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Service Manual

Lexmark™ C746n, C746dn, C746dtn, C748e, C748de, C748dte

5026-3xx, 5xx

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Notices and safety information

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

Laser notice

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

Class I laser products are not considered to be hazardous. The printer contains internally a Class IIIb (3b) AlGaAs laser producing visible radiation in the wavelength of 770-800 nanometers enclosed in a non-serviceable printhead assembly. The laser system and printer are designed so there is never any human access to laser radiation exceeding Class I levels during normal operation, user maintenance, or prescribed service condition.

Laser-Hinweis

Dieses Produkt ist in den USA zertifiziert und entspricht den Anforderungen der Vorschriften DHHS 21 CFR Unterkapitel J für Laserprodukte der Klasse I (1), andernorts ist er als Laserprodukt der Klasse I zertifiziert, das den Anforderungen von IEC 60825-1 entspricht.

Laserprodukte der Klasse I werden nicht als gefährlich betrachtet. Der Drucker enthält im Inneren einen Laser der Klasse IIIb (3b) AlGaAs, der sichtbare Strahlung im Wellenlängenbereich von 770 bis 800 Nanometern abgibt. Dieser befindet sich in einer Druckkopfeinheit, die nicht gewartet werden kann. Das Lasersystem und der Drucker sind so konstruiert, dass unter normalen Betriebsbedingungen bei der Wartung durch den Benutzer oder bei den vorgeschriebenen Wartungsbedingungen Menschen keiner Laserstrahlung ausgesetzt sind, die die Werte für Klasse I überschreitet.

Avis relatif à l’utilisation de laser

Ce produit est certifié conforme aux exigences de la réglementation des Etats-Unis relative aux produits laser (DHHS 21 CFR Sous-chapitre J pour Classe I (1)). Pour les autres pays, il est certifié conforme aux exigences des normes CEI 60825-1 relatives aux produits laser de classe I.

Les produits laser de Classe I ne sont pas considérés comme dangereux. L'imprimante contient un laser de Classe IIIb (3b) AlGaAs qui produit des radiations visibles opérant sur une longueur d'onde de l'ordre de 770 à 800 nanomètres au sein d'un boîtier non démontable de la tête d'impression. Le système laser et l'imprimante ont été conçus de manière à ce que personne ne soit jamais exposé à des radiations laser dépassant le niveau de classe I dans le cadre d'un fonctionnement normal, de l'entretien par l'utilisateur ou de la maintenance.

Avvertenze sui prodotti laser

Questo prodotto è certificato negli Stati Uniti come prodotto conforme ai requisiti DHHS 21 CFR Sottocapitolo J per i prodotti laser di Classe I (1), mentre in altri paesi è certificato come prodotto laser di Classe I conforme ai requisiti IEC 60825-1.

I prodotti laser di Classe I non sono considerati pericolosi. La stampante contiene un laser Classe IIIb (3b) AlGaInP che emette una radiazione visibile a una lunghezza d'onda di 770-800 nanometri all'interno dell'unità testina di stampa non sottoponibile a manutenzione. Il sistema laser e la stampante sono stati progettati in modo da impedire l'esposizione a radiazioni laser superiori al livello previsto dalla Classe I durante le normali operazioni di stampa, manutenzione o assistenza.

Avisos sobre el láser

Este producto se ha certificado en EE.UU. cumpliendo con los requisitos de DHHS 21 CFR subcapítulo J para los productos láser de Clase I (1) y en otros países está certificada como un producto láser de Clase I de acuerdo con los requisitos de IEC 60825-1.

Los productos láser de Clase I no se consideran peligrosos. Este producto contiene un láser interno de Clase IIIb (3b) AlGaAs que produce una radiación visible en una longitud de onda de 770-800 nanómetros cerrado en un conjunto de cabezal de impresión que no se puede reparar. El sistema láser y la impresora se han diseñado para que el ser humano no acceda nunca a las radiaciones láser por encima del nivel de Clase I durante el funcionamiento normal, mantenimiento del usuario o condición de servicio prescrita.

Declaração sobre Laser

Este produto foi certificado nos EUA por estar em conformidade com os requisitos do DHHS 21 CFR, subcapítulo J, para produtos a laser de Classe I (1) e, nos demais países, foi certificado como um produto a laser de Classe I em conformidade com os requisitos da IEC 60825-1.

Os produtos a laser de Classe I não são considerados prejudiciais. A impressora contém, internamente, um laser de Classe IIIb (3b) AlGaAs que produz radiação visível no comprimento de onda de 770-800 nanômetros incluso em um conjunto do cabeçote de impressão cuja manutenção não é facilitada. O sistema do laser e a impressora foram projetados para que jamais haja acesso humano à radiação do laser acima dos níveis da Classe I durante a operação normal ou a manutenção pelo usuário ou sob as condições de manutenção prescritas.

Aviso sobre o laser

Nos E.U.A., este produto está classificado como estando em conformidade com os requisitos DHHS 21 CFR, Subcapítulo J, para produtos laser de Classe I (1) e, nas restantes regiões, está classificado como um produto de Classe I, estando em conformidade com os requisitos IEC 60825-1.

Os produtos laser de Classe I não são considerados perigosos. A impressora possui, no seu interior, um laser de Classe IIIb (3b) AlGaAs que produz radiação num comprimento de onda de 770-800 nanómetros. Este encontra-se fechado no conjunto da cabeça de impressão, que não é passível de manutenção. O sistema de laser e a impressora estão concebidos de forma a que nunca haja acesso humano à radiação laser que excede os níveis correspondentes à Classe I durante o funcionamento normal, manutenção ou em condições de assistência recomendada.

Laserinformatie

Dit product is in de Verenigde Staten gecertificeerd als een product dat voldoet aan de vereisten van DHHS 21 CFR paragraaf J voor laserproducten van klasse I (1). Elders is het product gecertificeerd als een laserproduct van klasse I dat voldoet aan de vereisten van IEC 60825-1.

Laserproducten van klasse I worden geacht geen gevaar op te leveren. De printer bevat intern een laser van klasse IIIb (3b) AlGaAs die zichtbare straling produceert in een golflengtebereik van 770-800 nanometer in een niet-bruikbare printkopeenheid. Het lasersysteem en de printer zijn zodanig ontworpen dat gebruikers nooit blootstaan aan laserstraling die hoger is dan het toegestane niveau voor klasse I-apparaten, tijdens normaal gebruik, onderhoudswerkzaamheden door de gebruiker of voorgeschreven servicewerkzaamheden.

Lasermeddelelse

Dette produkt er certificeret i USA i henhold til kravene i DHHS 21 CFRi underafsnit J for klasse I (1)-laserprodukter og er andre steder certificeret som et klasse I laserprodukt i henhold til kravene i IEC 60825-1.

Klasse I-laserprodukter er ikke anset som farlige. Printeren indeholder internt en klasse IIIb (3b) AlGaAs-laser, der producerer synlig stråling med en bølgelængde på 770-800 nanometer, indkapslet i en ikke-servicerbar printhovedsamling. Lasersystemet og printeren er udviklet på en sådan måde, at der ikke er en direkte laserstråling, der overskrider Klasse I-niveauet under normal brug, brugers vedligeholdelse eller de foreskrevne servicebetingelser.

Laserilmoitus

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

Luokan I lasertuotteita ei pidetä haitallisina. Laitteen tulostuspääkokoonpanossa (ei huollettavissa) on sisäänrakennettu luokan IIIb (3b) AlGaAs -laser, joka tuottaa silminnähtävää säteilyä 770-800 nanometrin aallonpituudella. Laserjärjestelmä ja tulostin ovat rakenteeltaan sellaisia, että käyttäjä ei joudu alttiiksi luokkaa 1 suuremmalle säteilylle normaalin käytön, ylläpidon tai huollon aikana.

Huomautus laserlaitteesta

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

Luokan I lasertuotteita ei pidetä haitallisina. Laitteen tulostuspääkokoonpanossa (ei huollettavissa) on sisäänrakennettu luokan IIIb (3b) AlGaAs -laser, joka tuottaa silminnähtävää säteilyä 770-800 nanometrin aallonpituudella. Laserjärjestelmä ja tulostin ovat rakenteeltaan sellaisia, että käyttäjä ei joudu alttiiksi luokkaa 1 suuremmalle säteilylle normaalin käytön, ylläpidon tai huollon aikana.

Laser-notis

Denna produkt är certifierad i USA i enlighet med kraven i DHHS 21 CFR underkapitel J för klass I (1)-laserprodukter, och på andra platser certifierad som en klass I-laserprodukt i enlighet med kraven i IEC 60825-1.

Klass I-laserprodukter betraktas inte som skadliga. Skrivaren innehåller en klass IIIb (3b) AlGaAs-laser som producerar synlig strålning inom våglängden 770-800 nm, innesluten i en icke-servicebar skrivhuvudenhet. Lasersystemet och skrivaren är utformade så att människor aldrig utsätts för laserstrålning som överskrider klass I-nivåerna under normala förhållanden vid användning, underhåll eller service.

Laser-melding

Dette produktet er sertifisert i USA for samsvar med kravene i DHHS 21 CFR, underkapittel J for laserprodukter av klasse I (1) og er andre steder sertifisert som et laserprodukt av klasse I som samsvarer med kravene i IEC 60825-1.

Laserprodukter av klasse I anses ikke som helseskadelige. Skriveren inneholder en intern AlGaAs-laser av klasse IIIb (3b) som produserer synlig stråling i bølgelender på 770-800 nanometer i en ikke-reparerbar skrivehodeenhet. Lasersystemet og skriveren er utformet slik at mennesker ikke utsettes for laserstråling utover nivåene i klasse I under normal drift, vedlikehold eller foreskrevet service.

Avís sobre el Làser

Este producto está certificado en Estados Unidos para el cumplimiento de los requisitos estipulados en DHHS 21 CFR Subcapítulo J para productos láser de Clase I (1), y cuenta con certificación para otros países como producto láser de Clase I de conformidad con los requisitos de IEC 60825-1.

Los productos láser de Clase I no se consideran peligrosos. La impresora contiene en su interior radiación láser visible AlGaAs Clase IIIb (3b) en la longitud de onda de 770 - 800 nanómetros dentro de un mecanismo de cabezal de impresión que no requiere servicio técnico. La impresora y el sistema láser están diseñados de forma tal que no exista nunca acceso humano a radiación láser que supere los niveles de Clase I durante el funcionamiento normal, las tareas de mantenimiento por parte del usuario o las condiciones de servicio técnico estipuladas.

レーザー通知

本製品は、米国においてクラス 1（1）レーザー製品に対する DHHS 21 CFR Subchapter J の要件に準拠し、その他の国では IEC 60825-1 の要件に準拠するクラス 1 レーザー製品として認可されています。
クラス 1 レーザー製品は、危険性がないとみなされています。プリンタ内部には、波長が 770～800 ナノメートルの可視放射を発するクラス IIIb（3b）AlGaAs レーザー装置が搭載されており、整備不可のプリンタヘッドアセンブリに収容されています。レーザーシステムとプリンタは、通常の操作、ユーザによるメンテナンス、または所定のサービス条件の下で、ユーザがクラス 1 レベルを超えるレーザー放射に絶対にさらされないように設計されています。

激光通知

本打印机在美国认证合乎 DHHS 21 CFR Subchapter J 对分类 1（1）激光产品的标准，而在其他地区则被认证是合乎 IEC 60825-1 的分类 1 激光产品。一般认为分类1激光产品不具有危险性。本打印机内部含有分类 IIIb（3b）AlGaAs 的激光，封装在不可维修的打印头配件中，会产生波长范围在 770-800nm 之间的可见放射线。本激光系统及打印机的设计，在一般操作、使用者维护或规定内的维修情况下，不会使人体接触分类1以上等级的辐射。

激光通知

本產品係經過美國核可，符合 DHHS 21 CFR 二級規章之 J 級 1 (1) 規定及 IEC 60825-1 規定的 1 級雷射產品。根據 1 級雷射產品的規定，這類產品不會對人體造成傷害。本印表機內部所採用之 IIIb (3b) 級 AlGaAs 雷射所產生的可見放射線含括在其作用波長為 770-800 奈米 (nanometer) 的不可修復列印頭組件中。使用者只要以正確的方法操作及維護保養，並依照先前所述之維修方式進行修護，此印表機與其雷射系統絕不會產生 1 級以上的放射線，而對人體造成傷害。

레이저 통지

본 제품은 미국에서 레이저 제품용 DHHS 21 CFR Subchapter J의 요구 사항을 준수하며 이외 지역에서 IEC 60825-1의 요구 사항을 준수하는 클래스 1(1) 레이저 제품으로 승인되었습니다. 클래스 1 레이저 제품은 위험한 제품으로 간주되지 않습니다. 프린터에는 770-800 나노미터의 파장 영역에서 가시 방사를 방출하며 서비스 불가능한 프린터 헤드 부품에 밀봉된 레이저인 클래스 IIIb(3b) AlGaAs 레이저가 내부에 포함되어 있습니다. 레이저 시스템과 프린터는 정상적인 작동, 사용자 유지 관리 또는 사전 설명된 서비스 조건에는 사람에게 클래스 1 수준 이상의 레이저 방사가 노출되지 않도록 설계되었습니다.

Lithium warning

CAUTION

This product contains a lithium battery. THERE IS A RISK OF EXPLOSION IF THE BATTERY IS REPLACED BY AN INCORRECT TYPE. Discard used batteries according to the battery manufacturer's instructions and local regulations.

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.
-
  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.
-
  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.

Navigation buttons

This manual contains navigation buttons in the right margin of each page, making it easier and quicker to navigate.

Button	Description
Previous	Click ▲ to move the document view backward by one page.
Next	Click ▼ to move the document view forward by one page.
Go Back	Click ↩ to return to the last page viewed.

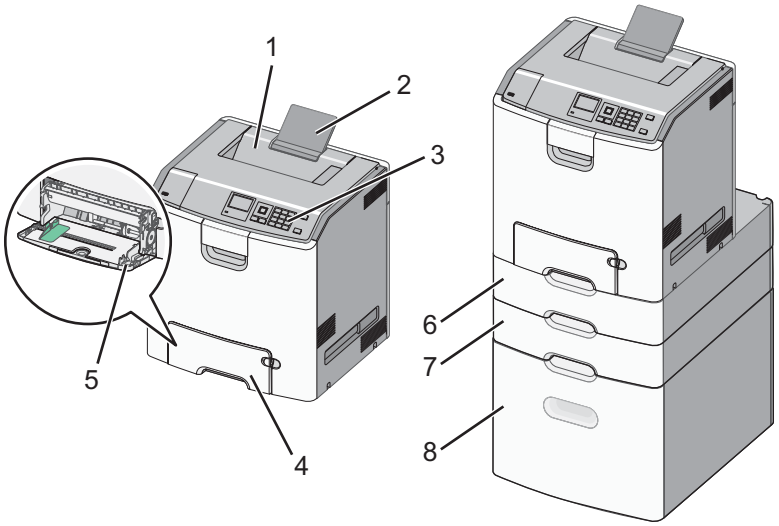
1. General information

The Lexmark™ C746x and C748x family of color laser printers.

Models

Printer name	Machine type and model	Description
Lexmark C746n	5026-310	Network-ready
Lexmark C746dn	5026-330	Network-ready with duplex
Lexmark C746dtn	5026-330	Network-ready with duplex and 550 sheet tray
Lexmark C748e	5026-510	Network-ready with etask touch screen
Lexmark C748de	5026-530	Network-ready with etask touch screen and duplex
Lexmark C748dte	5026-530	Network-ready with etask touch screen, duplex, and 550 sheet tray

Options



Number	Description
1	Standard output bin
2	Paper support
3	Printer operator panel
4	Standard 550-sheet stray (Tray 1)
5	Multipurpose feeder
6	Optional 550-sheet specialty media drawer
7	Optional 550-sheet tray
8	Optional 2,000-sheet high.capacity feeder

Note: Some configurations may require a caster base for stability.

Media options

The C746x and C748x printers support the 550-sheet drawer, special media drawers, and 2000-sheet high-capacity input tray. The C746x and C748x printers support up to four input options. The options can include any combination of 550 sheet drawers and 550 sheet Specialty Media Drawers, with a maximum of one 2000 sheet drawer (always at the lowest position.) A caster base is required with some configurations. Including the base machine capacity of 650 sheets, the C746x and C748x supports up to 4300 sheets.

The Lexmark C74x options are compatible with the Lexmark C73x SFP, X73x MFP, and X74x MFP, but not with any other Lexmark printers. No other options are supported by the C74x.

The media options include:

- **550-Sheet Drawer**—This optional input source installs beneath the printer, and it holds approximately 550 sheets of (20 lb.) paper.
- **High Capacity Input Tray**—This optional input source installs beneath the printer, and it holds approximately 2000 sheets of (20 lb.) paper.
- **Specialty Media Drawer**—This optional input source installs beneath the printer, and it holds approximately 550 sheets of (20 lb.) paper, or 85 standard envelopes.

Memory options

- **Additional memory card**—The memory options for the C746x and C748x printers are 200 pin DDR2, SODIMM, and they are available at 256MB, 512MB, and 1GB sizes.
- **Flash memory card**—Flash Memory cards are available in 256MB.
- **Hard disk**—If larger storage is required, an optional hard disk is available.

