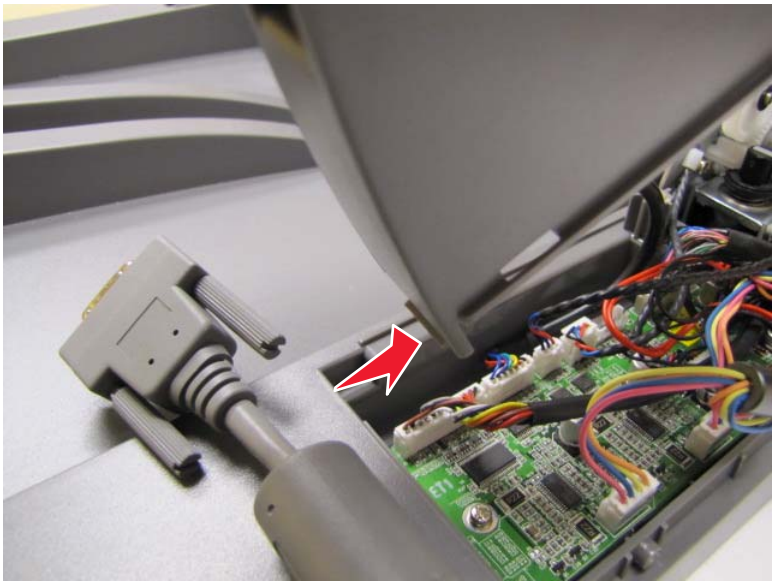


2. Remove the screw (B) in the rear of the left ADF cover.

3. Lift the ADF top cover and remove the screw (C).

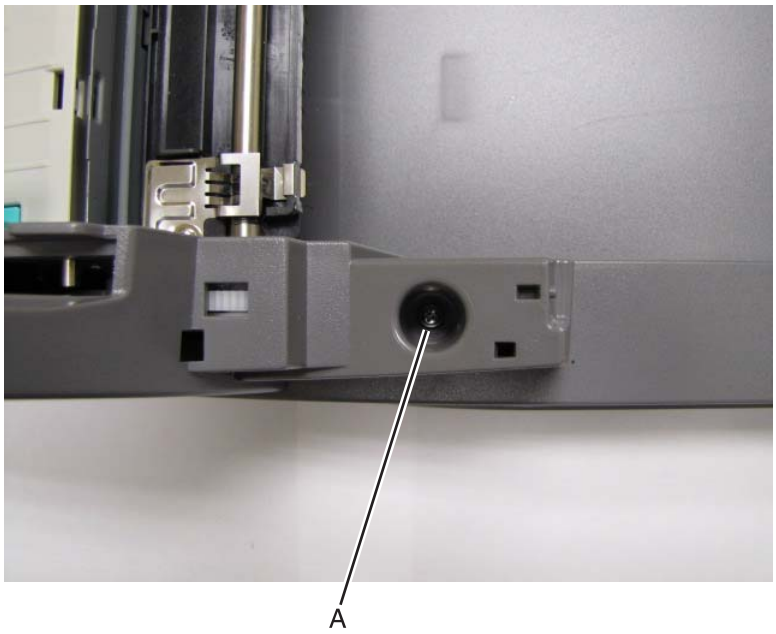


4. Lift the cover up, and slide the tab on the cover out of the ADF assembly.

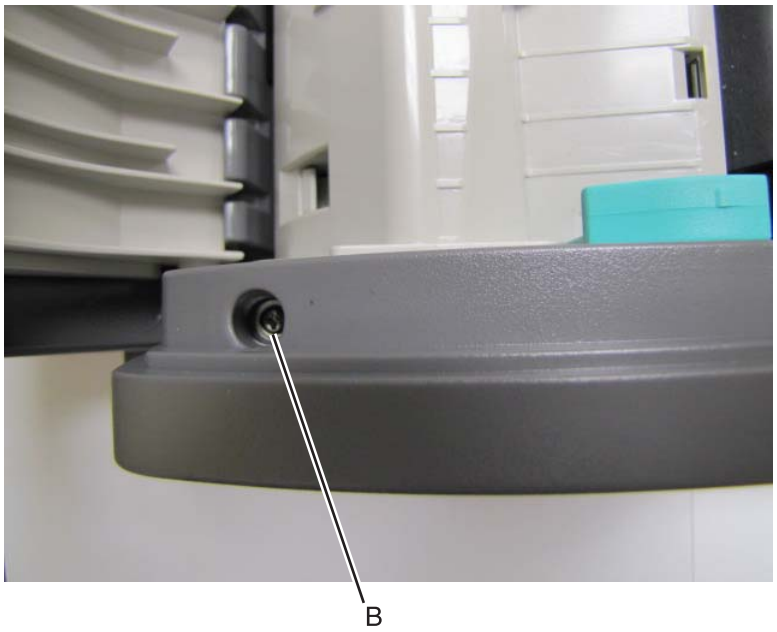


Right ADF cover

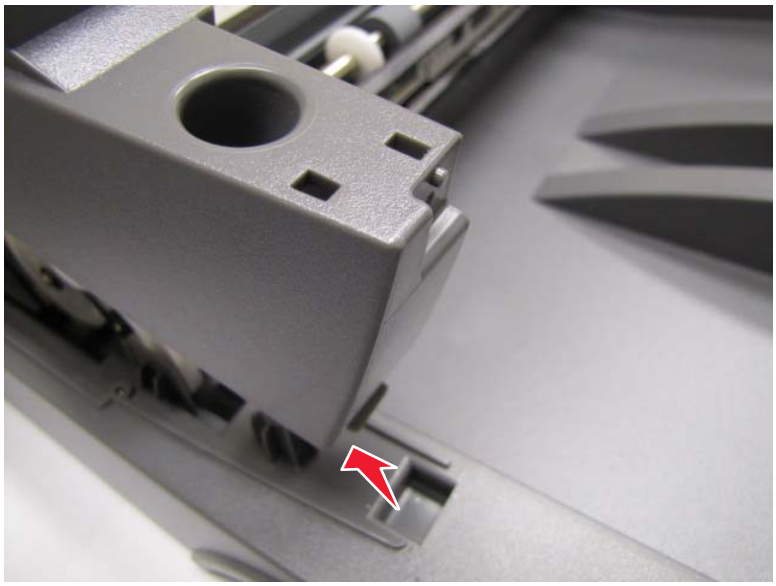
1. Remove the screw (A) securing the cover to the flatbed cover.



2. Lift the ADF top cover and remove the screw (B) securing the cover to the flatbed cover.



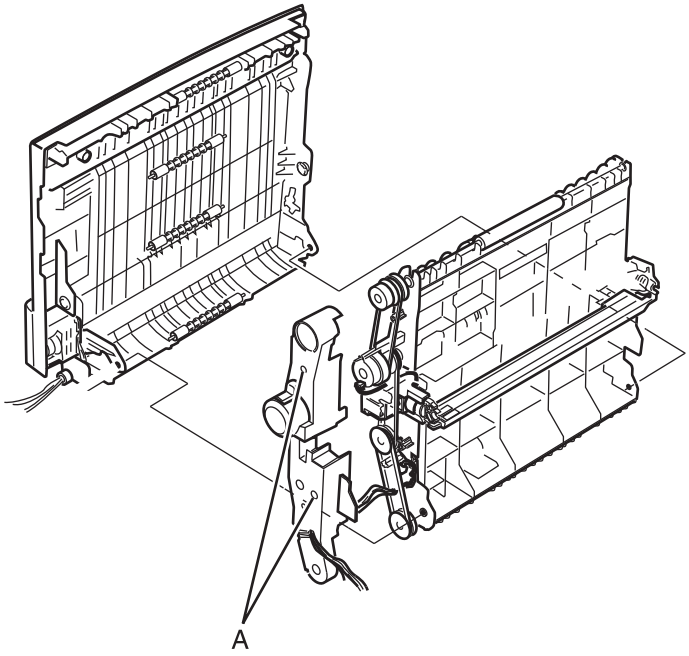
3. Lift the rear of the right ADF cover up and pull the cover away from the flatbed cover.



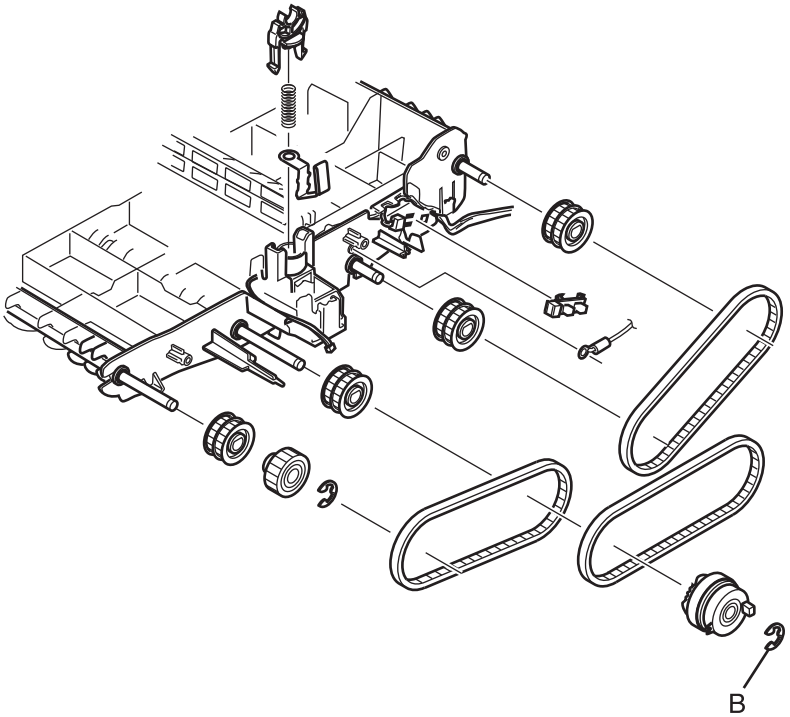
Duplex unit component removals

Duplex clutch removal

1. Remove the duplex unit. See **“Duplex removal” on page 4-63**.
2. Remove the two screws (A) securing the duplex cover to the duplex unit.



3. Disconnect the duplex clutch harness from the duplex clutch.
4. Remove the e-clip (B) that fastens duplex clutch to the carrying shaft.

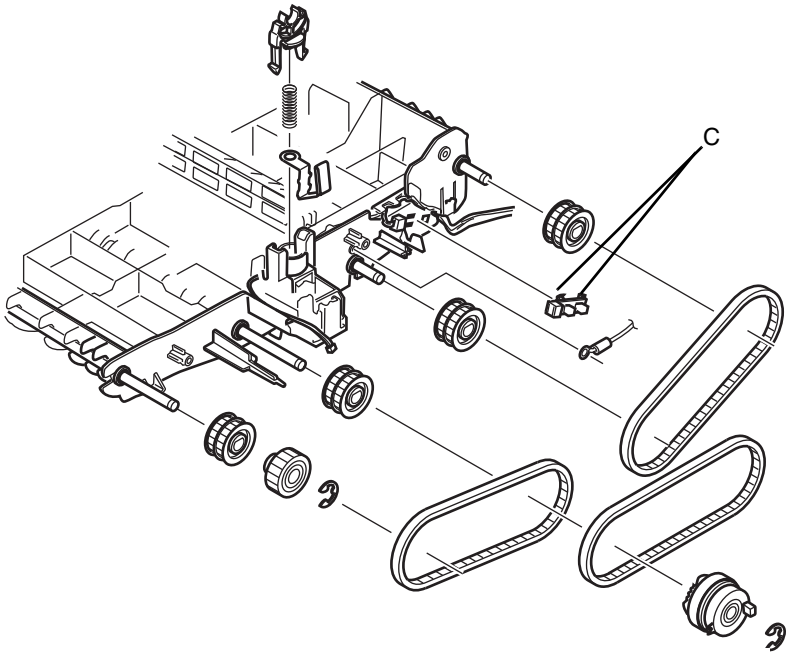


Duplex timing belt removal

1. Remove the duplex clutch.See **"Duplex clutch removal" on page 4-162**.
2. Remove the timing belts.

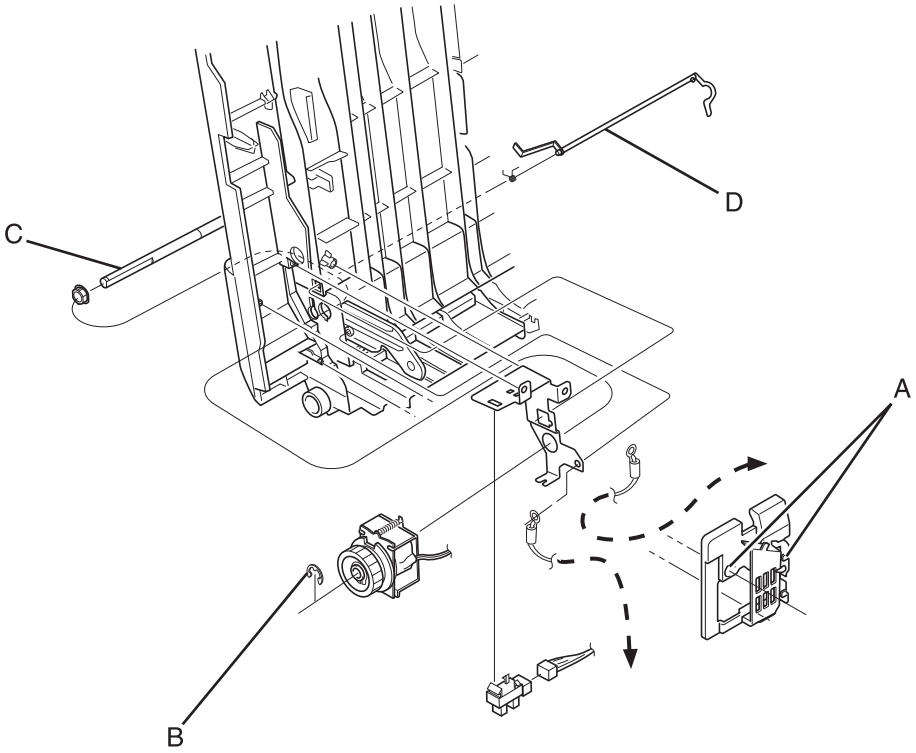
Duplex exit / MPF sensor removal

1. Remove the duplex unit. See **"Duplex removal" on page 4-63**.
2. Remove the duplex exit / MPF sensor actuator.
3. Disconnect the sensor harness.
4. Pinch the tabs (C) that secure the sensor to the duplex unit.



MPF clutch removal

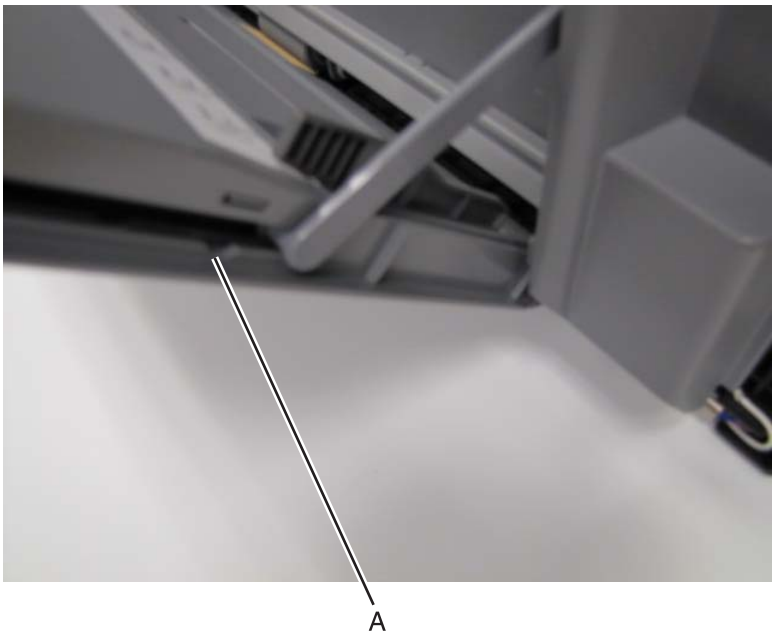
1. Remove the duplex unit. See **“Duplex removal” on page 4-63**.
2. Remove the two screws (A) securing the MPF clutch cover to the duplex unit.



3. Remove the e-clip (B) securing the clutch to the MPF shaft.
4. Remove the MPF shaft (C).
5. Remove the MPF paper empty lever (D).
6. Remove the MPF clutch.

MPF tray assembly removal

1. Open the MPF tray.
2. Slide the MPF arm up to the opening on the tray (A).



3. Pull the arm out of the tray.

4. Repeat steps 1 and 2 for the other arm.
5. Remove the MPF roller cover.

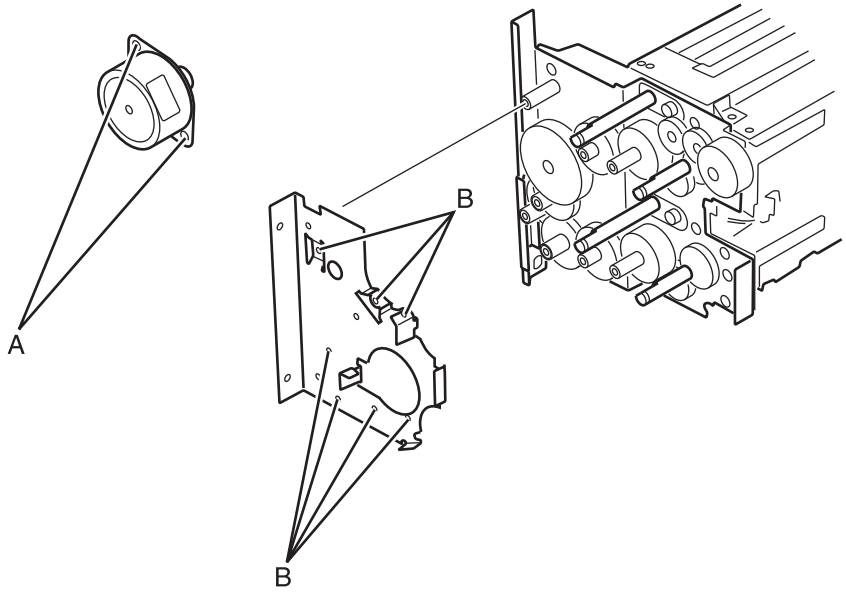
6. Lift and pull the tray away from the printer.

Paperfeed unit component removals

Note: The paperfeed, separator, and pick rolls are part of the 300,000 page maintenance kit. See the **"Paperfeed maintenance kit removals" on page 4-172** for removal instructions.

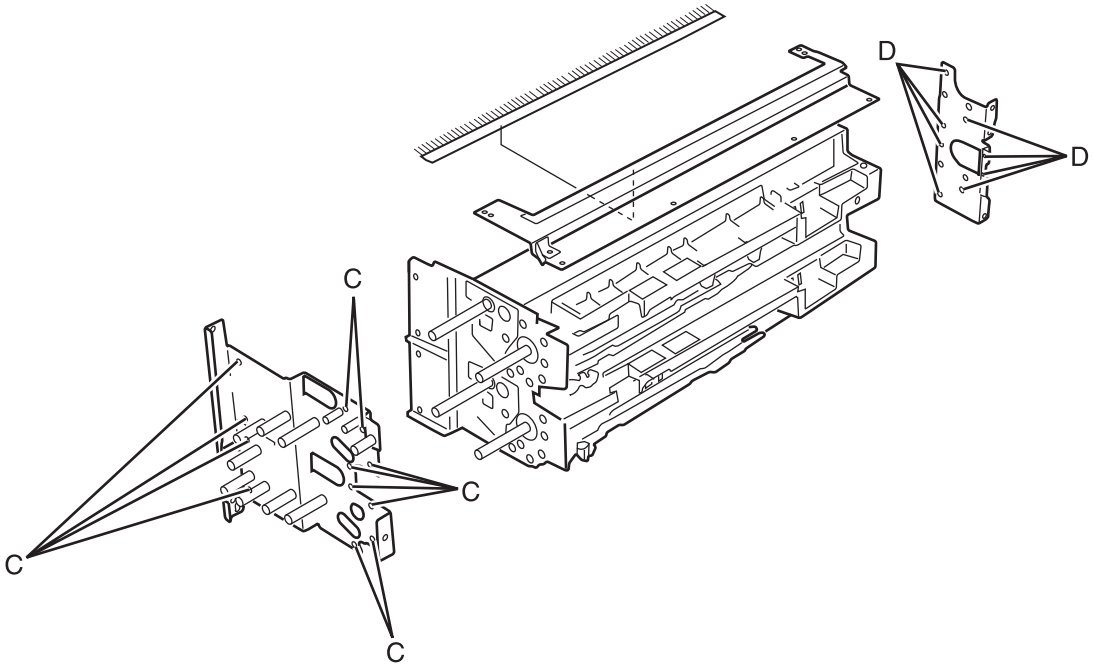
Separating the MPF tray and main tray paperfeed units

1. Remove the paperfeed unit from the printer. See **"Paper feed unit removal" on page 4-54**.
2. Remove the clutches on the paperfeed unit. See **"Paperfeed unit clutch removal" on page 4-169**.
3. Remove the two screws (A) securing the paperfeed motor to the paperfeed motor frame.



4. Remove the seven screws (B) securing the paperfeed motor frame to the paper feed unit.
5. Remove the paper feed motor frame.

6. Remove the twelve screws (C) securing the paperfeed connect frame to the paperfeed units.

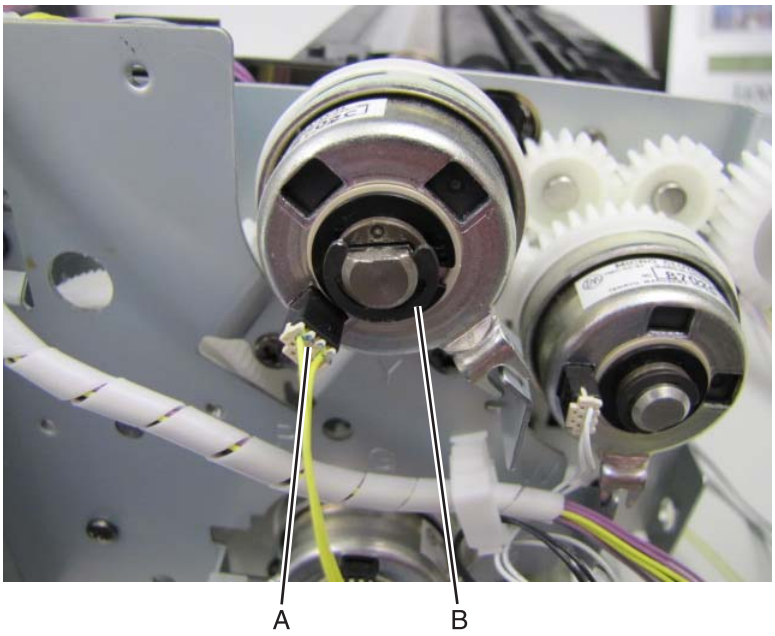


7. Remove the eight screws (D) securing the paperfeed connect frame to the paperfeed units.

Paperfeed unit clutch removal

Note: This procedure applies to all the clutches on the paperfeed unit.

1. Remove the paperfeed unit. See **"Paper feed unit removal" on page 4-54**.
2. Disconnect the wiring harness (A) from the clutch.

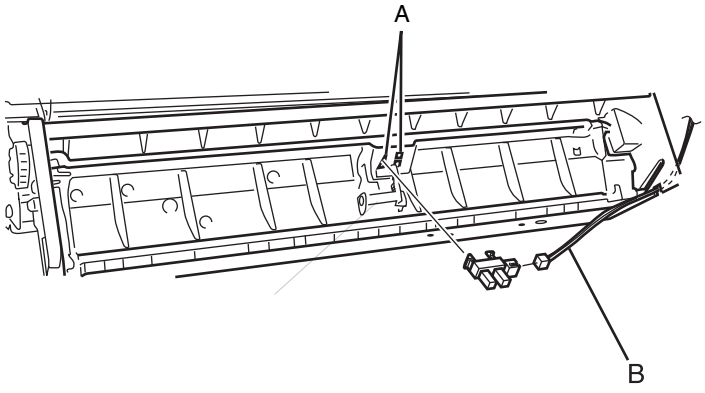


3. Remove the e-clip (B) securing the clutch to the shaft.

Note: When reinstalling the clutch make sure the clutch stopper on the paperfeed unit is lined up with the stop on the clutch.

Registration sensor (MPF tray) removal

1. Open the right cover door.
2. Pull the cassette guide down.
3. Pinch the tabs (A) that secure the sensor to the cassette guide, releasing the sensor.

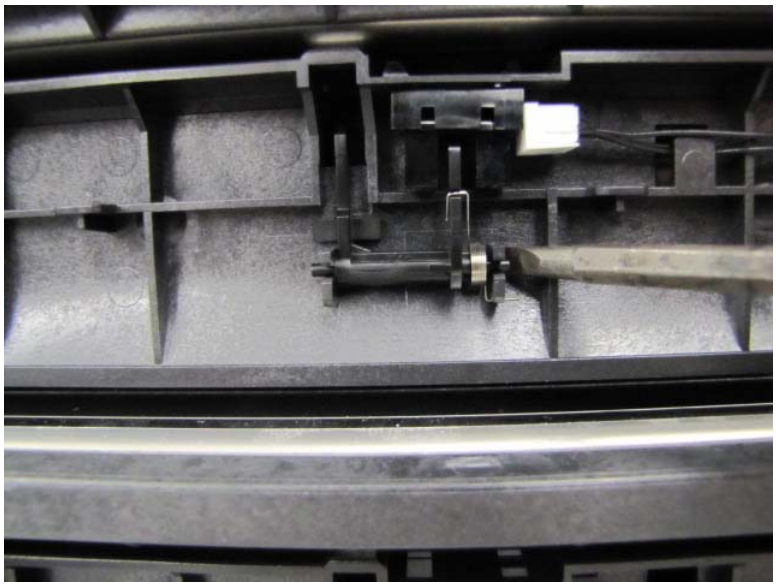


4. Disconnect the sensor from the sensor wire harness (B).

Registration sensor actuator removal

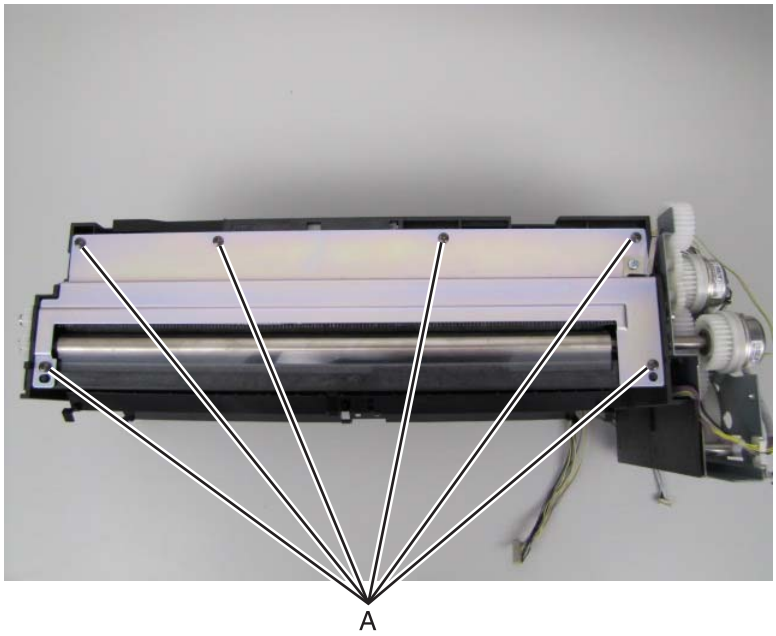
Note: The paperfeed unit does not need to be removed from the printer.

1. Open the right cover door.
2. Pull the cassette guide down.
3. Place a flatbed screwdriver under the right side of the actuator, using it as a lever to pull the actuator shaft out of the cassette guide.



Static discharge brush removal

1. Remove the paperfeed unit. See **"Paper feed unit removal" on page 4-54**.
2. Remove the six screws (A) that secure the discharge brush plate to the paperfeed unit.

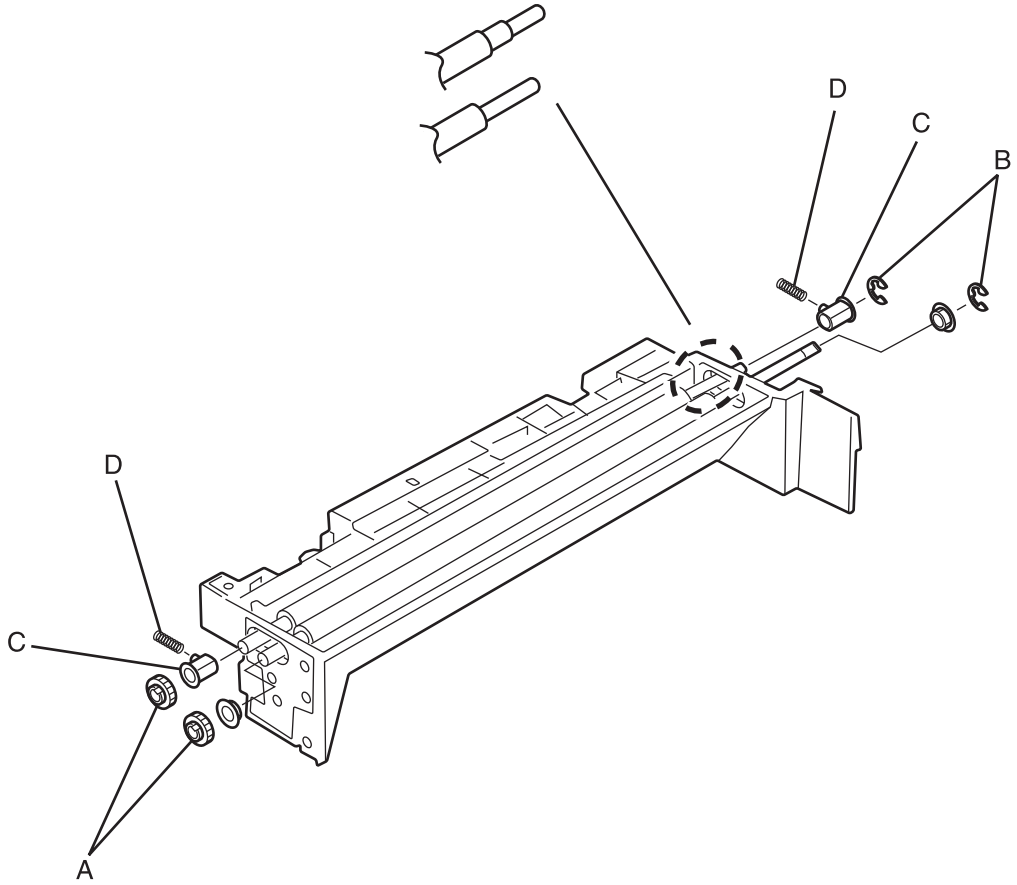


Torque limiter removal

1. Remove the separator roll. See **"Separator roll removal" on page 4-173**.
2. Remove the torque limiter.

Upper and lower registration springs removal

1. Remove the paperfeed unit. See **"Paper feed unit removal" on page 4-54**.
2. Remove the clutches on the paperfeed unit. See **"Paperfeed unit clutch removal" on page 4-169**.
3. Separate the two paperfeed units. See **"Separating the MPF tray and main tray paperfeed units" on page 4-167**.
4. Remove the registration gears (A).