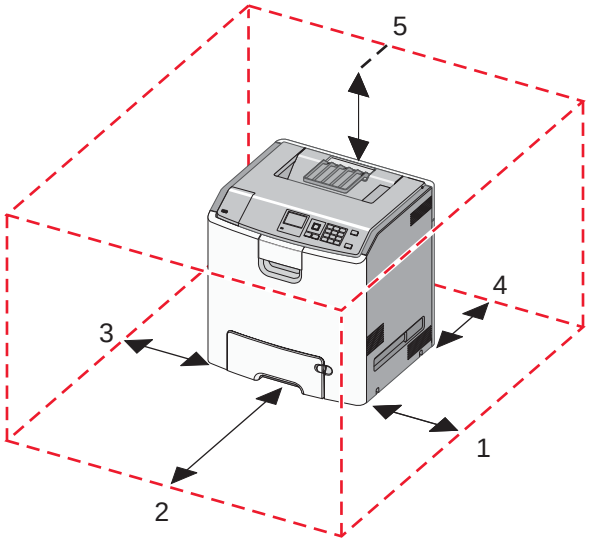
Printer specifications

Dimensions

The following table contains the dimensions and weight for each of the respective printer models. This does not include packaging.

	Height	Width	Depth	Weight
Basic printer (C746n/dn)	454.7 mm (17.9 in)	435.0 mm (17.1 in)	400.0 mm (15.7 in)	25.2 kg (55.6 lbs)
Basic printer (C748e/de)	454.7 mm (17.9 in)	435.0 mm (17.1 in)	400.0 mm (15.7 in)	25.6 kg (56.4 lbs)
C746dtn printer, with 550-sheet optional drawer	581.7 mm (22.9 in)	435.0 mm (17.1 in)	545.0 mm (21.5 in)	29.7 kg (65.5 lbs)
C748dte printer, with 550-sheet optional drawer	581.7mm (22.9 in)	435.0 mm (17.1 in)	545.0 mm (21.5 in)	30.1kg (66.4 lbs)
550-sheet drawer	169.0 mm (6.6 in)	435.0 mm (17.1 in)	545.0 mm (21.5 in)	4.5 kg (10.0 lbs)
550-sheet special media drawer	169.0 mm (6.6 in)	435.0 mm (17.1 in)	545.0 mm (21.5 in)	4.5 kg (10.0 lbs)
2000-sheet high capacity feeder	387.0 mm (15.2 in)	435.0 mm (17.1 in)	545.0 mm (21.5 in)	26.1 kg (57.5 lbs)
Spacer	169.0 mm (6.6 in)	435 mm (17.1 in)	545 mm (21.5 in)	3.2 kg (7.0 lbs)
Caster Base	127.0 mm (5.0 in)	778 mm (30.6 in)	812.0 mm (32.0 in)	43.1 kg (95.0 lbs)

Clearances



Number	Description	Clearance
1	Right side	101.6 mm (4 in.)
2	Front	609.6 mm (24 in.)
3	Left side	152.4 mm (6 in.)
4	Rear	152.4 mm (6 in.)
5	Top	304.8 mm (12 in.)

Memory

	C746	C748
Standard memory—The standard RAM is soldered onto the system board.		
Memory size	512MB	512MB
Optional memory—Optional DIMM (Dual Inline Memory Module) is a card that can be plugged into an available memory slot on the system board. Flash memory is a card that can also be plugged into an available slot.		
Maximum number of memory (DIMM) slots	1	1
Maximum number of flash memory slots	1	1
DIMM memory sizes available	256MB, 512MB, 1024MB	256MB, 512MB, 1024MB
Flash (Nand Flash)	256	256
Maximum possible memory	1536MB	1536MB

Expansion opportunities

Interface card expansion slots	1
Code Enhancement Socket (application solution firmware)	2
Hard disk Interface (for optional hard disk)	1

Resolution

The following resolutions are available:

- 4800CQ (default resolution)
- 1200 x 1200 dpi (at reduced printer speed)

Data streams

- XPS
- PCL 6 emulation (includes PCL 5e and PCL XL interpreters)
- PostScript 3 emulation
- PDF 1.6
- PPDS
- PictBridge
- HTML (including DBCS)
- Direct Image (TIFF, TIF, JPEG, JPG, GIF, PNG, BMP, PCX, and DCX)

Environment specifications

Environment	Specifications
Operating	
Air temperature—Operating	15.6° to 32.2° C (60° to 90° F)
Air temperature—Power off	10° to 40° C (50° to 104° F)
Air Relative Humidity	Relative humidity 8% to 80%
Wet Bulb Temperature—Operating	22.8° C (73.0° F) Maximum
Web Bulb Temperature—Power off	26.7° C (80.1° F) Maximum
Altitude	0–3,048 meters (10,000 ft.)
Ambient Operating Environment*	15.6° to 32.2° C (60° to 90° F) and 8% to 80% RH
Shipping and storage	
Cartridges (packaged)	-40° C to 40° C (104° Fahrenheit)
Printer with Cartridges (packaged)	-40° C to 40° C (104° Fahrenheit)
Printer without Cartridges	-40° C to 40° C (104° Fahrenheit)
Air Relative Humidity	Relative humidity 8% to 80%
Altitude	0–10,300 meters (34,000 feet)

Environment	Specifications
Web Bulb Temperature—Power Off	26.7° C (80.1° F) Maximum
* In some cases performance specifications, such as paper OCF and EP cartridge usage, are specified to be measured at an ambient condition.	

Electrical and power specifications

The following table specifies nominal average power requirements for the basic printer configurations. All power levels are shown in Watts (W). Maximum current is given in Amperes (A).

Printing states	C746n/dn/dtn	Lexmark C748e/de/dte
Off	0W	0W
Sleep mode	6.8W	7.3W
Hibernate mode	0.55W	0.55W
Ready Mode	48W	48W
Simplex Printing	535W	535W
Duplex Printing	420W	420W
Typical Electricity Consumption Test	3.561 kwh / wk	3.687 kwh / wk
Typical Electricity Consumption Test (Eco-Mode)	2.375 kwh / wk	2.491 kwh / wk
Average current while printing (110 Volts)	8.3 A	8.3 A
Average current while printing (120 Volts)	7.5 A	7.5 A
Average current while printing (230 Volts)	3.8 A	3.8 A

Low-voltage models

- 110 to 127 V at 50 to 60 Hertz (Hz) nominal
- 99 to 139.7 V, extreme

- 100 V at 50 to 60 Hertz (Hz) nominal
- 90 to 121 V, extreme

High-voltage models

- 220 to 240 V at 50 to 60 Hz (not available in all countries)
- 198 to 259 V, extreme

Notes:

- Using a power converter or inverter with the Lexmark C740 Series printers is not recommended.
- The C740 series duplex models (C746dn, C746dtn, C748de, C748dte) are Energy Star Qualified.
- All models ship with Sleep Mode = On.
- The default time out to Sleep mode is 30 minutes.

Acoustic specifications

All acoustic measurements are made in accordance with ISO 7779:1999—*Accoustics: Measurement of airborne noise emitted by information technology and telecommunications* and reported in conformance with ISO 9296: 1988-04-15—Accoustics Declared noise emission values of computer and business equipment.

Operating mode	1 meter average sound pressure (dBA)	Declared sound power level (Bels)
C746		
Idle	32 dB	4.8 Bels
Simplex printing (mono)	53 dB	6.8 Bels
Simplex printing (color)	54 dB	6.8 Bels
Duplex printing (mono)	54 dB	6.9 Bels
Duplex printing (color)	55 dB	6.9 Bels
Quiet mode printing (mono)	48 dB	6.3 Bels
Quiet mode printing (color)	48 dB	6.3 Bels
C748		
Idle	32 dB	4.8 Bels
Simplex printing (mono)	54 dB	6.8 Bels
Simplex printing (color)	55 dB	6.9 Bels
Duplex printing (mono)	53 dB	6.9 Bels
Duplex printing (color)	55 dB	6.9 Bels
Quiet mode printing (mono)	47 dB	6.3 Bels
Quiet mode printing (color)	48 dB	6.3 Bels

Media specifications

Paper designed for use with xerographic copiers should provide satisfactory print quality and feed reliability. Other types of media may be suitable. It is recommended that users test any particular brand for suitability to their applications. Refer to the printer User's Guide for additional media specifications.

Paper

Follow the media guidelines below for successful printing:

- Rough, highly textured, limp, or pre-curled papers will result in lower print quality and more frequent paper feed failures.
- Colored papers must be able to withstand 190° C (374° F) fusing temperature.
- Preprinted forms and letterheads must be able to withstand 190° C (374° F) fusing temperature and should be selected using guidelines found in the printer *User's Guide*. The chemical process used in preprinting may render some papers unsuitable for use.
- Unsuitable papers include:
  - Multi-part forms and documents
  - Chemically treated papers; coated
  - Synthetic and thermal papers
  - A5 paper less than 80 g/m^2 (21 lb)
  - Recycled paper less than 75 g/m^2 (20 lb)
  - Preprinted papers requiring a high degree of registration.
  - Recycled paper less than 80 g/m^2 (21 lb) may cause unacceptable results.

Envelopes

- All envelopes should be new, unused, and without package damage.
- Envelopes with excessive curl or twist exceeding 6 mm, those stuck together, those with bent corners or nicked edges, or those that interlock should not be used.
- Minimum weight: 60 g/m2 (16 lb.)
- The following envelopes should not be used:
- Envelopes with windows, holes, perforations, cutouts, or deep embossing
- Envelopes with metal clasps, string ties, or metal folding bars
- Envelopes with exposed flap adhesive when the flap is in the closed position.
- For best results, printing on new 90 g/m2 (24 lb.) sulfite or 25% cotton bond envelopes is recommended.
- Under high humidity conditions (over 60%), envelopes may seal during printing.

Transparencies

- Use letter or A4-size transparencies for color laser printers only.
- See Ordering Information for the recommended transparencies for the Lexmark C746x/C748x laser printers.
- Do not use inkjet transparencies.

Labels

Labels should be selected using guidelines found in the *User's Guide* or the *Card Stock and Label Guide*, and tested for acceptability.

Using recycled paper and other office papers

Recycled office paper produced specifically for use in laser (electrophotographic) printers may be used in your printer. However, no blanket statement can be made that all recycled paper will feed well.

Generally, the following property guidelines apply to recycled paper.

- Low moisture content (4–5%)
- Suitable smoothness (100–200 Sheffield units, or 140–350 Bendtsen units, European)
  Note: Some much smoother papers (such as premium 24 lb laser papers, 50–90 Sheffield units) and much rougher papers (such as premium cotton papers, 200–300 Sheffield units) have been engineered to work very well in laser printers, despite surface texture. Before using these types of paper, consult your paper supplier.
- Suitable sheet-to-sheet coefficient of friction (0.4–0.6)
- Sufficient bending resistance in the direction of feed

Recycled paper, paper of lower weight (<60 g/m^2 [16 lb bond]) and/or lower caliper (<3.8 mils [0.1 mm]), and paper that is cut grain-short for portrait (or short-edge) fed printers may have lower bending resistance than is required for reliable paper feeding. Before using these types of paper for laser (electrophotographic) printing, consult your paper supplier. Remember that these are general guidelines only and that paper meeting these guidelines may still cause paper feeding problems in any laser printer (for example, if the paper curls excessively under normal printing conditions).

Input and output capacities

The following table describes the media options that each model supports, and the estimated capacities in stand and maximum configurations. Capacity may vary and is subject to media specifications and printer operating environment. The capacities are based on plain paper at 75g/m^2.

Standard input sources	
Primary tray capacity (sheets)	550
Multipurpose feeder capacity (sheets)	100
Number of standard sources (primary tray and multipurpose feeder)	2
Total standard capacity (sheets)	650
Optional input sources	
550-Sheet Drawer (sheets)	550
High-capacity input tray (HCIT) (sheets)	2,000
Specialty Media Drawer[a] (sheets)	550 (or 85 envelopes)
Maximum number of 550-sheet drawers (including Speciality Media Drawer)	4
Maximum number of high-capacity input tray (must be installed on the bottom)	1
Maximum number of standard and optional input sources	6
Maximum capacity for standard and options input sources (sheets)	4,300
Standard output bin capacity (sheets)[b]	300
Maximum output bin capacity (sheets)	300
Duplex capability	Standard for C746dn,C746dtn,C748de,and C748dte models

[a] Each 550-sheet Specialty Media Drawer replaces one 550-sheet option.

[b] The output bin capacity may be reduced by 50 sheets when the duplex feature is in use.

Input and output sizes and types

Media Sizes	Primary 550-sheet tray	Multipurpose feeder	Optional 550-sheet tray	Optional Speciality Media	Optional 2000-sheet feeder (HCIT)	Duplex
Paper sizes						
A4 210 x 297 mm	✓	✓	✓	✓	✓	✓
A5 148 x 210 mm	✓	✓	✓	✓		✓
A6 105 x 148 mm		✓		✓		
JIS B5 182 x 257 mm	✓	✓	✓	✓		✓
Officio (Mexico) 216 x 340 mm	✓	✓	✓	✓		✓
Letter 8.5 x 11 in.	✓	✓	✓	✓	✓	✓
Legal 8.5 x 14 in.	✓	✓	✓	✓	✓	✓
Statement 5.5 x 8.5 in.		✓		✓		✓
Executive 7.25 x 10.5 in.	✓	✓	✓	✓		✓
Folio 8.5 x 13 in.	✓	✓	✓	✓		✓
Universal	✓	✓	✓	✓		✓

Media Sizes (continued)	Primary 550-sheet tray	Multipurpose feeder	Optional 550-sheet tray	Optional Speciality Media	Optional 2000-sheet feeder (HCIT)	Duplex
Envelopes						
C6 Envelope 114 x 162 mm[a]		✓		✓		
B6 Envelope 125 x 176 mm[a]		✓		✓		
C65 Envelope 114 x 229 mm[a]		✓		✓		
C5 Envelope 162 x 229 mm		✓		✓		
B5 Envelope 176 x 250 mm		✓		✓		
DL Envelope 110 x 220 mm		✓		✓		
6 3/4 Envelope 3.4 x 6.5 in[a]		✓		✓		
7 3/4 Envelope 3.4 x 7.5 in		✓		✓		
9 Envelope 3.9 x 8.9 in		✓		✓		
10 Envelope 4.13 x 9.5 in		✓		✓		
11 Envelope 4.5 x 10.4 in[a]		✓		✓		
12 Envelope 4.8 x 11 in[a]		✓		✓		
[a] These sizes are accessible using Other Envelope setting.						

Media weight, primary tray and option tray			
Size	**Type**		**Weight**
Letter, Legal, A4	Xerographic and bond	Long grain	60 g/m^2–162.7 g/m^2 (16 lb–43 lb)
		Short grain	162.7 g/m^2–198.9 g/m^2 (43 lb–53.2 lb)
	Recycled	Long grain	75 g/m^2–177 g/m^2 (20 lb–47 lb)
		Short grain	105 g/m^2–218 g/m^2 (28 lb–58 lb)
	Cardstock (maximum)	Index long/short	162.7 g/m^2–198.9 g/m^2 (90 lb–110 lb)
		Cover long/short	162.7g/m^2–198.9 g/m^2 (60.1 lb–73.6 lb)
		Tag long/short	162.7g/m^2–198.9 g/m^2 (100 lb–122.2 lb)
	Transparencies		161 g/m^2– 179 g/m^2 Thickness: 0.12–0.14mm (4.8–5.4 mil)
	Labels	Paper	180 g/m^2–300 g/m^2 (48 lb–80 lb)
		Vinyl	180 g/m^2–300 g/m^2 (48 lb–80 lb)

Media weight, primary tray and option tray			
Size	**Type**		**Weight**
A5, JIS B5, Executive	Xerographic and bond	Long grain	75 g/m^2–177 g/m^2 (20 lb to 47 lb)
		Short grain	90 g/m^2–218 g/m^2 (24 lb–58 lb)
Universal	Xerographic and bond	Long grain	75 g/m^2–177 g/m^2 (20 lb–47 lb)
		Short grain	90 g/m^2–218 g/m^2 (24 lb–58 lb)

Paper guidelines

Paper characteristics

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

Weight—The printer can automatically feed paper weights from 60 to 162l7 g/m^2 (16 to 43 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 (20 lb bond) grain long paper. For paper smaller than 182 x 257 mm (7.2 x 10.1 in.), we recommend 90 g/m^2 (24 lb) or heavier paper.

Note: Duplex is supported only for 63 g/m^2–170 g/m^2 (17 lb–45 lb bond) paper.

Curl—Curl is the tendency for paper to curl 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, or dry conditions, even in the trays, can contribute to paper curling prior to printing and can cause feeding problems.

Smoothness—Paper smoothness directly affects print quality. If paper is too rough, toner cannot fuse to it properly. If paper is too smooth, it can cause paper feeding or print quality issues. Always use paper between 100 and 300 Sheffield points; however, smoothness between 150 and 200 Sheffield points produces the best print quality.

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

Condition paper before printing by storing it in its original wrapper in the same environment as the printer for 24 to 48 hours before printing. 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.

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 paper is recommended. For papers heavier than 135 g/m^2, grain short is recommended.

Fiber content—Most high-quality xerographic paper is made from 100% chemically treated 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 can negatively affect paper handling.

Unacceptable paper

The following paper types 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 ±2.3 mm (±0.9 in.), such as optical character recognition (OCR) forms
  Note: In some cases, registration can be adjusted with a software application to successfully print on these forms.
- Coated papers (erasable bond), synthetic papers, thermal papers
- Rough-edged, rough or heavily textured surface papers, or curled papers
- Recycled papers that fail EN12281:2002 (European)
- Paper weighing less than 60 g/m^2 (16 lb)
- Multiple-part forms or documents

Selecting paper

Using appropriate paper prevents jams and helps ensure trouble-free printing.

To help avoid jams and 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 paper sizes, types, or weights in the same source; mixing results in jams.
- Do not use coated papers unless they are specifically designed for electrophotographic printing.

Selecting preprinted forms and letterhead

Use these guidelines when selecting preprinted forms and letterhead:

- Use grain long for 60 to 90 g/m^2 (16 to 20 lb) weight paper.
- Use only forms and letterhead printed using an offset lithographic or engraved printing process.
- Avoid papers with rough or heavily textured surfaces.