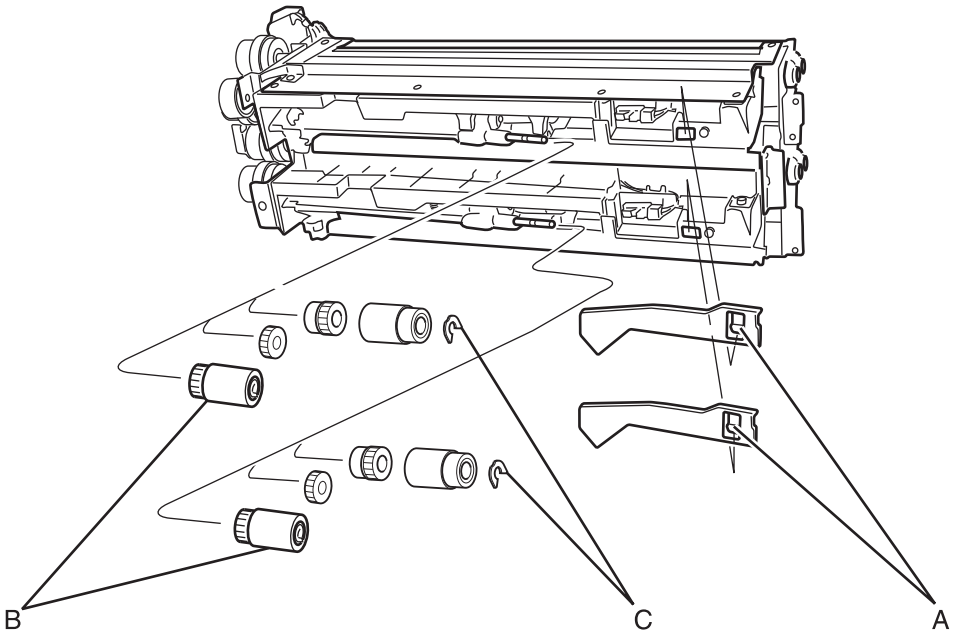


5. Remove the e-clips (B).
6. Remove the registration bushings (C).
7. Remove the registration springs (D).

Paperfeed maintenance kit removals

Pick roll removal

1. Remove the paperfeed unit. See **"Paper feed unit removal" on page 4-54**.
2. Depress the tab (A) and remove the PE sensor actuator.



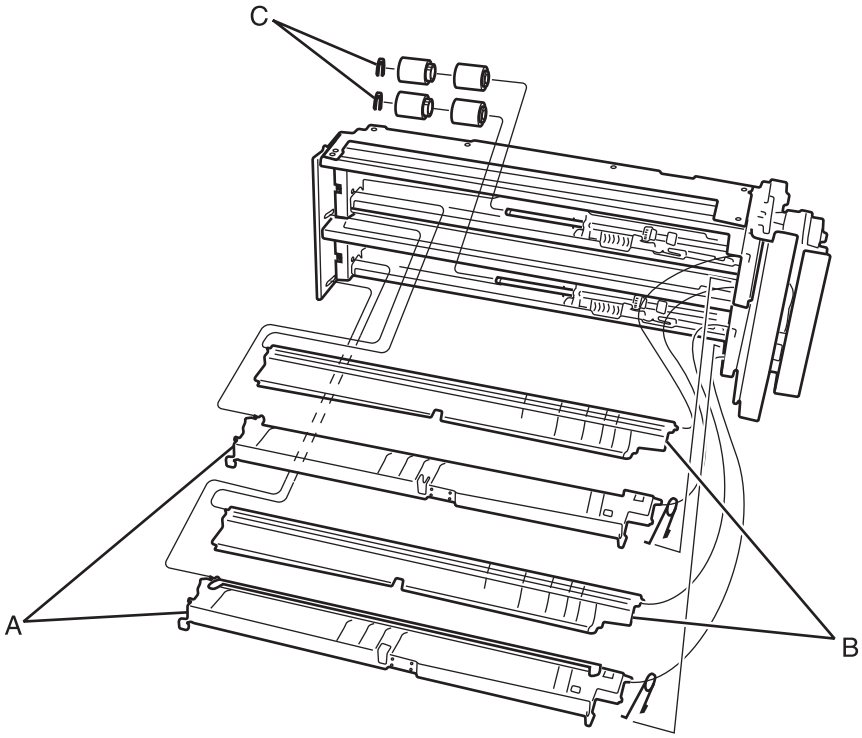
3. Pull back the tab on the pick roll (B) and remove the pick roll.

Paperfeed roll removal

1. Remove the paperfeed unit. See **"Paper feed unit removal" on page 4-54**.
2. Remove the pick roll. See **"Pick roll removal" on page 4-172**.
3. Remove the nylon retainer clip (C).
4. Remove the feed roll.

Separator roll removal

1. Lower the duplex unit to the down position.
2. Remove the outer cassette guide (A.

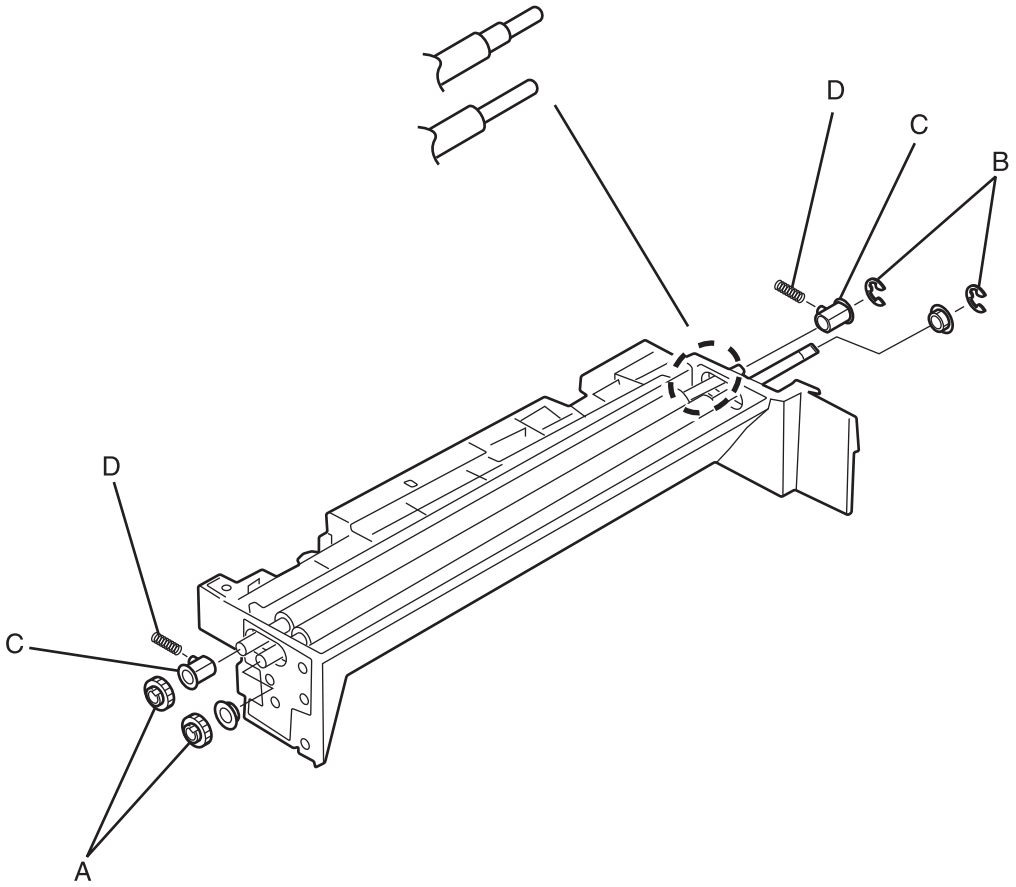


3. Remove the inner cassette guide (B).
4. Remove the plastic e-clip (C) that secures the separator roll to the shaft.
5. Remove the separator roll.

Registration roll removal

Note: This removal applies to both sets of registration rolls. To remove the lower roll, you will need to separate the MFP feed unit from the main feed unit. See **"Separating the MPF tray and main tray paperfeed units" on page 4-167** for instructions.

1. Remove the static discharge brush plate (top feeder only).
2. Remove the static discharge brush (top feeder only).
3. Remove the registration roll gears (A).

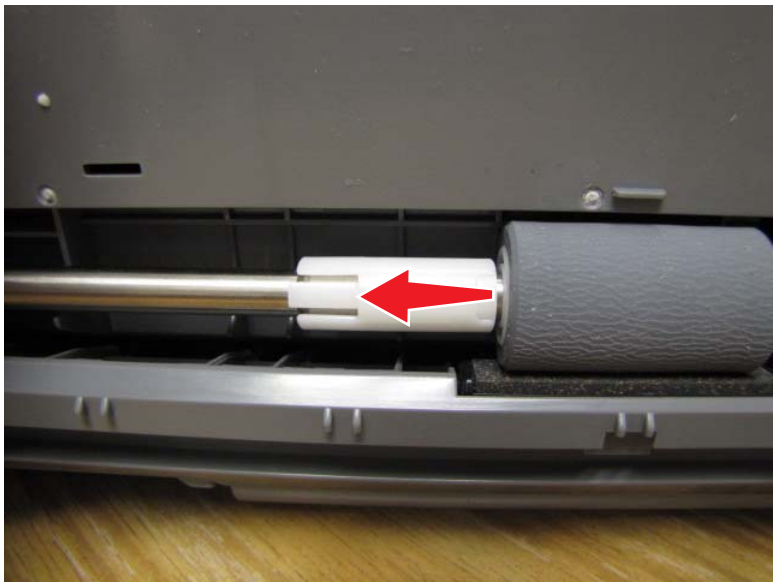


4. Remove the e-clips (B) securing the registration rolls to the paperfeed unit
5. Remove the bushings (C) holding the registration roll to the paperfeed unit.
6. Remove the registration springs (D).
7. Slide the registration rolls out of the paperfeed unit.

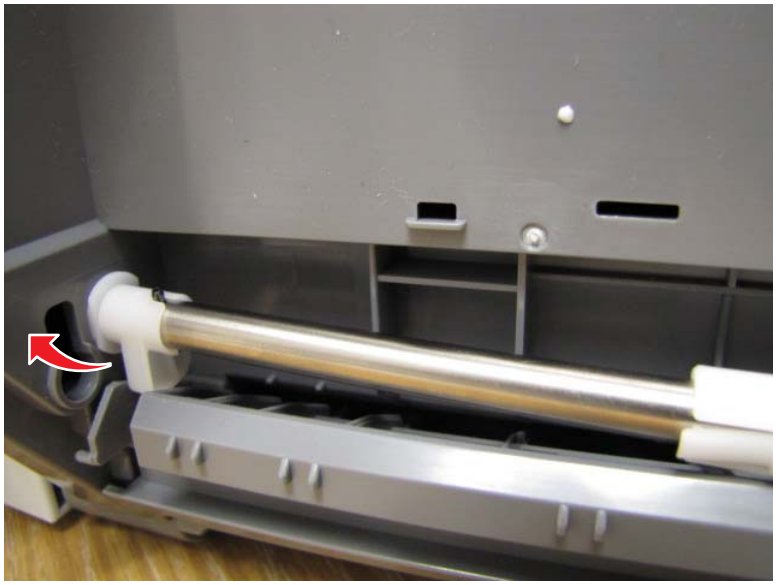
MPF roll removal

1. Remove the MPF arms (A) from the MPF tray and right cover.
2. Lower the MPF tray.
3. Remove the MPF roller cover.

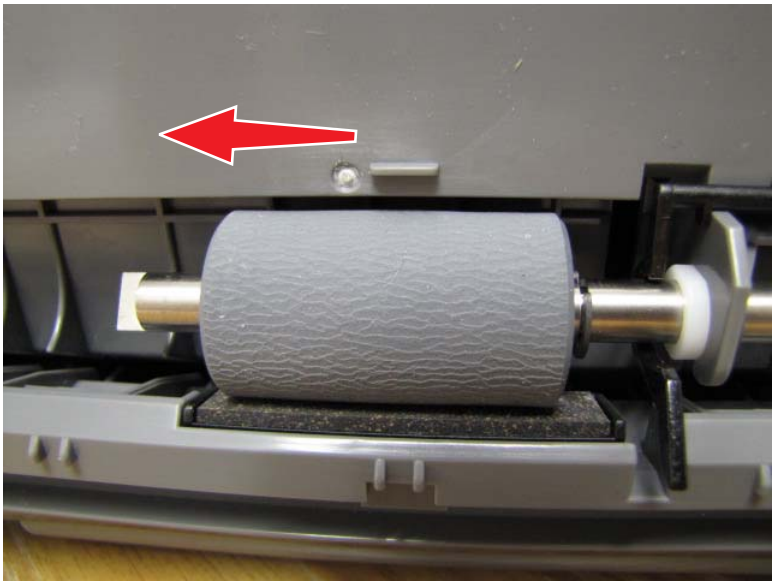
4. Slide the MPF coupling to the left.



5. Take the MPF shaft out.



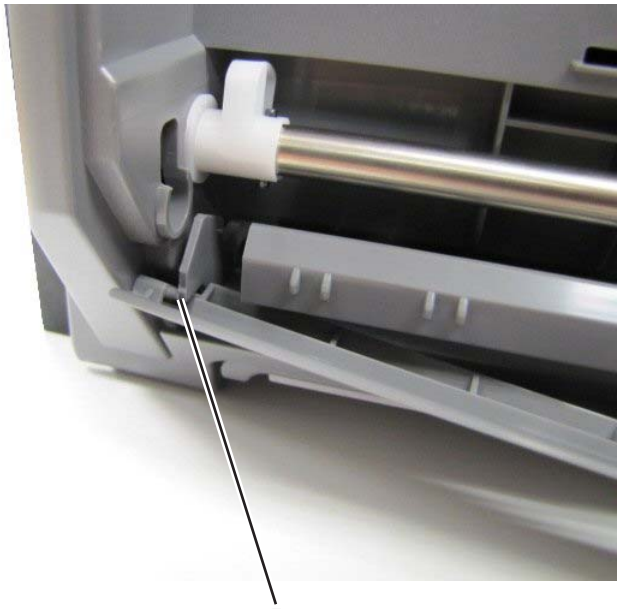
6. Remove the MPF roll.



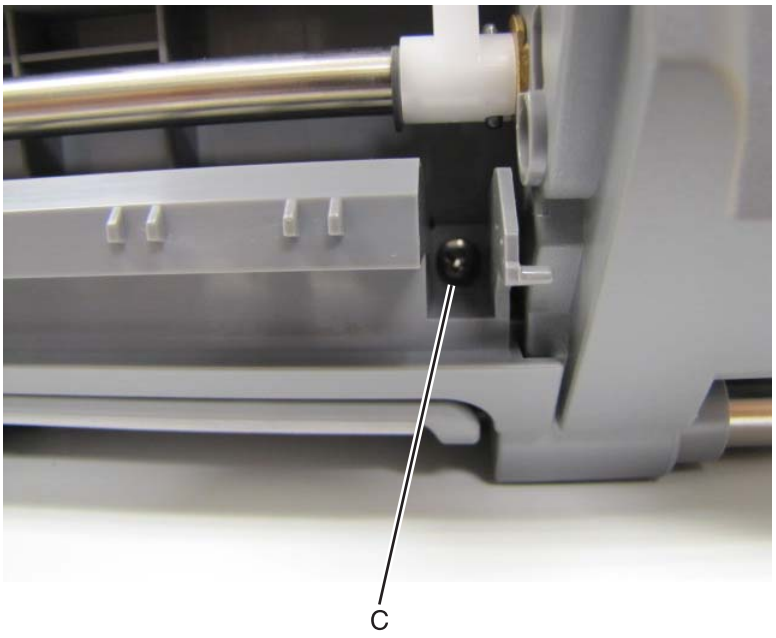
MPF pad removal

1. Remove MPF tray. See **"MPF tray assembly removal" on page 4-165**.
2. Gently pull the right side of the pad holder cover and disconnect it from the mount (A).

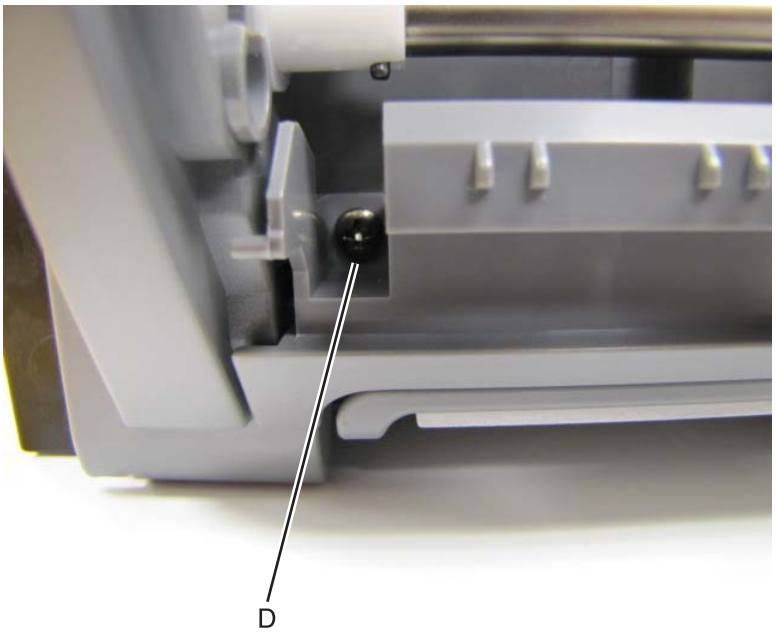
3. Gently pull the left side of the pad holder cover and disconnect it from the mount (B).



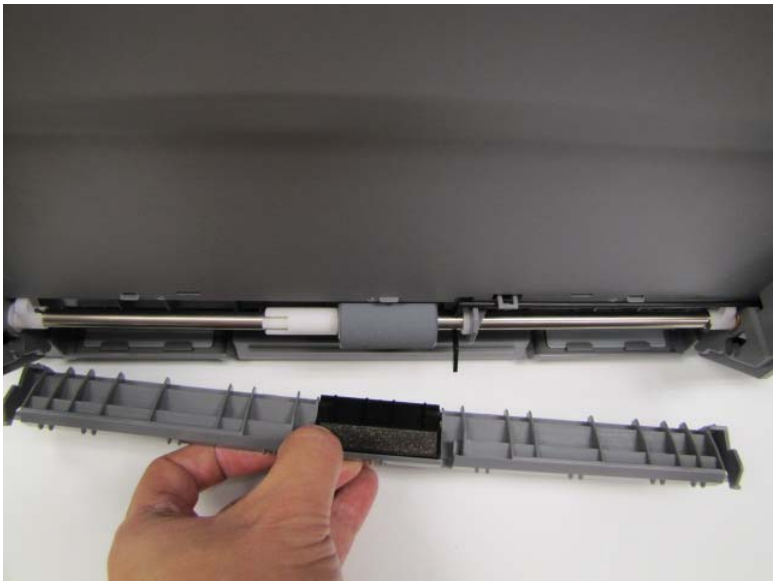
4. Remove the right screw (C) securing the outer pad holder to the MPF unit.



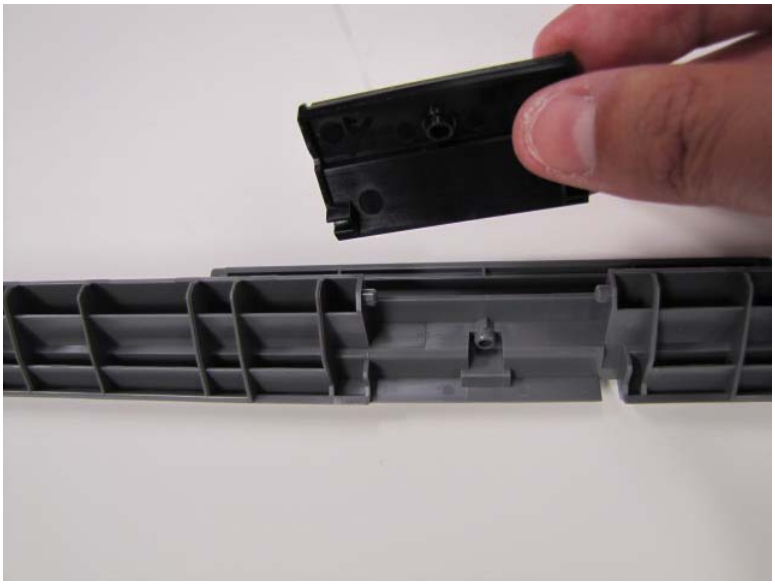
5. Remove the left screw (D) securing the outer pad holder to the MPF unit.



6. Pull the outer pad holder away from the machine.



7. Carefully lift and remove the pad from the pad holder.

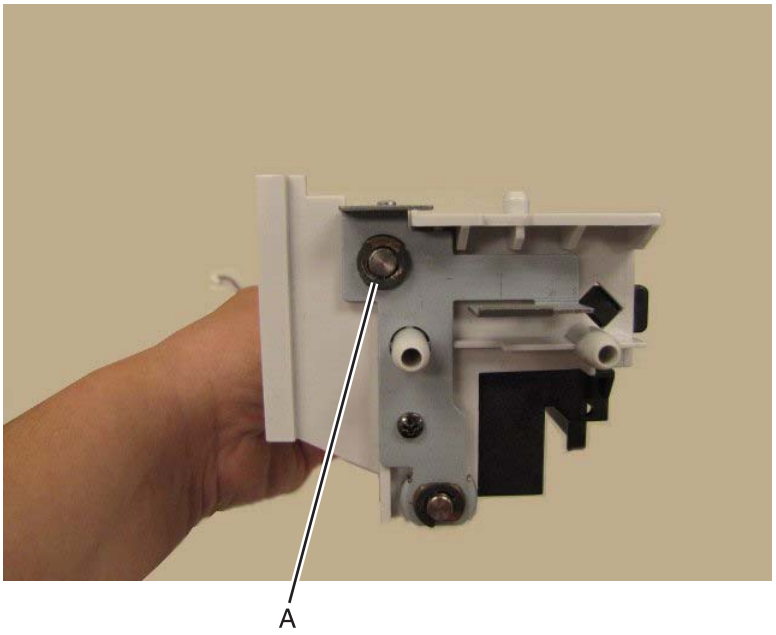


Note: Reuse the spring that was between the pad and pad holder.

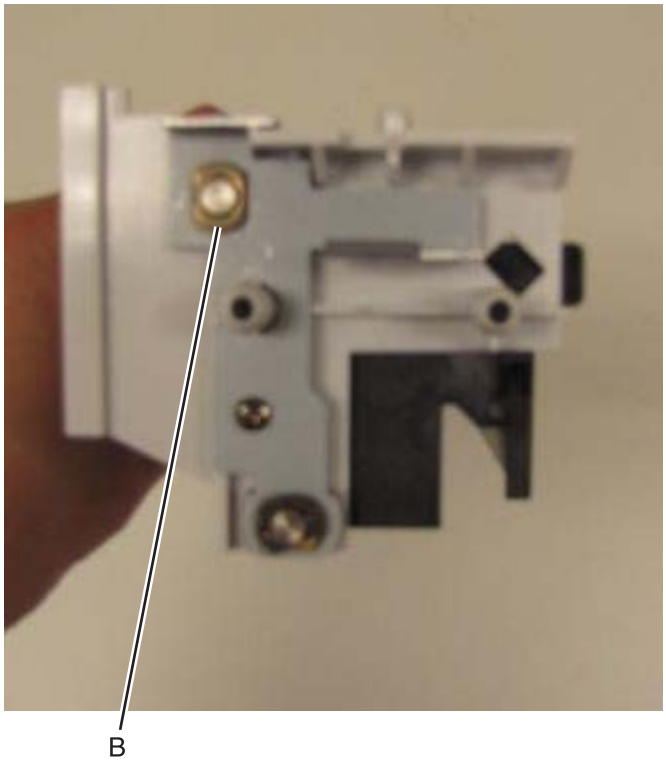
Exit guide (paper exit) roll removal

Note: You will need to remove the drive gear, spring, and washer on the paper exit roll and place it on the new paper exit roll.

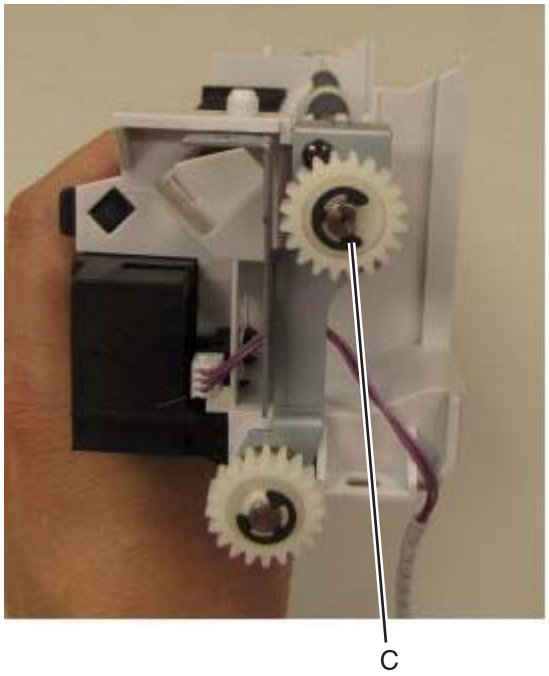
1. Remove the paper exit unit. See **"Paper exit guide removal" on page 4-32**.
2. Remove the e-clip (A) that fastens the exit unit roll to the paper exit unit.



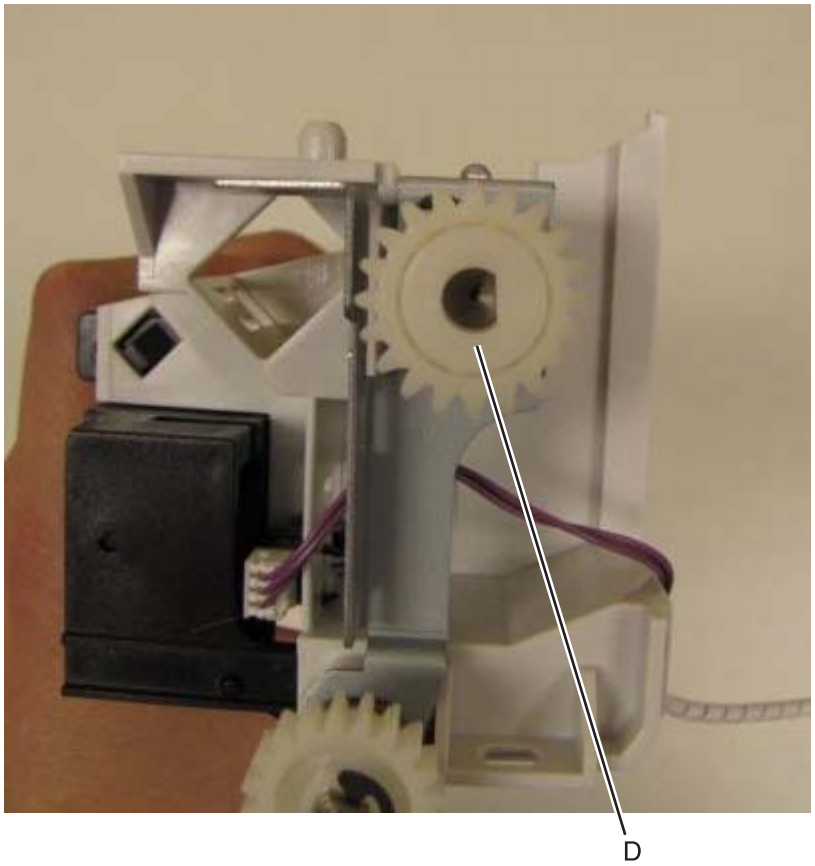
3. Remove the bushing (B).



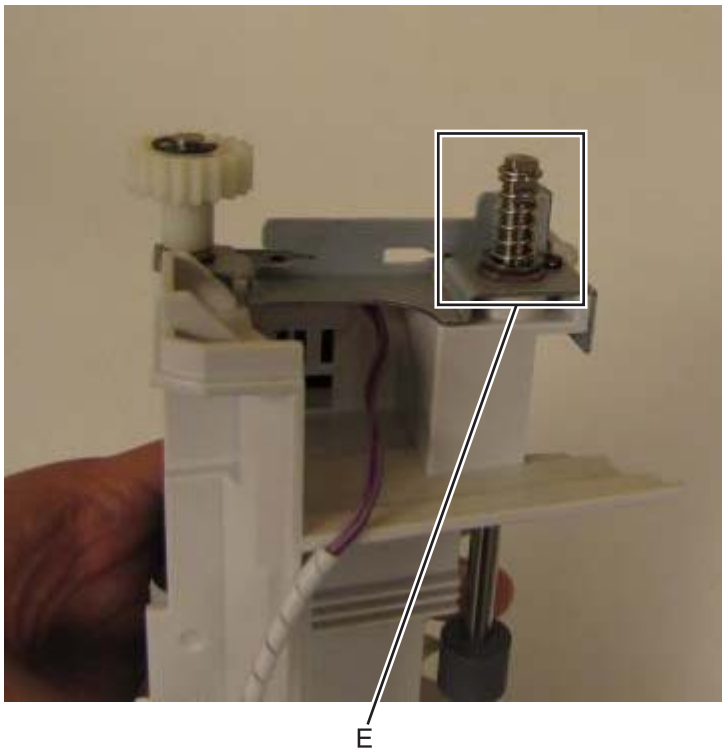
4. Remove the e-clip (C) securing the drive gear to the shaft.



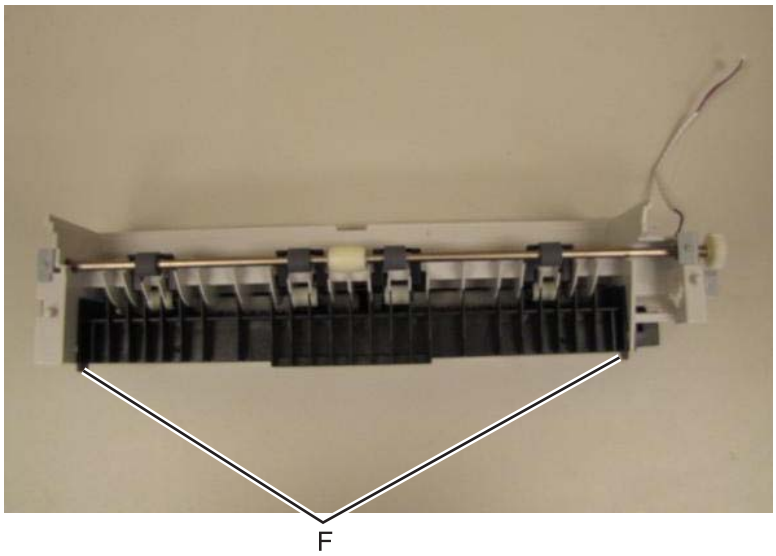
5. Remove the drive gear (D) from the shaft.



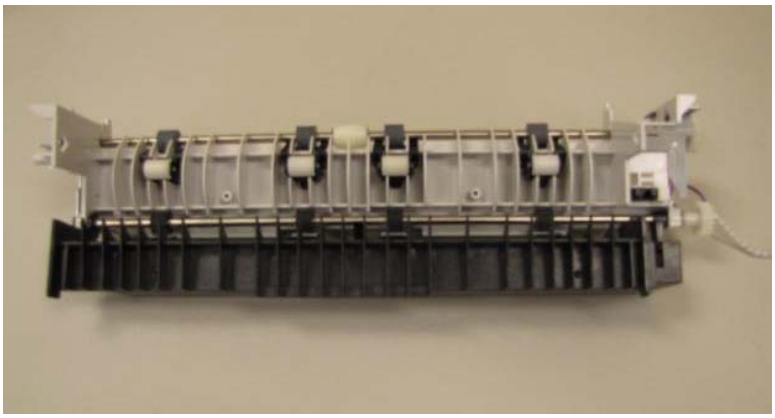
6. Remove the spring, washer, e-clip and bushing (E) from the shaft.