Use papers printed with heat-resistant inks designed for use in xerographic copiers. The ink must be able to withstand temperatures up to 190°C (374°F) without melting or releasing hazardous emissions. Use inks that are not affected by the resin in toner. Inks that are oxidation-set or oil-based generally meet these requirements; latex inks might not. When in doubt, contact the paper supplier.

Preprinted papers such as letterhead must be able to withstand temperatures up to 190°C (374°F) without melting or releasing hazardous emissions.

Storing paper

Use these paper storage guidelines to help avoid jams and uneven print quality:

- For best results, store paper where the temperature is 21°C (70°F) and the relative humidity is 40%. Most label manufacturers recommend printing in a temperature range of 18 to 24°C (65 to 75°F) with relative humidity between 40 and 60%.
- Store paper in cartons when possible, on a pallet or shelf, rather than on the floor.
- Store individual packages on a flat surface.
- Do not store anything on top of individual paper packages.

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
4.0 mm Allen wrench (HCIT removal)
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
Flash light (optional)

Acronyms

BLDC	Brushless DC Motor
BUR	Back Up Roll
C	Cyan
COD	Color On Demand
DIMM	Dual Inline Memory Module
DRAM	Dynamic Random Access Memory
EP	Electrophotographic Process
ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
GB	Gigabyte
HCIT	High-Capacity Input Tray
HVPS	High Voltage Power Supply
K	Black
LASER	Light Amplification by Stimulated Emission of Radiation
LCD	Liquid Crystal Display
LED	Light-Emitting Diode
LVPS	Low-Voltage Power Supply
M	Magenta
MPF	Multipurpose Feeder
NVRAM	Nonvolatile Random Access Memory
PC	Photoconductor
pel	Picture element (pixel)
POR	Power-On Reset
POST	Power-On Self Test
RIP	Raster Imaging Processor
SDRAM	Synchronous Dual Random Access Memory
V ac	Volts alternating current
V dc	Volts direct current
Y	Yellow

2. Diagnostic information

Start

CAUTION

Remove the power cord from the electrical outlet before you connect or disconnect any cable or electronic card or assembly for personal safety and to prevent damage to the printer.

CAUTION—POTENTIAL INJURY:

The printer weight is greater than 54 lbs (24.5kg), and requires two or more trained personnel to lift safety.

Use the service error code, user status message, user error message, symptom table, service checks, and diagnostic aids in this chapter to determine the corrective action necessary to repair a malfunctioning printer. They will lead you to solutions or service checks, including the use of various tests.

Symptom tables

If your printer completes the **“Power-on self test (POST) sequence” on page 2-9** without an error, and you have a symptom, go to **“Symptom tables” on page 2-9**. Locate your symptom, and take the appropriate action.

Service errors (1xx.xx/9xx.xx)

If a service error code appears while you are working on the printer, go to **“1xx service error codes” on page 2-21** or **“9xx service error messages” on page 2-38**, and take the indicated action for that error.

Service error codes are indicated by a three-digit error code followed by a period and additional numbers in the format XXX.YY. In most cases, five digits are shown.

Paper jam messages (2xx.xx)

User attendance messages that indicate a paper jam have been included with the service error codes since repeated instances may indicate an underlying service issue. Go to **“2xx paper jam messages” on page 2-23**.

User status and attendance messages

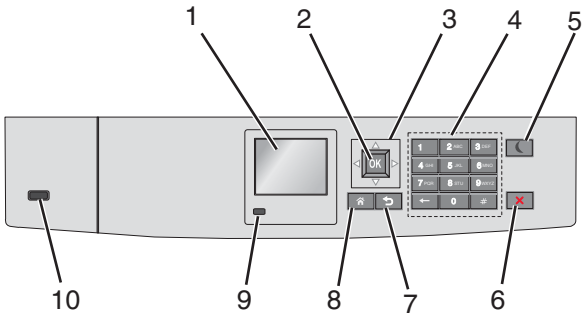
- User status messages provide the user with information on the current status of the printer.
- User attendance messages are indicated by a two-digit code that provides the user with information that explains a problem with a print cartridge, option, port, and so on. If a user error message displays, see **“3x through 8x attendance messages” on page 2-13** or **“2xx paper jam messages” on page 2-23**.

Additional information

- **“Operator panel and menus” on page 2-2**
- **“Power-on self test (POST) sequence” on page 2-9**

Operator panel and menus

C746x operator panel

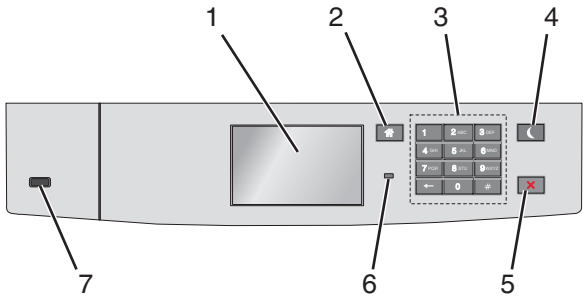


C746x buttons and light descriptions

Use the		To
1	Display	• View printer status. • Allow printer setup and operation.
2	Select button	Submit changes made in the printer settings.
3	Navigation buttons	Scroll up and down or left and right.
4	Keypad	Enter numbers and letters.
5	Sleep button	Enable Sleep mode. The following are the statuses based on the indicator light and the Sleep button:. • Entering or waking from Sleep mode - The indicator light is illuminated solid green. - The Sleep button is un-illuminated. • Operating in Sleep mode - The indicator light is illuminated solid green. - The Sleep button is illuminated solid amber. • Entering or waking from Hibernate mode - The indicator light is illuminated solid green. - The Sleep button is illuminated blinking amber. • Operating in Hibernate mode. - The indicator light is un-illuminated. - The Sleep button is blinking amber for 0.1 second, and then goes completely un-illuminated for 1.9 seconds in pulsing pattern. The following actions wake the printer from Sleep mode: • Pressing any button • Opening Tray 1 or loading paper in the multipurpose feeder • Opening a door or cover • Sending a print job from the computer • Performing a power.on reset with the
6	Stop/Cancel button	Stops all printer activities. **Note:** A list of options are displayed once `Stopped` appears on the display.
7	Back	Return to the previous screen.
8	Home button	Go to the home screen.

<table>
<tr><th colspan="2">Use the</th><th>To</th></tr>
<tr><td>9</td><td>Indicator light</td><td>Check the status of the printer.
<table>
<tr><th>Indicator light status</th><th>Indicates</th></tr>
<tr><td>Off</td><td>Printer power is off.</td></tr>
<tr><td>Blinking green</td><td>Printer is warming up, processing data, or printing a job.</td></tr>
<tr><td>Solid green</td><td>Printer is on, but idle.</td></tr>
<tr><td>Blinking red</td><td>Operator intervention is required.</td></tr>
</table></td></tr>
<tr><td>10</td><td>USB port</td><td>Connect a USB Bluetooth adapter or a flash drive to the printer.
Note: Only the front USB port supports flash drives.</td></tr>
</table>

C748x operator panel



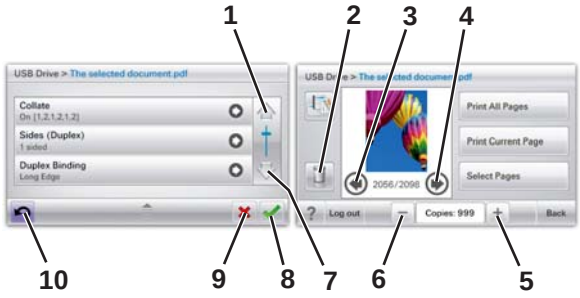
C748x buttons and light descriptions

Use the		To
1	Display	• View printer status. • Allow printer setup and operation.
2	Home button	Go to the home screen.
3	Keypad	Enter numbers and letters.

<table>
<tr><th colspan="2">Use the</th><th>To</th></tr>
<tr><td>4</td><td>Sleep button</td><td>Enable Sleep mode.
The following are the statuses based on the indicator light and the Sleep button:.
• Entering or waking from Sleep mode
- The indicator light is illuminated solid green.
- The Sleep button is un-illuminated.
• Operating in Sleep mode
- The indicator light is illuminated solid green.
- The Sleep button is illuminated solid amber.
• Entering or waking from Hibernate mode
- The indicator light is illuminated solid green.
- The Sleep button is illuminated blinking amber.
• Operating in Hibernate mode.
- The indicator light is un-illuminated.
- The Sleep button is blinking amber for 0.1 second, and then goes completely un-illuminated for 1.9 seconds in pulsing pattern.
The following actions wake the printer from Sleep mode:
• Pressing any button
• Touching the screen
• Opening Tray 1 or loading paper in the multipurpose feeder
• Opening a door or cover
• Sending a print job from the computer
• Performing a Power On Reset (POR) with the main power switch.
• Loading paper into the scanner ADF.
• Raising the scanner flatbed cover.</td></tr>
<tr><td>5</td><td>Stop/Cancel button</td><td>Stops all printer activities.
Note: A list of options are displayed once <code>Stopped</code> appears on the display.</td></tr>
<tr><td>6</td><td>Indicator light</td><td>Check the status of the printer.
<table>
<tr><th>Indicator light status</th><th>Indicates</th></tr>
<tr><td>Off</td><td>Printer power is off.</td></tr>
<tr><td>Blinking green</td><td>Printer is warming up, processing data, or printing a job.</td></tr>
<tr><td>Solid green</td><td>Printer is on, but idle.</td></tr>
<tr><td>Blinking red</td><td>Operator intervention is required.</td></tr>
</table></td></tr>
<tr><td>7</td><td>USB port</td><td>Connect a USB Bluetooth adapter or a flash drive to the printer.
Note: Only the front USB port supports flash drives.</td></tr>
</table>

Using the touch screen buttons

Note: Your home screen, icons, and buttons may vary depending on your home screen customization settings, administrative setup, and active embedded solutions.



Touch		To
1	Up arrow	Scroll up.
2	Delete folder	Delete the file you selected.
3	Left arrow	Scroll to the left.
4	Right arrow	Scroll to the right.
5	Right scroll increase	Scroll to another value in increasing order.
6	Left scroll decrease	Scroll to another value in decreasing order.
7	Down arrow	Scroll down.

Touch		To
8	Accept	Save a setting.
9	Cancel	• Cancel an action or a selection. • Cancel out a screen and return to the previous screen
10	Back	Navigate back to the previous screen.

Understanding the home screen

When the printer is turned on, the display shows a basic screen, referred to as the home screen. Use the home screen buttons and icons to initiate an action.

Note: Your home screen, icons, and the buttons may vary depending on your home screen customization settings, administrative setup, and active embedded solutions.

Touch		To
1	Change Language	Change the primary language of the printer.
2	Bookmarks	Create, organize, and save a set of bookmarks (URLs) into a tree view of folders and file links. **Note:** The tree view does not include bookmarks created within Forms and Favorites, and the ones in the tree are not usable in Forms and Favorites.
3	Held Jobs	Display all current held jobs.
4	USB or USB Thumbdrive	View, select, or print photos and documents from a flash drive. **Note:** This icon appears only when you return to the home screen while a memory card or flash drive is connected to the printer.
5	Menus	Access printer menus. **Note:** These menus are available only when the printer is in the Ready state.

Touch		To
6	Status message bar	• Show the current printer status such as Ready or Busy. • Show printer conditions such as Fuser missing or Cartridge Low. • Show intervention messages and the instructions on how to clear them.
7	Status/Supplies	• Display a warning or error message whenever the printer requires intervention to continue processing. • Access the messages screen for more information on the message, and how to clear it.
8	Tips	Open a context.sensitive Help information on the touch screen.

This may also appear on the home screen:

Touch	To
Search Held Jobs	Search current held jobs.

Features

Feature	Description
Attendance message alert	If an attendance message affects a function, then this icon appears and the red indicator light blinks.
Warning	If an error condition occurs, then this icon appears.
Printer IP address Sample: `123.123.123.123.123`	The IP address of your network printer is located at the top left corner of the home screen and appears as four sets of numbers separated by periods. You can use the IP address when accessing the Embedded Web Server so you can view and remotely configure printer settings even when you are not physically near the printer.

Administrative menus

Note: Some menu items may not be available based on the printer model or the options installed.

Supplies Menu	Paper Menu	Reports	Settings
Replace Supply	Default Source	Menu Settings Page	General Settings
Cyan Cartridge	Paper Size/Type	Device Statistics	Flash Drive Menu
Magenta Cartridge	Configure MP	Network Setup Page	Print Settings1
Yellow Cartridge	Substitute Size	Network [x] Setup Page	
Black Cartridge	Paper Loading	Profiles List	
Cyan Photoconductor	Custom Types	Print Fonts	
Magenta Photoconductor	Custom Names[1]	Print Directory	
Yellow Photoconductor	Universal Setup	Asset Report	
Black Photoconductor			
Waste Toner Bottle			
Fuser			
Transfer Module			

Security	Network/Ports	Help
Miscellaneous Security Settings	Active NIC	Print All Guides
Confidential Print	Standard Network OR Network [x][2]	Color Quality
Disk Wiping	Standard USB	Print Quality
Security Audit Log	Parallel [x]	Printing Guide
Set Date and Time	Serial [x]	Media Guide
	SMTP Setup	Print Defects Guide
		Menu Map
		Information Guide
		Connection Guide
		Moving Guide
		Supplies Guide

[1]This menu appears only in touch.screen printer models

[2]Spending on the printer setup, this menu appears as a Standard Network, Wireless Network, or Network [x]

Power-on self test (POST) sequence

When you turn the printer on, it performs a Power-On Self Test. Check for correct POST functioning of the base printer by observing the following:

1. The operator panel turns on and displays the Lexmark logo.
2. A progress bar displays.
3. The LED turns on.
4. The main fan turns on.
5. The machine performs the following tests:
   a. Sensor check
   b. Motor check—initializes the following motors:
      i. Cam motor
      ii. EP drive motor
      iii. Fuser motor
      iv. Cartridge motor
   c. Supplies check

   Note: The LED blinks red and an error message displays on the operator panel screen if the machine detects errors during these test phases.
6. The LED light indicator blinks.
7. The loading screen displays.

Symptom tables

Printer symptom table

Symptom	Action
Dead printer	Go to **“Dead printer service check” on page 2-124**.
Operator panel—one or more buttons do not work.	Go to **“One or more operator panel buttons fail” on page 2-127**.
Operator panel—display is blank. Printer sounds five beeps.	Go to **“Operator panel display blank, five beeps, and LED is off” on page 2-127**.
Operator panel—display is blank.	Go to **“Operator panel display blank, five beeps, LED on” on page 2-127**.
Operator panel—stripes display, distorted display, and other display issues	Go to **“Stripes display, distorted display, and other display issues” on page 2-128**
Tray 1 missing	Go to **“Tray 1 missing service check” on page 2-135**.
Tray linking will not work.	Go to **“Tray linking service check” on page 2-136**.
Front cover locks, and will not open	Go to **“Front cover locked in place” on page 3-36**.

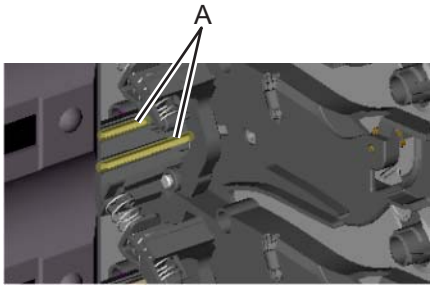
Print quality symptom table

Symptom	Action
Background	Go to **“Print quality—background” on page 2-129**.
Blank page	Go to **“Print quality—blank page” on page 2-130**.
Blurred or fuzzy print	Go to **“Print quality—blurred or fuzzy print” on page 2-132**.
Half-color page	Go to **“Print quality—half-color page” on page 2-132**.
Horizontal banding	Go to **“Print quality—horizontal banding” on page 2-132**.
Horizontal line	Go to **“Print quality—horizontal line” on page 2-132**.
Insufficient fusing	Go to **“Print quality—insufficient fusing” on page 2-132**.
Missing image at edge	Go to **“Print quality—missing image at edge” on page 2-132**.
Mottle (2–5mm speckles)	Go to **“Print quality—mottle (2–5mm speckles)” on page 2-132**.
Narrow vertical line	Go to **“Print quality—narrow vertical line” on page 2-132**.
Random marks	Go to **“Print quality—random marks” on page 2-133**.
Residual image	Go to **“Print quality—residual image” on page 2-133**.
Solid color page	Go to **“Print quality—solid color page” on page 2-133**.
Vertical banding	Go to **“Print quality—vertical banding” on page 2-134**.

User status and attendance messages

Error code	Action
Close Front Door	Close the front door securely. If you continuously get this error, then either the 24 V interlock switch or the 5 V interlock switch is bad. See **“24 V interlock switch service check” on page 2-121** and **“5 V interlock switch service check” on page 2-120**.
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.
Load <source> <custom type name>	Load paper in the indicated source and of the indicated type. Additional messages may include: • Paper loaded—Select **Continue**. • Show Me—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: • Show Me—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: • Show Me—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 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: • Show Me—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: • Show Me—the printer will present instructions. • Cancel Job—the printer job can be cancelled.
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: • Show Me—the printer will present instructions. • Cancel Job—the printer job can be cancelled.

Error code	Action
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: • Show Me—the printer will present instructions. • Cancel Job—the printer job can be cancelled.
Paper Changes Needed	
PC Unit Exposure Warning	This warning occurs when the front door is left open too long. Close the front door to prevent damage to the PC unit. Select `Tell me more` for further information.
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 Packaging Material	If packaging material is detected by the printer, `Check all areas`, `Check <area name>`, or `Check <number of> areas` may appear. Press **Select** to continue.
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
Securely Clearing Disk Space	Disk wiping process is recovering disk space. The message clears when all memory blocks are cleared.
Tray Length Guide Missing	Replace the tray length guide.
Unsupported USB device, Please Remove	Remove the unrecognized device to continue.
Unsupported USB hub, 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.