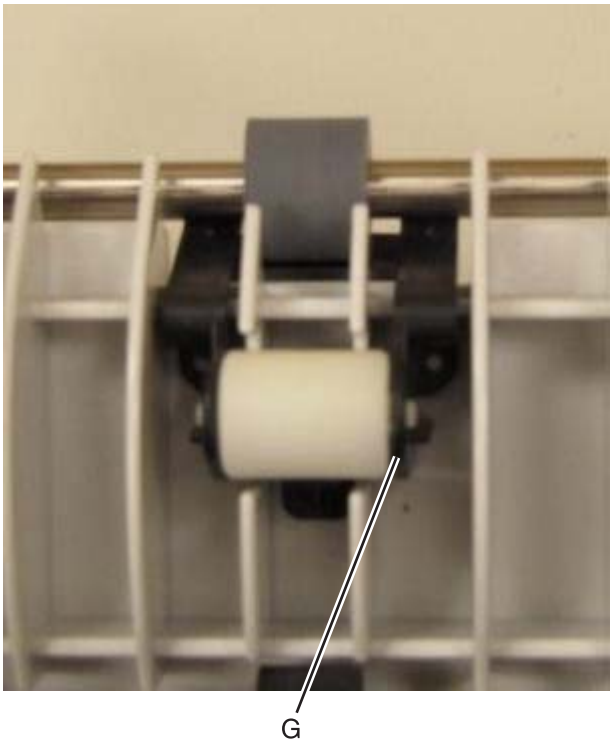
7. Release the tabs (F) that secure the black guide to the exit unit.



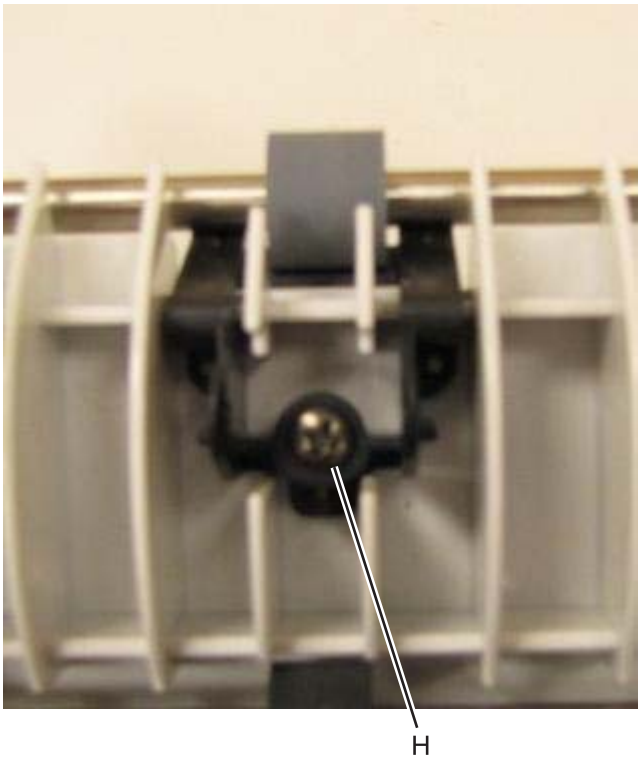
8. Open the paper exit unit, exposing the rollers.



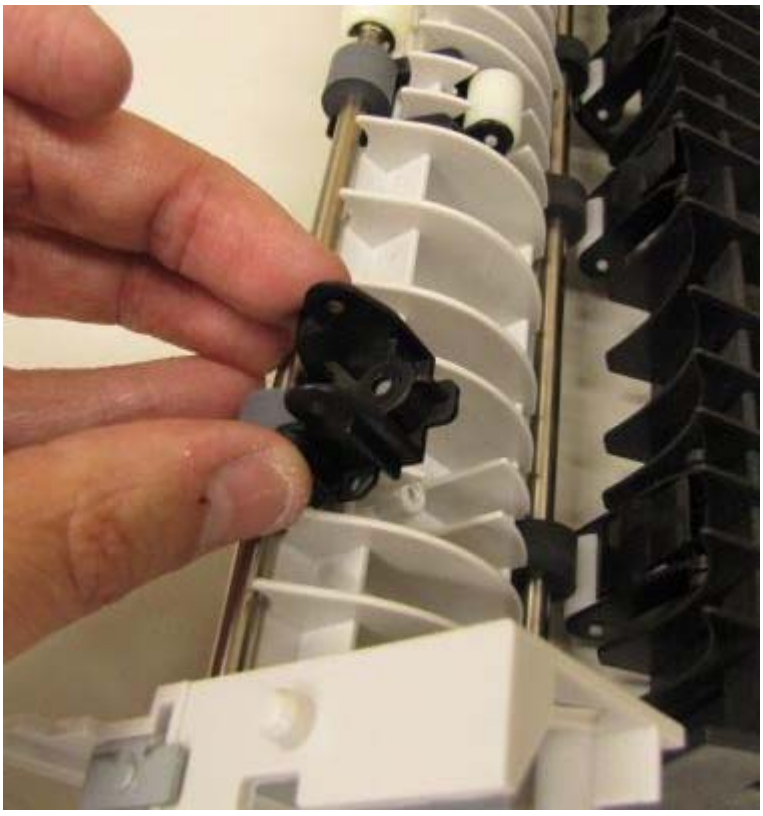
9. Pull back the tab (G) to release the roller.



10. Remove the screw (H) that fastens the roller holder to the paper exit unit frame.

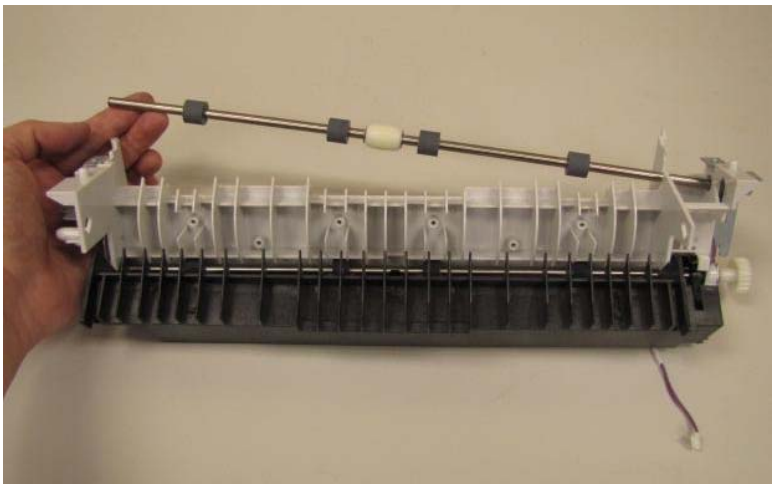


11. Pull the roller holder back and away from the paper exit unit.



12. Repeat steps 9 thru 11 for the remaining rollers.

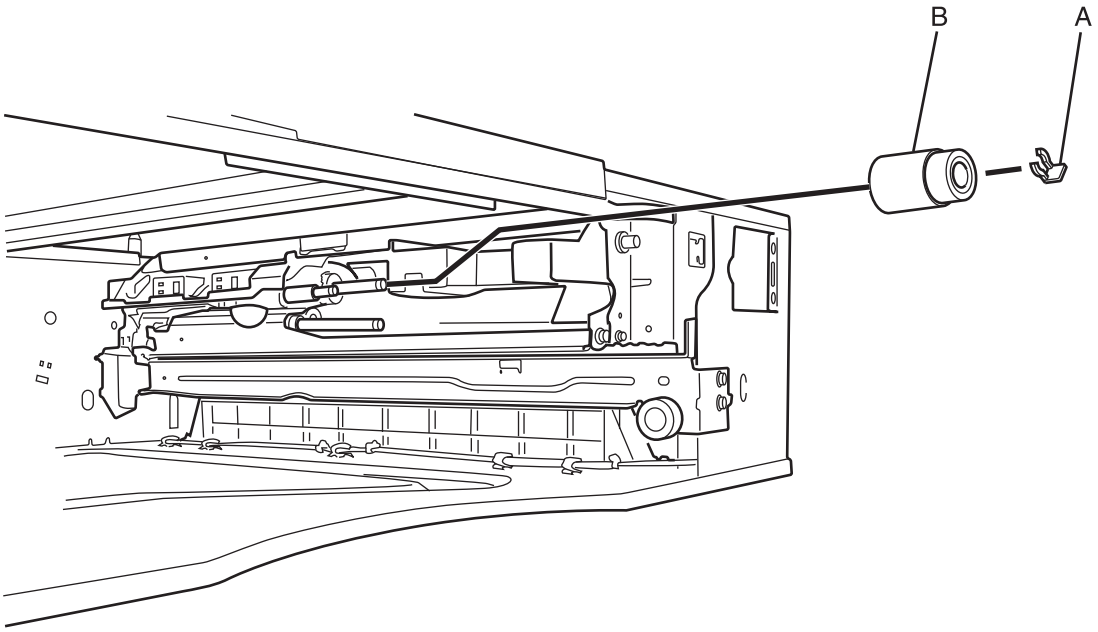
13. Move the paper exit guide roll to the left, lift it out of the frame and pull it to the lift, releasing it from the paper exit unit.



Option paper feed removals

Paper feed roll removal

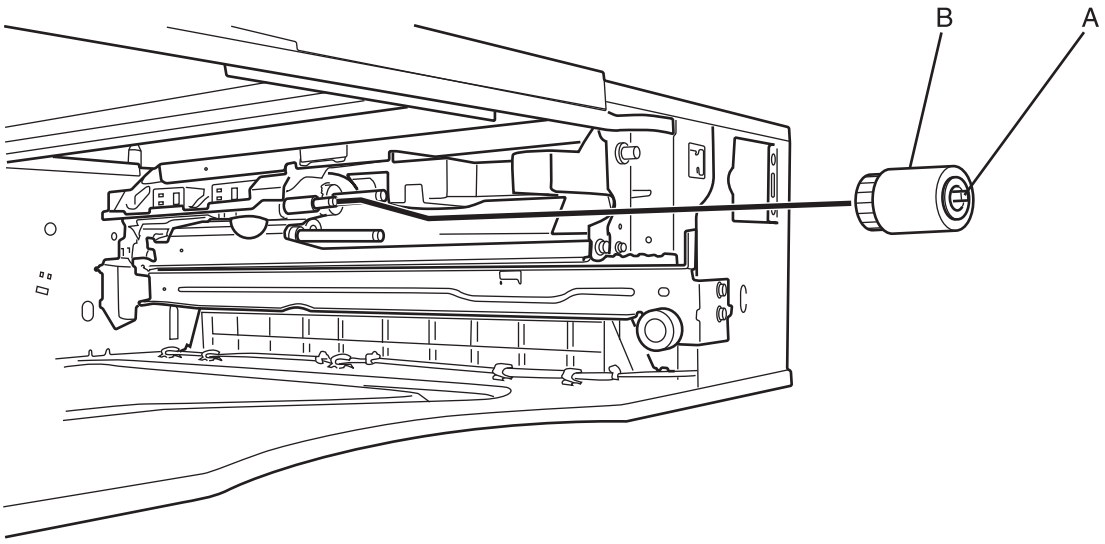
1. Remove the paper tray from the option paper feed unit.
2. Remove the clip (A) securing the paper feed roll to the shaft.



3. Slide the paper feed roll (B) off the shaft to remove it.

Pick roll removal

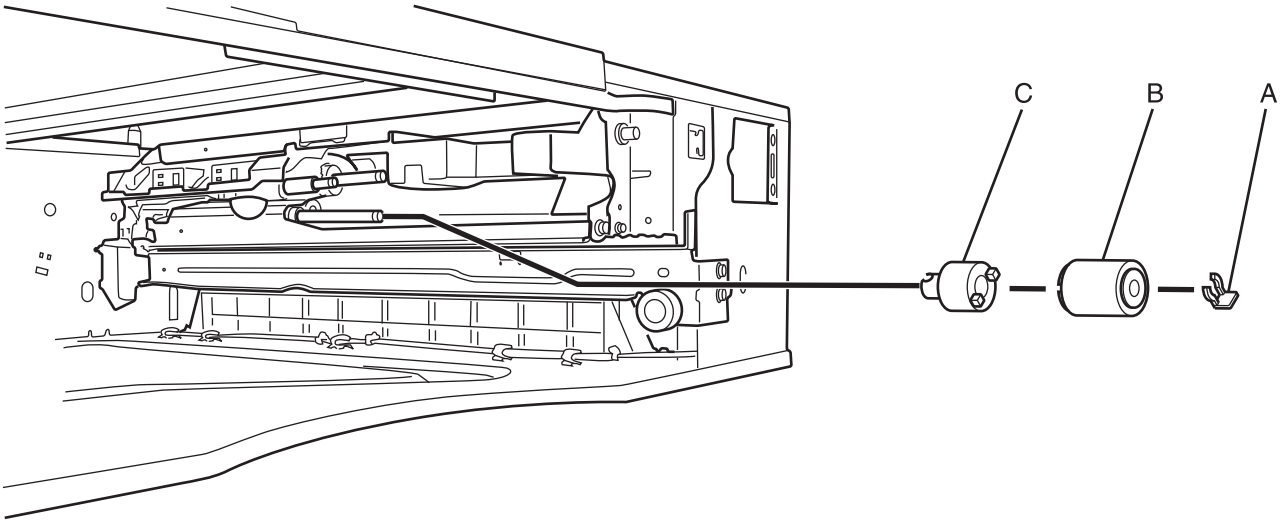
1. Remove the paper tray from the option paper feed unit.
2. Pull back the tab (A) on the pick roll.



3. Slide the pick roll (B) off of the shaft to remove it.

Separator roll removal

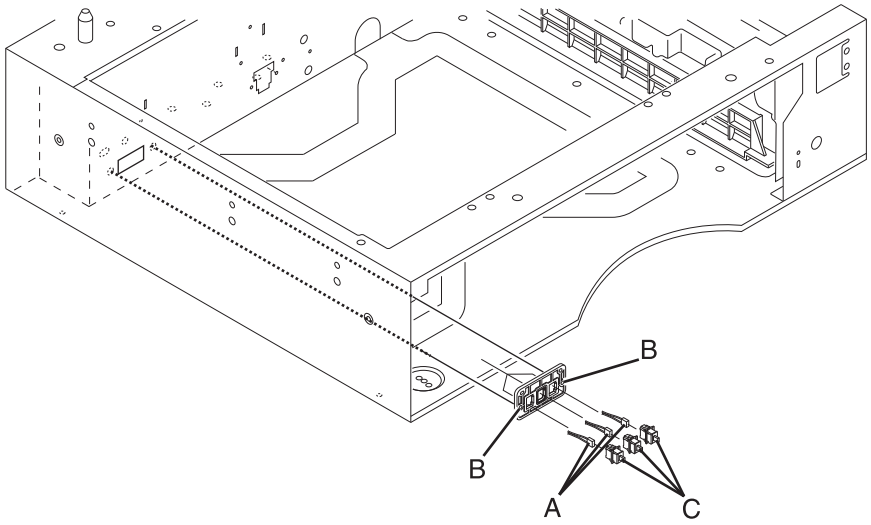
1. Remove the paper tray from the option paper feed unit.
2. Remove the clip (A) securing the separator roll to the shaft.



3. Slide the separator roll (B) off the shaft to remove it.

Paper size switches removal

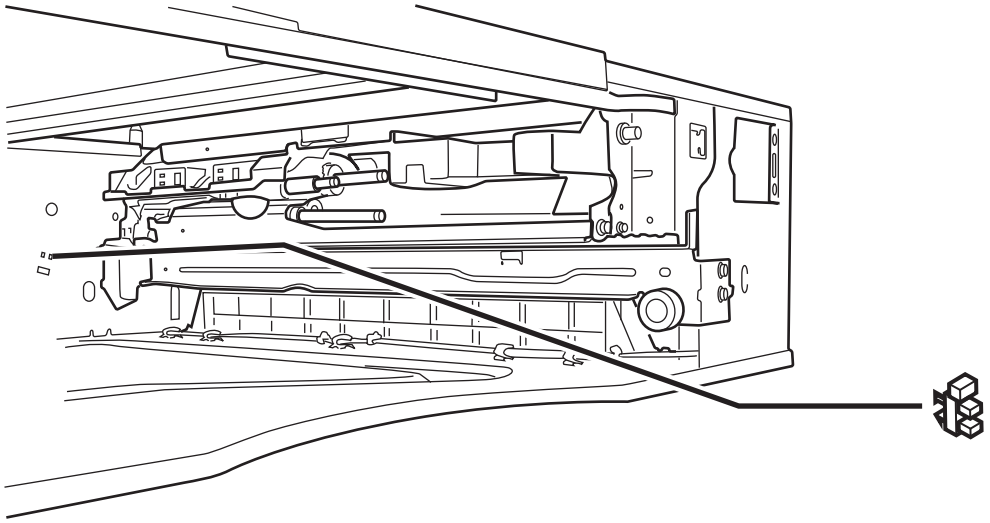
1. Remove the paper tray from the option paper feed unit.
2. Disconnect the cables (A) from the sensors.



3. Remove the two screws (B) securing the sensor mounting bracket to the option tray rear frame.
4. Remove the switches (C) from the bracket.

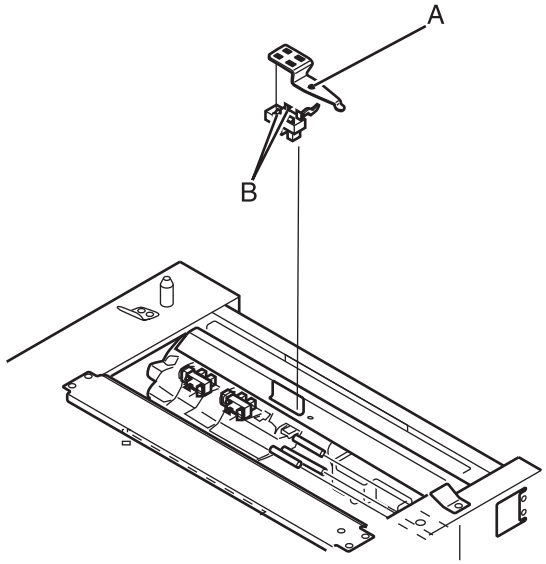
Paper level sensor removal

1. Remove the tray from the option paperfeed unit.
2. Remove the rear cover.
3. Disconnect the paper level sensor cable.
4. Push the tabs securing the paper level sensor to the rear of the tray.
5. Remove the sensor from the option paperfeed drawer.



Transport sensor removal

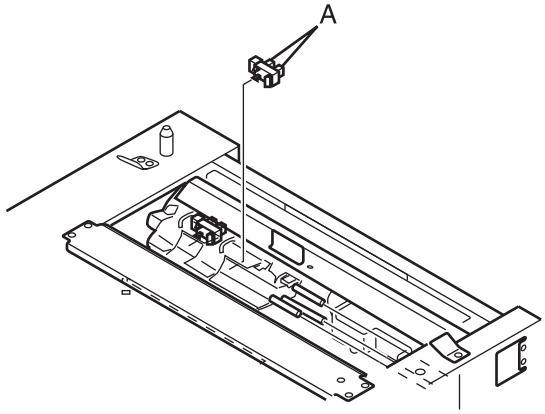
1. Take the main printer unit off of the option paper feed unit.
2. Remove the screw (A) securing the transport sensor bracket to the option feeder.



3. Disconnect the harness from the transport sensor.
4. Remove the transport sensor from the mounting bracket by pressing the tabs (B) on the sensor together and pulling the sensor away from the bracket.

Paper empty sensor removal

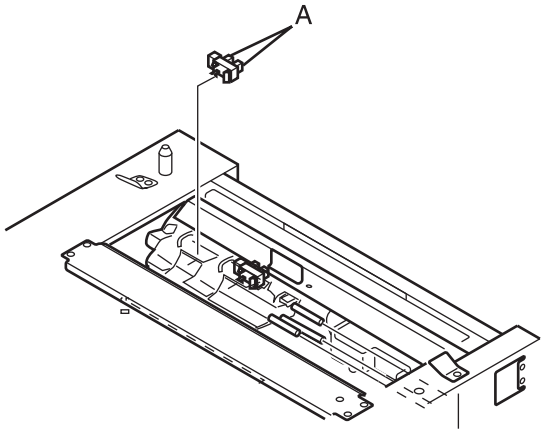
1. Take the main printer unit off of the option paper feed unit.
2. Remove the paper empty sensor from the frame by pressing the tabs (A) on the sensor together and pulling it away from the frame.



3. Disconnect the sensor from the harness.

Paper full sensor removal

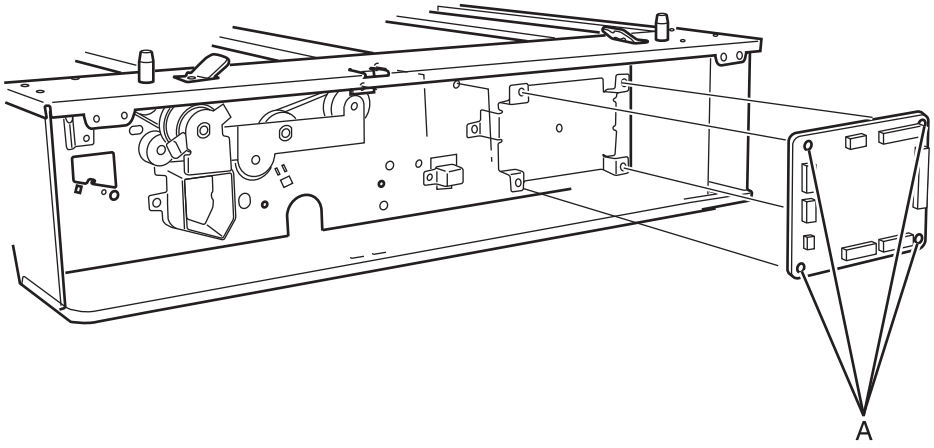
1. Take the main printer unit off of the option paper feed unit.
2. Remove the paper empty sensor from the frame by pressing the tabs (A) on the sensor together and pulling it away from the frame.



3. Disconnect the sensor from the harness.

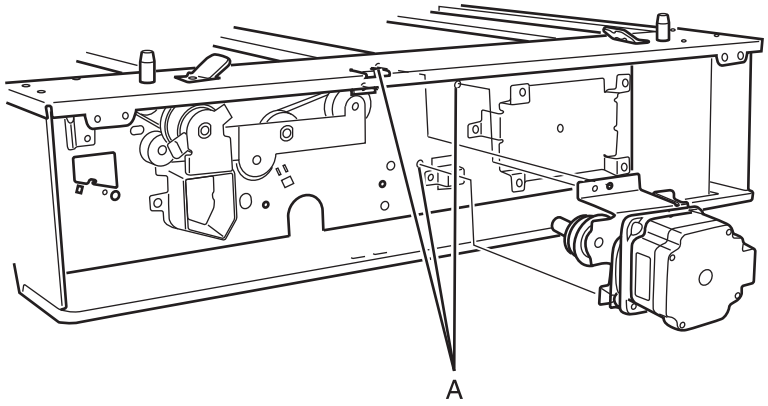
Option controller board removal

1. Remove the rear cover.
2. Disconnect all the cables from the option controller board.
3. Remove the four screws (A) securing the controller board to the rear frame.



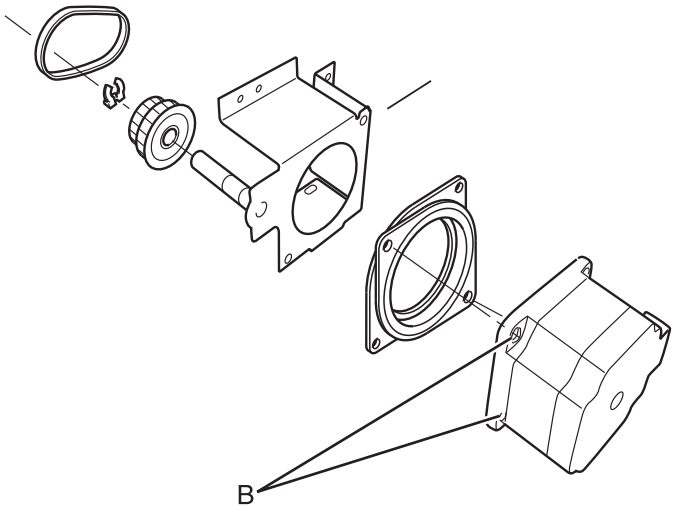
Stepper motor removal

1. Remove the rear cover.
2. Remove the stepper motor cable from the controller board.
3. Remove the three screws (A) securing the bracket to the rear frame.



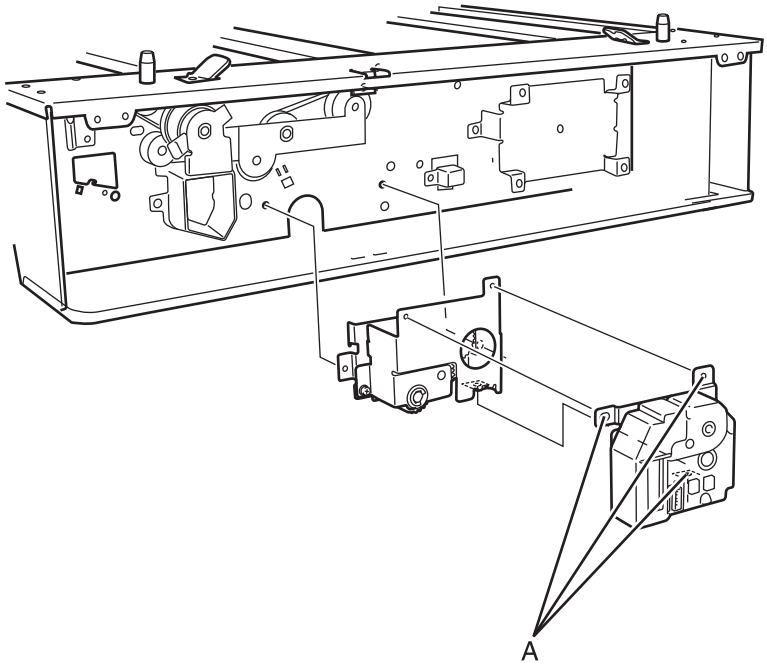
4. Remove the gear and belt.

5. Remove the two screws (B) securing the stepper motor to the bracket.



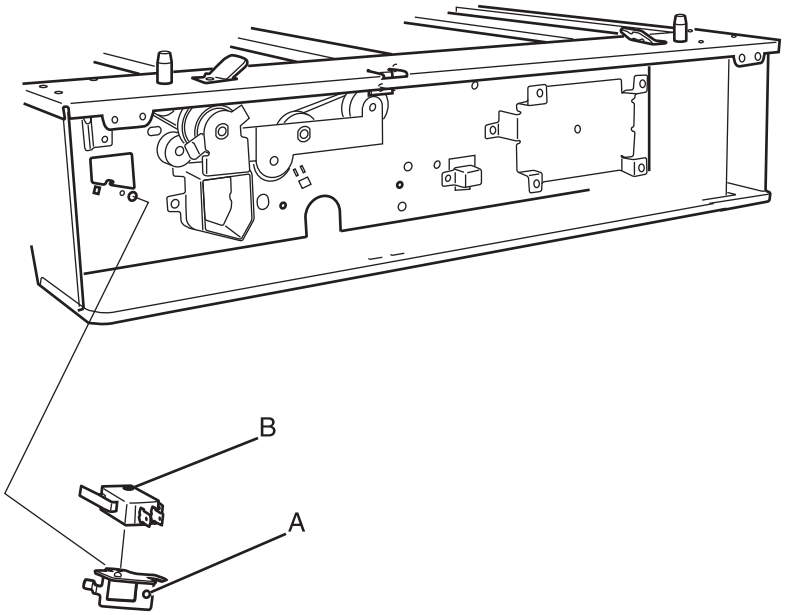
Tray lift motor removal

1. Remove the rear cover.
2. Disconnect the tray lift cable from the tray lift motor.
3. Remove the three screws (A) securing the tray lift motor to the frame.



Option door inter lock switch removal

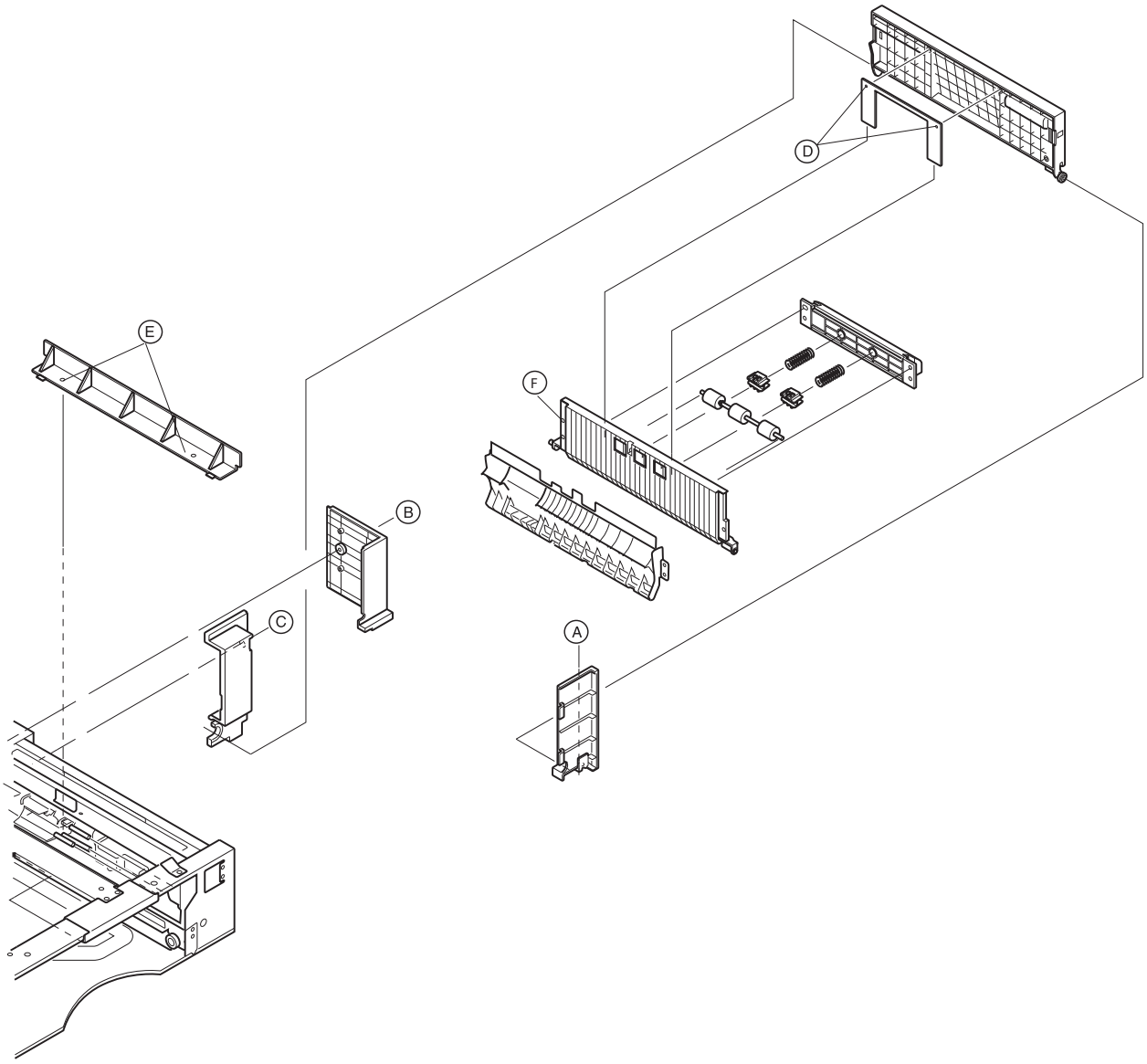
1. Remove the rear cover.
2. Disconnect the interlock cable from the interlock switch.
3. Remove the one screw (A) securing the bracket to the frame.



4. Remove the one screw (B) securing the interlock switch to the bracket.

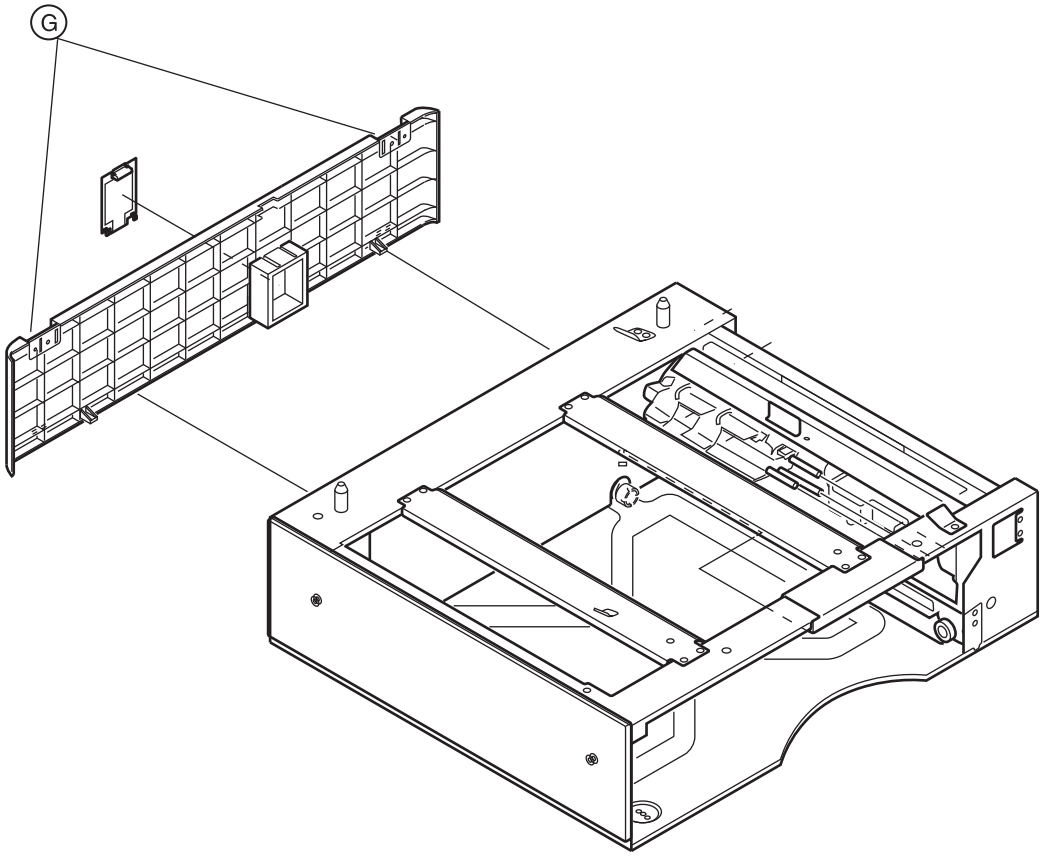
Paper feed clutch removal

1. Remove the screw (A) securing the right front cover.

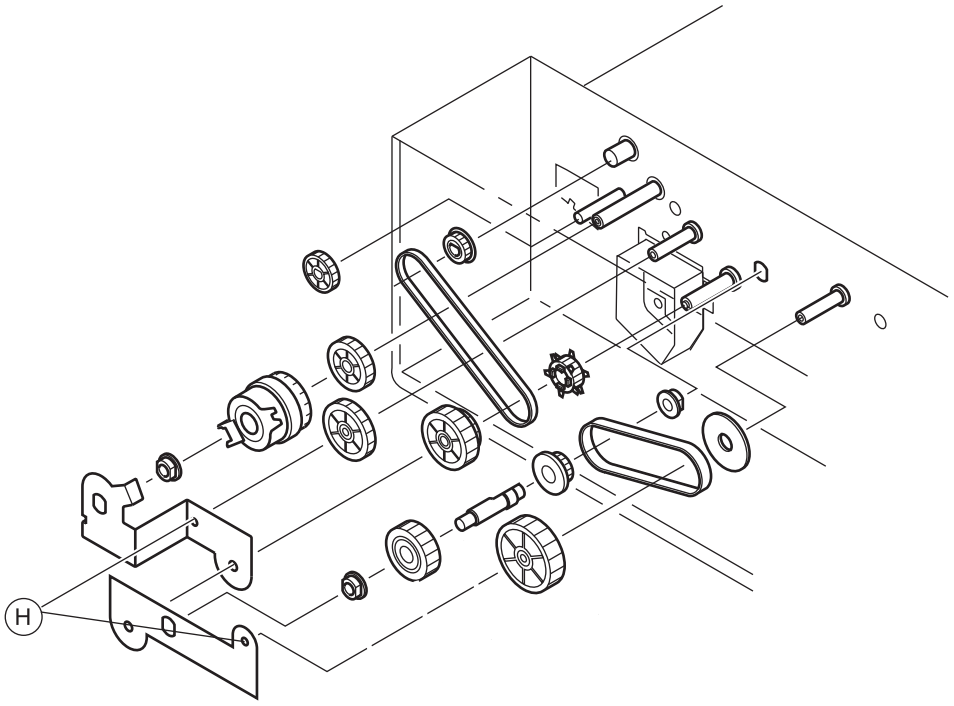


2. Remove the screw (B) securing the right rear cover.
3. Remove the screw (C) securing the right rear switch cover.
4. Remove the two screws (D) securing the vertical transport guide rail.
5. Remove the vertical transport cover.
6. Remove the two screws (E) securing the right middle cover.
7. Remove the screw (F) securing the vertical transport guide plate.

8. Remove the two screws (G) securing the rear cover to the option feeder.



9. Remove the left and right drum stays (H).



10. Remove the clutch.

Adjustments

Calibrating the scanner

After replacing any of the following components, you must reset the scanner calibration values and check the black levels of the scanner:

- Flatbed scanner assembly
- ADF unit assembly
- Flatbed scanner CCD assembly

Resetting the calibration values

Note: If the printer menus do not match the following instructions, then contact your next level of support.

1. Enter the Diagnostic mode: press and hold **3** and **6**, turn on the printer, and release the buttons when the splash screen appears.
2. From the Diagnostics menu, navigate to:
   SCANNER CALIBRATION > (select an assembly) > **Reset Calibration Values**

Calibrating the scanner black levels

Note: If the printer menus do not match the following instructions, then contact your next level of support.

1. From the Diagnostic menu, navigate to:
   PRINT TESTS > **Print Quality Pages**
   Multiple test pages print. Use the first printed page to test the scanner black levels.

- Adjust the ADF Front:
  a. Load the printed test page face up into the ADF.
  b. From the Diagnostics menu, navigate to:
  SCANNER CALIBRATION > **Copy Quick Test**.
  c. Compare the copy to the original test page, and then navigate to:
  Adjust Calibration Values > **ADF Front Black**
  d. Adjust the values, and then touch **Submit** to save your changes. Increasing the value makes the black level darker.
  e. To check the changes, reload the original test page, and then repeat the Copy Quick Test. Repeat the steps as needed until you are satisfied with the ADF Front settings.
- Adjust the ADF Back:
  a. Place the original test page facedown into the ADF, and select **Copy Quick Test**.
  b. Compare the copy to the original test page, and then navigate to:
  Adjust Calibration Values > **ADF Back Black**
  c. Adjust the values, and then touch **Submit** to save your changes.
  d. To check the changes, reload the original test page, and then repeat the Copy Quick Test. Repeat the steps as needed.
- Adjust the Flatbed:
  a. Remove all pages from the ADF, and then load the original test page onto the flatbed scanner.
  b. Select **Copy Quick Test**.
  c. Compare the copy to the original test page, and then navigate to:
  Adjust Calibration Values > **Flatbed Black**
  d. Adjust the values, and then touch **Submit** to save your changes.
  e. To check the changes, reload the original test page, and then repeat the Copy Quick Test. Repeat the steps as needed.

Adjusting ADF magnification

1. Enter the Diagnostic menu: press and hold **3** and **6**, turn on the printer, and release the buttons when the splash screen appears.
2. To print a test page from the Diagnostic menu, navigate to:
   REGISTRATION > **Quick Test**
3. To copy the test page from the Diagnostic menu, navigate to:
   SCANNER CALIBRATION > **Copy Quick Test**.
4. Navigate to:
   SCANNER TESTS > **ADF Magnification**.
5. Compare the copy to the original test page, and then adjust the value of the ADF Magnification setting as needed. If the bottom margin is too small, decrease the value. If the bottom margin is too large, increase the value.
6. Touch **Submit** to save your changes.
7. To check the changes, reload the original test page, and then repeat the Copy Quick Test. Repeat the steps as needed.
8. Once the margins look correct, check the registration of the ADF.

Perform the Copy Quick Test, and then repeat the process if needed.

Adjusting scanner registration

Note: If the printer menus do not match the following instructions, then contact your next level of support.

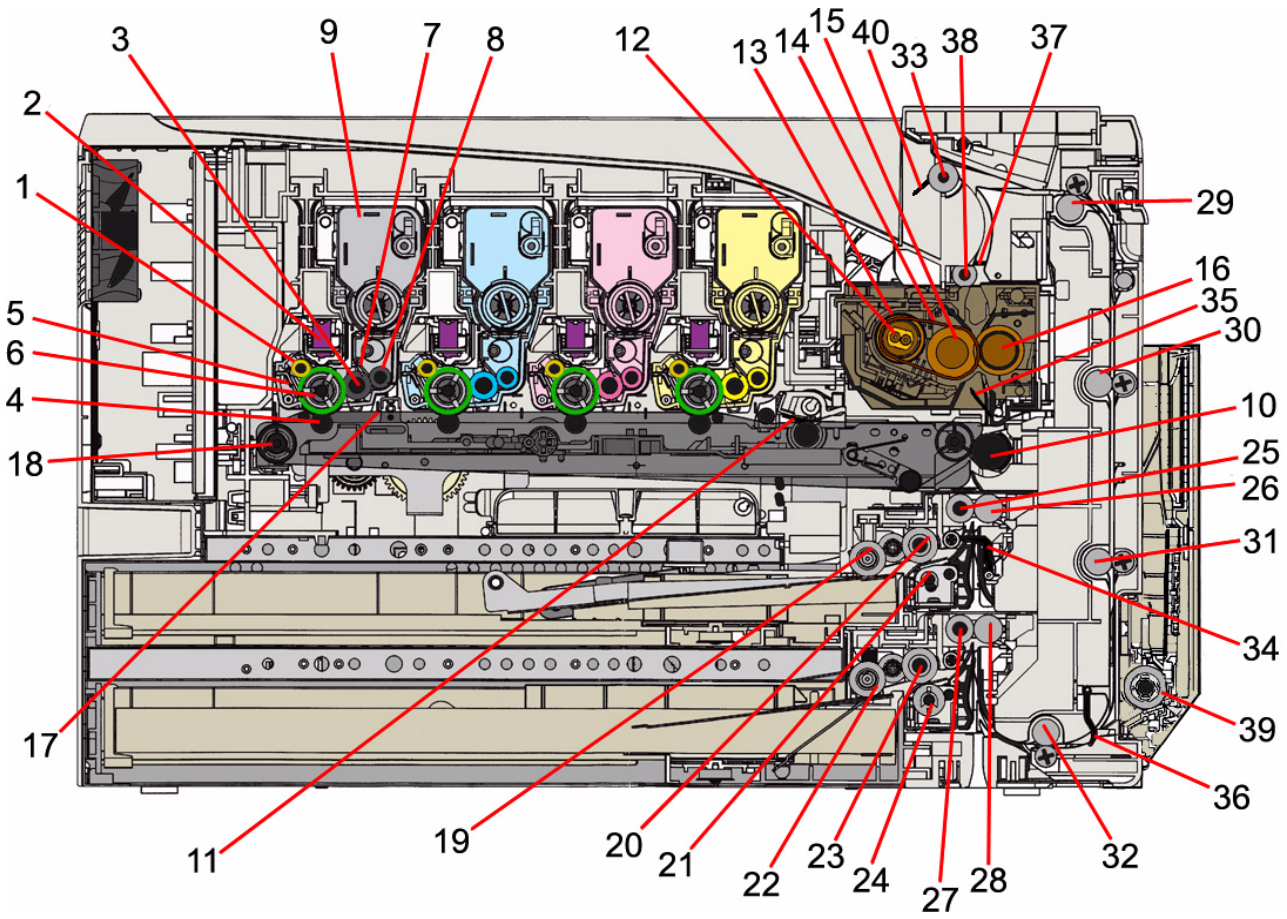
1. Enter the Configuration menu: press and hold **2** and **6**, turn on the printer, and release the buttons when the splash screen appears.
2. Navigate to:
   Scanner Manual Registration > **Print Quick Test**
3. Adjust the flatbed:
   a. Place the printed test page facedown on the flatbed scanner glass, and select **Copy Quick Test**.
   b. Compare the copy to the original test page.
   c. Select **Flatbed**, and adjust the left and top margins as needed.
   d. Touch **Submit** to save your changes.
   e. To check the changes, reload the original test page, and then repeat the Copy Quick Test. Repeat the steps as needed.
4. Adjust the ADF Front:
   a. Place the latest test page face up in the ADF, and select **Copy Quick Test**.
   b. Compare the copy to the original test page.
   c. Select **ADF Front**, and adjust the horizontal adjust and top margins as needed.
   d. Touch **Submit** to save your changes.
   e. To check the changes, reload the original test page, and then repeat the Copy Quick Test. Repeat the steps as needed.
5. Adjust the ADF Back:
   a. Place the latest test page facedown in the ADF, and select **Copy Quick Test**.
   b. Compare the copy to the original test page.
   c. Select **ADF Back**, and adjust the horizontal adjust and top margins as needed.
   d. Touch **Submit** to save your changes.
   e. To check the changes, reload the original test page, and then repeat the Copy Quick Test. Repeat the steps as needed.

Touch **Back** to return to the Configuration Menu.

5. Locations

Locations

Print engine cross section

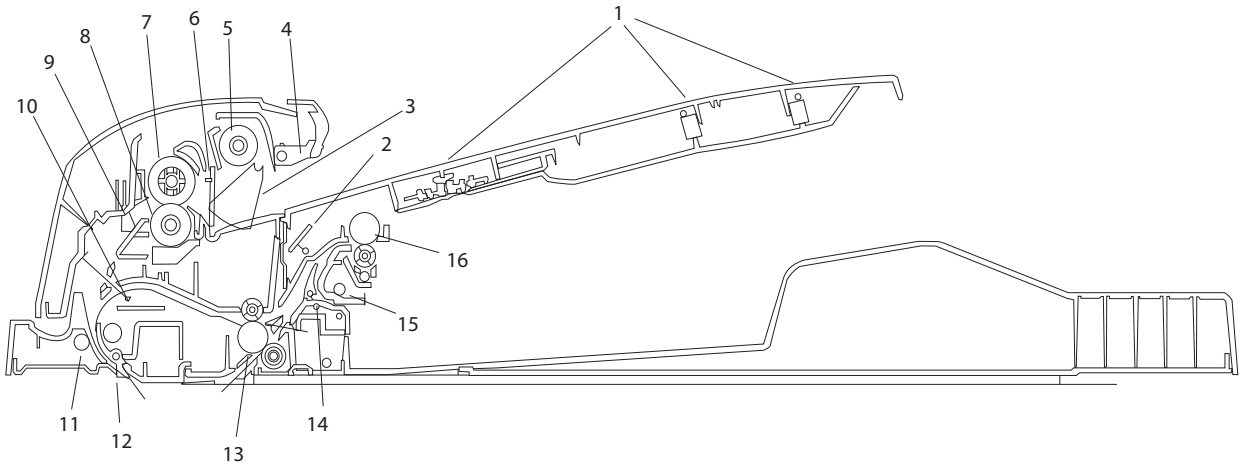


Callout no.	Part name
1	Charge roll
2	LED head
3	Developer roll
4	Primary transfer roll
5	Drum cleaning blade
6	Photoconductor
7	Doctor blade
8	Supply roll

Callout no.	Part name
9	Toner cartridge
10	Secondary transfer roll
11	Transfer belt cleaning blade
12	Fuser heater
13	Hot roll
14	Fuser belt
15	Fuser roll
16	Press roll
17	Transfer belt
18	Transfer belt drive roll
19	Pickup roll (MP feeder)
20	Feed roll (MP feeder)
21	Separator roll (MP feeder)
22	Pickup roll (Std tray)
23	Feed roll (Std tray
24	Separator roll (Std tray
25	Registration roll (IN) MP feeder
26	Registration roll (OUT) MP feeder
27	Registration roll (IN) Std tray
28	Registration roll (OUT) Std tray
29	Duplex input roll
30	Duplex transport roll
31	Duplex bottom transport roll
32	Duplex exit roll
33	Paper exit roll
34	Registration sensor actuator
35	Fuser input sensor actuator
36	Duplex exit sensor actuator
37	Paper exit sensor actuator
38	Transport roll
39	MPF feed roll
40	Bin full detection lever

Flatbed / ADF sensors

ADF

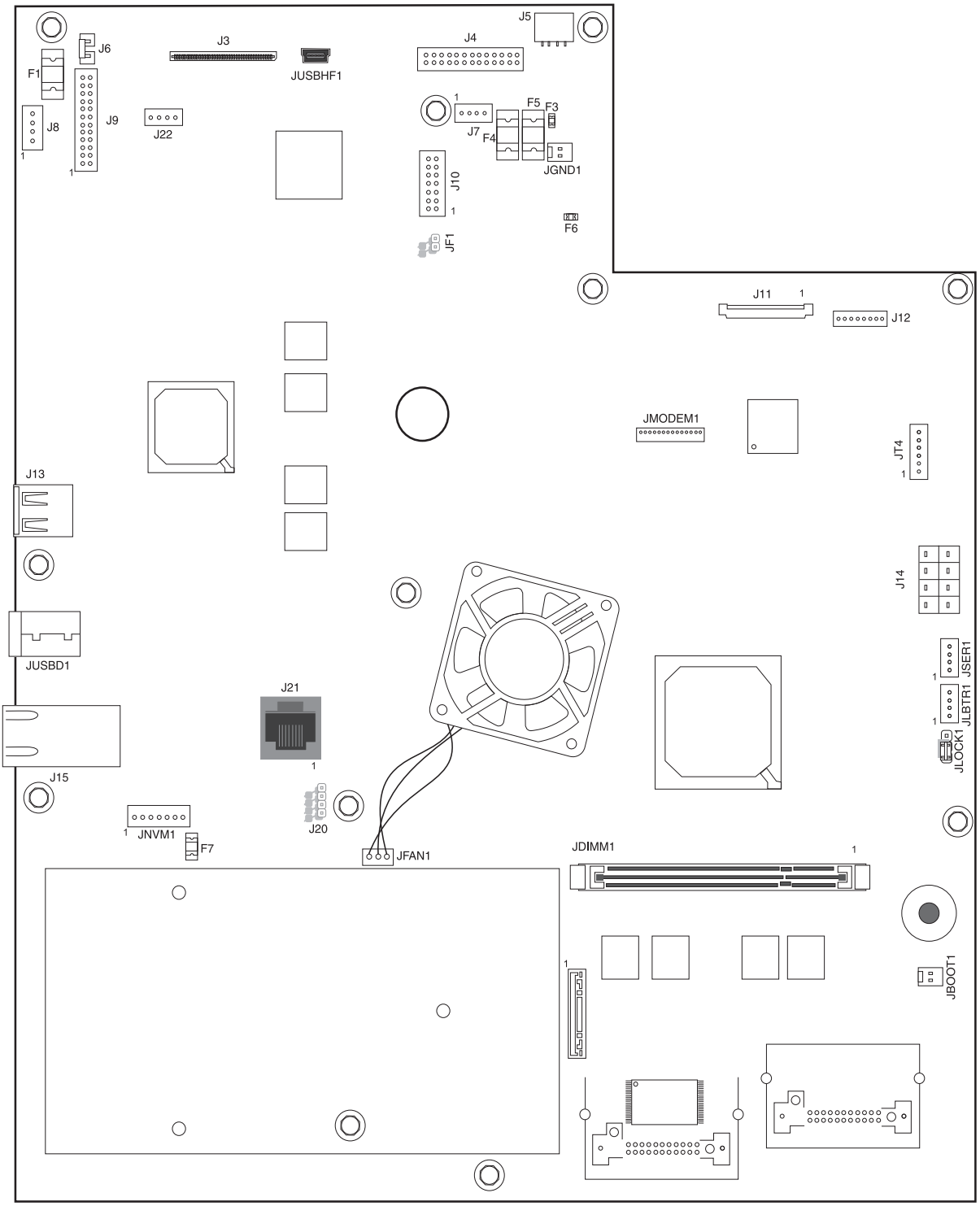


Callout	Part name	Affected CRU / FRU part catalog name
1	ADF paper length and width sensors - photo reflect / multi-point contact	Tray paper size sensor
2	Paper pass sensor - photo reflect	Duplex timing sensor
3	ADF paper present - photo interrupt	ADF paper path sensor
4	ADF cover open	ADF paper path sensor
5	Pick roll	ADF pick roll (CRU)
6	Pick roll position sensor - Photo interrupt	ADF paper path sensor
7	Feed roll	ADF pick roll (CRU)
8	Separator roll	ADF Separator roll (CRU)
9	Paper gap sensor - photo interrupt	ADF paper path sensor
10	Paper in sensor - Photo reflect	Scan sensor
11	Scan roller	ADF main feed unit
12	Scan sensor - Photo interrupt	Scan sensor
13	Takeaway roll	ADF main feed unit
14	ADF paper exit sensor - Photo interrupt	Duplex out sensor
15	Stack roller	ADF main feed unit
16	Pass roller	ADF main feed unit

Flatbed Sensors

The flatbed cover open sensor is located on the upper flatbed cover. There are three paper size sensor located in the flatbed. The CCD home position sensor is located on the CCD carriage.

Rip Board connectors



RIP board

Connector	Pin no.	Signal
J3 - ICC board	1	GND
	2	FB_LAMP_ON_R
	3	+24V
	4	+24V
	5	GND
	6	5V_FB_CDU
	7	+5V_SCANNER
	8	FB_PWRSVR_R
	9	FBR_AFE_SH_R
	10	FBR_AFE_SEN_R
	11	FBR_AFE_SCK_R
	12	FBR_AFE_SDIO_R
	13	GND
	14	FBR_AFE_NRST_R
	15	GND
	16	FB_LVDS_RXIN0-
	17	FB_LVDS_RXIN0+
	18	GND
	19	FB_LVDS_RXIN1-
	20	FB_LVDS_RXIN1+
	21	GND
	22	FB_LVDS_RXIN2-
	23	FB_LVDS_RXIN2+
	24	GND
	25	FB_LVDS_RXCLK-
	26	FB_LVDS_RXCLK+
	27	GND
	28	FB_LVDS_MCLK-
	29	FB_LVDS_MCLK+
	30	GND

RIP board

Connector	Pin no.	Signal
J4	1	GND
	2	
	3	
	4	+24V_FEED_FAN
	5	GND
	6	TOP_FB_CN
	7	BOOT_SEL_CN
	8	+5V SCANNER
	9	+5V SCANNER
	10	GND
	11	MDC_TXD_CN
	12	MDC_RXD_CN
	13	GND
	14	ADF_PAPER_PRES_R
	15	FB_COVER_CLOSING_R
	16	GND
	17	FB_NHOME_R
	18	ADF_INTERVAL_R
	19	GND
	20	MDC_RST_NR
	21	+3.3V
	22	GND
	23	NC_MDC_23
	24	IC2_CLK
	25	IC2_DATA
	26	GND

RIP board

Connector	Pin no.	Signal
JMODEM1	1	MOD_CS_R
	2	GND
	3	MOD_DINR
	4	GND
	5	MOD_DOUT_R
	6	GND
	7	MOD_CLK_R
	8	GND
	9	MOD_IRQ_R
	10	+5V
	11	POR_CUHD-
	12	+3.3V
	13	+3.3V
	14	NC_MOD_P6
J9	1	UI_RESET_NR
	2	GND
	3	TX1-
	4	TX1+
	5	TX2-
	6	TX2+
	7	CLXTX-
	8	CLXTX+
	9	GND
	10	+5V
	11	UI_RXD-
	12	UI_RXD+
	13	TX0-
	14	TX0+
	15	GND
	16	+5V
	17	+5V
	18	+5V
	19	WAKE+
	20	GND
	21	GND
	22	AMBER_LED
	23	+5V_CONT
	24	PWR_BUTTON

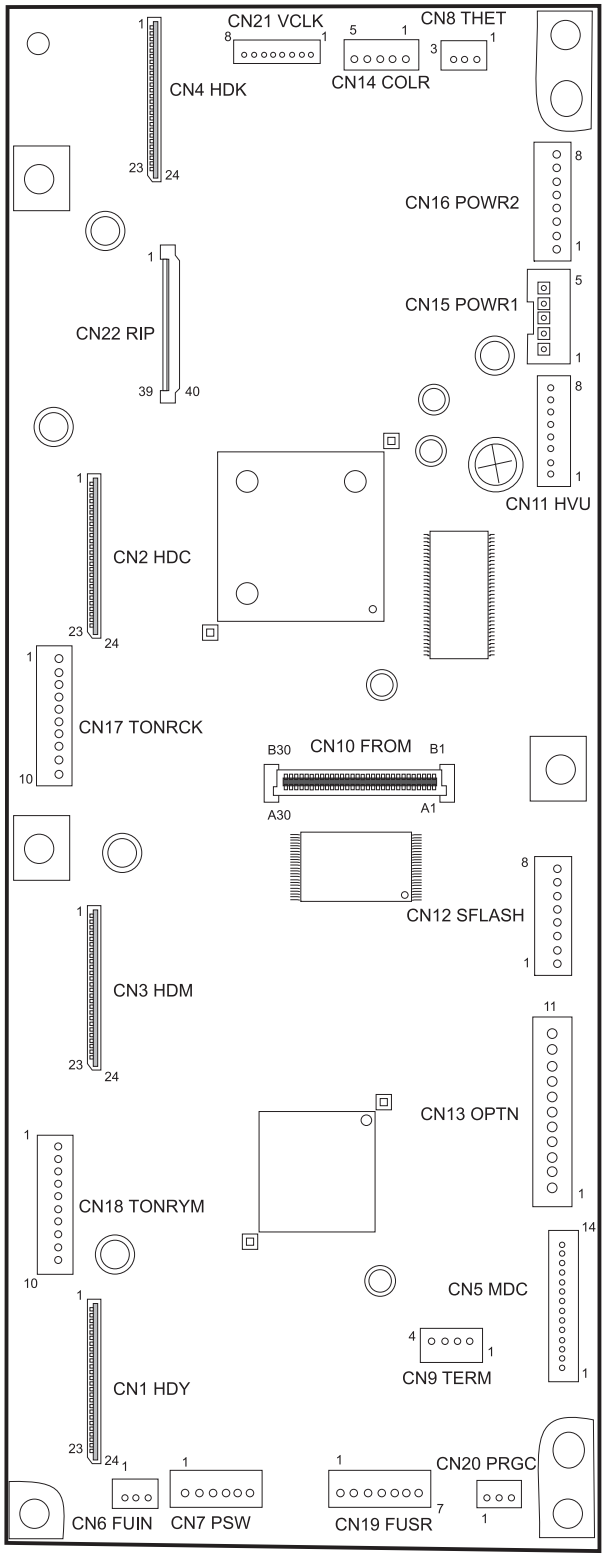
RIP board

Connector	Pin no.	Signal
J11 - Printhead controller board	1	GND
	2	VSYN_Y
	3	VSYN_M
	4	VSYN_C
	5	VSYN_K
	6	HSYN_Y
	7	HSYN_M
	8	HSYN_C
	9	HSYN_K
	10	GND
	11	LEVELY-O0
	12	LEVELY-O1
	13	LEVELY-E0
	14	LEVELY-E1

RIP board

Connector	Pin no.	Signal
	15	LEVELM-O0
	16	LEVELM-O1
	17	LEVELM-E0
	18	LEVELM-E1
	19	LEVELC-O0
	20	LEVELC-O1
	21	LEVELC-E0
	22	LEVELC-E1
	23	LEVELK-O0
	24	LEVELK-O1
	25	LEVELK-E0
	26	LEVELK-E1
	27	FEED2
	28	SBSY
	29	GND (RESRT
	30	STATUS
	31	FDRDY
	32	CPRDY
	33	STCLK
	34	START
	35	CBSY
	36	PPRDY
	37	STCLK
	38	READY
	39	COMMAND
	40	GND
J12 Printhead controller board	1	VCLK_M
	2	GND
	3	VCLK_Y
	4	GND
	5	VCLK_C
	6	GND
	7	VCLK_L
	8	GND

Printhead controller connectors



Printhead controller board

Connector	Connects to	Pin no.	Signal
CN1	Yellow printhead	1	HD5V
		2	GND
		3	HD5V
		4	GND
		5	HD5V
		6	GND
		7	HD5V
		8	GND
		9	HD5V
		10	GND
		11	HD3V
		12	SO-Y
		13	SCK-Y
		14	STROBE-Y
		15	DATA_Y0
		16	DATA_Y1
		171	DATA_Y2
		18	DATA_Y3
		19	HSYNC-Y
		20	LOAD_Y
		21	GND
		22	CLOCK-N-Y
		23	CLOCK-P-Y
		24	GND

Printhead controller board

Connector	Connects to	Pin no.	Signal
CN2	Cyan printhead	1	USB +5 V dc
		2	USB D-
		1	HD5V
		2	GND
		3	HD5V
		4	GND
		5	HD5V
		6	GND
		7	HD5V
		8	GND
		9	HD5V
		10	GND
		11	HD3V
		12	SO-C
		13	SCK-C
		14	STROBE-C
		15	DATA_C0
		16	DATA_C1
		171	DATA_C2
		18	DATA_C3
		19	HSYNC-C
		20	LOAD_C
		21	GND
		22	CLOCK-N-C
		23	CLOCK-P-C
		24	GND

Printhead controller board

Connector	Connects to	Pin no.	Signal
CN3	Magenta printhead	1	USB +5 V dc
		2	USB D-
		1	HD5V
		2	GND
		3	HD5V
		4	GND
		5	HD5V
		6	GND
		7	HD5V
		8	GND
		9	HD5V
		10	GND
		11	HD3V
		12	SO-M
		13	SCK-M
		14	STROBE-M
		15	DATA_M0
		16	DATA_M1
		171	DATA_M2
		18	DATA_M3
		19	HSYNC-M
		20	LOAD_M
		21	GND
		22	CLOCK-N-M
		23	CLOCK-P-M
		24	GND