Error code	Action
3x through 8x attendance messages	
31 Defective or Missing <*color*> Cartridge	• Reseat the specified toner cartridge. • Inspect the smart chip card contacts (A) for damage, contamination or positioning error. If damaged, contact your next level of service.  • Inspect the toner cartridge contacts for damage/contamination. Replace the toner cartridge if defective. • Replace the indicated cartridge. • If the problem still exists, see **"31.xx—Cartridge errors service check" on page 2-45**.
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 JSBTN1 cable connection. Properly connect the cable if not connected properly. Replace the cable if damaged. • If the problem still exists, replace the system board. See **"System board removal" on page 4-155**.
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. • Cancel the current job. Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**. • If the problem still exists, replace the system board. See **"System board removal" on page 4-155**.
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 system board. See **"System board removal" on page 4-155**.

Error code	Action
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 system board. See **"System board removal" on page 4-155**.
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 system. See **"System board removal" on page 4-155**.
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 system board. See **"System board removal" on page 4-155**.
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 system board. See **"System board removal" on page 4-155**.
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 system board. See **"System board removal" on page 4-155**.
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. • Additional memory may fix the problem.
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 system board. See **"System board removal" on page 4-155**.
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 system board. See **"System board removal" on page 4-155**.

Error code	Action
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 system board. See **"System board removal" on page 4-155**.
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 system board. See **"System board removal" on page 4-155**.
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.
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 system board. See **"System board removal" on page 4-155**.
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.
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 system board. See **"System board removal" on page 4-155**.

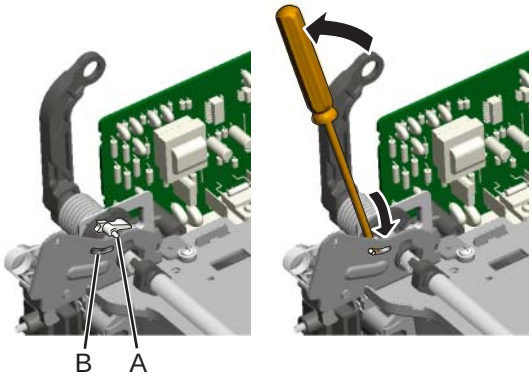
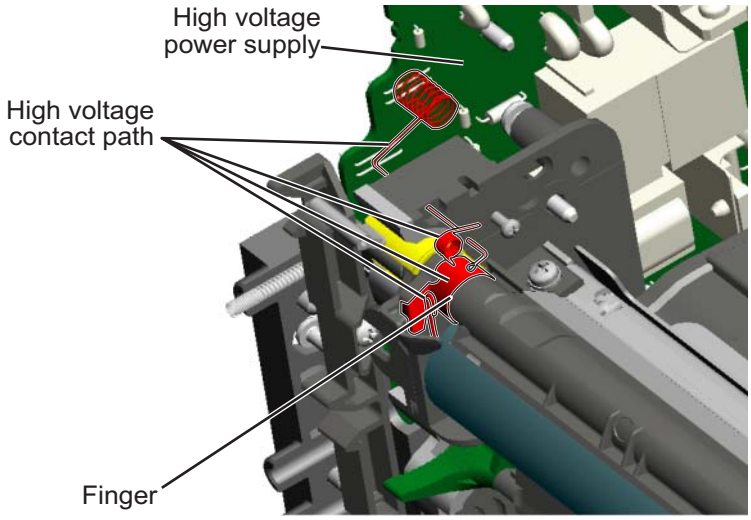
Error code	Action
57 Configuration Change Held Jobs May Not Be Restored	Configuration changes may be: • Code version changes • Paper handling options removed • The disk was installed from a different model or speed of printer.
58 Too Many Flash Options	Too many flash options are installed. To continue: 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 system board. See **"System board removal" on page 4-155**.
58 Too Many Trays Attached	1. Turn off and unplug the printer. 2. Remove options until the supported number of options for that model. 3. Plug in the printer, and turn it on. If this does not fix the problem, replace the system board. See **"System board removal" on page 4-155**.
59 Incompatible Tray <x>	There is an incompatible tray. To remove the option: 1. Turn off and unplug the printer. 2. Remove all option trays. 3. Install one option, plug in the printer and turn it on. 4. Continue adding one option at a time and checking whether the error occurs. 5. Install all options except the one identified as a problem. - If no problem occurs, replace the option. - If the same error occurs, replace the system board. 6. Plug in and power 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 system board. See **"System board removal" on page 4-155**.
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 system board. See **"System board removal" on page 4-155**.
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 system board. See **"System board removal" on page 4-155**.
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 system board. See **"System board removal" on page 4-155**.
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. See **"Reset Fuser Cnt" on page 3-28**. • If this does not fix the problem, replace the system board.See **"System board removal" on page 4-155**.

<table>
<tr><th>Error code</th><th>Action</th></tr>
<tr><td>80 Fuser Life Warning</td><td>
• Select Continue to clear the message and continue printing.
• <code>Show Me</code>, <code>View Supplies</code>, and <code>Tell Me More</code> 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. See “Reset Fuser Cnt” on page 3-28.
• If this does not fix the problem, replace the system board. See “System board removal” on page 4-155.
</td></tr>
<tr><td>80 Replace Fuser</td><td>
• <code>Show Me</code>, <code>View Supplies</code>, and <code>Tell Me More</code> displays additional information.
• Replace the fuser. See “Fuser removal” on page 4-110.
Note: Be sure to reset the fuser count. See “Reset Fuser Cnt” on page 3-28.
• If this does not fix the problem, replace the system board. See “System board removal” on page 4-155.
</td></tr>
<tr><td>80 Fuser Missing</td><td>
• Reinstall the fuser. See “Fuser removal” on page 4-110.
• 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.
</td></tr>
<tr><td>80.41 Fuser missing</td><td>
• Install the fuser. Replace the fuser if the problem persists.
• If the problem continues, turn the printer off and remove the rear frame cover. See “Rear frame cover removal” on page 4-47. Check the cable in connector JFUSER1 for proper connection to the system board, the cable for pinch points, and the cable or the connector for any other damage. If the connector is damaged on system board, replace the system board. See “System board removal” on page 4-155. If the fuser cable is damaged, replace the cable.
• Check for the following continuity between the DC autoconnect and FUSER1.

<table>
<tr><th>AC auto-connect</th><th>DC auto-connect</th></tr>
<tr><td>Pin 1</td><td>Pin 3</td></tr>
<tr><td>Pin 5</td><td>Pin 4</td></tr>
<tr><td></td><td>Pin 6</td></tr>
<tr><td></td><td>Pin 7</td></tr>
<tr><td></td><td>Pin 8</td></tr>
<tr><td></td><td>Pin 9</td></tr>
<tr><td></td><td>Pin 10</td></tr>
</table>

• If continuity is not present, replace the fuser cable. If the problem persists after replacing cable, replace the system board. See “System board removal” on page 4-155.
</td></tr>
<tr><td>82 Waste Toner Nearly Full</td><td>
• Select Continue to clear the message and continue printing.
• If printing continues, order a replacement waste toner box immediately.
• If the problem persists, open the front access door and check the aligner shaft for binding. Clear the binding if possible. If not possible, contact your next level of service.
</td></tr>
<tr><td>82 Replace Waste Toner</td><td>
• 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, open the front access door and check the aligner shaft for binding. Clear the binding if possible.
• If the problem persists, replace the system board. See “System board removal” on page 4-155.
• If the problem persists, contact your next level of service.
</td></tr>
</table>

Error code	Action
82 Waste Toner Missing	• Insert the waste toner box. • Inspect the top cover camshaft assembly for proper operation. When the top access cover is closed, the printer should mechanically interlock. • Check the cable in connector JBUMP1on the system board for defects and proper connection. If the cable wiring or the cable connection is defective, replace the bump multipurpose feeder/duplex motor assembly. See **"Multipurpose feeder (MPF)/duplex motor assembly removal" on page 4-125**. If the cable in JBUMP1 connector is damaged on the system board, replace the system board. See **"System board removal" on page 4-155**. • Check the aligner shaft and the mechanical system for binds. • Replace the bump multipurpose feeder/duplex motor assembly. See **"Multipurpose feeder (MPF)/duplex motor assembly removal" on page 4-125**. • If the problem persists, replace the system board. See **"System board removal" on page 4-155**.
82.41	If you continuously get this error, then the problem is the aligner motor error. Go to **"147.xx, 920.01—POST (power-on self test) aligner error service check" on page 2-57**.
83.*xx* Transfer Module 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 **"System board removal" on page 4-155**.
83.*xx* Replace Transfer Module	• Replace the transfer module using the instruction sheet that comes with the replacement transfer module. See **"Transfer module removal" on page 4-171**. • If the problem persists, replace the system board. See **"System board removal" on page 4-155**.
83.41 Transfer Module Missing	If the you continuously get this error, go to **"920.03, 920.25—Transfer Module Missing or not connected service check" on page 2-97**.
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 **"System board removal" on page 4-155**.
84 Replace <*color*> PC Unit	• Replace the specified photoconductor unit using the instruction sheet that comes with the replacement specified photoconductor unit. Navigate to **Menu > Supplies menu > Replace supplies**. • If the problem persists, replace the system board. See **"System board removal" on page 4-155**. **Note:** Make sure to reset the photoconductor unit counter(s).

Error code	Action
84 <*color*> PC Unit Missing	• Scroll down the operator panel to see if the printer is showing that all four of the PC units are missing. If so, check the HVPS cable between the system board and the HVPS. Ensure that the cable is not plugged in backwards on the HVPS. Disconnect and reconnect the cable to make sure there is good contact. • Insert or reinstall the specified photoconductor unit and see if problem clears. See **"Photoconductor unit removal" on page 4-142**. • Swap the photoconductor unit between two locations and see if the problem moves with photoconductor unit. If problem follows the photoconductor unit, replace the photoconductor unit. See **"Photoconductor unit removal" on page 4-142**. • Remove the top access cover assembly (see **"Top access cover assembly removal" on page 4-54**), and confirm that the camshaft follower (A) on the left side is not out of the groove (B). If the camshaft follower is out of the groove, raise the arm, use a screwdriver to ease the camshaft follower back into the groove. You need to press down to *snap* it into position.  • Check the high voltage contacts path, especially the "finger" on the specified photoconductor unit (printer is shown with components removed for clarity).  • If the contacts are good, replace the HVPS. See **"High-voltage power supply (HVPS) removal" on page 4-115**. • If the problem persists, replace the system board. See **"System board removal" on page 4-155**. **Note:** Make sure to reset the photoconductor unit counter(s).

Error code	Action
84 <color> PC Unit Near 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 **“System board removal” on page 4-155**. **Note:** Make sure to reset the photoconductor unit counter(s).
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. • If the problem persists, replace the system board. See **“System board removal” on page 4-155**.
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 system board. See **“System board removal” on page 4-155**.
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 system board. See **“System board removal” on page 4-155**.

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Error codes and messages

Error code	Description	Action
1xx service error codes		
110.01–110.07Mirror Motor Error	A mirror motor error has occurred.	• POR the printer. • If the error message persists, go to **"110.xx—Mirror motor service check" on page 2-45**.
111.01–111.02 Printhead Error	An error has occurred in the cyan channel of the printhead.	• POR the printer. • If the error message persists, go to **"111.xx, 112.xx, 113.xx, and 114.xx—Printhead error service check" on page 2-46**.
112.01–112.02 Printhead Error	An error has occurred in the magenta channel of the printhead.	• POR the printer. • If the error message persists, go to **"111.xx, 112.xx, 113.xx, and 114.xx—Printhead error service check" on page 2-46**.
113.01–113.02 Printhead Error	An error has occurred in the yellow channel of the printhead.	• POR the printer. • If the error message persists, go to **"111.xx, 112.xx, 113.xx, and 114.xx—Printhead error service check" on page 2-46**.
114.01–114.02 Printhead Error	An error has occurred in the black channel of the printhead.	• POR the printer. • If the error message persists, go to **"111.xx, 112.xx, 113.xx, and 114.xx—Printhead error service check" on page 2-46**.
120.00–120.21 Fuser Error	An error has occurred in the fuser.	• Remove and reseat the fuser. See **"Fuser removal" on page 4-110**. • POR the printer. • If the error message persists, go to **"120.xx—Fuser error service check" on page 2-47**.
140.01–140.10 Autocomp Motor Error	Tray 1 motor has failed.	• POR the printer. • If the error message persists, go to **"140.xx, 920.02—Autocomp (tray 1) motor error service check" on page 2-49**.
142.09—142.27 Motor Error	Fuser motor has failed.	• POR the printer. • If the error message persists, go to **"142.xx, 906.01–906.04—Motor (fuser) error service check" on page 2-49**.
143.09–143.27 Motor Error	EP Drive assembly cartridge 1 (top) motor has failed.	• POR the printer. • If the error message persists, go to **"143.xx—Motor (EP drive assembly top cartridge 1 motor) error service check" on page 2-51**.
144.09–144.27 Motor Error	EP Drive assembly cartridge 2 (middle) motor has failed.	• POR the printer. • If the error message persists, go to **"144.xx—Motor (EP drive assembly middle cartridge) error service check" on page 2-52**.
145.09–145.27 Motor Error	EP drive assembly cartridge 3 (bottom) motor has failed.	• POR the printer. • If the error message persists, go to **"145.xx—Motor (EP drive assembly bottom cartridge) error service check" on page 2-54**.

Error code	Description	Action
146.01–146.08 Motor Error	Duplex motor has failed.	• POR the printer. • If the error message persists, go to **"146.xx, 148.xx—Motor (MPF/duplex) error service check" on page 2-55**.
147.09–147.25 Motor Error	Aligner motor has failed.	• POR the printer. • If the error message persists, go to **"147.xx, 920.01—POST (power-on self test) aligner error service check" on page 2-57**.
148.01–148.08 Motor Error	The multipurpose feeder motor has failed.	• POR the printer. • If the error message persists, go to **"146.xx, 148.xx—Motor (MPF/duplex) error service check" on page 2-55**.
155.01, 155.03 Motor Error	Cam motor failed.	• POR the printer. • If the error message persists, go to **"155.xx—Cam motor error service check" on page 2-58**.
156.01, 156.03 Motor Error	COD (Color On Demand) motor failed.	• POR the printer. • If the error message persists, go to **"156.xx—COD (Color On Demand) motor service check" on page 2-60**.
160.01–160.06 Motor Error	Tray 2 pick motor failed.	• POR the printer. • If the error message persists, go to **"160.xx, 161.xx—Motor Error (option tray 2) service check" on page 2-60**.
161.01–161.06 Motor Error	Tray 2 feed motor failed.	• POR the printer. • If the error message persists, go to **"160.xx, 161.xx—Motor Error (option tray 2) service check" on page 2-60**.
162.01–162.06 Motor Error	Tray 3 pick motor failed.	• POR the printer. • If the error message persists, go to **"162.xx, 163.xx—Motor Error (option tray 3) service check" on page 2-61**.
163.01–163.06 Motor Error	Tray 3 feed motor failed.	• POR the printer. • If the error message persists, go to **"162.xx, 163.xx—Motor Error (option tray 3) service check" on page 2-61**.
164.01–164.06 Motor Error	Tray 4 pick motor failed.	• POR the printer. • If the error message persists, go to **"164.xx, 165.xx—Motor Error (option tray 4) service check" on page 2-62**.
165.01–165.06 Motor Error	Tray 4 feed motor failed.	• POR the printer. • If the error message persists, go to **"164.xx, 165.xx—Motor Error (option tray 4) service check" on page 2-62**.
166.01–166.06 Motor Error	Tray 5 pick motor failed.	• POR the printer. • If the error message persists, go to **"166.xx, 167.xx—Motor Error (option tray 5) service check" on page 2-63**.
167.01–167.06 Motor Error	Tray 5 feed motor failed.	• POR the printer. • If the error message persists, go to **"166.xx, 167.xx—Motor Error (option tray 5) service check" on page 2-63**

Error code	Description	Action
168.xx Motor Error	HCIT elevator motor error.	• POR the printer. • If the error message persists, go to **"168.xx—Motor (HCIT elevator) error service check" on page 2-64**.
199.xx Software Error	Unrecoverable RIP software error.	• POR the printer. • If the error message persists with new code, replace the system board. See **"System board removal" on page 4-155**.
***2xx* paper jam messages**		
200.02	Input sensor is made when printer tries to print from an idle state. Possible causes: • Paper jam leaving page over sensor • Defective input sensor • Faulty system board	• Clear away anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, go to **"920.06—Input sensor service check" on page 2-99**.
200.04	Input sensor made late in the input sensor. Possible causes: • Paper jam leaving page over sensor • Defective input sensor • Faulty system board	• Clear away anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, go to **"920.06—Input sensor service check" on page 2-99**.
200.11	Input sensor does not break. Possible causes: • Incorrect media setting • Incorrect paper loading • Incorrect media restraint setting • Transport belt module failure • Lower guide failure • Paper pick mechanism failure • Input sensor failure	1. Clear away anything in the paper path that might cause the paper to jam. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack flat in the tray. 4. Properly set media restraints in the paper tray. 5. Check the pick arm rolls (tires) and replace if worn. If the problem persists, go to **"200.11, 250.03—Paper Jam error service check" on page 2-64**.
200.17	Input sensor is made when printer powers up or covers are closed. Possible causes: • Paper jam leaving page over sensor • Defective input sensor • Faulty system board	• Clear away anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, go to **"920.06—Input sensor service check" on page 2-99**.
200.21	Aligner motor stalled. Possible causes: • Waste toner not seated. • Faulty cable/connector • 24 V interlock switch not working correctly • Faulty align motor • Faulty system board	• Check that the waste toner is latched correctly in the printer. • Check for anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, go to **"147.xx, 920.01—POST (power-on self test) aligner error service check" on page 2-57**.