Printhead controller board

Connector	Connects to	Pin no.	Signal
CN4	Black printhead	1	HD5V
		2	GND
		3	HD5V
		4	GND
		5	HD5V
		6	GND
		7	HD5V
		8	GND
		9	HD5V
		10	GND
		11	HD3V
		12	SO-K
		13	SCK-K
		14	STROBE-K
		15	DATA_K0
		16	DATA_K1
		171	DATA_K2
		18	DATA_K3
		19	HSYNC-K
		20	LOAD_K
		21	GND
		22	CLOCK-N-K
		23	CLOCK-P-K
		24	GND
CN5	Engine board	1	MBUSY_IN
		2	SUBRXD
		3	SUBTXD
		4	MOTOR_CLK1
		5	MOTOR_CLK2
		6	MOTOR_CLK3
		7	MOTOR_CLK4
		8	GND
		9	HTNB1
		10	PEPCNG
		11	GND
		12	THETALED
		13	PRG_SW
		14	LDPRG

Printhead controller board

Connector	Connects to	Pin no.	Signal
CN6	Fuser entry sensor	1	GND
		2	FUIN_SW
		3	LDPRG
CN7	Paper exit,	1	GND
		2	PEX_SW
		3	IDPRG
	Bin full sensors	4	GND
		5	STACK_SW
		6	+5V
CN8	Theta sensor	1	A
		2	THETA
		3	GND
CN9	N.C		
CN 10			
CN11	HVPS	1	VCC24VFAN
		2	GND
		3	HV24V_2
		4	HINB
		5	DACLK
		6	DASO
		7	DARIN
		8	DA_LAT
CN12	N.C		
CN13	OPTION	1	ADR0
		2	ADR1
		3	OPTION_RST
		4	OPTION_RXD
		5	OPTION_TXD
		6	OPT_24V
		7	OPT_24V
		8	GND
		9	GND
		10	OPT_5V
		11	GND

Printhead controller board

Connector	Connects to	Pin no.	Signal
CN14	Density sensor	1	GLED
		2	VMON
		3	GND
		4	+5V
		5	VOUT
CN15	LVPS	1	+5V_IN
		2	+5V_GND
		3	+24V_IN
		4	+24V_GND
	Engine board	5	+24VSW
CN16	LVPS	1	+24V_GND
		2	HV25V
		3	SLEEP1
		4	SLEEP2
		5	HT1
		6	HT2
		7	HT3
		8	ZEROCRS
CN17	Toner sensor K	1	TNSETK
		2	k-k
		3	GND
		4	TSZANK
		5	+5V
	Toner sensor C	6	TNSETC
		7	k-k
		8	GND
		9	TSZANC
		10	+5V
CN18	Toner sensor Y	1	TNSETY
		2	k-k
		3	GND
		4	TSZANY
		5	+5V
	Toner sensor M	6	TNSETM
		7	k-k
		8	GND
		9	TSZANM
		10	+5V

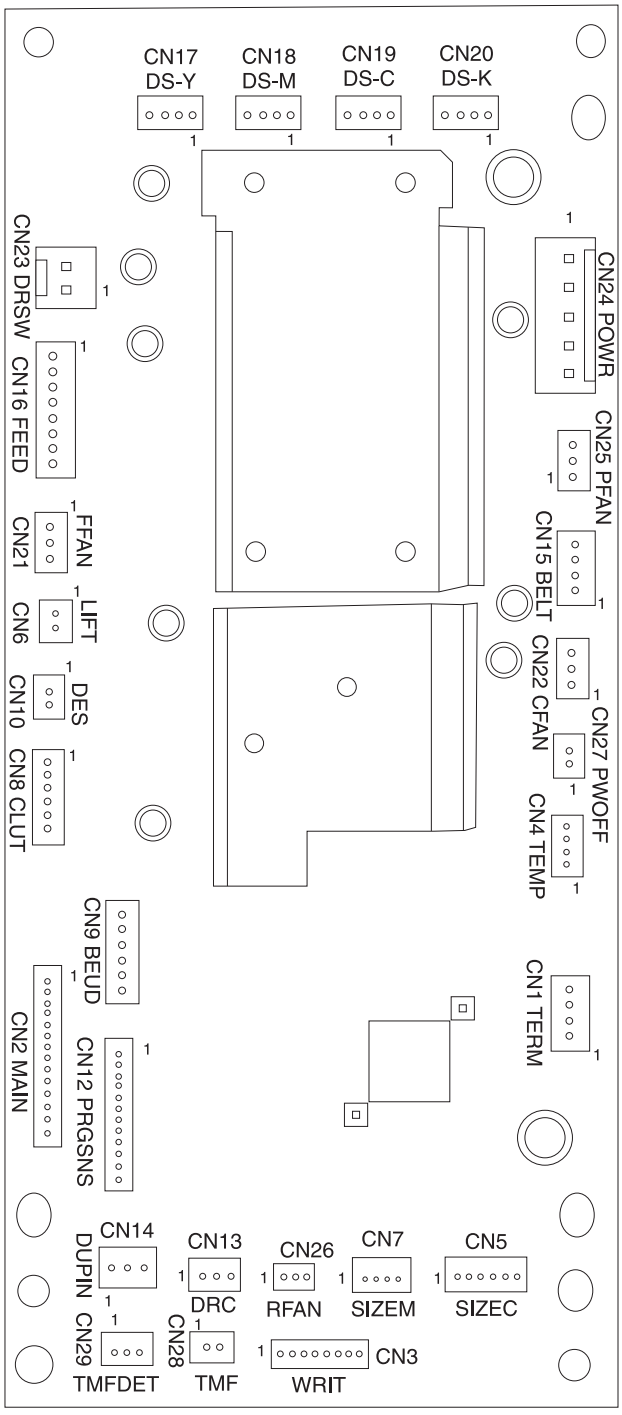
Printhead controller board

Connector	Connects to	Pin no.	Signal
CN21 RIP board		1	VCLK-Y
		2	GND
		3	VCLK-M
		4	GND
		5	VCLK-C
		6	GND
		7	VCLK-K
		8	GND
CN22	RIP board	1	GND
		2	VSYN-Y
		3	VSYN-C
		4	VSYN-M
		5	VSYN-K
		6	HSYN-Y
		7	HSYN-C
		8	HSYN-M
		9	HSYN-K
		10	GND
		11	LEVELY-O0

Printhead controller board

Connector	Connects to	Pin no.	Signal
CN22 - continued	RIP Board - continued	12	LEVELY-O1
		13	LEVELY-E0
		14	LEVELY-E1
		15	LEVELM-O0
		16	LEVELM-O1
		17	LEVELM-E0
		18	LEVELM-E1
		19	LEVELC-O0
		20	LEVELC-O1
		21	LEVELC-E0
		22	LEVELC-E1
		23	LEVELK-O0
		24	LEVELK-O1
		25	LEVELK-E0
		26	LEVELK-E1
		27	GND
		28	FEED2
		29	SBSY
		30	FPF
		31	STATUS
		32	FDRDY
		33	CPRDY
		34	START
		35	CBSY
		36	PPRDY
		37	STCLK
		38	READY
		39	COMMAND
		40	GND

Engine board connectors



Engine board

Connector	Connects to	Pin no.	Signal
CN1	N.C		
CN2	Printhead Controller	1	LDPRG
		2	PRGSW5V
		3	THETA LED
		4	GND
		5	/PCZCNG
		6	HTNB1
		7	GND
		8	MOTOR CLK4
		9	MOTOR CLK3
		10	MOTOR CLK2
		11	MOTOR CLK1
		12	TXD
		13	RXD
		14	/MBUSY_IN
CN3	N.C		
CN4	Temp humidity sensor	1	Temp S
		2	GND
		3	Humid S
		4	+5V
CN5	Paper size sensor (Std Cassette)	1	CPSIZE2
		2	PCZCNG C
		3	CPSIZE1
		4	PCZCNG C
		5	CPSIZE0
		6	PCZCNG C
CN6	Paper tray lift motor	1	PN2
		2	PN1
CN7	Paper size sensor (MPF Cassette)	1	MPSIZE2
		2	MPSIZE1
		3	PCZCNG M
		4	MPSIZE0

Engine board

Connector	Connects to	Pin no.	Signal
CN8 Paperfeed clutches	Paperfeed clutches	1	VCC24V
		2	/PF1CL
		3	VCC24V
		4	/TRCL
		5	VCC24V
		6	/MLTCL
CN9	Waste toner	1	GND
		2	HTONER
		3	/LD
	Belt pos sensor	4	GND
		5	BELT U/D
		6	/LD
CN10	Duplex solenoid		DUPSOL
			GND
CN12	Full sensor	1	GND
		2	PFLIFTSW
		3	LD
	PE Sensor STD tray	4	GND
		5	PP EMP
		6	LD
	PE Sensor MPF tray	7	GND
		8	MPF DET
		9	LD
	Reg sensor	10	GND
		11	PRGSW
		12	PRGSW5V
CN13	Duplex clutch	1	DUPOUTCL
		2	
		3	GND
CN14	Exit sensor	1	GND
		2	DUP INSW
		3	+5V
CN15	Belt motor	1	1A BELT
		2	1B BELT
		3	2A BELT
		4	2B BELT

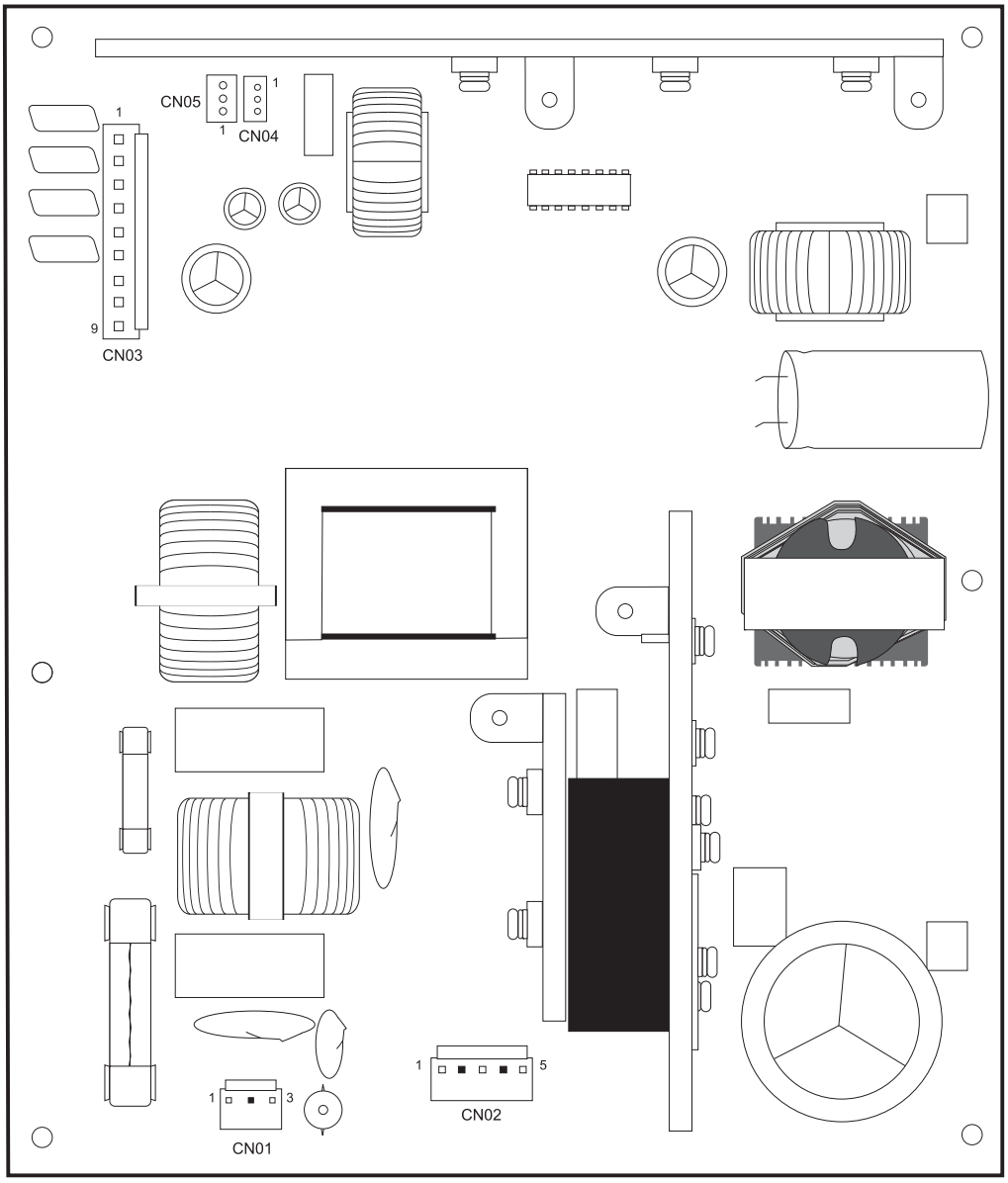
Engine board

Connector	Connects to	Pin no.	Signal
CN16 Paperfeed motor / Fuser motor	Paperfeed motor		1A FEED
			1B FEED
			2A FEED
			2B FEED
	Fuser / paper exit motor		1A FUSER
			1B FUSER
			2A FUSER
			2B FUSER
CN17 Motor	Y Motor	1	DSYMOY -A
		2	DSYMOY -B
		3	DSYMOY -A
		4	DSYMOY -B
CN18 Motor	M Motor	1	DSMMOY -A
		2	DSMMOY -B
		3	DSMMOY -A
		4	DSMMOY -B
CN19 Motor	C Motor	1	DSCMOY -A
		2	DSCMOY -B
		3	DSCMOY -A
		4	DSCMOY -B
CN20 Motor	K Motor	1	DSKMOY -A
		2	DSKMOY -B
		3	DSKMOY -A
		4	DSKMOY -B
CN21	Fuser fan	1	FFAN
		2	FFALM
		3	GND
CN22	Main fan	1	CFAN
		2	CFALM
		3	GND
CN23	Main switch	1	+24V PR
		2	+24V PR
CN24	LVPS	1	+5V IN
		2	+5V GND
		3	+24V PR
		4	+24V GND
		5	+24 V

Engine board

Connector	Connects to	Pin no.	Signal
CN25	Power supply fan	1	PSFAN
		2	PSFALM
		3	GND
CN26	Rear fan	1	REAFAN
		2	REAFALM
		3	GND
CN27	Remote switch	1	GND
		2	P OFF
CN28	MPF clutch	1	TMPCL
		2	GND
CN29 t	MPF paper out	1	GND
		2	TMFDET
		3	LD1

LVPS Connectors



LVPS board

Connector	Connects to	Pin no.	Signal
CN01	Main switch	1	AC-L
		2	
		3	AC-N
CN02	Fuser sensor	1	COM
		2	HT3
		3	HT2
		4	HT1

LVPS board

Connector	Connects to	Pin no.	Signal
CN03	RIP Board	1	+5V-
		2	GND
	Printhead controller board	3	+5V-
		4	GND
		5	+24V
		6	GND
	Engine board	7	+5V-
		8	GND
		9	+24V
		10	GND
CN04	Printhead controller board	1	ACXerox-P
		2	Heater3N
		3	Heater2N
		4	Heater1N
		5	Sleep2
		6	Sleep1
		7	HT24
		8	GND
	Engine board	9	FAN GND
		10	FAN ARM
		11	FAN
CN05	RIP Board	1	RL_OFF-P
		2	RL_ON-P
		3	GND
		4	5V-SB
CN06	Power supply fan	1	FAN
		2	FAN ARM
		3	FAN GND

Scanner ICC board connectors

ICC board

Connector	Pin no.	Signal
J1 FB Cover open	1	FB_COVER_OPEN
	2	DGND
	3	5V
J2 FB paper size sensor 2	1	GND
	2	5V
	3	FBPS2 3
	4	FBPS2 2
	5	FBPS2 1
J3	1	GND
	2	24V_RIP
	3	24V_RIP
	4	24V_RIP
	5	GND
	6	TOP_FB
	7	BOOT SEL
	8	5V
	9	5V
	10	GND
	11	MDC RXD
	12	
	13	GND
	14	ADF_PAPER_INMDC_TXD
	15	F_COVER_OPEN
	16	GND
	17	HMSEN
	18	PAPER_GAP
	19	GND
	20	RESET_N
	21	3.3V
	22	GND
	23	HW RESERVE
	24	IC2_CLK
	25	IC2 DATA
	26	GND

ICC board

Connector	Pin no.	Signal
J4 FB paper size sensor 1	1	GND
	2	5V
	3	FBPS1 3
	4	FBPS1 2
	5	FBPS1 1
J5	1	5V
	2	24VM_ADF
	3	24VM_ADF
	4	GND
	5	GND
	6	IO_BUS0)
	7	IO_BUS2
	8	IO_BUS4
	9	IO_BUS6
	10	ADF_PICKUP_STEP
	11	FB_ADF_STEP
	12	DGND
	13	I_ADF_PLUG
	14	DGND
	15	24VM_ADF
	16	DGND
	17	NC
	18	IO_BUS1
	19	NC
	20	IO_BUS3
	21	NC
	22	IO_BUS5
	23	ADF_PAPER_IN
	24	NC
	25	PAPER _GAP
	26	3.3V

ICC board

Connector	Pin no.	Signal
J6 - CCD RIP 18 pin	1	3.3VM
	2	3.3VM
	3	GND
	4	GND
	5	FB_DIR
	6	HM_SEN
	7	GND
	8	FBM_EN
	9	FB_RS
	10	GND
	11	FB_MS2
	12	FB_MS1
	13	GND
	14	TQ2
	15	TQ1
	16	24VM_CCD
	17	FB_ADF_STEP
	18	24VM_CCD
J7	1	JTD1
	2	GND
	3	JTD 0
	4	GND
	5	JTCK
	6	GND
	7	RTCK
	8	JTMS
	9	3.3V
	10	JIRST_N
	11	3.3V
	12	GND

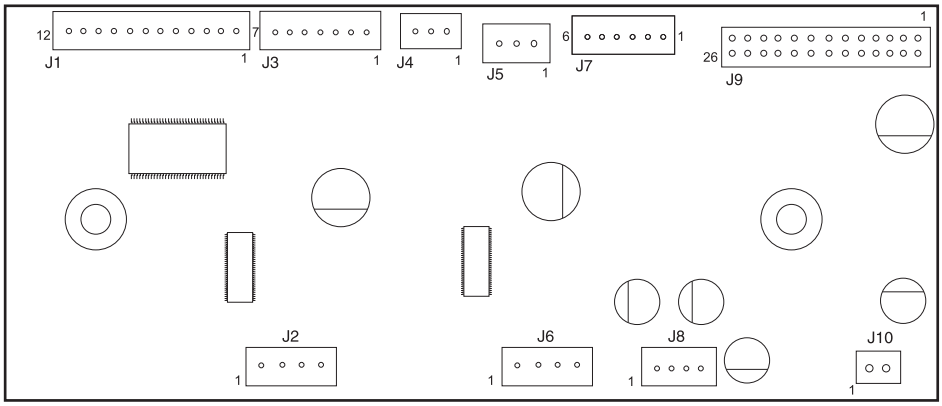
ICC board

Connector	Pin no.	Signal
J8 - To RIP - Ribbon cable	1	GND
	2	IN_CLK_M
	3	IN_CLK_P
	4	GND
	5	98714_CLK_M
	6	98714_CLK_P
	7	GND
	8	98714_OUT2_M
	9	98714_OUT2_P
	10	GND
	11	98714_OUT1_M
	12	98714_OUT1_P
	13	GND
	14	98714_OUT0_M
	15	98714_OUT0_P
	16	GND
	17	AFE_RESET
	18	GND
	19	98714_SDATA
	20	98714_SCLK
	21	98714_SEN_N
	22	98714_SH_R
	23	PWR_SVR
	24	5V_CCD_IN
	25	5V_CCD_IN
	26	GND
	27	24V_IN
	28	24V_IN
	29	LAMP_ON
	30	GND

ICC board

Connector	Pin no.	Signal
J9 - CCD 30 pin	1	GND
	2	LAMP_ON
	3	24V_IN
	4	24V_IN
	5	GND
	6	5V_CCD_IN
	7	5V_CCD_IN
	8	PWR_SVR
	9	98714_SH_R
	10	98714_SEN_N
	11	98714_SCLK
	12	98714_SDATA
	13	GND
	14	AFE_RESET
	15	GND
	16	98714_OUT0_P
	17	98714_OUT0_M
	18	GND
	19	98714_OUT1_P
	20	98714_OUT1_M
	21	GND
	22	98714_OUT2_P
	23	98714_OUT2_M
	24	GND
	25	98714_CLK_P
	26	98714_CLK_M
	27	GND
	28	INCLK_P
	29	INCLK+M
	30	GND
J10 FB paper size sensor 3	1	GND
	2	5V
	3	FBPS3 3
	4	FBPS3 2
	5	FBPS3 1

ADF relay card connectors



ADF relay card

Connector	Pin no.	Signal
J1 - ADF cover sensors	1	+5V
	2	COVER OPEN
	3	GND
	4	+5V
	5	PICKUP ROLLER
	6	GND
	7	+5V
	8	GAP
	9	GND
	10	+5V
	11	PAPER DET
	12	GND
J2 - ADF scan motor	1	OUT2B 1
	2	OUT1A 1
	3	OUT2A 1
	4	OUT1B 1
J6 - ADF pick motor	1	OUT2B 2
	2	OUT1A 2
	3	OUT2A 2
	4	OUT1B 2
J3 - ADF paper width and length sensors	1	B5SEN
	2	A4SEN
	3	B4SEN
	4	5V
	5	GND
	6	A3SEN
	7	L1SEN

ADF relay card

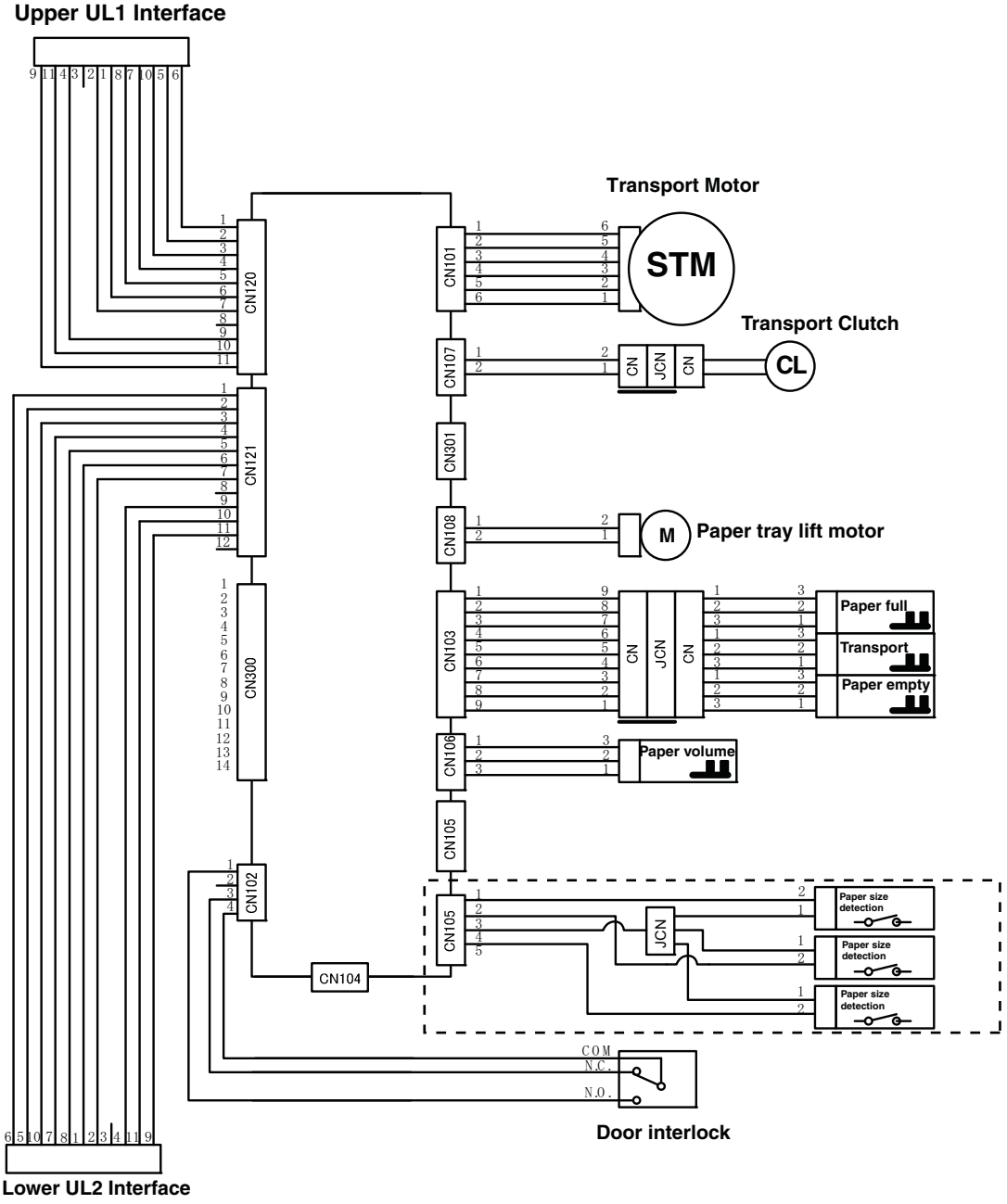
Connector	Pin no.	Signal
J4 - ADF paper out sensor	1	5V
	2	Paper out
	3	GND
J5 - Duplex paper pass	1	5V
	2	2 PASS SEN
	3	GND
J7 - Scan sensor / paper in	1	5V
	2	PAPER SCAN
	3	GND
	4	5VD
	5	PAPER IN
	6	GND
J8 - Solenoids	1	24V
	2	GND
	3	24V
	4	GND

ADF relay card

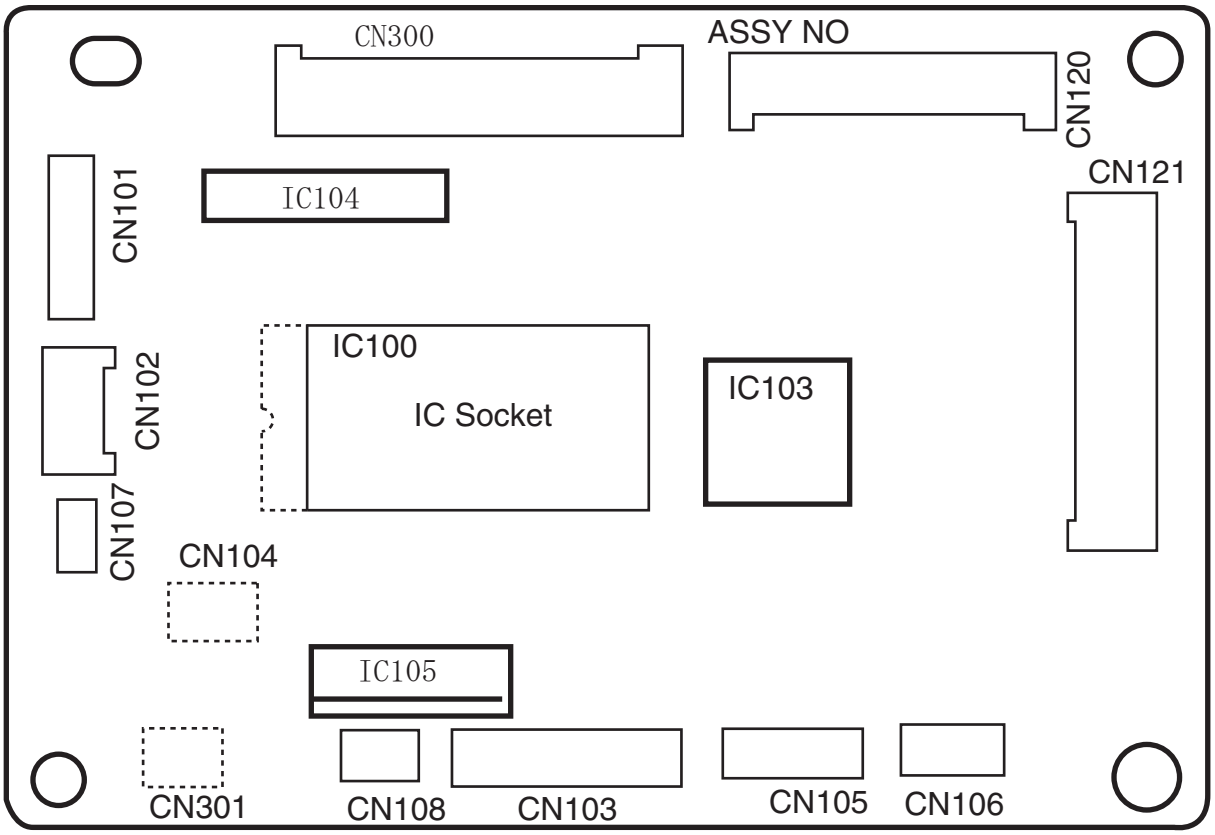
Connector	Pin no.	Signal
J9 - ADF cable **Note:** This connection cannot be probed to check signals.	1	3.3V
	2	3.3V
	3	24VM MOTOR ON
	4	24VM MOTOR ON
	5	GND
	6	24VM MOTOR ON
	7	NC
	8	GND
	9	NC
	10	GND
	11	FB ADF STEP
	12	NC
	13	ADF PICKUP STEP
	14	PAPER DET
	15	FB IO BUS 3
	16	NC
	17	FB IO BUS 1
	18	FB IO BUS 2
	19	FB IO BUS 0
	20	FB IO BUS 4
	21	FB IO BUS 5
	22	FB IO BUS 6
	23	GND
	24	PAPER GAP
	25	5VD
	26	GND
J10 - ADF clutch	1	24V
	2	GND

Option feeder locations

Option feeder layout



Option board layout



Option board connector values

Connector	Pin	Signal		Signal	Pin	Connector	Parts Name
CN101	1	/B			6		Transport Motor
	2	VAA(24V)			5		
	3	B			4		
	4	/A			3		
	5	VAA(24V)			2		
	6	A			1		
CN102	1	VAA/SW			1		Cover Open SW
	3	N.C.(Cover Open)			3		
	4	VAA(24V)			4		
	2	CGND			2		
CN103	1	CGND			9	中継ｺﾈｸﾀ	9 1 3 Paper Overload Sensor
	2	Paper Full Sensor			8		8 2 2
	3	VCC(5V)			7		7 3 1
	4	CGND			6		6 1 3 Transport Sensor
	5	Transport Sensor			5		5 2 2
	6	VCC(5V)			4		4 3 1
	7	CGND			3		3 1 3 Out-of-Paper Sensor
	8	Paper Empty Sensor			2		2 2 2
	9	VCC(5V)			1		1 3 1
CN105	1	SIZE_3			5		5 1 5
	2	SIZE_2			4		4 2 4
	3	CGND			3		3 3 3
	4	SIZE_1			2		2 4 2
	5	SIZE_0			1		1 5 1
CN105	1	SIZE_3		SIZE_3	2	Size detect SW	
	2	SIZE_2		CGND	1		
	3	CGND		SIZE_2	2	Size detect SW	
	4	SIZE_1		CGND	1		
	5	N.C.		SIZE_4	2	Size detect SW	
				CGND	1		
CN106	1	CGND				Paper level	
	2	Paper Volume Sensor					
	3	VCC(5V)					
CN107	1	VAA			2		2 2 Transport Clutch
	2	Paper Feed Clutch			1		1 1
CN108	1	UD motor(+)				UD motor	
	2	UD motor(-)					
CN120	1	ADR0			6	Harness to connector 13 on the Printhead Controller Board	6
	2	ADR1			5		5
	3	/RST			10		10
	4	TXD			7		7
	5	RXD			8		8
	6	VAA(24V)			1		1
	7	VAA(24V)			2		2
	8	AGND			3		3
	9	AGND			4		4
	10	VCC(5V)			11		11
	11	CGND			9		9
CN121	1	ADR0			6	Harness to connector 120 on the next Expansion Feeder Board	6
	2	ADR1			5		5
	3	/RST			10		10
	4	TXD			7		7
	5	RXD			8		8
	6	VAA(24V)			1		1
	7	VAA(24V)			2		2
	8	AGND			3		3
	9	AGND			4		4
	10	VCC(5V)			11		11
	11	CGND			9		9
	12	N.C.					
CN300	1	ADR0		ADR0	1	CN120	MPF Control Board
	2	ADR1		ADR1	2		
	3	/RST		/RST	3		
	4	TXD		TXD	4		
	5	RXD		RXD	5		
	6	VAA/SW		VAA(24V)	6		
	7	VAA/SW		VAA(24V)	7		
	8	AGND		AGND	8		
	9	AGND		AGND	9		
	10	VCC(5V)		VCC(5V)	10		
	11	CGND		CGND	11		
	12	OPEN_DET_H		VAA/SW	1	CN102	MPF Control Board
	13	CENTA_DET_L		CGND	2		
	14	VAA/SW		N.C.(ﾄｱ開検知)	3		
				N.C.	4		
CN301	1	VAA		N.C.			
	2	PICK_UP_SOL					

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

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. Use Nyogel type 774 to lubricate the Fuser Drive Assembly and Nyogel 744 to lubricate the ITU and Cartridge Drive assemblies.