Error code	Description	Action
200.22	Pick (tray 1) motor stalled. Possible causes: • Faulty cable/connector • Faulty pick motor • Faulty system board	• Check for anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, go to **"140.xx, 920.02—Autocomp (tray 1) motor error service check" on page 2-49**.
200.25	Input sensor is made when tray 1 is installed. Possible causes: • Improper placement of paper in tray 1 • Damaged input sensor flag or input sensor • Faulty system board	• Fan media, and stack flat in the tray or multipurpose feeder. • Properly set media restraints in the paper tray. • If clearing a paper jam does not fix the problem, go to **"920.06—Input sensor service check" on page 2-99**.
200.30	Paper hit input sensor too soon. Possible causes: • Incorrect paper loading • Damaged input sensor flag or input sensor • Faulty system board	• Fan the media, and then stack flat in the tray. • Check for anything in the paper path that might cause the paper to jam. • The input sensor may not be functioning properly. Go to **"920.06—Input sensor service check" on page 2-99**.
201.02	Bubble sensor active when printing started. Possible causes: • Paper jam leaving page over sensor • Damaged bubble sensor • Damaged fuser autoconnect • Faulty fuser DC cable connection • Faulty fuser • Faulty system board	1. Clear away anything in the paper path that might cause the paper to jam. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack flat in the tray. 4. Properly set media restraints in the paper tray. If the problem persists, go to **"Bubble sensor service check" on page 2-122**.
201.06	Paper is jammed between the input sensor and the exit sensor. Possible causes: • Damaged paper exit sensor or paper exit sensor flag • Transport belt module failure • Aligner failure • Damaged fuser autoconnect • Faulty fuser DC cable connection • Faulty fuser • Faulty system board	• Check for anything in the paper path that might cause the paper to jam. • Go to **"201.06, 201.08, 201.31—Paper Jam error service check" on page 2-65**.
201.07	Exit sensor is made early. Possible causes: • Damaged paper exit sensor or paper exit sensor flag • Damaged fuser autoconnect • Faulty fuser DC cable connection • Faulty fuser • Faulty system board • Faulty input sensor flag	• Check for anything in the paper path that might cause the paper to jam. • The fuser exit sensor may not be functioning properly. Go to **"920.08—Exit sensor service check" on page 2-100**. • Check the input sensor flag.

Error code	Description	Action
201.08	Exit sensor is never made. Possible causes: • Improper loading • Paper wrapped in fuser • Damaged paper exit sensor or paper exit sensor flag • Damaged fuser autoconnect • Faulty fuser DC cable connection • Faulty fuser • Faulty system board • Faulty transfer belt module	• Check for anything in the paper path that might cause the paper to jam. • The fuser exit sensor may not be functioning properly. Go to **"920.08—Exit sensor service check" on page 2-100**. • Check the transfer belt module.
201.10	Input sensor flag broke early. Possible causes: • Incorrect media set • Defective input sensor • Faulty system board	• Check for anything in the paper path that might cause the paper to jam. • Ensure the proper media is set for the type of paper used. • Go to **"920.06—Input sensor service check" on page 2-99**.
201.17	Power up or cover closed with bubble sensor active. Possible causes: • Paper jam leaving page over sensor • Damaged bubble sensor • Damaged fuser autoconnect • Faulty fuser DC cable connection • Faulty fuser • Faulty system board	1. Ensure the proper media is set for the type of paper used. 2. Fan the media, and stack flat in the tray or multipurpose feeder. 3. Properly set media restraints in the paper tray. 4. Clear away anything in the paper path that might cause the paper to jam. If the problem persists, go to **"Bubble sensor service check" on page 2-122**.
201.21	Cartridge motor 1 (top) or cartridge motor 2 (middle) has stalled. Possible causes: • Faulty cable/connector • Faulty cartridge motor • Faulty system board	• Check for anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, go to **"143.xx—Motor (EP drive assembly top cartridge 1 motor) error service check" on page 2-51**, and then go to **"144.xx—Motor (EP drive assembly middle cartridge) error service check" on page 2-52**, if necessary.
201.24	A 201.08 jam occurred and was not cleared. Possible cause—Failure to open and close the top access door.	This error is generated as a protection for possible paper wrap in the fuser. • Open the top access door, and check for a paper jam. Close the top access door. • Go to **"920.08—Exit sensor service check" on page 2-100**.
201.31	Paper is jammed between the input sensor and the exit sensor during warm-up. Possible causes: • Damaged paper exit sensor or paper exit sensor flag • Transport belt module failure • Lower guide failure • Damaged fuser autoconnect • Faulty fuser DC cable connection • Faulty fuser • Faulty system board	• Check for anything in the paper path that might cause the paper to jam. • Go to **"201.06, 201.08, 201.31—Paper Jam error service check" on page 2-65**.

Error code	Description	Action
201.32	Paper is jammed between the input sensor and the exit sensor during input options warm-up. Possible causes: • Damaged paper exit sensor or paper exit sensor flag • Transport belt module failure • Lower guide failure • Damaged fuser autoconnect • Faulty fuser DC cable connection • Faulty fuser • Input option damage • Faulty system board	• Check for anything in the paper path that might cause the paper to jam. • Open input tray and clear paper jams.
202.02	Exit sensor is made when printer tries to print from an idle state. Possible causes: • Damaged paper exit sensor or paper exit sensor flag • Damaged fuser autoconnect • Faulty fuser DC cable connection • Faulty fuser • Faulty system board	• Check for anything in the paper path that might cause the paper to jam. • The fuser exit sensor may not be functioning properly. Go to **"920.08—Exit sensor service check" on page 2-100**.
202.12	Exit sensor broke early. Possible causes: • Damaged paper exit sensor or paper exit sensor flag • Faulty fuser • Faulty system board	The fuser exit sensor may not be functioning properly. Go to **"920.08—Exit sensor service check" on page 2-100**.
202.13	Exit sensor never broke. Possible causes: • Damaged paper exit sensor or paper exit sensor flag • Faulty fuser • Faulty system board • Faulty output bin flag	• Check exit sensor flag on fuser for proper operation. Ensure that paper is not hanging on the flag. • The fuser exit sensor may not be functioning properly. Go to **"920.08—Exit sensor service check" on page 2-100**. • Check the output bin flag.
202.17	Exit sensor is made when the printer powers up or covers are closed. Possible causes: • Damaged paper exit sensor or paper exit sensor flag • Damaged fuser autoconnect • Faulty fuser DC cable connection • Faulty fuser • Faulty system board	• Check for anything in the paper path that might cause the paper to jam. • The fuser exit sensor may not be functioning properly. Go to **"920.08—Exit sensor service check" on page 2-100**.
202.21	Fuser motor stalled. Possible causes: • Faulty cable/connector • Faulty fuser motor • Faulty system board	• Check for anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, go to **"142.xx, 906.01–906.04—Motor (fuser) error service check" on page 2-49**.

Error code	Description	Action
202.31	Paper jam at exit sensor during warm-up. Possible causes: • Damaged paper exit sensor or paper exit sensor flag • Damaged fuser autoconnect • Faulty fuser DC cable connection • Faulty fuser • Faulty system board	• Check for anything in the paper path that might cause the paper to jam. • The fuser exit sensor may not be functioning properly. Go to **"920.08—Exit sensor service check" on page 2-100**.
203.09	During duplex printing retract, the exit sensor is never made. Possible causes: • Damaged paper exit sensor or paper exit sensor flag • Transport belt module failure • Damaged fuser autoconnect • Faulty fuser DC cable connection • Faulty fuser • Faulty system board	• Check for anything in the paper path that might cause the paper to jam. • The fuser exit sensor may not be functioning properly. Go to **"203.09—Paper Jam error service check" on page 2-68**.
203.14	During duplex printing retract, the exit sensor broke early. Possible causes: • Incorrect paper settings • Damaged paper exit sensor or paper exit sensor flag • Faulty fuser • Faulty system board	• Ensure proper media is set for the type of paper used. • The fuser exit sensor may not be functioning properly. Go to **"920.08—Exit sensor service check" on page 2-100**.
203.15	During duplex printing, the exit sensor never broke. Possible causes: • Damaged paper exit sensor or paper exit sensor flag • Obstructed duplex • Faulty fuser • Faulty system board • Duplex motor failure • Faulty bin full sensor	• Check the duplex paper path for damage that would obstruct the print. If damage is found, replace the front door assembly. See **"Front door assembly removal" on page 4-100**. • The fuser exit sensor may not be functioning properly. Go to **"920.08—Exit sensor service check" on page 2-100**. • The duplex motor may not be functioning properly. Go to **"146.xx, 148.xx—Motor (MPF/duplex) error service check" on page 2-55**. • Check the bin full sensor and bin full sensor flag.
203.20	During duplex, the page entered the duplex path before the previous page cleared the path. Possible causes: • Defective input sensor • Faulty system board • Wrong media size selected • Defective exit sensor	• Check for anything in the duplex paper path that might cause the paper to jam. This includes the paper guides in tray 1. • If clearing the paper jam does not fix the problem and the paper is fan-folded, replace the front access assembly. See **"Front door assembly removal" on page 4-100**. • If clearing a paper jam does not fix the problem, go to **"920.06—Input sensor service check" on page 2-99**. • Make sure the selected media and media definitions match. • Check the exit sensor.

Error code	Description	Action
230.03	During duplex printing, the input sensor never broke. Possible causes: • Obstructed duplex path • Duplex drive failure • Defective input sensor • Faulty system board	• Check for anything in the duplex paper path that might cause the paper to jam. This includes the paper guides in tray 1. • Go to **"230.03, 230.05—Paper Jam error service check" on page 2-70**.
230.05	During duplex printing, the input sensor is not made. Possible causes: • Obstructed duplex path • Defective input sensor • Faulty system board • Faulty duplex drive	• Check for anything in the duplex paper path that might cause the paper to jam. This includes the paper guides in tray 1. • Go to **"230.03, 230.05—Paper Jam error service check" on page 2-70**.
230.21	Duplex motor stalled. Possible causes: • Obstructed duplex path • Defective duplex motor • Faulty system board	• Check for anything in the duplex paper path that might cause the paper to jam. This includes the paper guides in tray 1. • If clearing a paper jam does not fix the problem, go to **"146.xx, 148.xx—Motor (MPF/duplex) error service check" on page 2-55**.
241.03	While feeding from tray 1, the input sensor does not break. Possible causes: • Incorrect media setting • Incorrect paper loading • Incorrect media restraint setting • Paper pick mechanism failure • Transport belt motor failure	1. Clear away anything in the paper path that might cause the paper to jam. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. 4. Properly set media restraints in paper tray. 5. Check the pick arm rolls (tires) and replace if worn. If the problem persists, go to **"200.11, 250.03—Paper Jam error service check" on page 2-64**.
241.05	While feeding from tray 1, the input sensor is never made. Possible causes: • Incorrect paper loading • Incorrect media restraint setting • Pick art rolls (tires) failure • Paper pick mechanism failure • System board failure	1. Remove all media present in the paper path. 2. Fan media, and stack it flat in the tray or multipurpose feeder. 3. Properly set media restraints in paper tray. 4. Check the pick arm rolls (tires) and replace if worn. If the problem persists, go to **"140.xx, 920.02—Autocomp (tray 1) motor error service check" on page 2-49**.
241.21	Tray 1 motor stalled. Possible causes: • Incorrect paper loading • Paper pick mechanism failure • System board failure	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. If the previous actions do not fix the problem, go to **"140.xx, 920.02—Autocomp (tray 1) motor error service check" on page 2-49**.
242.02	Tray 2 pass thru sensor made at POR. Possible causes: • Paper jam leaving paper over sensor • Defective pass thru sensor	• Check for anything in the paper path that might cause the paper to jam. • If the error persists, go to **"242.02—Paper Jam service check" on page 2-71**.

Error code	Description	Action
242.03	Pick timeout from tray 2 exceeded without a tray 2 sensor break. Possible causes: • Incorrect media setting • Incorrect paper loading • Incorrect media restraint setting • Tray 2 assembly failure • Aligner failure • Transport belt module failure	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used in tray 2. 3. Fan media, and stack flat in tray 2. 4. Properly set media restraints in tray 2. If the paper jam message persists, go to **"242.03, 242.11—Paper Jam service check" on page 2-72**.
242.05	Tray 2 picked, but page failed to reach the option sensor in time. Possible causes: • Incorrect media setting • Incorrect paper loading • Incorrect media restraint setting • Loading card stock from the special media tray above the fill line	1. Ensure proper media is set for the type of paper used in tray 2. 2. Fan media, and stack flat in tray 2. 3. Properly set the media restraints in tray 2. 4. Check the pick arm rolls (tires) in tray 2 and replace if worn. If the previous actions do not fix the problem, go to **"242.05—Paper Jam service check" on page 2-73**.
242.10	Tray 2 page exits pass thru made early. Possible causes: • Defective pass thru sensor • Faulty cable in the connector JOPT1 on system board	• Ensure the proper media is set for the type of paper used in tray 2. • Check for anything in the paper path that might cause the paper to jam. • The exits pass thru sensor may not be functioning properly. Go to **"242.10—Paper Jam service check" on page 2-74**.
242.11	Tray 2 sensor never broke. Possible causes: • Incorrect tray 2 media setting • Incorrect Tray 2 paper loading • Incorrect media restraint setting • Paper tray 2 failure • Aligner failure • Transport belt module failure • Loading card stock from the special media tray above the fill line • High humidity (replace paper)	1. Ensure the proper media is set for the type of paper used in tray 2. 2. Fan media, and then stack flat in tray 2. 3. Properly set the media restraints in tray 2. Go to **"242.03, 242.11—Paper Jam service check" on page 2-72**.
242.17	Tray 2 detected a jam from idle. Possible causes: • Paper jam leaving page over sensor • Defective input sensor • Faulty system board	• Clear away anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, **"242.17—Paper Jam service check" on page 2-75**.
242.21	Tray 2 motor stalled. Possible causes: • Incorrect paper loading • Paper pick mechanism failure • Printer option cable connector damaged • Input option damage. • System board failure	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. If the previous actions do not fix the problem, go to **"242.21, 243.21, 244.21. 245.21, 242.30, 243.30, 244.30, 245.30—Paper Jam service check" on page 2-76**.

Error code	Description	Action
242.26	While feeding from tray 2, the pass thru sensor is not made. Possible causes: • Incorrect paper loading for lower tray • Incorrect media restraint setting for lower tray • Paper tray 2 assembly failure • Lower tray 3 assembly failure	1. Clear away anything in the paper path that might cause the paper to jam. 2. Ensure the proper media is set for the type of paper used in the lower tray. 3. Fan the media, and then stack flat in the lower tray. 4. Properly set the media restraints in the lower tray. 5. Check the pick arm rolls (tires) in the lower tray, and then replace if worn. If the problem persists, go to **"242.26—Paper Jam service check" on page 2-76**.
242.27	While feeding from a lower tray, pass thru sensor did not break. Possible causes: • Paper tray 2 assembly failure (feed through roller) • Aligner failure • Transport belt motor failure	• Clear away anything in the paper path that might cause the paper to jam. • Reseat option tray 2. • Go to **"242.27—Paper Jam service check" on page 2-77**.
242.29	Tray 2 is not ready or missing while printing. Possible cause is paper tray 2 assembly failure	• Make sure that tray 2 is correctly inserted. • Go to **"242.29—Paper Jam service check" on page 2-77**.
242.30	Tray 2 page reached pass-through sensor early. Possible cause: • Incorrect paper loading • Paper pick mechanism failure • Pick arm roll damaged • Defective pass-through sensor • Input option damaged	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. If the previous actions do not fix the problem, go to **"242.21, 243.21, 244.21. 245.21, 242.30, 243.30, 244.30, 245.30—Paper Jam service check" on page 2-76**.
242.32	Paper is jammed on tray 2 pass-through sensor during input options warm-up. Possible damage: • Obstruction on the pass-through sensor • Damage on the pass-through sensor and flag • Input option damage • Damaged option autoconnect cable • Damaged system board	Go to **"242.32, 243.32, 244.32, 245.32—Paper Jam service check" on page 2-78**.
243.02	Tray 3 pass thru sensor made at POR. Possible causes: • Paper jam leaving page over the sensor • Defective pass thru sensor	• Check for anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, see **"243.02—Paper Jam service check" on page 2-78**.

Error code	Description	Action
243.03	Pick timeout from tray 3 exceeded without a tray 3 sensor break. Possible causes: • Tray 3 incorrect media setting • Tray 3 incorrect paper loading • Tray 3 incorrect media restraint setting • Tray 3 assembly failure	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used in tray 3. 3. Fan media, and stack flat in tray 3. 4. Properly set media restraints in tray 3. If the previous actions do not fix the problem, go to **"243.03, 243.11—Paper Jam service check" on page 2-79**.
243.05	Tray 3 picked, but page failed to reach the option sensor in time, Possible causes: • Tray 3 incorrect media setting • Tray 3 incorrect paper loading • Tray 3 incorrect media restraint setting • Tray 3 paper pick mechanism failure • Loading card stock from the special media tray above the fill line	1. Ensure proper media is set for the type of paper used in tray 3. 2. Fan media, and stack flat in tray 3. 3. Properly set the media restraints in tray 3. 4. Check the pick arm rolls (tires) in tray 3 and replace if worn. If the previous actions do not fix the problem, go to **"243.05—Paper Jam service check" on page 2-80**.
243.10	Tray 3 page exit pass thru sensor broken early. Possible causes: • Defective pass thru sensor • Faulty cable in connector OPT1.	• Make sure the proper media is set for the type of paper used in tray 3. • Check for anything in the paper path that might cause the paper to jam. • The exit pass thru sensor may not be functioning properly. Go to **"243.10—Paper Jam service check" on page 2-81**.
243.11	Tray 3 sensor never broke. Possible causes: • Incorrect tray 3 media setting • Incorrect tray 3 paper loading • Incorrect media restraint setting • Paper tray failure • Aligner failure • Transport belt module failure • Loading card stock from the special media tray above the fill line • High humidity (replace paper)	1. Ensure the proper media is set for the type of paper used in tray 3. 2. Fan media, and then stack flat in tray 3. 3. Properly set the media restraints in tray 3. 4. Check the pick arm rolls (tires) in tray 3 and replace if worn. If the problem persists, Go to **"243.03, 243.11—Paper Jam service check" on page 2-79**.
243.17	Tray 3 detected a jam from idle. Possible causes: • Paper jam leaving page over sensor • Defective input sensor • Faulty system card	• Clear away anything in the paper path that might cause the media to jam. • If the problem persists, go to **"243.17—Paper Jam service check" on page 2-82**.
243.21	Tray 3 motor stalled. Possible causes: • Incorrect paper loading • Paper pick mechanism failure • Printer option cable connector damaged • Input option damage. • System board failure	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. If the previous actions do not fix the problem, go to **"242.21, 243.21, 244.21. 245.21, 242.30, 243.30, 244.30, 245.30—Paper Jam service check" on page 2-76**.

Error code	Description	Action
243.26	While feeding from a lower tray, tray 3 pass thru sensor is not made. Possible causes: • Incorrect paper loading for lower tray • Incorrect media restraint setting for lower tray • Paper tray 3 assembly failure • Lower tray 4 assembly failure	1. Clear away anything in the paper path that might cause the media to jam. 2. Make sure proper media is set for the type of paper used in lower feeding tray. 3. Fan media, and stack flat in the lower feeding tray. 4. Properly set media restraints in the lower feeding tray. 5. Check the pick arm rolls in lower tray and replace if worn. If the problem persists, go to **"243.26—Paper Jam service check" on page 2-83**.
243.27	While feeding from a lower tray, tray 3 pass thru sensor did not break. Possible cause is a paper tray 3 assembly failure	• Clear away anything in the paper path that might cause the paper to jam. • Reseat option tray 3 • If the problem persists, go to **"243.27—Paper Jam service check" on page 2-83**.
243.29	Tray 3 is not ready while printing. Possible cause is paper tray 3 assembly failure.	• Make sure that tray 3 is correctly inserted. • If the problem persists, go to **"243.29—Paper Jam service check" on page 2-83**.
243.30	Tray 3 page reached pass-through sensor early. Possible cause: • Incorrect paper loading • Paper pick mechanism failure • Pick arm roll damaged • Defective pass-through sensor • Input option damaged	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. If the previous actions do not fix the problem, go to **"242.21, 243.21, 244.21. 245.21, 242.30, 243.30, 244.30, 245.30—Paper Jam service check" on page 2-76**.
243.32	Paper is jammed on tray 3 pass-through sensor during input options warm-up. Possible damage: • Obstruction on the pass-through sensor • Damage on the pass-through sensor and flag • Input option damaged • Damaged option autoconnect cable • Damaged system board	Go to **"242.32, 243.32, 244.32, 245.32—Paper Jam service check" on page 2-78**.
244.02	Tray 4 pass thru sensor made at POR. Possible causes: • Paper jam leaving page over the sensor • defective pass thru sensor	• Check for anything in the paper path that might cause the paper to jam. • If the problem persists, go to **"244.02—Paper Jam service check" on page 2-84**.

Error code	Description	Action
244.03	Pick timeout from tray 4 was exceeded without a tray 4 sensor break. Possible causes: • Tray 4 incorrect media setting • Tray 4 incorrect paper loading • Tray 4 incorrect media restraint setting • Tray 4 assembly failure • Aligner failure • Transport belt module failure	1. Remove all media present in the paper path. 2. Maker sure proper media is set for the type of paper used in tray 4. 3. Fan the media, and stack flat in tray 4. 4. Properly set media restraints in tray 4. If the problem persists, go to **"244.03, 244.11—Paper Jam service check" on page 2-85**.
244.05	Tray 4 picked, but page failed to reach the option sensor in time. Possible causes: • Tray 4 incorrect media setting • Tray 4 incorrect paper loading • Tray 4 incorrect media restraint setting • Tray 4 paper pick mechanism assembly failure • Loading card stock from the special media tray above the fill line	1. Ensure proper media is set for the type of paper used in tray 4. 2. Fan media, and stack flat in tray 4. 3. Properly set the media restraints in tray 4. 4. Check the pick arm rolls (tires) in tray 4 and replace if worn. If the problem persists, go to **"244.05—Paper Jam service check" on page 2-85**.
244.10	Tray 4 page exit pass thru made early. Possible causes: • Defective pass thru sensor • Faulty cable in connector OPT1	• Make sure proper media is set for the type of paper used in tray 4. • Check for anything in the paper path that might cause the paper to jam. • The exit pass thru sensor may not be functioning properly. Go to **"244.10—Paper Jam service check" on page 2-86**.
244.11	Tray 4 sensor never broke. Possible causes: • Incorrect tray 4 media setting • Incorrect tray 4 paper loading • Incorrect media restraint setting • Paper tray failure • Aligner failure • Transport belt module failure • Loading card stock from the special media tray above the fill line • High humidity (replace paper)	1. Ensure the proper media is set for the type of paper used in tray 4. • Fan media, and then stack flat in tray 4. • Properly set the media restraints in tray 4. If the problem persists, go to **"244.03, 244.11—Paper Jam service check" on page 2-85**.
244.17	Tray 4 detected a jam from idle. Possible causes: • Paper jam leaving page over the sensor • defective input sensor • Faulty system board	• Clear away anything in the paper path that might cause the paper to jam. • If clearing a paper jam does not fix the problem, go to **"243.17—Paper Jam service check" on page 2-82**.

Error code	Description	Action
244.21	Tray 4 motor stalled. Possible causes: • Incorrect paper loading • Paper pick mechanism failure • Printer option cable connector damaged • Input option damaged • System board failure	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. If the previous actions do not fix the problem, go to **"242.21, 243.21, 244.21. 245.21, 242.30, 243.30, 244.30, 245.30—Paper Jam service check" on page 2-76**.
244.26	While feeding from a lower tray, tray 4 pass thru sensor is not made. Possible causes: • Incorrect paper loading for the lower tray • Incorrect media restraint setting for the lower tray • Paper tray 4 assembly failure • Paper tray 5 assembly failure	1. Clear away anything in the paper path that might cause the paper to jam. 2. Make sure the proper media is set for the type of paper used in the lower tray. 3. Fan the media, and stack flat in the lower tray. 4. Properly set the media restraints in the lower tray. 5. Check the pick arm rolls in the lower feeding tray and replace if worn. If the problem persists, go to **"244.26—Paper Jam service check" on page 2-87**.
244.27	While feeding from a lower tray, tray 4 pass thru sensor did not break. Possible cause is paper tray 4 assembly failure.	• Clear away anything in the paper path that might cause the paper to jam. • Reseat option tray 4. • If the problem persists, go to **"244.27—Paper Jam service check" on page 2-88**.
244.29	Tray 4 is not ready, or missing while printing. Possible cause is paper tray 4 assembly failure.	• Make sure that tray 4 is correctly inserted. • If the problem persists, go to **"244.29—Paper Jam service check" on page 2-88**.
244.30	Tray 4 page reached pass-through sensor early. Possible cause: • Incorrect paper loading • Paper pick mechanism failure • Pick arm roll damaged • Defective pass-through sensor • Input option damaged	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. If the previous actions do not fix the problem, go to **"242.21, 243.21, 244.21. 245.21, 242.30, 243.30, 244.30, 245.30—Paper Jam service check" on page 2-76**.
244.32	Paper is jammed on tray 4 pass-through sensor during input options warm-up. Possible damage: • Obstruction on the pass-through sensor • Damage on the pass-through sensor and flag • Input option damaged • Damaged option autoconnect cable • Damaged system board	• Go to **"242.32, 243.32, 244.32, 245.32—Paper Jam service check" on page 2-78**.

Error code	Description	Action
245.02	Tray 5 pass thru sensor made at POR. Possible causes: • Paper jam leaving a page over the sensor • Defective pass thru sensor	• Check for anything in the paper path that might cause the media to jam. • If the problem persists, go to **"245.17—Paper Jam service check" on page 2-92**.
245.03	Pick timeout from tray 5 exceeded without a tray sensor break. Possible causes: • Tray 5 incorrect media setting • Tray 5 incorrect paper loaded • Tray 5 incorrect media restraint setting • Tray 5 assembly failure • Aligner failure • Transport module failure	1. Remove all media present in the paper path. 2. Make sure proper media is set for the type of paper used in tray 5. 3. Fan the media, and stack flat in tray 5. 4. Properly set the media restraints in tray 5. If the problem persists, go to **"245.03, 245.11—Paper Jam service check" on page 2-90**.
245.05	Possible causes: • Incorrect media setting • Incorrect paper loading • Incorrect media restraint setting • Tray 5 paper pick mechanism • Loading card stock from the special media tray above the fill line	1. Ensure proper media is set for the type of paper used in tray 5. 2. Fan media, and stack flat in tray 5. 3. Properly set the media restraints in tray 5. 4. Check the pick arm rolls (tires) in tray 5 and replace if worn. If the problem persists, go to **"245.05—Paper Jam service check" on page 2-90**.
245.10	Tray 5 page exits pass thru sensor broken early. Possible causes: • Defective pass thru sensor • Faulty cable in connector JOPT1 on the system board	• Make sure the proper media is set for the type of paper used in tray 5. • Check for anything in the paper path that might cause the paper to Jam. • The exits pass thru sensor may not be functioning properly. Go to **"245.10—Paper Jam service check**.
245.11	Tray 5 sensor never broke. Possible causes: • Incorrect tray 5 media setting • Incorrect tray 5 paper loading • Incorrect media restraint setting • Paper tray failure • Aligner failure • Transport belt module failure • Loading card stock from the special media tray above the fill line • High humidity (replace paper)	1. Ensure the proper media is set for the type of paper used in tray 5. 2. Fan media, and then stack flat in tray 5. 3. Properly set the media restraints in tray 5. 4. Check the pick arm rolls (tires) in tray 5 and replace if worn. If the problem persists, go to **"245.03, 245.11—Paper Jam service check" on page 2-90**.
245.17	Tray 5 detected a jam from idle. Possible causes: • Paper jam leaves a page over the sensor • Defective input sensor • Faulty system board	• Clear away anything in the paper path that might cause the paper to jam. • If the problem persists, go to **"245.17—Paper Jam service check**.

Error code	Description	Action
245.21	Tray 5 motor stalled. Possible causes: • Incorrect paper loading • Paper pick mechanism failure • Printer option cable connector damaged • Input option damaged • System board failure	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. If the previous actions do not fix the problem, go to **"242.21, 243.21, 244.21. 245.21, 242.30, 243.30, 244.30, 245.30—Paper Jam service check" on page 2-76**.
245.29	Tray 5 is not ready or missing while printing. Possible cause paper tray 5 assembly failure.	• Make sure that tray 5 is correctly inserted. • If the problem persists, go to **"245.29—Paper Jam service check" on page 2-93**.
245.30	Tray 5 page reached pass-through sensor early. Possible cause: • Incorrect paper loading • Paper pick mechanism failure • Pick arm roll damaged • Defective pass-through sensor • Input option damaged	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. If the previous actions do not fix the problem, go to **"242.21, 243.21, 244.21. 245.21, 242.30, 243.30, 244.30, 245.30—Paper Jam service check" on page 2-76**.
245.32	Paper is jammed on tray 5 pass-through sensor during input options warm-up. Possible damage: • Obstruction on the pass-through sensor • Damage on the pass-through sensor and flag • Input option damaged • Damaged option autoconnect cable • Damaged system board	• Go to **"242.32, 243.32, 244.32, 245.32—Paper Jam service check" on page 2-78**.
250.03	While feeding from the multipurpose feeder, the input sensor did not break. Possible causes: • Incorrect media setting • Incorrect paper loading • Incorrect media restraint setting • Transport belt failure • Paper tray failure	1. Remove all media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. 4. Properly set media restraints in the paper tray. 5. Replace the paper tray. If the problem persists, to **"200.11, 250.03—Paper Jam error service check" on page 2-64**.
250.05	While feeding from the multipurpose feeder, the input sensor is not made. Possible causes: • Incorrect media setting • Incorrect paper loading • Incorrect media restraint setting • Multipurpose feeder pick mechanism failure • System board failure	1. Remove all the media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. 4. Properly set media restraints in the paper tray. 5. Check the MP feeder pick tires and clean if necessary. 6. Replace the paper tray. If the previous actions do not fix the problem, go to **"146.xx, 148.xx—Motor (MPF/duplex) error service check" on page 2-55**

Error code	Description	Action
250.21	Multipurpose feeder motor stalled. Possible causes: • Multipurpose feeder motor failure • Cabling failure • Multipurpose feeder gear assembly failure • System board failure • Defective media present sensor	1. Remove all the media present in the paper path. 2. Ensure proper media is set for the type of paper used. 3. Fan media, and stack it flat in the tray or multipurpose feeder. 4. Properly set media restraints in the multipurpose feeder. If the previous actions do not fix the problem, go to **“146.xx, 148.xx—Motor (MPF/duplex) error service check” on page 2-55**.

Error code	Description	Action
9xx service error messages		
900.00–900.99 Software Error (except 900.05)	Unrecoverable RIP software error.	Go to **"900.00–900.99 (except 900.05)—System software error service check" on page 2-93**.
900.05 Software Error.	Transfer module has failed	• POR the printer. • If the error message persists, go to **"900.05—Transfer module error service check" on page 2-96**.
902.01–902.99 Engine Software Error (except 902.59 and 902.60)	Unrecoverable system software errors.	• POR the printer. • If the error message persists, replace the system board. See **"System board removal" on page 4-155**.
902.59 Error	RIP NVRAM MGR problem.	POR the printer. If the error message persists, go to **"902.59—Engine software error, NVRAM MGR problem service check" on page 2-96**.
902.60 Error	Error communicating with cartridge.	1. POR the printer. 2. If the error message persists, check for the correct cartridges. 3. Replace the cartridges.
903.01–903.15 Engine Software Error	Unrecoverable system software errors.	• POR the printer. • If the error message persists, replace the system board. See **"System board removal" on page 4-155**.
904.01–904.04 Software Error	Unrecoverable system software errors.	• POR the printer. • If the error message persists, replace the system board. See **"System board removal" on page 4-155**.
905.00–905.99 Software Error	Unrecoverable system software errors.	• POR the printer. • If the error message persists, replace the system board. See **"System board removal" on page 4-155**.
910.*xx* Engine Software Error	RIP software error interface violation	• POR the printer. • If the error persists, replace the system board. See **"System board removal" on page 4-155**.
920.01 POST Error	Multipurpose feeder/duplex motor assembly not connected.	• POR the printer. • If the error message persists, go to **"147.xx, 920.01—POST (power-on self test) aligner error service check" on page 2-57**.
920.02 POST Error	Tray 1 motor not connected.	• POR the printer. • If the error message persists, go to **"140.xx, 920.02—Autocomp (tray 1) motor error service check" on page 2-49**.
920.03 POST Error	Transfer module not connected.	• POR the printer. • If the error message persists, go to **"920.03, 920.25—Transfer Module Missing or not connected service check" on page 2-97**.

Error code	Description	Action
920.04 POST Error	Fuser motor not connected.	• POR the printer. • If the error message persists, go to **"920.04—POST (power-on self test) fuser motor not connected error service check" on page 2-97**.
920.05 POST Error	Printhead motor not connected.	• POR the printer. • If the error message persists, go to **"920.05—POST (power-on self test) printhead motor not connected error service check" on page 2-98**.
920.06 POST Error	Input sensor not connected.	• POR the printer. • If the error message persists, go to **"920.06—Input sensor service check" on page 2-99**.
920.07 POST Error	Narrow media sensor not connected.	• POR the printer. • If the error message persists, go to **"920.07—POST (power-on self test)—Narrow media sensor error service check" on page 2-99**.
920.08 POST Error	Exit sensor not connected.	• POR the printer. • If the error message persists, go to **"920.08—Exit sensor service check" on page 2-100**.
920.09 POST Error	Four toner sensors are not connected.	• POR the printer. • If the error message persists, go to **"920.09—POST (power-on self test)—Four toner sensors not connected error service check" on page 2-102**.
920.10 POST Error	Three toner sensors are not connected.	• POR the printer. • If the error message persists, go to **"920.10—POST—Three toner sensors not connected error service check" on page 2-103**.
920.11 POST Error	Two toner sensors are not connected.	• POR the printer. • If the error message persists, go to **"920.11—POST (power-on self test)—Two toner sensors not connected error service check" on page 2-104**.
920.12 POST Error	One toner sensor is not connected.	• POR the printer. • If the error message persists, go to **"920.12—POST (power-on self test)—One toner sensor not connected error service check" on page 2-105**.
920.13 POST Error	Cartridge motor 1 (top) not connected.	• POR the printer. • If the error message persists, go to **"920.13—POST (power-on self test) cartridge motor 1 not connected error service check" on page 2-106**.
920.14 POST Error	Cartridge motor 2 (middle) is not connected.	• POR the printer. • If the error message persists, go to **"920.14—POST (power-on self test)—Cartridge motor 2 not connected error service check" on page 2-107**.
920.15 POST Error	Bad transfer module NVRAM data.	• POR the printer. • If the error message persists, go to **"920.15, 920.20—POST (power-on self test)—Bad transfer module NVRAM data error service check" on page 2-108**.