Scheduled maintenance

The following parts are used for regular maintenance on the X925:

40X6372 - 300,000 page paper feed maintenance kit

40X6457 - 100,000 page MPF maintenance kit

40X6328 - ADF separator roll - Every 100,000 pages

40X6327 - ADF pick roll - Every 200,000 pages

40X6011 -Transfer belt kit w/transfer roll - Every 100,000 pages

40X6012 - Transfer roll - Every 100,000 pages

40X6013 (110V), **40X6093** (220V) - Fuser - Every 120,000 pages

40X6432 - Flatbed cushion - as needed

7. Parts catalog

How to use this parts catalog

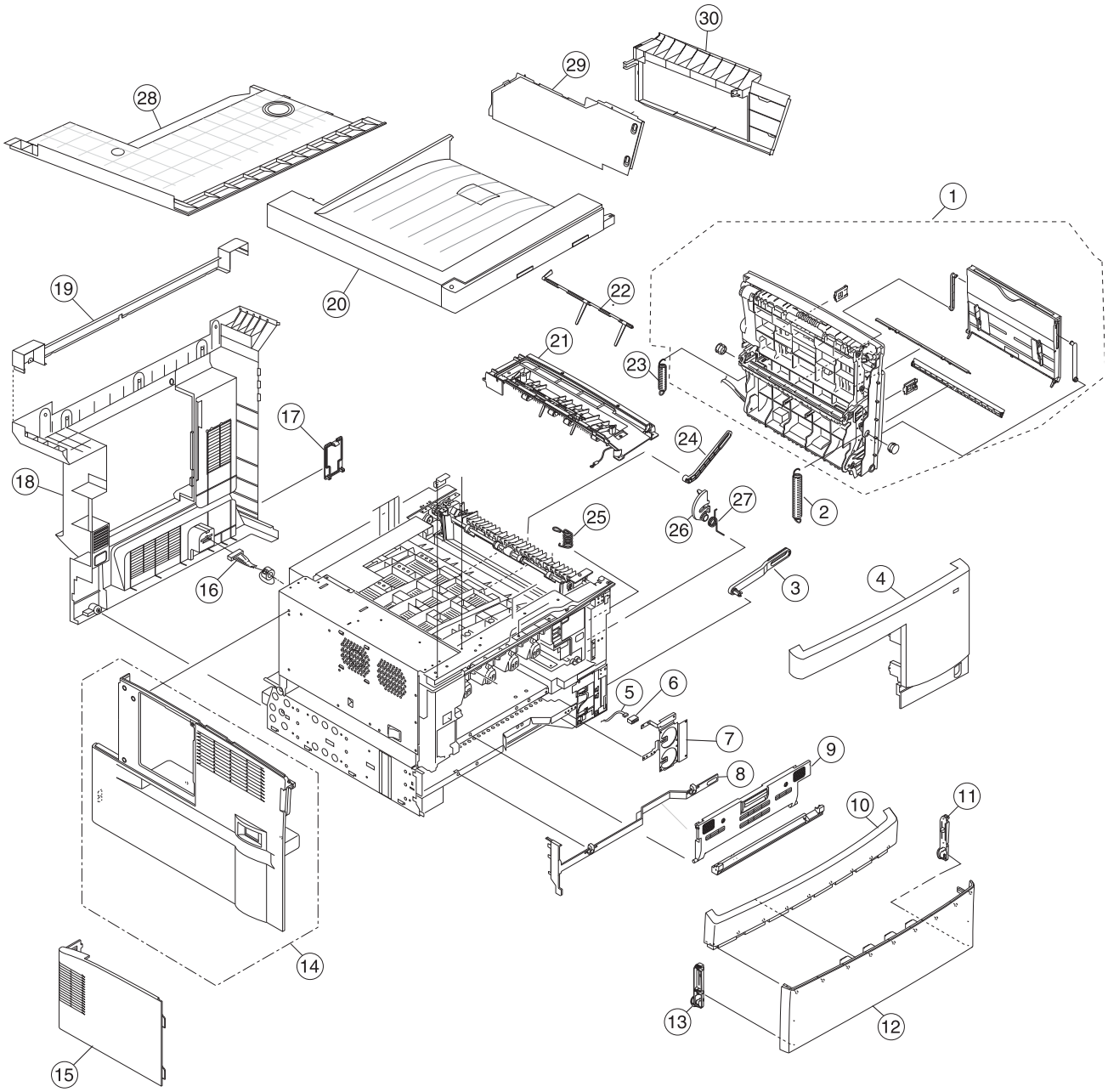
The following legend is used in the parts catalog:

Asm-index	Part number	Units/mach - OR - Units/option	Units/ FRU	Description

- **Asm-index**: Identifies the assembly and the item in the diagram. For example, 3-1 indicates Assembly 3 and item number 1 in the table.
- **Part number**: Identifies the unique number that identifies this FRU.
- **Units/mach**: Refers to the number of units actually used in the base machine or product.
- **Units/option**: Refers to the number of units in a particular option. It does not include the rest of the base machine.
- **Units/FRU**: Refers to the number of units packaged together and identified by the part number.
- **NS**: (Not shown) in the Asm-Index column indicates that the part is procurable but is not pictured in the illustration.
- **PP**: (Parts Packet) in the parts description column indicates the part is contained in a parts packet.
- Model information used in the parts catalog:

Machine type and model	Description
7541-032	X925 w/duplex
7541 -036	X925 w/duplex and fax
7541-096	

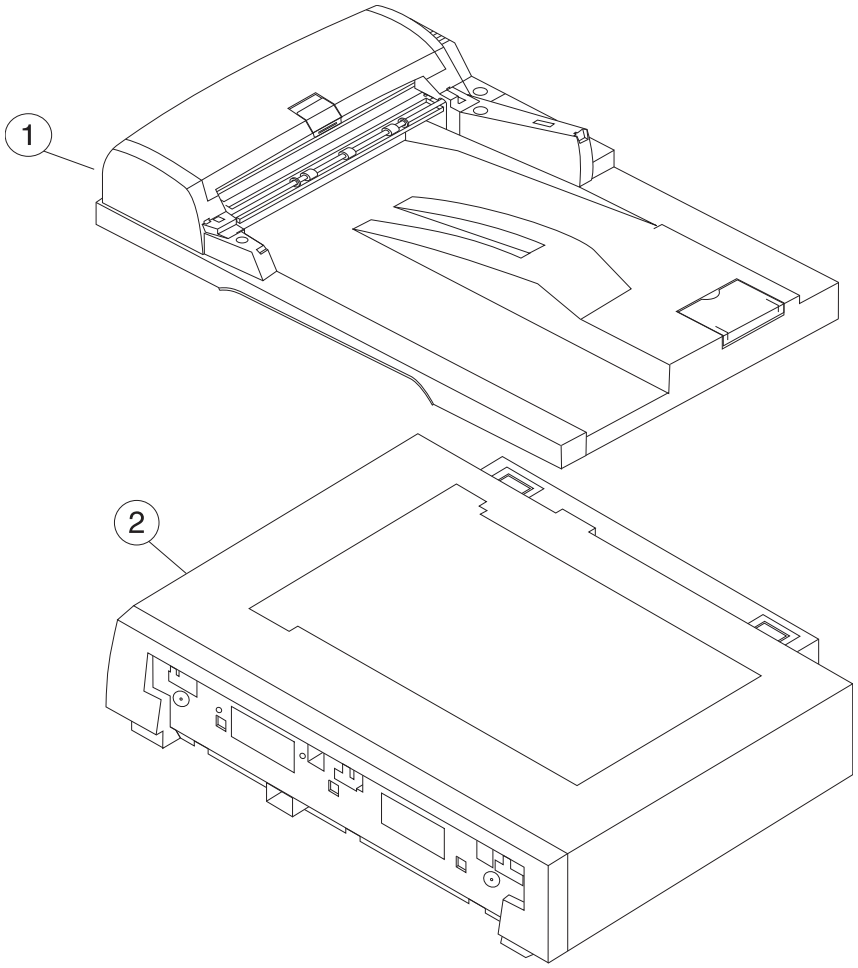
Assembly 1: Covers



Assembly 1: Covers

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1-1	40X6126	1	1	Complete Duplex
2	40X6272	1	1	A/S link arm spring
3	40X6268	1	1	A/S link arm
4	40X6303	1	1	Op panel front cover
4	40X6302	1	1	Op panel front cover w/card reader
5	40X6120	1	1	Paper size sensor cable
6	40X6114	1	1	Paper size sensor
7	40X6354	1	1	Sensor frame
8	40X6121	1	1	Tray stop
9	40X6169	1	1	Transfer belt door (DS Lock)
10	40X6289	1	1	Upper front logo cover
11	40X6282	1	1	Right hinge
12	40X6280	1	1	Front cover
13	40X6283	1	1	Left hinge
14	40X6122	1	1	Left cover
15	40X6124	1	1	Access cover
16	40X6369	1	1	Option cable
17	40X6125	1	1	Option cover
18	40X6298	1	1	Back cover
19	40X6297	1	1	Cord cover
20	40X6296			Printer top cover
21	40X6743	1	1	Op panel paper exit guide
22	40X6417	1	1	Output bin full lever
23	40X6273	1	1	B/S link arm spring
24	40X6269	1	1	B/S link arm
25	40X6270	1	1	Safety switch spring
26	40X6267	1	1	Release link
27	40X6271	1	1	Release spring
28	40X6294	1	1	Back cave cover
29	40X6301	1	1	Inner right cover
30	40X6295	1	1	Upper right cover
NS	40X6011	1	1	Transfer belt
NS	40X6292	1	1	RIP cover
NS	40X6304	1	1	Cave LED cover
NS	40X6755	1	1	MFP cave light assembly
NS	40X6314	1	1	Cave light cable
NS	40X6744	1	1	Op panel under cover. (used on 40X6743)
NS	40X6293	1	1	Upper paper exit cover (used on 40X6743)

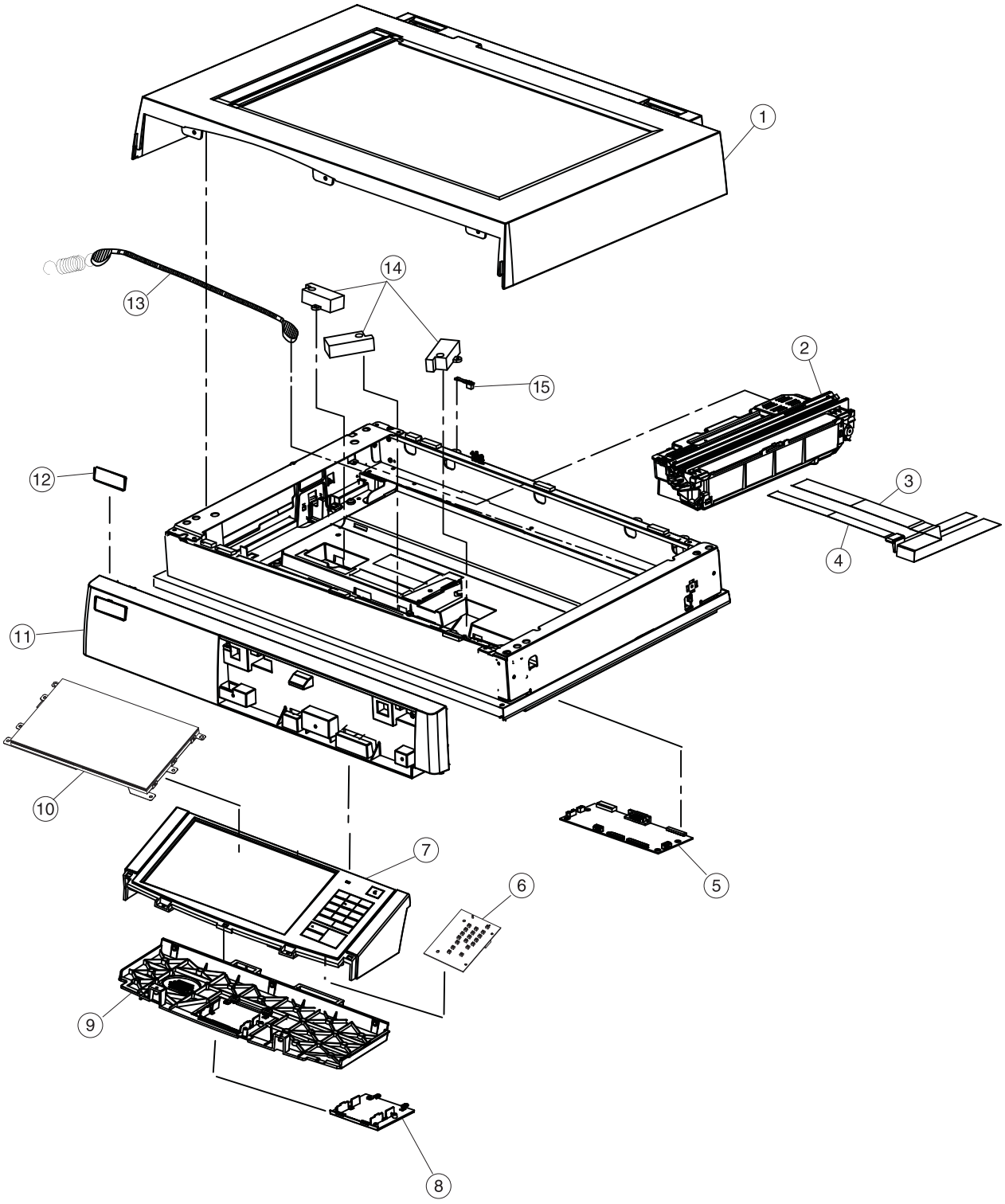
Assembly 2: Flatbed and ADF



Assembly 2: Flatbed and ADF

Asm-index	Part number	Units/ mach	Units/ FRU	Description
2-1	40X6545	1	1	ADF unit (whole unit)
2	40X6980	1	1	Flatbed (whole unit)

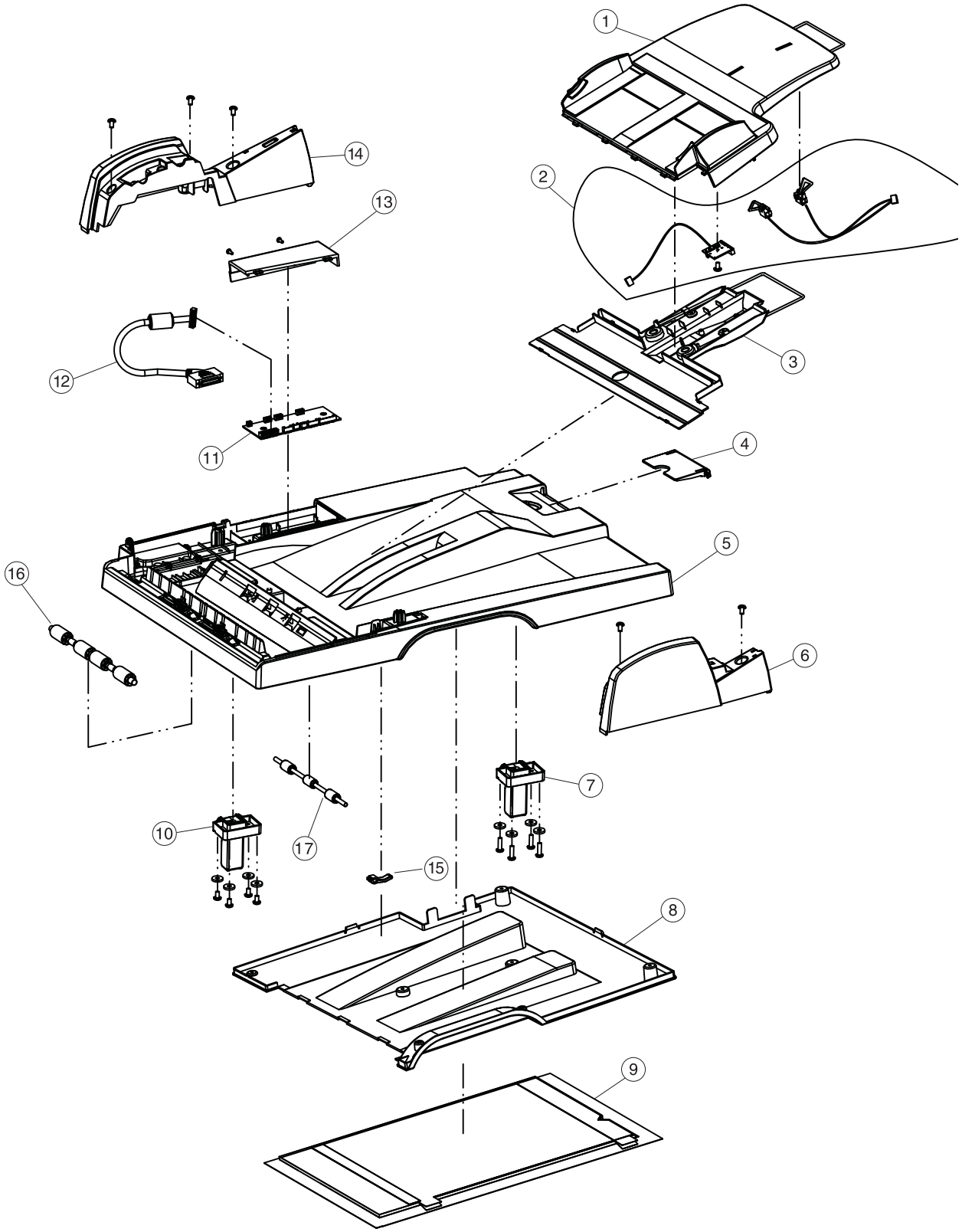
Assembly 3: Flatbed



Assembly 3: Flatbed

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6320	1	1	Flatbed upper cover
2	40X6321	1	1	CCD chassis
3	40X6323	1	1	30 pin FFC ribbon cable
4	40X6324	1	1	18 pin FFC ribbon cable
5	40X6322	1	1	ICC PCBA
6	40X6973	1	1	UICC card
7	40X6957	1	1	Button assembly (op panel top)
8	40X6959	1	1	Op panel access cover
9	40X6958	1	1	Op panel bottom
10	40X6957	1	1	10.2 inch touchscreen display w/haptics
11	40X6978	1	1	Flatbed front cover
12	40X6443	1	1	Model name cover
13	40X6326	1	1	CCD belt
14	40X6548	3	1	Optical paper size sensors
15	40X6235	1	1	Flatbed cover open sensor
NS	40X6977	1	1	Op panel light pipe
NS	40X6757	4	1	Scanner rubber pad
NS	40X6758	4	1	Scanner stopper screw
NS	40X6759	4	1	Scanner sub rubber screw
NS	40X6760	4	1	Dimension screw
NS	40X7117	1	1	Speaker assembly
NS	40X6306	1	1	UICC - Display cable

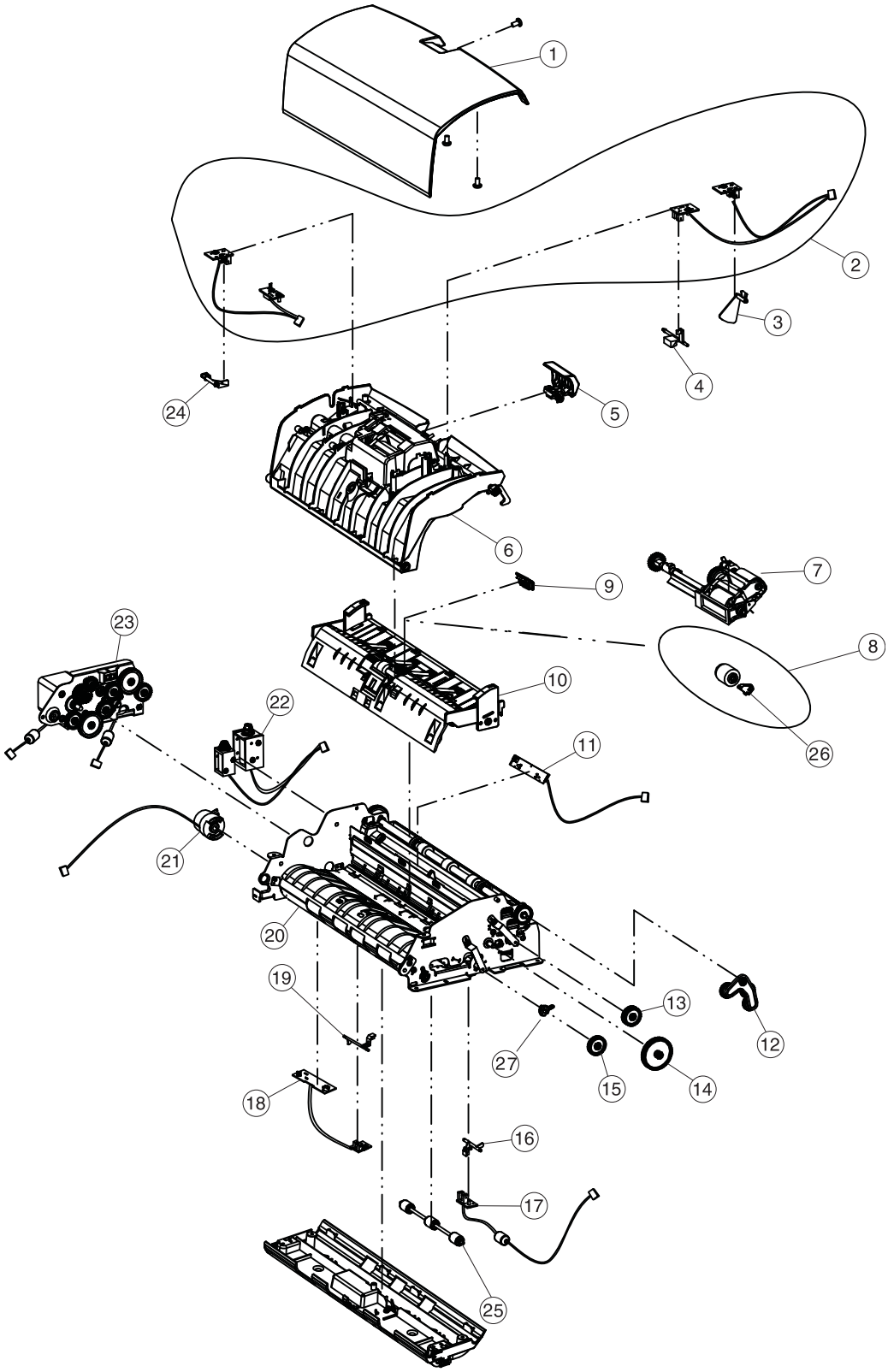
Assembly 4: ADF 1



Assembly 4: ADF 1

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6338	1	1	ADF input tray
2	40X6966	1	1	Tray paper size sensors
3	40X6979	1	1	ADF tray bottom cover
4	40X6345	1	1	ADF paper stop
5	40X6346	1	1	Upper flatbed top cover
6	40X6344	1	1	Right ADF cover
7	40X6334	1	1	Flatbed hinge
8	40X6347	1	1	Lower flatbed top cover
9	40X6432	1	1	Flatbed cushion
10	40X6333	1	1	ADF hinge
11	40X6329	1	1	ADF relay card
12	40X6433	1	1	ADF cable
13	40X6342	1	1	ADF relay card cover
14	40X6343	1	1	Left ADF cover
15	40X6542	1	1	Release arm
16	40X6544	1	1	Idle clutch roller
17	40X6543	1	1	Idle pulley roller

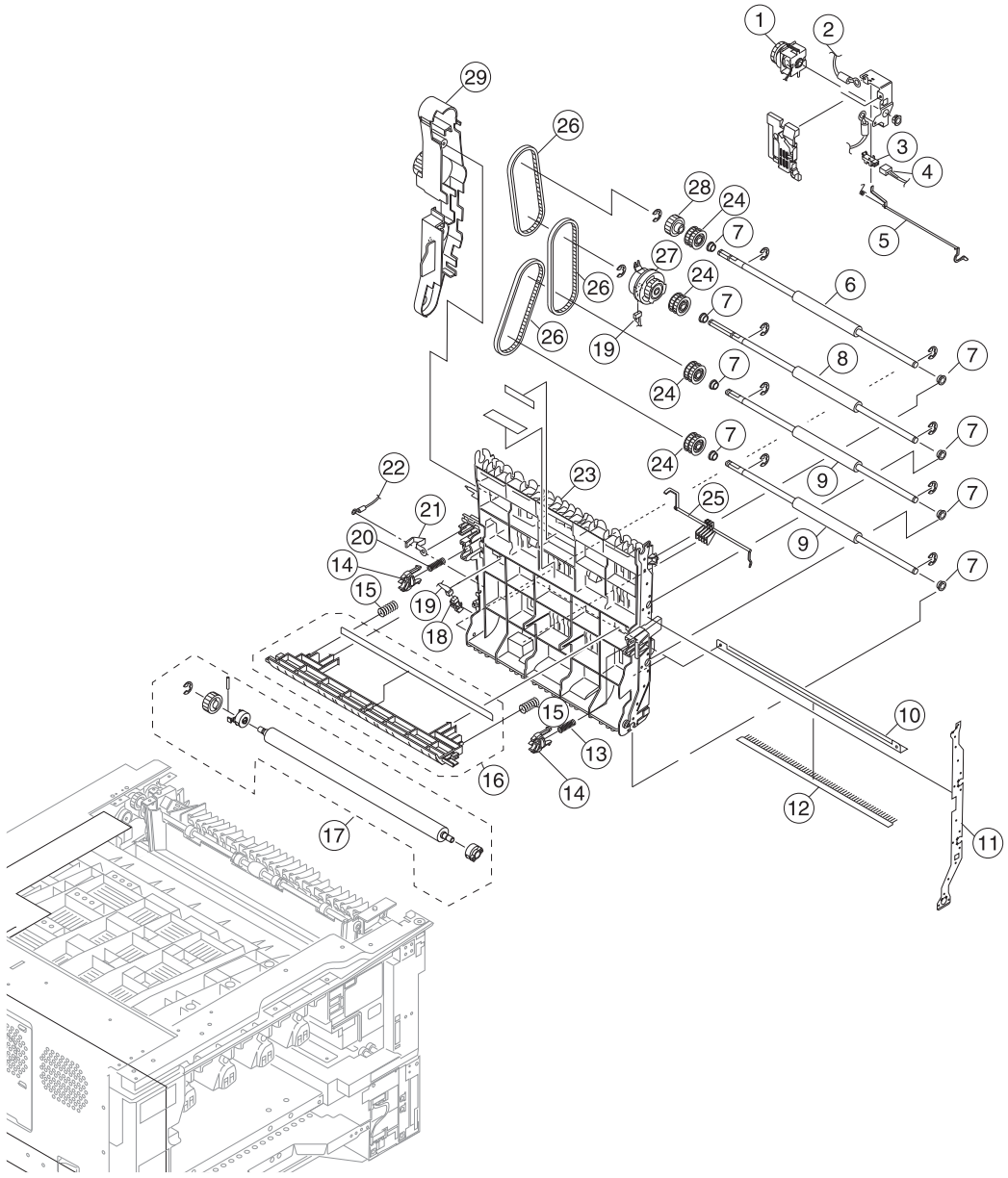
Assembly 5: ADF 2



Assembly 5: ADF 2

Asm-index	Part number	Units/ Mach	Units/ FRU	Description
1	40X6331	1	1	Outer ADF top cover
2	40X6531	1	1	ADF paperpath sensors
3	40X6540	1	1	Paper present sensor actuator
4	40X6539	1	1	Paper in sensor actuator
5	40X6340	1	1	Top cover release handle
6	40X6332	1	1	Inner ADF top cover
7	40X6327	1	1	ADF pick roll assembly
8	40X6328	1	1	ADF separator roll
9	40X6953	1	1	Mylar ADF pad
10	40X6349	1	1	ADF media paperpath guide
11	40X6976	1	1	Duplex timing sensor
12	40X6532	1	1	Gear w/spring holder
13	40X6538	1	1	Spur G28T gear
14	40X6537	1	1	Spur G63-27T gear
15	40X6536	1	1	Spur G36T gear
16	40X6974	1	1	Duplex out sensor actuator
17	40X6975	1	1	Duplex out sensor
18	40X6534	1	1	Scan sensor w/ paper in sensor
19	40X6535	1	1	Scan sensor actuator
20	40X6348	1	1	ADF main feeder
21	40X6335	1	1	ADF drive clutch
22	40X6434	1	1	ADF solenoid
23	40X6330	1	1	ADF motor frame w/motors
24	40X6541	1	1	Cover open sensor actuator
25	40X6533	1	1	Idle roller w/shaft
26	40X6547	1	1	Separator roll lock
27	40X6336	1	1	Roller Bearing
NS	40X6341	2	1	Top cover release hook