Error code	Description	Action
920.16 POST Error	Bad printhead NVRAM data.	• POR the printer. • If the error message persists, go to **"920.16—POST (power-on self test)—Bad printhead NVRAM data error service check" on page 2-108**.
920.17 POST Error	Output bin cable not connected.	• POR the printer. • If the error message persists, go to **"920.17—POST (power-on self test)—Output bin cable not connected error service check" on page 2-109**.
920.18 POST Error	Cartridge motor 3 (bottom) is not connected.	• POR the printer. • If the error message persists, go to **"920.18—POST (power-on self test)—Cartridge motor 3 not connected error service check" on page 2-110**.
920.19 POST Error	Stepper motor not connected.	• POR the printer. • If the error message persists, go to **"920.19—POST (power-on self test)—Transfer module stepper motor not connected error service check" on page 2-110**.
920.20 POST Error	Incompatible transfer module.	• POR the printer. • If the error message persists, go to **"920.15, 920.20—POST (power-on self test)—Bad transfer module NVRAM data error service check" on page 2-108**.
920.21 POST Error	+24 V power supply failure.	• POR the printer. • If the error message persists, replace the low-voltage power supply. See **"Low-voltage power supply (LVPS) removal" on page 4-119**.
920.22 POST Error	Fuser bubble sensor is not connected.	If the error message persists, go to **"Bubble sensor service check" on page 2-122**.
920.23 POST Error	Duplex motor is not connected.	• POR the printer. • If the error message persists, go to **"920.23—POST (power-on self test)—Duplex motor not connected error service check" on page 2-113**.
920.25 POST Error	Bad temperature and humidity sensor.	• POR the printer. • If the problem persists, go to **"920.03, 920.25—Transfer Module Missing or not connected service check" on page 2-97**.
920.27 POST Error	Option board ID unknown.	If the error message persists, go to **"920.27, 920.28, 920.29—POST (power on self test) option tray error service check" on page 2-114**.
920.28 POST Error	Option type unknown.	If the error message persists, go to **"920.27, 920.28, 920.29—POST (power on self test) option tray error service check" on page 2-114**.
920.29 POST Error	Option product ID unknown.	If the error message persists, go to **"920.27, 920.28, 920.29—POST (power on self test) option tray error service check" on page 2-114**.

Error code	Description	Action
920.30 POST Error	Option sensor disconnected.	Use the following list to determine which service check to use: • Tray 2—Go to **"242.02—Paper Jam service check" on page 2-71**. • Tray 3—Go to **"243.02—Paper Jam service check" on page 2-78**. • Tray 4—Go to **"244.02—Paper Jam service check" on page 2-84**. • Tray 5—Go to **"245.02—Paper Jam service check" on page 2-89**.
920.31 POST Error	Option hardware error (generic)	Contact your next level of support.
920.32	MPF paper present sensor not connected	• POR the printer. • If the error message persists, go to **"920.32—MPF paper present sensor not connected service check" on page 2-114**.
925.01 Fan Error	Fan has stalled.	• POR the printer. • If the error message persists, go to **"925.01, 925.03, 925.05—Fan error service check" on page 2-114**.
925.02 Blower Error	Blower has stalled.	• POR the printer. • If the error message persists, go to **"925.02, 925.04, 925.06—Cartridge cooling fan error service check" on page 2-115**.
925.03 Fan Error	Fan has stalled.	• POR the printer. • If the error message persists, go to **"925.01, 925.03, 925.05—Fan error service check" on page 2-114**.
925.04 Blower Error	Blower has stalled.	• POR the printer. • If the error message persists, go to **"925.02, 925.04, 925.06—Cartridge cooling fan error service check" on page 2-115**.
925.05 Fan Error	Fan has stalled.	• POR the printer. • If the error message persists, go to **"925.01, 925.03, 925.05—Fan error service check" on page 2-114**.
925.06 Blower Error	Blower has stalled.	• POR the printer. • If the error message persists, go to **"925.02, 925.04, 925.06—Cartridge cooling fan error service check" on page 2-115**.
945.01 Transfer Roll	Yellow transfer roll has failed.	• POR the printer. • If the error message persists, go to **"945.xx, 947.xx—Transfer roll error service check" on page 2-116**.
945.02 Transfer Roll	Cyan transfer roll has failed.	• POR the printer. • If the error message persists, go to **"945.xx, 947.xx—Transfer roll error service check" on page 2-116**.
945.03 Transfer Roll	Magenta transfer roll has failed.	• POR the printer. • If the error message persists, go to **"945.xx, 947.xx—Transfer roll error service check" on page 2-116**.

Error code	Description	Action
945.04 Transfer Roll	Black transfer roll has failed.	• POR the printer. • If the error message persists, go to **“945.xx, 947.xx—Transfer roll error service check” on page 2-116**.
947.01 Transfer Roll	Yellow transfer roll has failed.	• POR the printer. • If the error message persists, go to **“945.xx, 947.xx—Transfer roll error service check” on page 2-116**.
947.02 Transfer Roll	Cyan transfer roll has failed.	• POR the printer. • If the error message persists, go to **“945.xx, 947.xx—Transfer roll error service check” on page 2-116**.
947.03 Transfer Roll	Magenta transfer roll has failed.	• POR the printer. • If the error message persists, go to **“945.xx, 947.xx—Transfer roll error service check” on page 2-116**.
947.04 Transfer Roll	Black transfer roll has failed.	• POR the printer. • If the error message persists, go to **“945.xx, 947.xx—Transfer roll error service check” on page 2-116**.
950.00–950.29 NVRAM Failure	A mismatch between the operator panel assembly and the system board.	• POR the printer. • If the error message persists, go to **“950.00–950.29—EPROM mismatch failure” on page 2-118**
951.01–951.99 NVRAM Failure	System board NVRAM failure.	• POR the printer. • If the error message persists, replace the system board. See **“System board removal” on page 4-155**.
952.01–952.99 NVRAM Error	CRC error has occurred. This is recoverable.	Perform a POR to clear the error.
953.01–953.99 NVRAM Failure	Operator panel assembly NVRAM failure.	• POR the printer. • Replace the operator panel assembly if the error message persists. See **“Operator panel assembly removal (C746)” on page 4-34**.
954.01–954.99 NVRAM Failure	System NVRAM failure.	• POR the printer. • If the error message persists, replace the system board. See **“System board removal” on page 4-155**.
955.01–955.99 Code Failure	System board memory failure.	• POR the printer. • If the error message persists, replace the system board. See **“System board removal” on page 4-155**.
956.01–956.99 System Card Failure	Processor failure.	• POR the printer. • If the error message persists, go to **“956.xx—System board failure service check” on page 2-119**.
957.00–857.99 System Failure	ASIC failure.	• POR the printer. • If the error message persists, replace the system board. See **“System board removal” on page 4-155**.

Error code	Description	Action
958.01–958.99 Memory Failure	Processor failure.	• POR the printer. • If the error message persists, replace the system board. See **"System board removal" on page 4-155**.
959.00–959.05 Engine Code Error	Invalid engine code	• POR the printer. • If the error message persists, download the engine code again. • POR the printer again. • If the error message persists, replace the system board. See **"System board removal" on page 4-155**.
959.20–959.28 System Failure	System board failure.	• POR the printer. • If the error message persists, replace the system board. See **"System board removal" on page 4-155**.
960.00—960.99 Memory Error	Memory failure.	• POR the printer. • If the error message persists, RAM soldered on board is bad. Replace the system board. See **"System board removal" on page 4-155**.
961.00–961.99 Memory Failure	Memory failure.	• POR the printer. • If the error message persists, replace the system board. See **"System board removal" on page 4-155**.
962.00–962.99 Memory Failure	Memory failure.	• POR the printer. • If the error message persists, replace the system board. See **"System board removal" on page 4-155**.
963.00–963.99 Memory Failure	Memory failure.	• POR the printer. • If the error message persists, replace the system board. See **"System board removal" on page 4-155**.
964.00–964,88 Emulation Error	Download emulation CRC error.	• POR the printer. • If the error message persists, download code a second time.
975.00–975.99 Network Error	Unrecognized network port.	Contact your next level of support.
976.00–976.99 Network Error	Unrecoverable software error in network port.	Contact your next level of support.
978.00–978.99 Network Error	Bad checksum while programming network port	Contact your next level of support.
979.00–979.99 Network Error	Flash parts failed while programming network port.	Contact your next level of support.
980.00–980.99 <*device*> Communications Error	Unreliable communications with specified device.	• POR the printer. • If the error message persists, replace the system board. See **"System board removal" on page 4-155**.
981.00–981.99 <*device*> Communications Error	Protocol violation by specified device.	• POR the printer. • If the error persists, replace the system board. See **"System board removal" on page 4-155**.

Error code	Description	Action
982.00–982.12 <*device*> Communications Error	Communications error by specified device.	1. Turn the power off. 2. Remove, and reinstall the option. 3. Turn the main power back on. 4. Check all option interface connections if the problem remains.
983.00–983.99 <*device*> Communications Error	Invalid command parameter by specified device.	• POR the printer. • If the error message persists, replace the system board. See **“System board removal” on page 4-155**.
984.00–984.99 <*device*> Communications Error	Invalid command parameter by specified device.	• POR the printer. • If the error message persists, replace the system board. See **“System board removal” on page 4-155**.
990.00—990.29 Option Error		Contact your next level of support.
991.00–991.29 <*device*> Error	Specified device has detected an error.	• POR the printer. • If the error message persists, replace the system board. See **“System board removal” on page 4-155**.
1565 Emul Error Load Emul Option In IRs	The DLE version contained in the firmware card will not function with the printer code. The message automatically clears in 30 seconds and the DLE is disabled. Download the correct version of the DLE.	

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Service checks

31.xx—Cartridge errors service check

Step	Questions / actions	Yes	No
1	POR the printer. Did this fix the problem?	Problem resolved.	Go to step 2.
2	Replace the toner cartridge. Did this fix the problem?	Problem resolved.	Go to step 3.
3	Reseat the toner cartridges and make sure they are installed to their correct color slots. Did this fix the problem?	Problem resolved.	Go to step 4.
4	1. Check the contacts on the toner cartridge chip for damage and contamination. 2. Clean the contacts. Are the chip contacts damaged?	Replace toner cartridge.	Go to step 5.
5	1. Check the cartridge contact and bell crank on the printer. 2. Press each of the contacts to check the spring force. 3. Check the bell crank for any damage. Are the bell crank and cartridge contacts damaged?	Replace the cartridge contact with bell crank. **Note:** Only replace the parts that are damaged.	Go to step 6.
6	1. Check JSB1 on the system board for proper connection. 2. Check for damage and pinch points on the connector. 3. Reseat cable. Is the cable connector free of damaged?	Replace the cartridge contact with bell crank. **Note:** Only replace the parts that are damaged.	Go to step 7.
7	Check the whole length of the cable going to the cartridge contact. Check for any damage and pinch points. Are the cables damaged?	Replace the cartridge contact with bell crank. **Note:** Only replace the parts that are damaged.	Go to step 8.
8	Replace the system board. See **"System board removal" on page 4-155**. Did this fix the problem?	Problem resolved.	Replace the cartridge contact with bell crank. **Note:** Only replace the parts that are damaged.

110.xx—Mirror motor service check

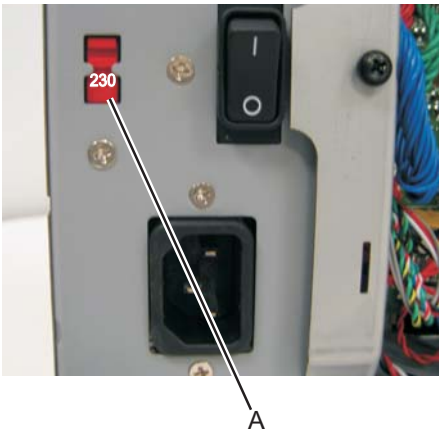
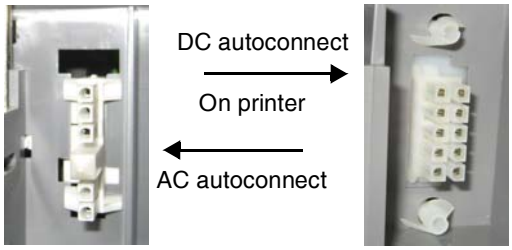
Step	Questions / actions	Yes	No
1	View the Event Log: 1. Turn off the printer, press and hold buttons **3** and **6**, then turn on the printer. 2. Select **EVENT LOG**. 3. Select **Display Log**. Has an 110.xx error occurred three times or more?	Replace the printhead. See **"Printhead removal, installation, and adjustment" on page 4-145**.	Go to step 2.

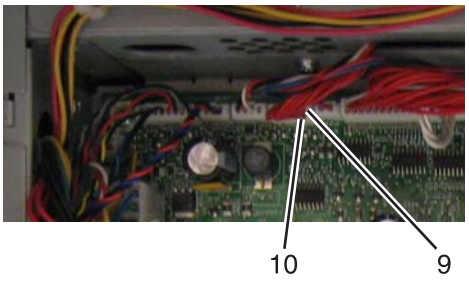
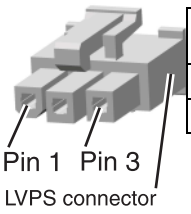
Step	Questions / actions	Yes	No
2	Turn the printer off, and then remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Check the cable in connector JMIRR1 for proper connection to the system board, the printhead cable for pinch points, and the cable or connector for any other damage. Is the cable damaged?	Replace the printhead. See **"Printhead removal, installation, and adjustment" on page 4-145**.	Go to step 3.
3	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 4.
4	Perform the printhead verification to check whether the new printhead will solve the problem. See **"Printhead verification" on page 3-39**. Perform the Mirror Motor Test. See **"Mirror Motor Test" on page 3-20**. Did the Mirror Motor pass the test?	Replace the printhead. See **"Printhead removal, installation, and adjustment" on page 4-145**.	Replace the system board. See **"System board removal" on page 4-155**.

111.xx, 112.xx, 113.xx, and 114.xx—Printhead error service check

Step	Questions / actions	Yes	No
1	View the Event Log: 1. Turn off the printer, press and hold buttons **3** and **6**, then turn on the printer. 2. Select **EVENT LOG**. 3. Select **Display Log**. Has an 111.xx,112.xx, 113.xx, or 114.xx error occurred three times or more?	Replace the printhead. See **"Printhead removal, installation, and adjustment" on page 4-145**.	Go to step 2.
2	Turn the printer off, and then remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Check the cable in connector JPH1 for proper connection to the system board, the cable for pinch points, and the cable or connector for any other damage. Is the cable damaged?	Replace the 5 V interlock switch. See **"5 V interlock switch cable removal" on page 4-61**.	Go to step 3.
3	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 4.
4	Perform the printhead verification to check whether the new printhead solves the problem. See **"Printhead verification" on page 3-39**. Perform the Servo Laser Test. See **"Servo Laser Test" on page 3-20**. Did the printhead motor pass the test?	Replace the printhead. See **"Printhead removal, installation, and adjustment" on page 4-145**.	Replace the system board. See **"System board removal" on page 4-155**.

120.xx—Fuser error service check

Step	Questions / actions	Yes	No
1	Check the input voltage switch on the back of the low-voltage power supply (LVPS). **Note:** Some LVPS FRU do not have switches and switch automatically. If your does not have a switch, go to step 2.  Is the voltage level (115 V/230 V) properly set?	Go to step 2.	Set the switch for the proper country voltage.
2	1. Remove the fuser. See **"Fuser removal" on page 4-110**. 2. Check the fuser AC autoconnect cable for damage, check the other end of the cable for damaged pins. Fuser autoconnects 3. Check the fuser DC autoconnect cable for damaged pins.  Are the connections damaged?	Replace the appropriate cable. See **"Fuser AC cable removal" on page 4-112** or **"Fuser DC cable removal" on page 4-113**.	Go to step 3.
3	Replace the fuser. See **"Fuser removal" on page 4-110**. Does the error clear?	Problem resolved.	Go to step 4.

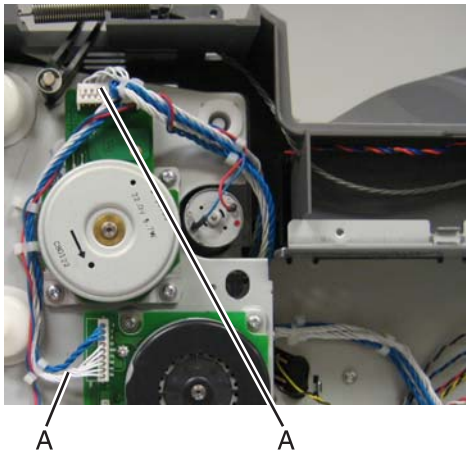
Step	Questions / actions	Yes	No
4	Remove the rear frame cover. See**"Rear frame cover removal" on page 4-47**. Check the cable in connector JFUSER1 (fuser DC cable) for proper connection to the system board, the cable for pinch points, and the cable or connector for any other damage. Is the cable damaged?	Replace the fuser DC cable.See **"Fuser DC cable removal" on page 4-113**.	Go to step 5.
5	Check the cable in connector JLVPS2 for proper connection to the system board, the cable for pinch points, and the cable or connector for any other damage. Is the cable damaged?	Replace the LVPS. See **"Low-voltage power supply (LVPS) removal" on page 4-119**.	Go to step 6.
6	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 7.
7	Check for the following continuity between the DC autoconnect JFUSER1 on the system board. **DC auto-connect** / **JFUSER1**: Pin 9 / Pin 9; Pin 10 / Pin 10  Is continuity present?	Go to step 8.	Replace the fuser DC cable. See **"Fuser DC cable removal" on page 4-113**.
8	Check for continuity between the following pins of the AC autoconnect and the pins of the connector that connects to the LVPS.  **LVPS connect** / **AC Auto-connect**: Pin 1 / Pin 5; Pin 3 / Pin 1 Is continuity present?	Replace the system board. See **"System board removal" on page 4-155**.	Replace the fuser AC cable. See **"Fuser AC cable removal" on page 4-112**.