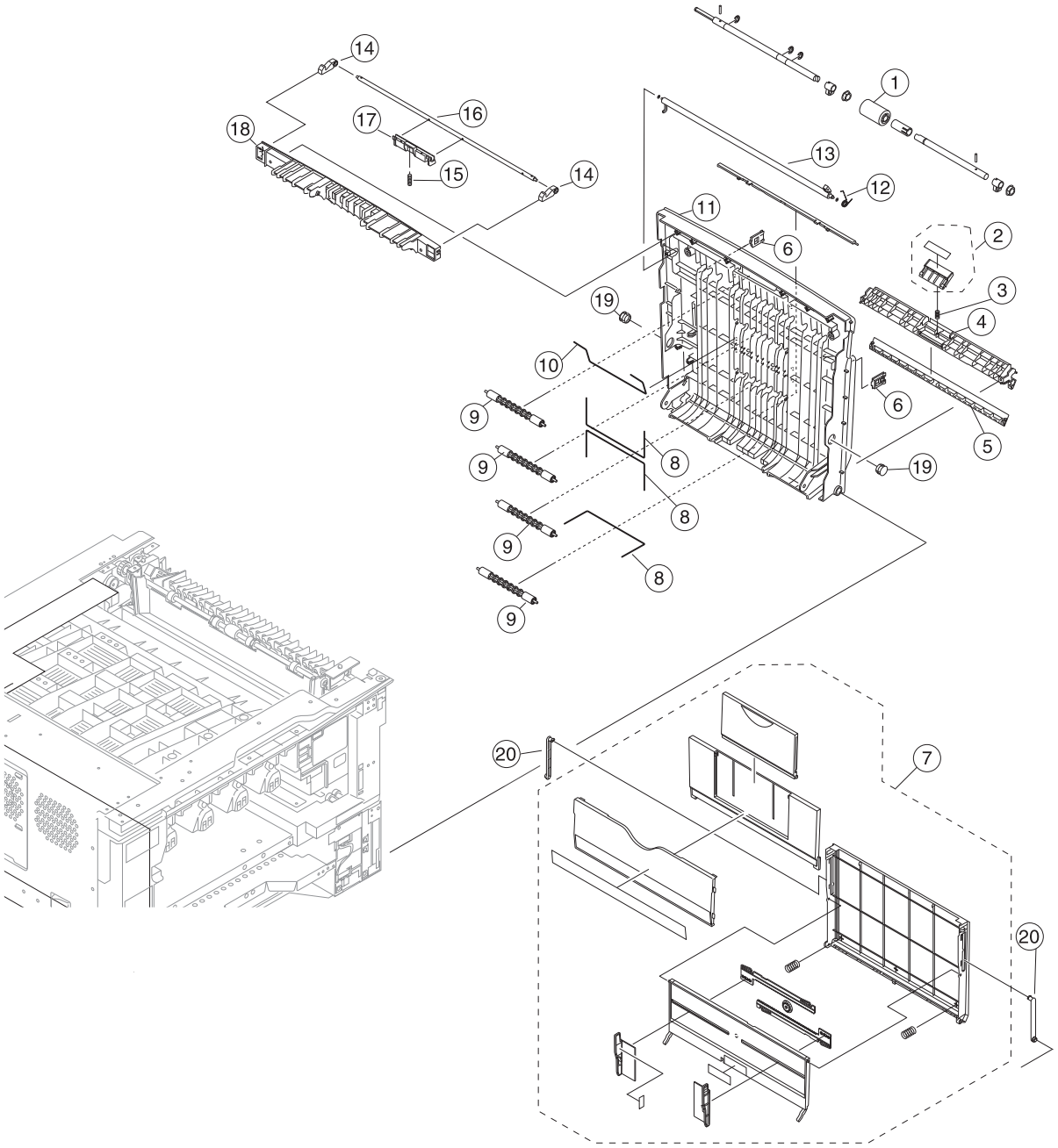
Assembly 6: Duplex components 1



Assembly 6: Duplex components 1t

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6419	1	1	MPF Clutch
2	40X6259	1	1	Duplex ground cable
3	40X1104	8	1	Photo interrupter
4	40X6416	1	1	MPF - Engine board cable
5	40X6982	1	1	MPF paper empty lever
6	40X6152	1	1	A/S Carrying roller
7	40X6147	8	1	Duplex roller bushing
8	40X6153	1	1	B/S Carrying roller
9	40X6154	2	1	C/S Carrying roller
10	40X6277	1	1	Discharge brush plate
11	40X6148	1	1	Duplex ground plate
12	40X6260	1	1	Duplex static brush
13	40X6159	1	1	F2/S Transfer spring
14	40X6143		1	Transfer roll bushing
15	40X6151	2	1	Roller guide spring
16	40X6258	1	1	Roller guide
17	40X6012	1	1	Transfer roll
18	40X1104	8	1	Photo sensor
19	40X6158	1	1	Duplex clutch cable
20	40X6150	1	1	2/S Transfer spring
21	40X6149	1	1	Transfer contact plate
22	40X6259	1	1	Duplex ground cable
23	40X6142	1	1	Inner duplex cover
24	40X6144		1	Duplex carrying gear
25	40X6145	1	1	Paper exit sensor lever
26	40X6155	3	1	Duplex timing belt
27	40X6157	1	1	Duplex clutch
28	40X6146	1	1	Drive gear
29	40X6257	1	1	Carry cover

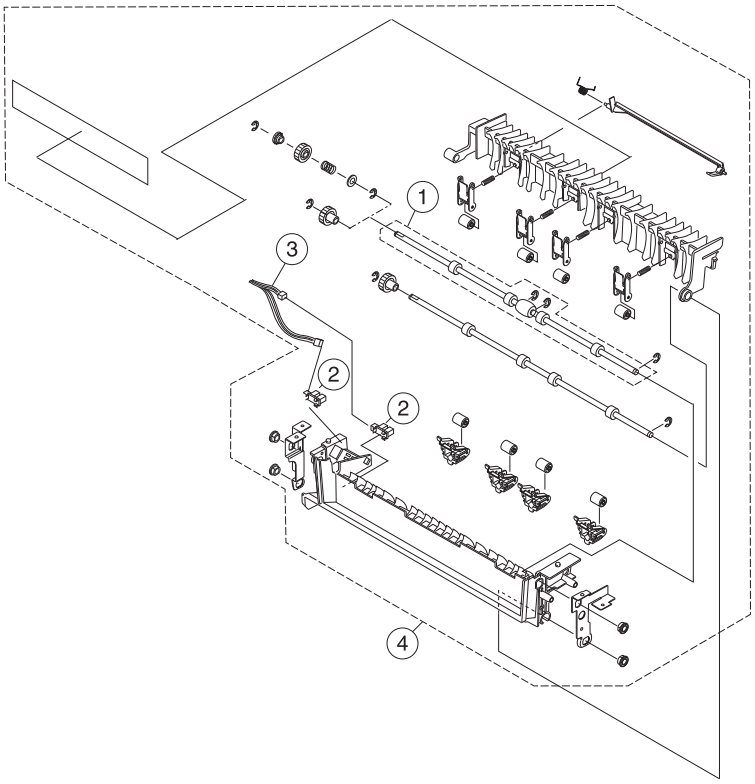
Assembly 7: Duplex components 2



Assembly 7: Duplex components 2

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6578	1	1	MPF roll
2	40X6457	1	2	MPF Maintenance kit
3	40X6412	1	1	MPF separator spring
4	40X6411	1	1	MPF pad holder
5	40X6415	1	1	MPF bottom cover
6	40X6414	1	1	MPF catch
7	40X6141	1	1	Sub tray
8	40X6136	1	1	A/S pushing spring
9	40X6137	4	1	Duplex cover roller
10	40X6135	1	1	B/S pushing spring
11	40X6134	1	1	Right cover
12	40X6133	1	1	Safety spring
13	40X6127	1	1	Safety switch rod
14	40X6128	2	1	Door lever lock
15	40X6131	1	1	Lever open spring
16	40X6130	1	1	Lever shaft
17	40X6129	1	1	Door lever
18	40X6132	1	1	Lever guide
19	40X6983	2	1	Duplex cover pin
20	40X6981	2	1	MPF tray support arm
NS	40X6418	1	1	MPF roller bushing

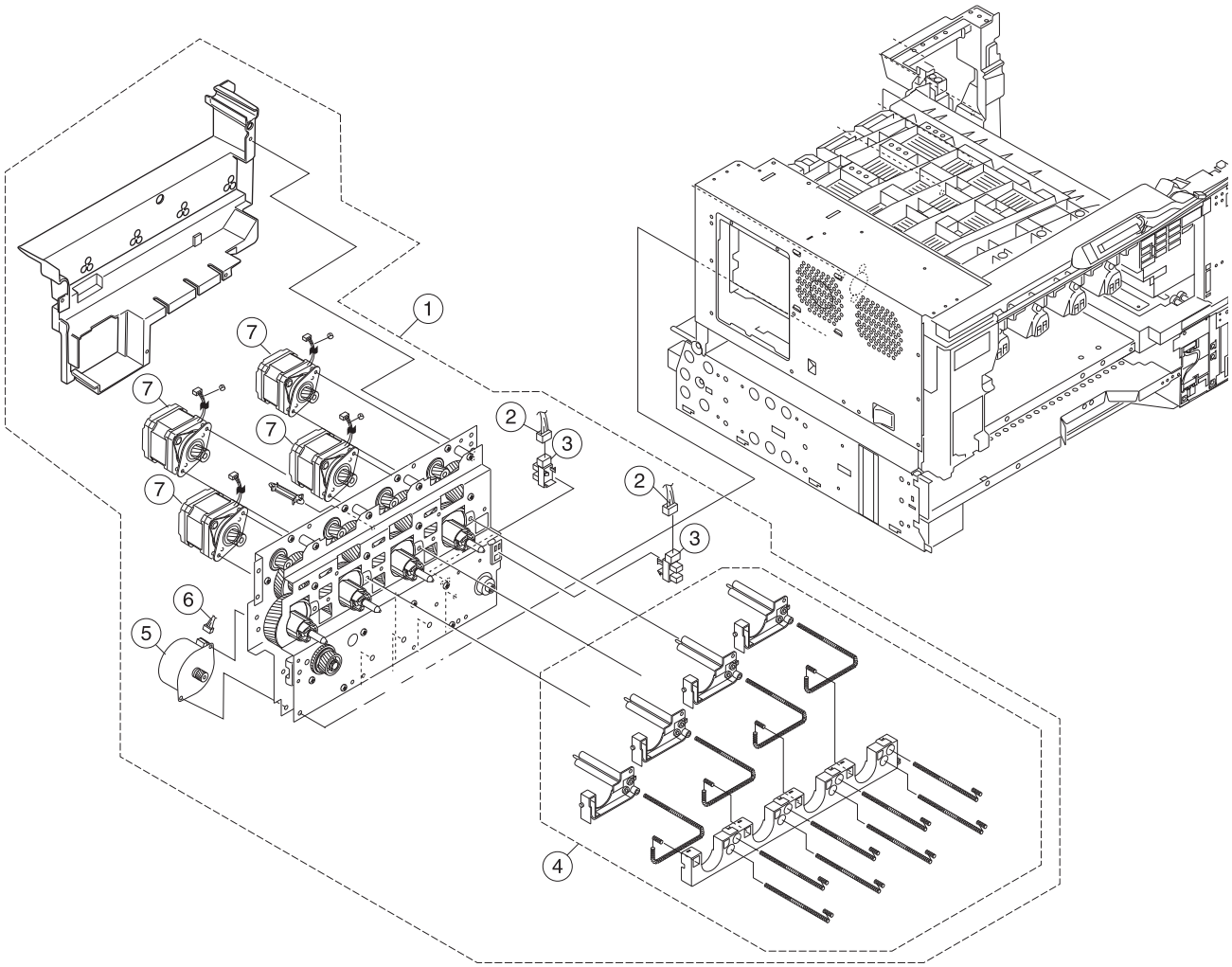
Assembly 8: Paper exit



Assembly 8: Paper exit

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6579	1	1	Paper exit roller
2	40X1104	8	1	Exit sensor
3	40X6168	1	1	Exit sensor cable
4	40X6745	1	1	Paper exit guide

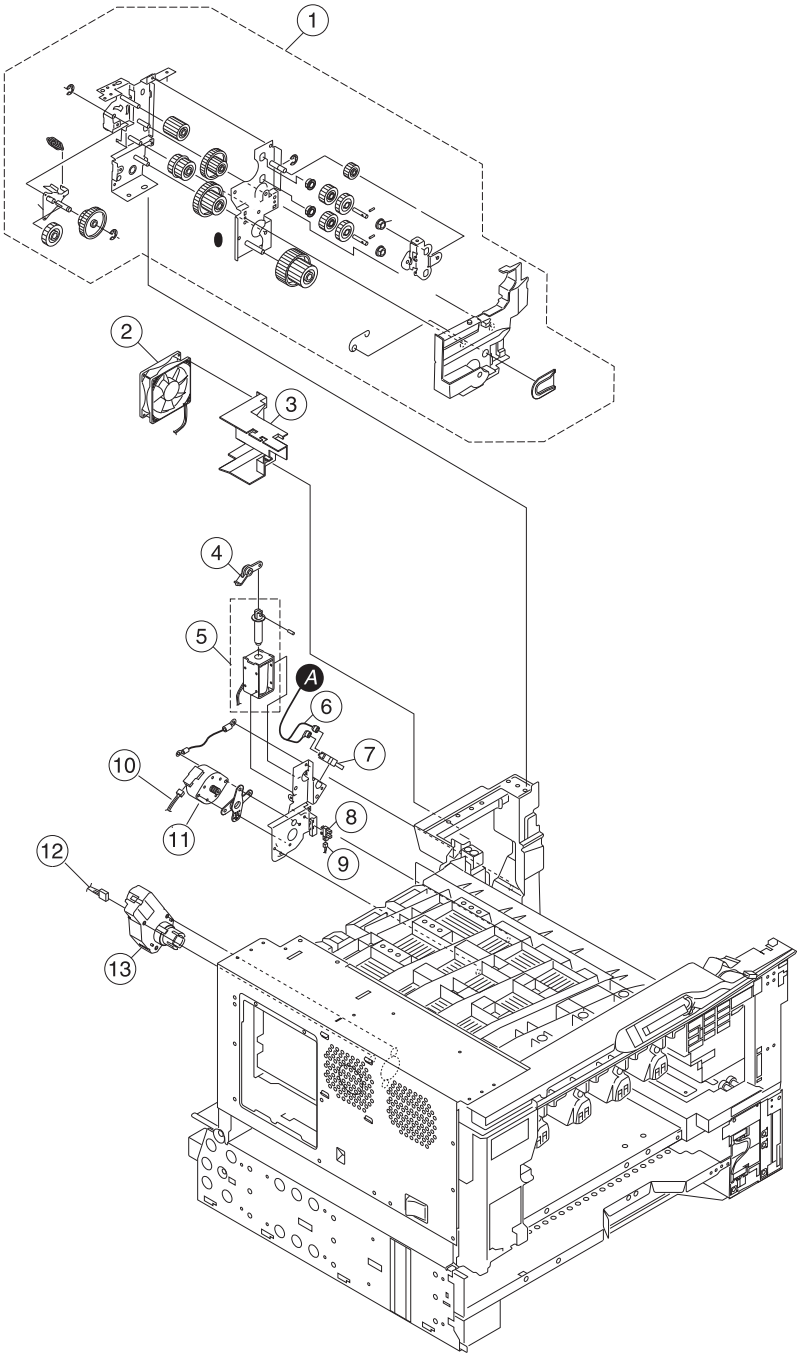
Assembly 9: Base 1



Assembly 9: Base 1

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6173	1	1	Main unit drive
2	40X6261	1	1	Photo interrupter cable
3	40X1104	8	1	Photo interrupter
4	40X6160	1	1	Sub frame
5	40X6162	1	1	Belt motor
6	40X6262	1	1	Belt motor cable
7	40X6161	4	1	Drive unit motor

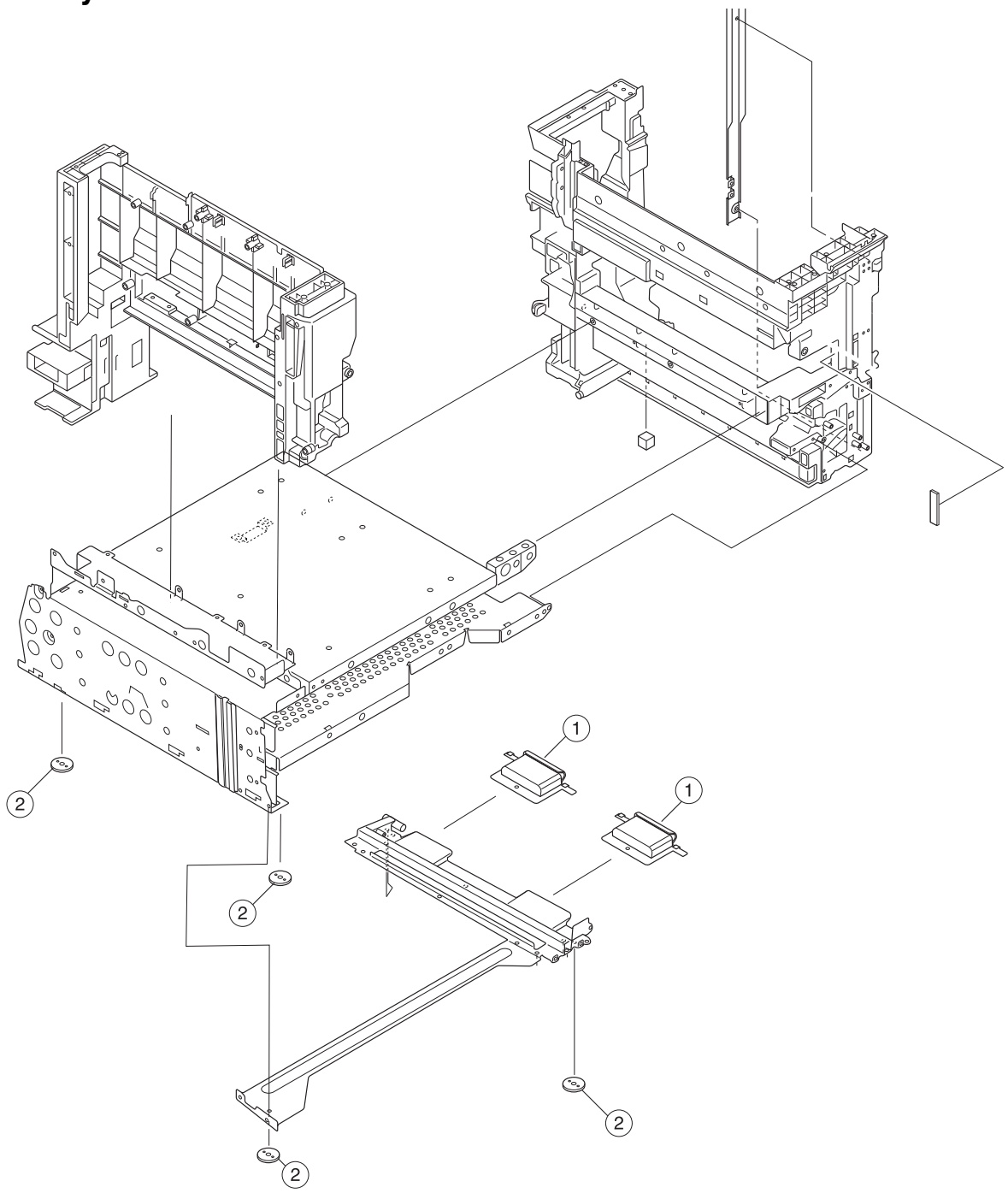
Assembly 10: Base 2



Assembly 10: Base 2

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6163	1	1	Sub unit drive
2	40X6742	1	1	Fuser fan
3	40X6170	1	1	Fuser duct
4	40X6355	1	1	Exit solenoid bracket
5	40X6165	1	1	Exit drive unit solenoid
6	40X6368			Engine power supply (Door interlock) cable
7	40X6166	1	1	Door open switch
8	40X1104	8	1	Photo interrupter
9	40X6278	1	1	Fuser exit sensor cable
10	40X6367	1	1	Engine paperfeed motor cable (Paper exit unit)
11	40X6164	1	1	Exit drive unit motor
12	40X6209	1	1	Tray lift motor cable
13	40X6172	1	1	Paper tray lift motor

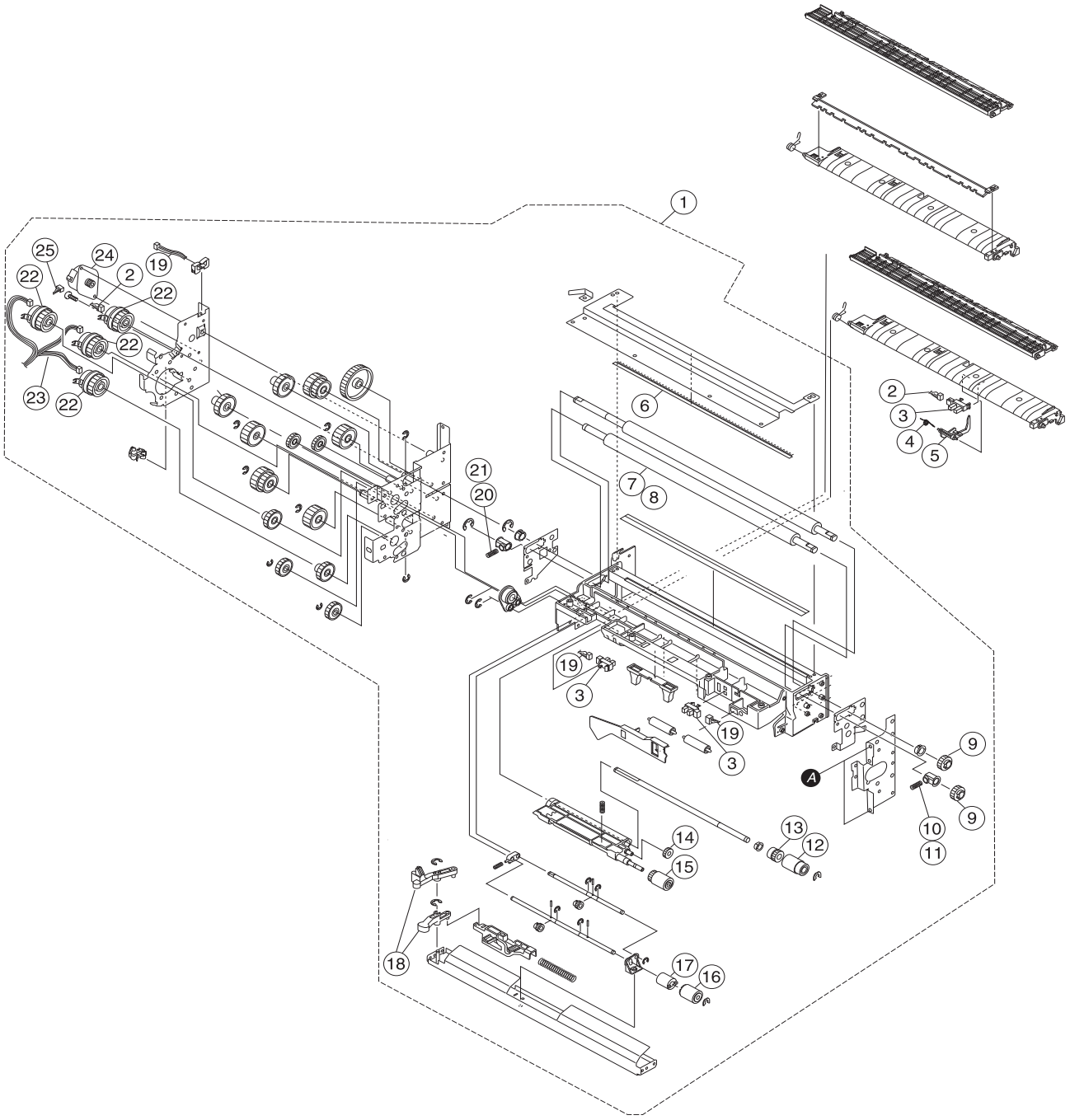
Assembly 11: Base 3



Assembly 11: Base 3

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6174	2	1	Handle cover
2	40X6175	4	1	Bottom foot
NS	40X6421	2	1	Rubber grip pad

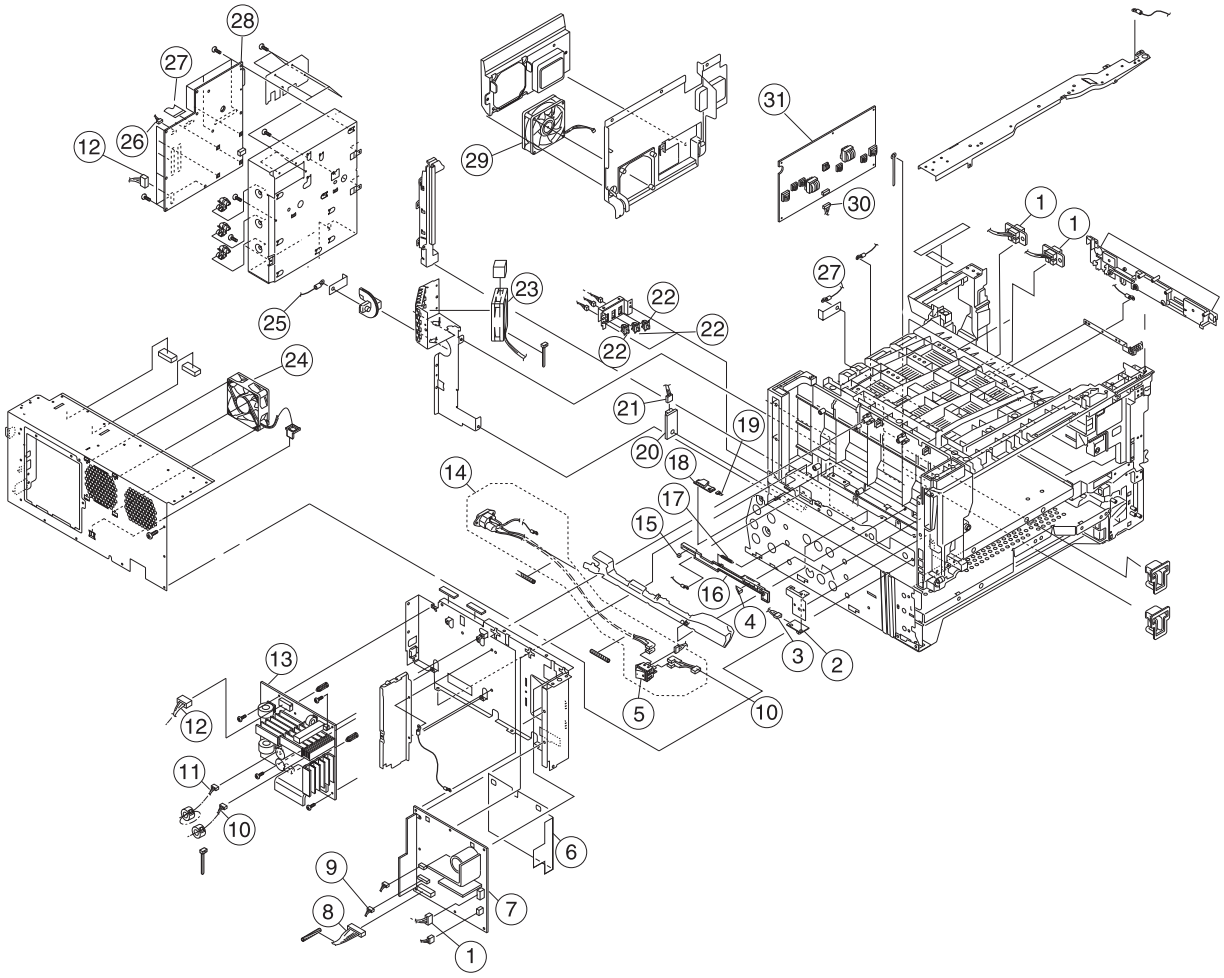
Assembly 12: Paper feed



Assembly 12: Paper feed

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6176	1	1	Paperfeed unit
2	40X6193	1	1	Registration sensor cable
3	40X1104	8	1	Photo interuptor
4	40X6189	1	1	Registration sensor actuator spring
5	40X6188	1	1	Registration sensor actuator
6	40X6195	1	1	Static discharge brush
7	40X6581	1	1	Standard registration roller
8	40X6580	1	1	MPF registration roller
9	40X6185	2	1	Registration gear
10	40X6183	1	1	Lower registration spring
11	40X6184	1	1	Upper registration spring
12	40X6179	2	1	Feed roll
13	40X6177	2	1	Feed roll gear
14	40X6178	2	1	Pickup gear
15	40X6180	2	1	Pick roll
16	40X6186	2	1	Separator roll
17	40X6187	2	1	Torque limiter
18	40X6181	2	1	Pickup lever A
19	40X6190	1	1	Registration sensor cable
20	40X6422	1	1	Upper registration spring
21	40X6423	1	1	Lower registration spring
22	40X6191	4	1	Paperfeed clutch
23	40X6194	1	1	Paperfeed clutch cable
24	40X6192	1	1	Paperfeed unit motor
25	40X6367	1	1	Engine paperfeed cable
NS	40X6372	1	1	Paperfeed maintenance kit

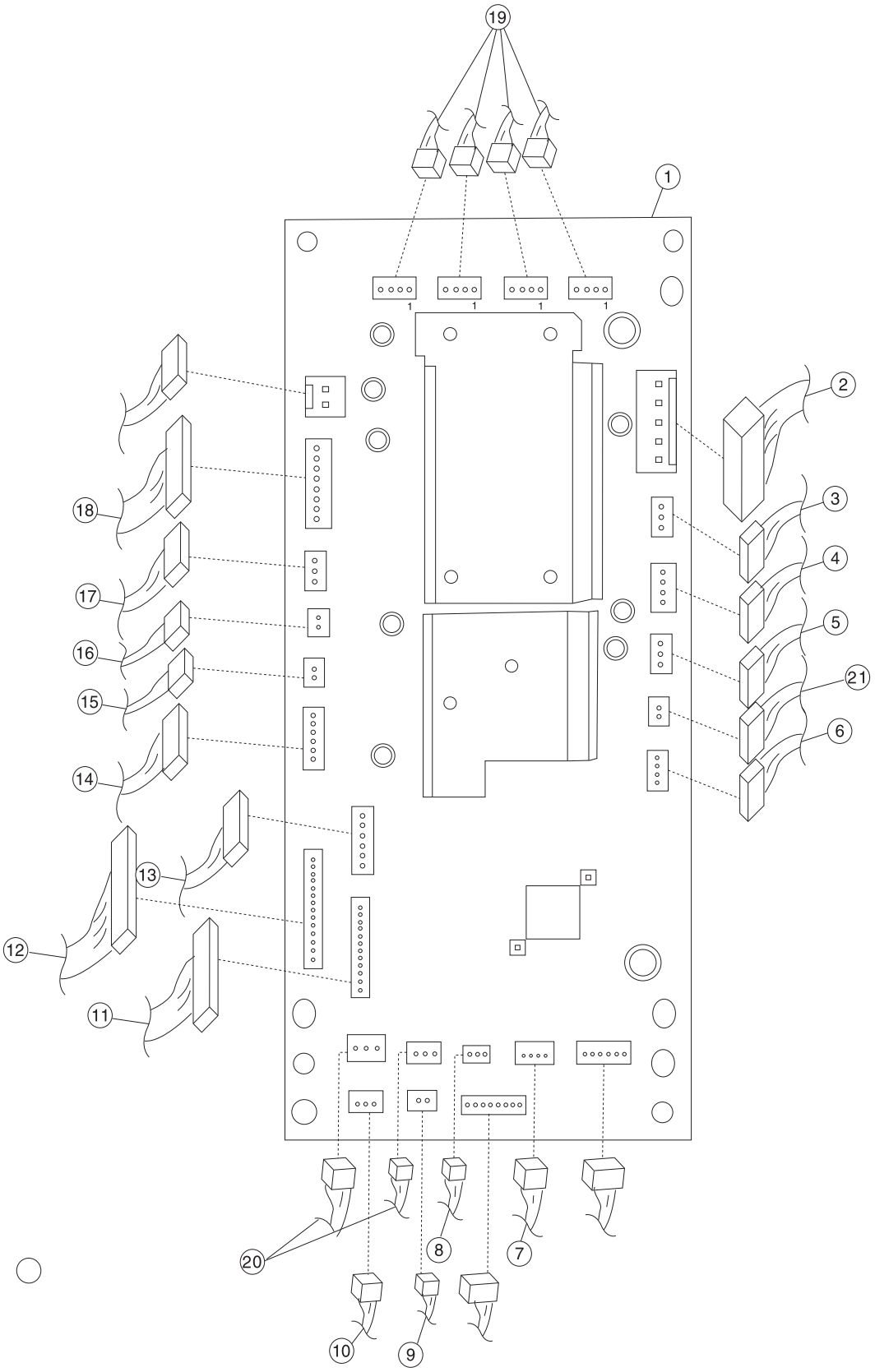
Assembly 13: Electrical 1



Assembly 13: Electrical 1

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6211	1	1	LV fuser power cable
1	40X6440	1	1	HV fuser power cable
2	40X6197	1	1	Theta sensor
3	40X6198	1	1	Theta sensor cable
4	40X6264	1	1	Sensor B/S cleaner
5	40X6371	1	1	Main power button
6	40X6213	1	1	Insulation seal
7	40X6204	1	1	110 V Low voltage power supply
7	40X6424	1	1	220 V Low voltage power supply
8	40X6747	1	1	Engine power supply cable
9	40X6210	1	1	Engine board power supply cable
10	40X6926	1	1	Sub main power cable
11	40X6753	1	1	MPSP cable
12	40X6752	1	1	RIP power supply cable
13	40X6750	1	1	110V Scanner power supply
13	40X6751	1	1	220V Scanner power supply
14	40X6749	1	1	Main power cable
15	40X6263	1	1	Sensor A/S cleaner
16	40X6266	1	1	Sensor cover
17	40X6265	1	1	Sensor cover spring
18	40X6199	1	1	Density sensor
19	40X6201	1	1	Density sensor cable
20	40X6202	1	1	Humidity sensor
21	40X6203	1	1	Humidity sensor cable
22	40X6428	3	1	Paper size sensors
23	40X6206	1	1	Main fan
24	40X6205	1	1	Power supply fan
25	40X6425	2	1	HVT cable
26	40X6748	1	1	RIP harness cable
27	40X6730	1	1	RIP print controller cable
28	40X6317	1	1	RIP board
29	40X6427	1	1	Engine board fan
30	40X6208	1	1	High volt power supply cable
31	40X6212	1	1	High volt power supply
32	40X6305	1	1	UICC - RIP cable
33	40X6309	1	1	USB front reader cable
NS	40X6310	1	1	USB card reader cable
NS	40X6311	1	1	RIP - scanner FFC cable (ribbon cable)
NS	40X6312	1	1	RIP scanner cable
NS	40X7055	1	1	Modem card

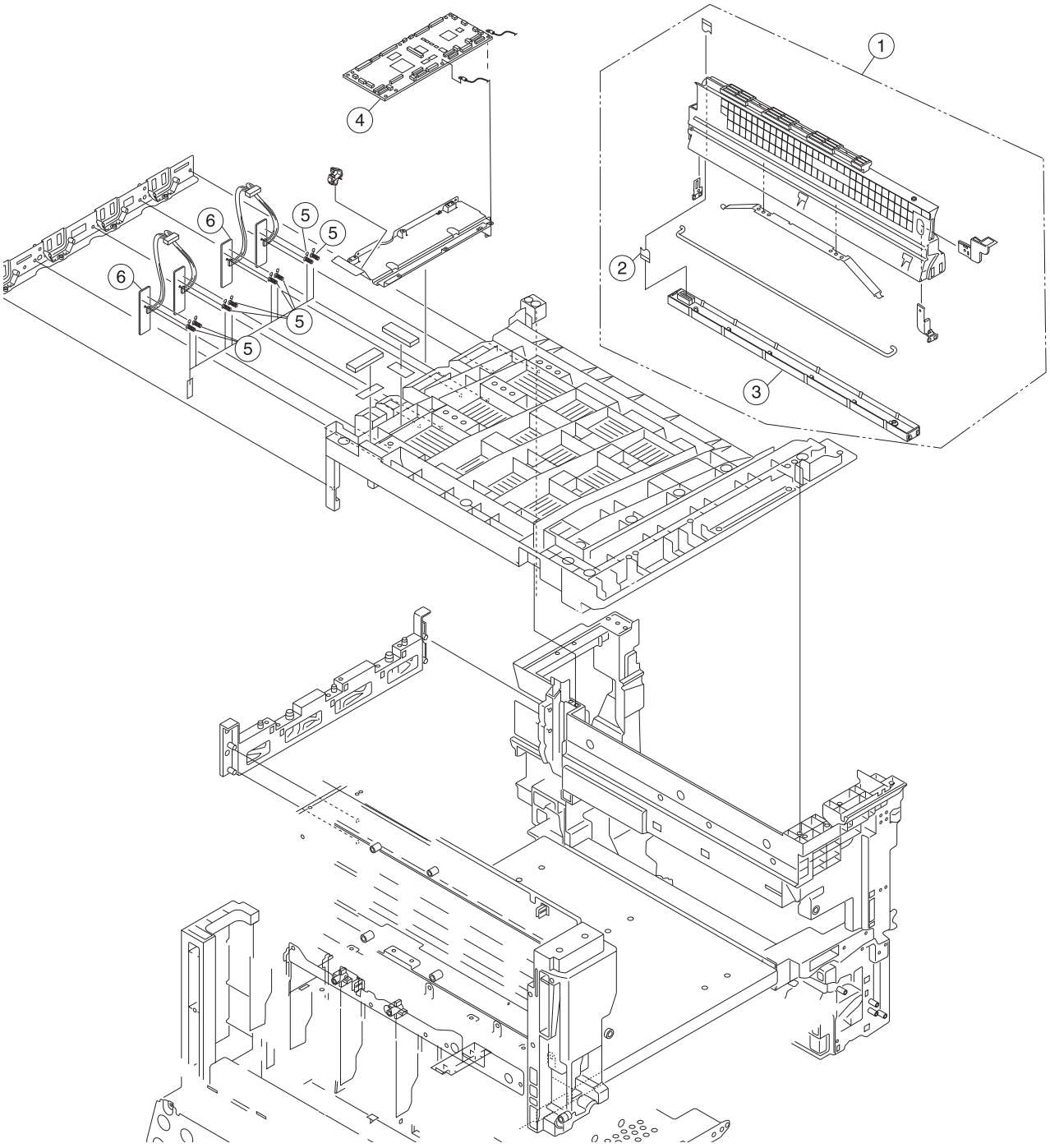
Assembly 14: Electrical 2



Assembly 14: Electrical 2

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6746	1	1	Engine board
2	40X6747	1	1	Engine power supply cable
3	40X6210	1	1	Engine board power supply cable
4	40X6262	1	1	Belt motor cable
5	40X6206	1	1	Main fan cable (fan included)
6	40X6203	1	1	Humidity sensor cable
7	40X6120	1	1	Paper size switch cable
8	40X6427	1	1	Engine board fan cable (fan included)
9	40X6419	1	1	MPF clutch
10	40X6416	1	1	MPF-Engine board cable
11	40X6190	1	1	Registration sensor cable
12	40X6207	1	1	RIP Harness cable
13	40X6261	1	1	Photo interrupter cable (Belt up/down)
14	40X6194	1	1	Paperfeed clutch cable
15	40X6165	1	1	Exit solenoid cable (w/solenoid)
16	40X6209	1	1	Tray lift motor cable
17	40X6171	1	1	Fuser fan cable (fan included)
18	40X6367	1	1	Engine paperfeed cable
19	40X4161	1	1	Drive unit motor (w/motor)
20	40X6158	1	1	Duplex clutch harness
21	40X6749	1	1	Main power cable

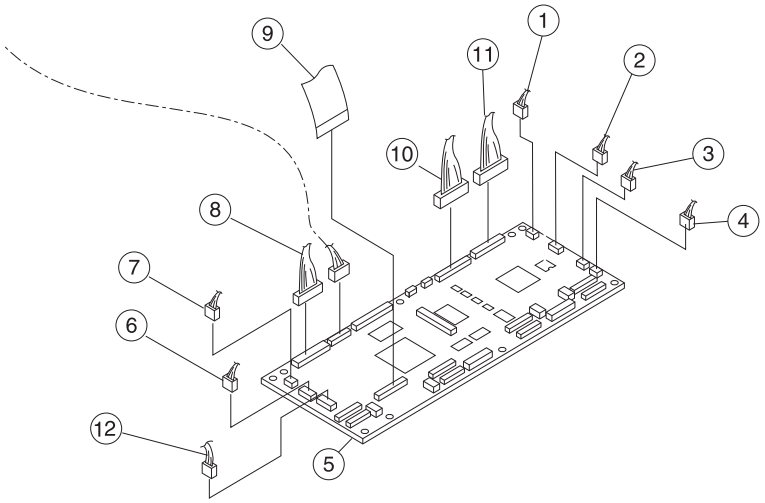
Assembly 15: Upper assembly



Assembly 15: Upper assembly

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6429	4	1	LED printhead assembly
2	40X6216	4	1	LED FFC ribbon cable
3	40X6218	4	1	LED printhead
4	40X6756	1	1	Printhead controller board
5	40X6215	8	1	Contact spring
6	40X6214	2	1	Toner sensor
NS	40X6369	1	1	PRCONT option cable

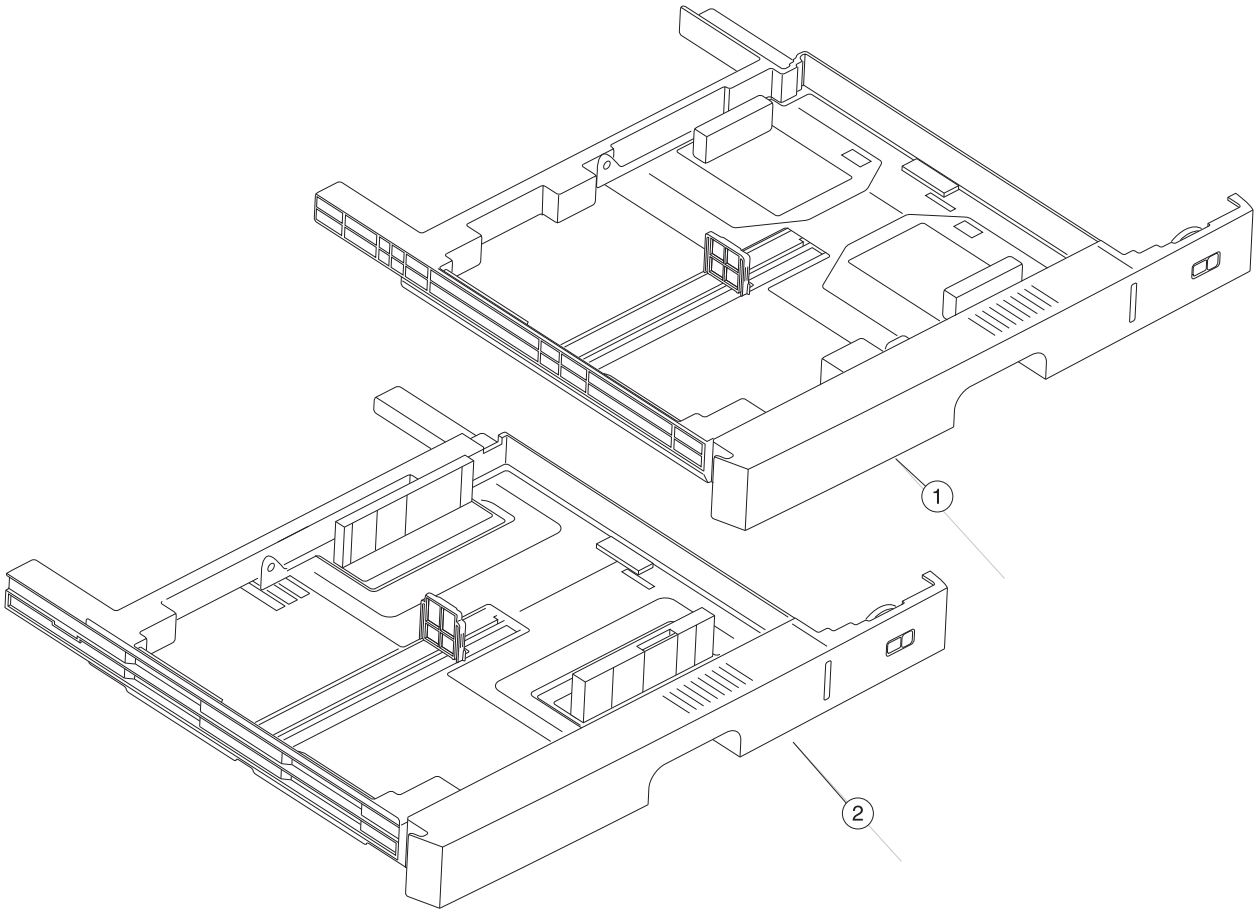
Assembly 16: Printhead controller board cables



Assembly 16: Printhead controller board cables

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6193	1	1	Registration sensor cable
2	40X6211	1	1	Fuser power cable (110V)
2	40X6440	1	1	Fuser power cable (220V)
3	40X6168	1	1	Paper exit sensor cable
4	40X6278	1	1	Fuser exit sensor cable
5	40X6756	1	1	Printhead controller board
6	40X6201	1	1	Density sensor cable
7	40X6198	1	1	Theta sensor cable
8	40X6210	1	1	Power supply cable
9	40X6370	1	1	RIP print controller cable
10	40X6369	1	1	Printhead controller option cable
11	40X6207	1	1	RIP harness cable
12	40X6748	1	1	RIP harness

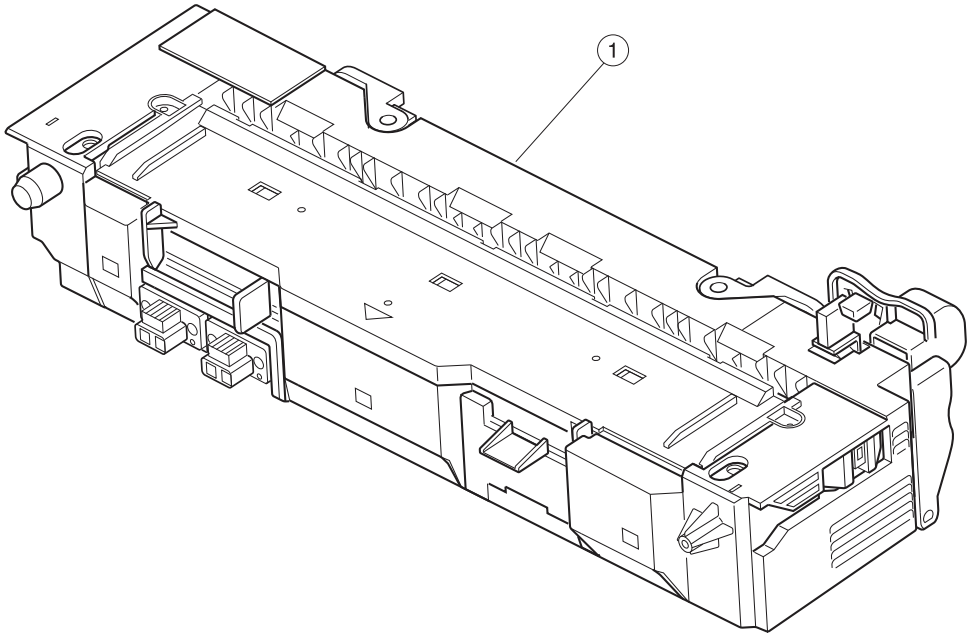
Assembly 17: Paper trays



Assembly 17: Paper trays

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6223	1	1	Multipurpose tray
2	40X6219	1	1	Main paper tray
NS	40X6220	1	1	Tray rack gear
NS	40X6221	1	1	Tray pinion gear

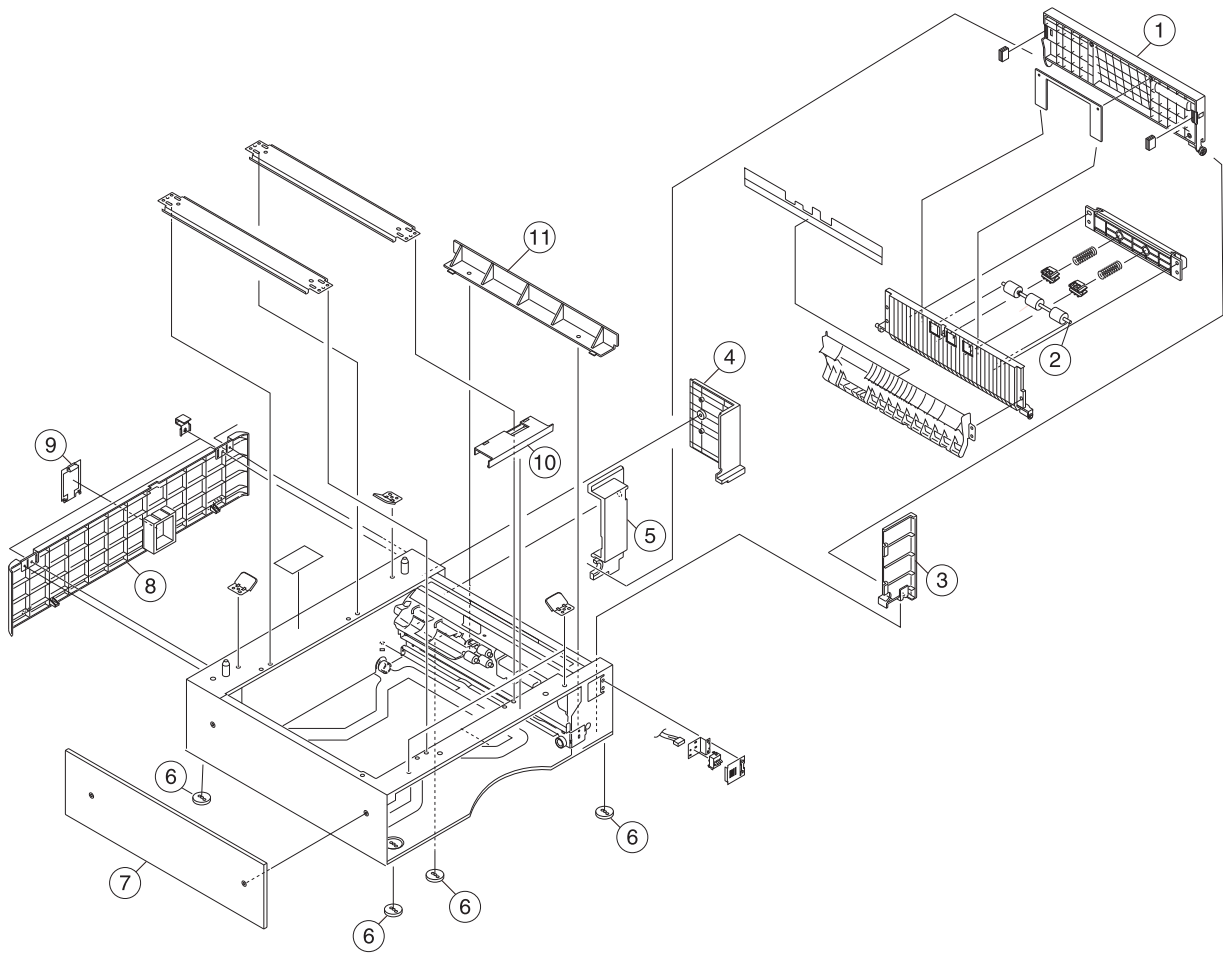
Assembly 18: Fuser



Assembly 18: Fuser

Asm-index	Part number	Units/mach	Units/FRU	Description
1	40X6013	1	1	110V Fuser
1	40X6093	1	1	220V Fuser

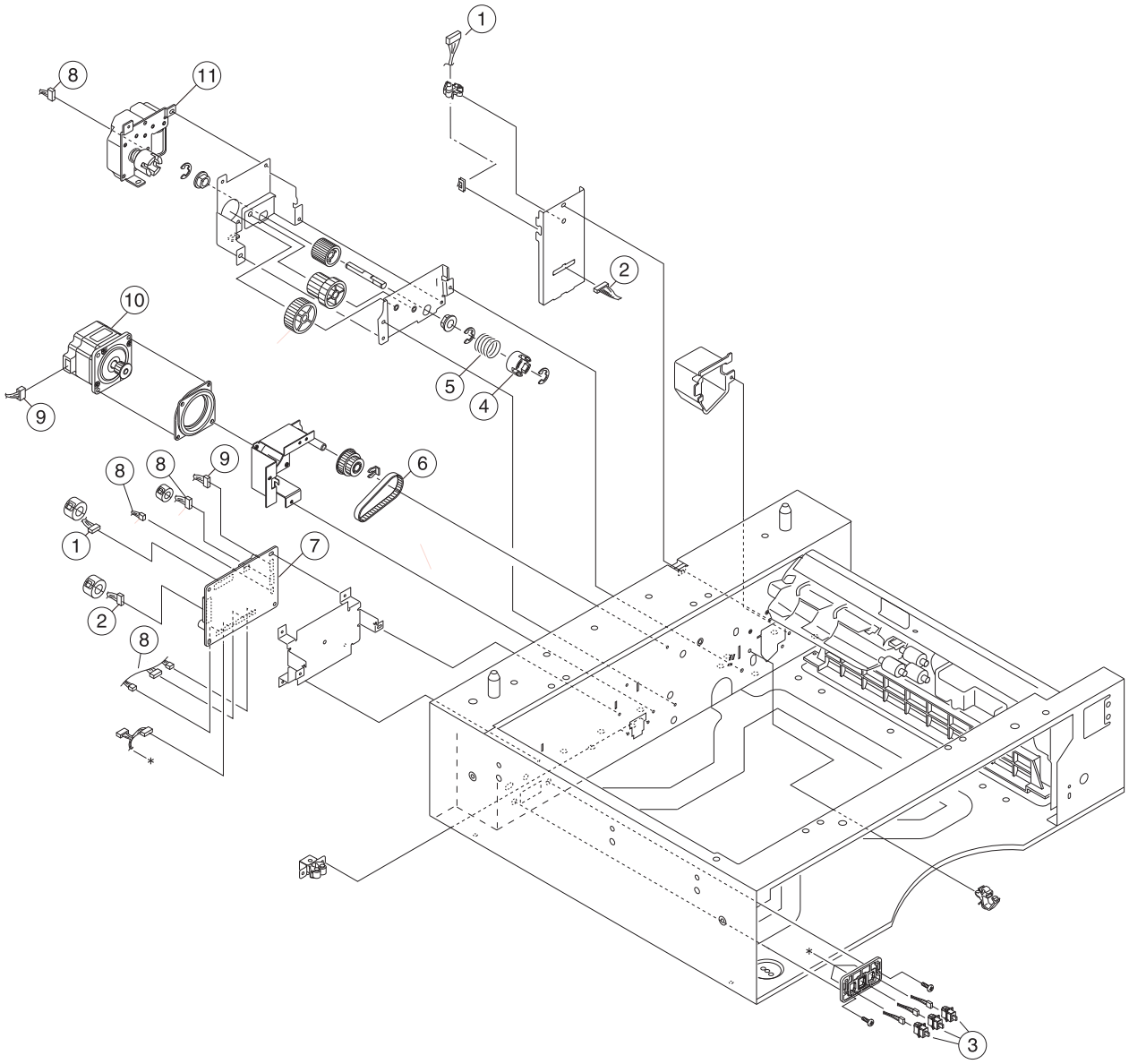
Assembly 19: Option feeder covers



Assembly 19: Option feeder covers

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6357	1	1	Right option tray cover
2	40X6227	1	1	Drive roller
3	40X6251	1	1	Right front option cover
4	40X6252	1	1	Right rear option cover
5	40X6254	1	1	Right switch cover
6	40X6224	1	1	Stand base foot
7	40X6250	1	1	Left option cover
8	40X6248	1	1	Rear option cover
9	40X6249	1	1	Rear connector cover
10	40X6255	1	1	Upper front option cover
11	40X6253	1	1	Right middle option cover
NS	40X1173	1	1	Horizontal sensor (Paper Level)

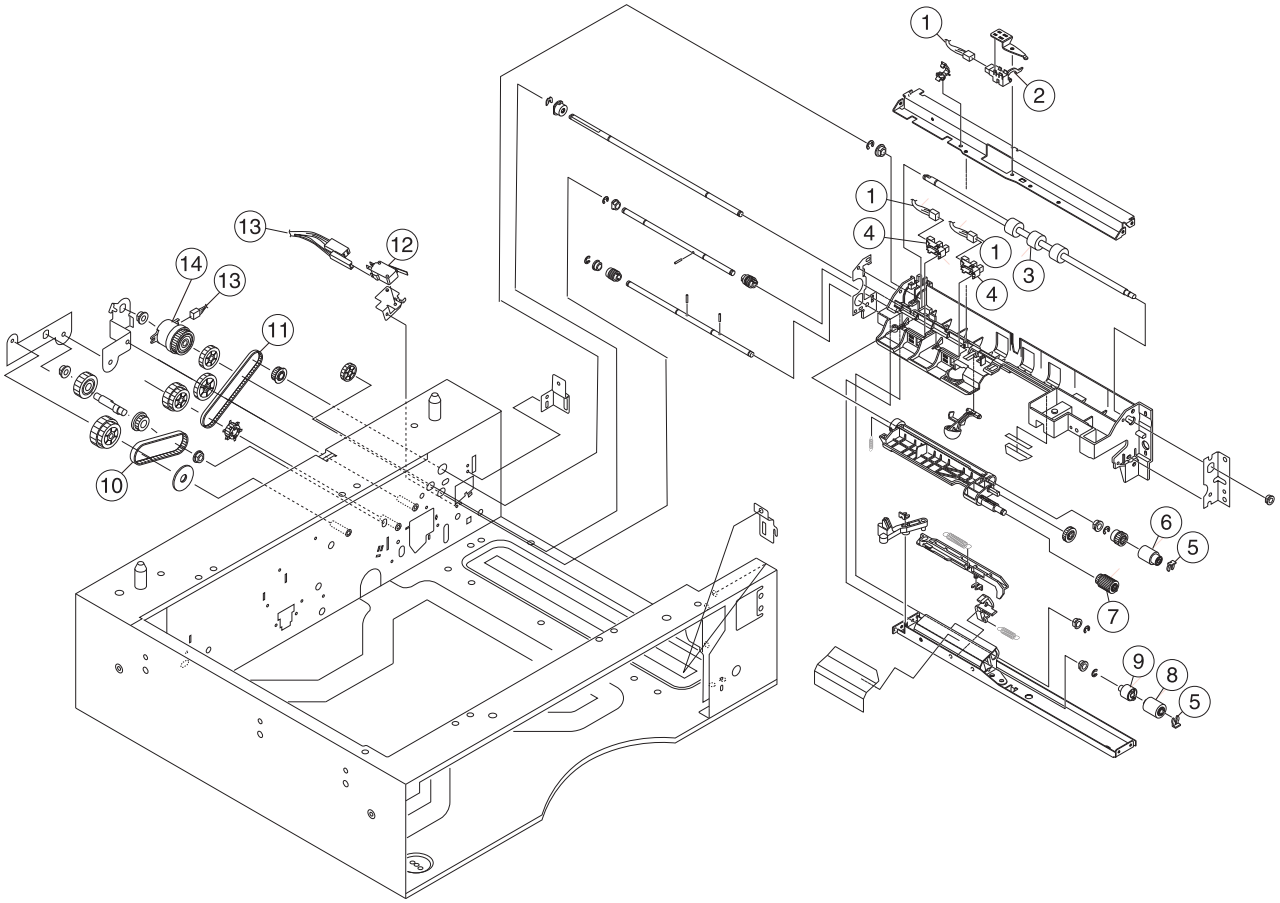
Assembly 20: Option feeder base



Assembly 20: Option feeder base

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6361	1	1	UL1 Interface cable
2	40X6362	1	1	UL2 Interface cable
3	40X6430	3	1	Option switch sensor
4	40X6358	1	1	Rising unit hub
5	40X6359	1	1	Rising unit spring
6	40X6360	1	1	Timing belt
7	40X6231	1	1	Option interface board
8	40X6232	1	1	Main interface cable
9	40X6233	1	1	Stepper motor cable
10	40X6230	1	1	Option stepper motor
11	40X6229	1	1	Opt tray paper lift motor

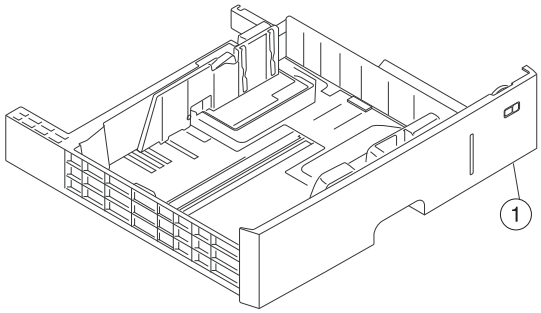
Assembly 21: Option feeder paper feed



Assembly 21: Option feeder paper feed

Asm-index	Part number	Units/ mach	Units/ FRU	Description
1	40X6365	1	1	Option paperfeed cable
2	40X1107	1	1	Vertical paperfeed sensor
3	40X1111	1	1	Type2 feed roll
4	40X1173	1	1	Horizontal paperfeed sensor
5	40X1106	1	1	Retainer clip
6	40X1078	1	1	Option tray feed roll
7	40X1077	1	1	Option tray pick roll
8	40X1079	1	1	Option tray separator roll
9	40X1080	1	1	Torque limiter clutch
10	40X6235	1	1	Timing belt S
11	40X6237	1	1	Timing belt L
12	40X6234	1	1	Opt tray door closed sensor
13	40X6232	1	1	Main interface cable
14	40X6236	1	1	Option paperfeed clutch

Assembly 22: Option feeder tray



Assembly 22: Option feeder tray

Asm-index	Part number	Units/mach	Units/FRU	Description
1	40X6246	1	1	Option paper tray

Assembly 23: Maintenance kits, power cords, and options

Asm-index	Part number	Units/ FRU	Description
NS	40X6372	1	300K paperfeed maintenance kit
NS	40X6457	1	MFP maintenance kit
NS	40X5301	1	256 M DDR DRAM DIMM
NS	40X5302	1	512 M DDR DRAM DIMM
NS	40X5303	1	1 GB DDR DRAM DIMM
NS	40X4823	1	Parallel 1284-B serial adapter
NS	40X4826	1	Marknet N8120 10/1000 PCBA
NS	40X4827	1	Marknet N8130 10/100 F adapter
NS	40X4819	1	Serial interface card adapter
NS	40X5704	1	256 MB NAND flash card feature
NS	40X7058	1	160GB hard drive
NS	40X7062	1	Marknet N8250 802.11g server (US)
NS	40X7063	1	Marknet N8250 802.11g server (RW)
NS	40X6337	1	Arabic font card
NS	40X5969	1	Korean font card
NS	40X5970	1	Simplified Chinese font card
NS	40X5971	1	Traditional Chinese font card
NS	40X5972	1	Japanese font card
NS	40X5952	1	Printcryption card
NS	40X6874	1	Forms and barcode card
NS	40X6919	1	IPDS SCS card
NS	40X6920	1	Prescribe card
NS	40X0271	1	UK straight power cord
NS	40X0301	1	Australia 8ft straight power cord
NS	40X3609	1	Japan power cord
NS	40X1792	1	Korea power cord
NS	40X0303	1	PRC power cord
NS	40X1791	1	Taiwan power cord
NS	40X7104	1	USA power cord
NS	40X0288	1	Argentina power cord
NS	40X3141	1	Spain 8ft straight power cord
NS	40X4596	1	Brazil power cord
NS	40X0273	1	Chile Uruguay power cord
NS	40X0275	1	Israel power cord
NS	40X1773	1	South Africa power cord
NS	40X1772	1	Switzerland power cord
NS	40X1431	1	Card reader screw packet
NS	40X4602	1	3121 card reader
NS	40X4603	1	5121 card reader
NS	40X4604	1	5125 card reader

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