140.xx, 920.02—Autocomp (tray 1) motor error service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the cable in connector JFDPCK1 for proper connection to the system board, the cable for pinch points, and the cable or connector for any other damage. 4. Reseat the cable. 5. POR the printer. Did the error clear?	Problem resolved.	Go to step 2.
2	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 3.
3	1. Disconnect the cable in the connector JFDPCK1. 2. Connect the cable for the new paper pick mechanism. 3. Bring the printer up in Diagnostics Menu (Turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **MOTOR TESTS** > **Tray 1**. Did the new pick motor turn before the feed error occur?	Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.	Replace the system board. See **"System board removal" on page 4-155**.

142.xx, 906.01–906.04—Motor (fuser) error service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the cables in connectors JCARTP1 and JCARTS1 (cartridge motor 1/fuser motor cable) for proper connection to the system board, for cable pinch points, and for any other damage to the cable or connectors. Is either cable damaged?	Go to step 3.	Go to step 2.

Step	Questions / actions	Yes	No
2	1. Remove the right cover. See **"Right cover removal" on page 4-51**. 2. Check the cartridge motor 1/fuser motor cable for proper connection to the EP drive assembly (A), for pinch points for the cable, and for cable or connector damage.  Is either cable damaged?	Go to step 3.	Go to step 4.
3	Replace the cartridge motor1/fuser motor cable. See **"Cartridge motor 1/fuser cable removal" on page 4-67**. **Note:** Make sure to check the replacement cable first before installation, leaving the original cable in place. Make sure to verify if the new cable is working properly. If new cable does not correct problem, do not install it. Did the error clear?	Problem solved	Go to step 4.
4	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 5.
5	1. Plug the cartridge motor1/fuser motor cable to a new EP drive assembly. 2. Bring the printer up in Diagnostics Menu (Turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **MOTOR TESTS** > **Tray 1**. Did the error clear?	Replace EP drive assembly. See **"Electrophotographic (EP) drive assembly removal" on page 4-90**.	replace the system board. See **"System board removal" on page 4-155**.

143.xx—Motor (EP drive assembly top cartridge 1 motor) error service check

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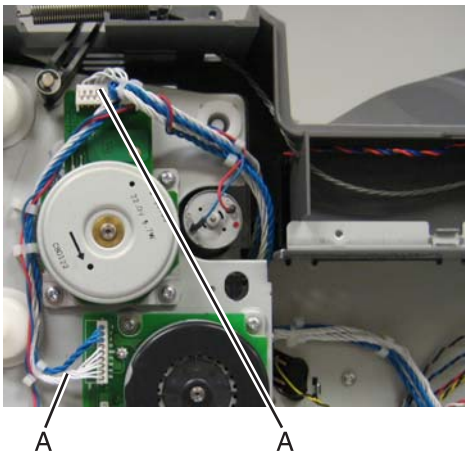
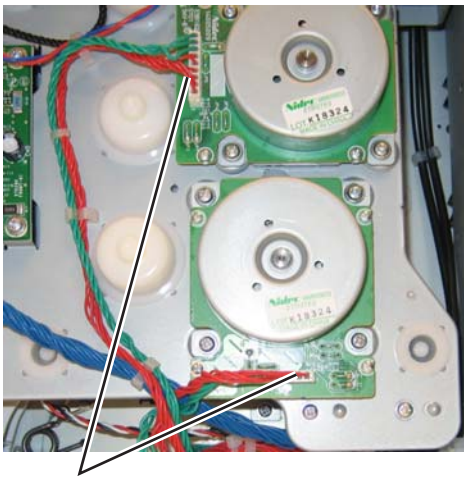
Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the cable in connector JCARTP1 and JCARTS1 (cartridge motor 1/fuser motor cable) for proper connection to the system board, for the cable for pinch points, and for the cable or connector for any other damage. Is the cable damaged?	Replace the cartridge motor 1/fuser cable. See **"Cartridge motor 1/fuser cable removal" on page 4-67**.	Go to step 2.
2	Remove the right cover. See **"Right cover removal" on page 4-51**. Check the cartridge motor 1/fuser motor cable (A) for proper connection to the EP drive assembly, for pinch points for the cable, or damage to the cable or connector.  Is either cable damaged?	Replace the cartridge motor 1/fuser motor cable. See **"Cartridge motor 1/fuser cable removal" on page 4-67**.	Go to step 3.
3	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 4.
4	1. Disconnect the cartridge motor 1/fuser motor cable on the motor and on the system board. 2. Connect a new motor 1/fuser motor cable on the motor and on the system board. 3. Run diagnostics motor check. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Select **MOTOR TESTS**. Did the motor run?	Replace the cartridge motor 1/fuser motor cable. See **"Cartridge motor 1/fuser cable removal" on page 4-67**.	Go to step 5.

Step	Questions / actions	Yes	No
5	1. Return the old motor 1/fuser motor cable. 2. Disconnect the motor drive cable from the EP drive assembly and connect it to the motor on a new EP drive assembly. **Note:** Do not install the new EP drive assembly yet. 3. Run diagnostic motor check. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Select **MOTOR TESTS**. Did the motor run?	Replace the EP drive assembly. See **"Electrophotographic (EP) drive assembly removal" on page 4-90**.	Go to step 6.
6	1. Connect the new EP drive assembly with a new cable from outside the machine. 2. Run diagnostics motor check. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Select **MOTOR TESTS**. Did motor run?	Replace the cable.	Replace the system board. See **"System board removal" on page 4-155**.

144.xx—Motor (EP drive assembly middle cartridge) error service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the cables in connector JCARTP2 and JCARTS2 (cartridge motor 2/3 cable) for proper connection to the system board, for cable pinch points, and for any other damage to the cable or connector. Is the cable damaged?	Replace cartridge motor 2/3 cable. See **"Cartridge motor 2/3 cable removal" on page 4-69**.	Go to step 2.

Step	Questions / actions	Yes	No
2	Remove the right cover. See **"Right cover removal" on page 4-51**. Check the cartridge motor 2/3 cable for proper connection to the EP drive assembly, pinch points for the cable, or damage to the cable or connector (A).  Is either cable damaged?	Replace the cartridge motor 2/3 cable. See **"Cartridge motor 2/3 cable removal" on page 4-69**.	Go to step 3.
3	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 4.
4	1. Disconnect the cartridge motor 2/3 cable on the motor and on the system board. 2. Connect a new motor 1/fuser motor cable on the motor and on the system board. 3. Run diagnostics motor check. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Select **MOTOR TESTS**. Did the motor run?	Replace the cartridge motor 2/3 cable. See **"Cartridge motor 2/3 cable removal" on page 4-69**.	Go to step 5.
5	1. Return the old cartridge motor 2/3 motor cable. 2. Disconnect the motor drive cable from the EP drive assembly and connect it to the motor on a new EP drive assembly. **Note:** Do not install the new EP drive assembly yet. 3. Run diagnostic motor check. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Select **MOTOR TESTS**. Did the motor run?	Replace the EP drive assembly. See **"Electrophotographic (EP) drive assembly removal" on page 4-90**.	Replace the system board. See **"System board removal" on page 4-155**.

145.xx—Motor (EP drive assembly bottom cartridge) error service check

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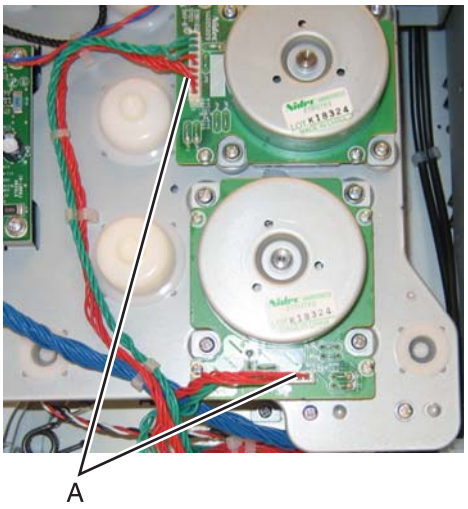
Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the cables in connector JCARTP2 and JCARTS2 (cartridge motor 2/3 cable) for proper connection to the system board, for cable pinch points, and for any other damage to the cable or connector. Is the cable damaged?	Replace cartridge motor 2/3 cable. See **"Cartridge motor 2/3 cable removal" on page 4-69**.	Go to step 2.
2	Remove the right cover. Check the cartridge motor 2/3 cable for proper connection to the EP drive assembly, pinch points for the cable, and damage to the cable or connector (A).  A Is either cable damaged?	Replace the cartridge motor 2/3 cable. See **"Cartridge motor 2/3 cable removal" on page 4-69**.	Go to step 3.
3	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 4.
4	1. Disconnect the motor drive cable from the EP drive assembly and connect it to the motor on a new EP drive assembly. **Note:** Do not install the new EP drive assembly yet. 2. Run diagnostic motor check. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Select **MOTOR TESTS**. Did the motor run?	Replace the EP drive assembly. See **"Electrophotographic (EP) drive assembly removal" on page 4-90**.	Replace the system board. See **"System board removal" on page 4-155**.

146.xx, 148.xx—Motor (MPF/duplex) error service check

Step	Questions / actions	Yes	No
1	1. Open the rear frame cover. 2. Reseat JDX1 cable. Does the problem persist?	Go to step 2.	Problem resolved.
2	1. Remove the tray. 2. Check the MPF/duplex gear for any damage. 3. Check if the MPF/duplex gear can engage the duplex drive gear. 4. Manually turn the gear and check for any damage. Does the error still exist?	Replace the MPF/duplex gear. See **"Multipurpose feeder (MPF)/duplex gear and housing removal" on page 4-123**.	Go to step 3.
3	1. Open the front door cover. 2. Disengage the duplex belt connecting to duplex drive gear/duplex rollers. The duplex reference edge assembly should not turn for isolation. 3. Remove the input tray. 4. Bring the printer up in Diagnostics Menu (Turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 5. Navigate to **MOTOR TESTS** > **Duplex** > **Forward** or **Reverse**. 6. Navigate to **MOTOR TESTS** > **MPF Test**> **Forward** or **Reverse**. Does the error still exist?	Go to step 4.	Go to step 7.
4	1. Connect a new MPF motor with cable to the JDX1 connector on the system board from outside of the machine. 2. Bring the printer up in Diagnostics Menu (Turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **MOTOR TESTS** > **Duplex** > **Forward** or **Reverse**. **Note:** Perform this test for 5 to 10 seconds only. 4. Navigate to **MOTOR TESTS** > **MPF Test**> **Forward** or **Reverse**. **Note:** Perform this test for 5 to 10 seconds only. 5. Check if the motor would turn for each test. Does this clear the problem?	Go to step 5.	Replace the system board. See **"System board removal" on page 4-155**.

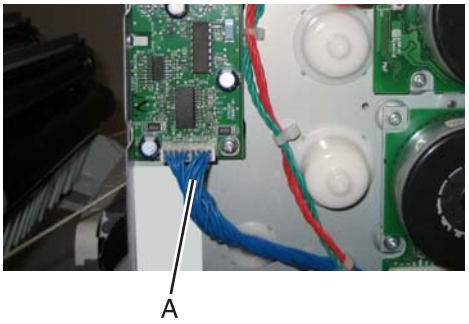
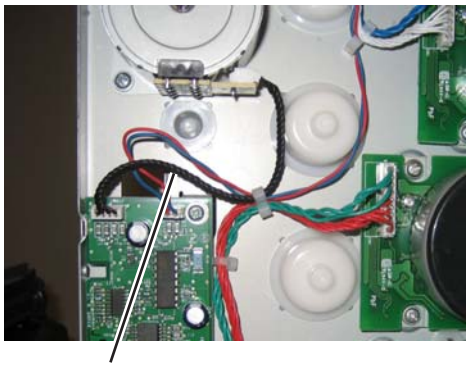
Step	Questions / actions	Yes	No
5	1. Disconnect the MPF motor cable on the motor side. 2. Connect a new motor from outside of the machine. 3. Bring the printer up in Diagnostics Menu (Turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **MOTOR TESTS** > **Duplex** > **Forward** or **Reverse**. **Note:** Perform this test for 5 to 10 seconds only. 5. Navigate to **MOTOR TESTS** > **MPF Test**> **Forward** or **Reverse**. **Note:** Perform this test for 5 to 10 seconds only. 6. Check if the motor would turn for each test. Does the error still exist?	Go to step 6.	Replace the MPF duplex motor assembly. See **"Multipurpose feeder (MPF)/duplex motor assembly removal" on page 4-125**.
6	Connect a new MPF motor cable to the old MPF motor and connect it to JDX1 connector on the system board. Does the error still exist?	Go to step 7.	Replace the MPF/duplex motor cable. See **"Multipurpose feeder (MPF)/duplex motor cable removal" on page 4-128**.
7	1. Open the front door cover. 2. Check the duplex reference edge guide assembly for any damage. 3. Check rollers and belts for damage and misalignment. 4. Bring the printer up in Diagnostics Menu (Turn off the printer, press and hold buttons 3 and 6, then turn on the printer). 5. Remove the input tray. 6. Navigate to **MOTOR TESTS > Duplex > Forward**. 7. Check if the duplex assembly runs. 8. Check if the MPF/duplex gear turns. Is the duplex reference edge guide assembly free of damage?	Replace the duplex reference edge guide assembly. See **"Duplex reference edge guide assembly removal" on page 4-87**.	Go to step 8.
8	1. Check the front door assembly gears that engages to the MPF/duplex gear for any damage. 2. Close the front door assembly and open the front door cover. 3. Check if the front door cover assembly gears can engage the MPF/duplex gear. 4. Manually turn the gears. 5. Check the front door assembly for any damage. Is the front door assembly gear or the front door assembly damaged?	Replace the front door assembly. See **"Front door assembly removal" on page 4-100**.	Go to step 9.

Step	Questions / actions	Yes	No
9	1. Check the MPF tray for any damage. 2. Manually turn the MPF gear on the tray, and check if the MPF pick arm assembly would turn. 3. Bring the printer up in Diagnostics Menu (Turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Lift the MPF pick arm using the lever. 5. Select **MOTOR TESTS > MPF > Forward**. 6. Check if the pick arm would turn. Is the MPF pick arm assembly free of damage?	Go to step 10.	Replace the input tray.
10	Remove the input tray and insert a new one. Does this fix the problem?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

147.xx, 920.01—POST (power-on self test) aligner error service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check JFDPCK1 connector for proper connection and damage. 4. Reseat the connector. 5. POR the printer. 6. Perform a print test. Is the problem still present?	Go to step 2.	Problem resolved.
2	Check the cable in the connector JFDPCK1 for pinch points and for any other damage to the cable or connector. Is the cable damaged?	Replace paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.	Go to step 3.
3	1. Disconnect the cable in connector JFDPCK1 and connect the cable from the new paper pick mechanism to JFDPCK1. Let the paper pick assembly hang. 2. Close the front cover and install the waste box on the side of the printer. 3. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **MOTOR TESTS** > **Align Motor Test > Forward**. Does the aligner motor run?	Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.	Replace the system board. See **"System board removal" on page 4-155**.

155.xx—Cam motor error service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the motor driver cable in connector JDVR1 on the system board for proper connection, for cable pinch points, and for any other damage to the cable or connector. Is the cable damaged?	Replace the motor driver cable. See **"Motor driver cable removal" on page 4-122**.	Go to step 2.
2	Remove the right cover. See **"Right cover removal" on page 4-51**. Check the motor driver cable (A) for proper connection to the EP drive assembly, pinch points for the cable, and damage for the cable or connector.  A Is the cable damaged?	Replace the motor driver cable. See **"Motor driver cable removal" on page 4-122**.	Go to step 3.
3	Check the CAM motor cable from the cam motor to the motor driver card for poor connections or damage.  A Is the cable damaged?	Replace the EP drive assembly. See **"Electrophotographic (EP) drive assembly removal" on page 4-90**.	Go to step 4.
4	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 5.

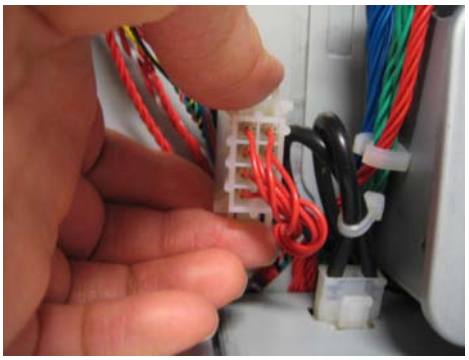
Step	Questions / actions	Yes	No
5	Visually inspect the motor driver card. Is the motor driver card damaged?	Replace the motor driver card. See **"Motor driver card removal" on page 4-121**.	Go to step 6.
6	1. Connect a new motor driver card without mounting it to the printer. 2. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **MOTOR TESTS** > **CAM**. Did the motor run?	Install the new motor driver card.	Go to step 7.
7	1. Reinstall old motor driver card to the printer. 2. Plug in the CAM motor of the EP drive assembly to the EP driver card electrically without installing it into printer. 3. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **MOTOR TESTS** > **CAM**. Did the motor run?	Replace EP drive assembly. See **"Electrophotographic (EP) drive assembly removal" on page 4-90**.	Replace system board. See **"System board removal" on page 4-155**.

156.xx—COD (Color On Demand) motor service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the cable in connector JBOR1 on the system board for proper connection, for cable pinch points, and for any other damage to the cable or connector. Is the cable damaged?	Replace the COD assembly. See **"Color on demand assembly removal" on page 4-70**.	Go to step 2.
2	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 3.
3	1. Disconnect the cable in connector JBOR1 and then connect the cable from the new COD group assembly. 2. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **MOTOR TESTS** > **COD** > **Forward**. If nothing happens, select **Reverse**. Did the COD motor pass the test?	Replace the COD assembly. See **"Color on demand assembly removal" on page 4-70**.	Replace the system board. See **"System board removal" on page 4-155**.

160.xx, 161.xx—Motor Error (option tray 2) service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Reseat option tray 2. 3. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **PRINT TESTS** > **Tray 2** > **Single**. Did the page print?	Problem resolved.	Go to step 2.
2	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the option cable in connector JOPT1 on the system board for proper connection, for cable pinch points, and for any other damage to the cable or connector Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.

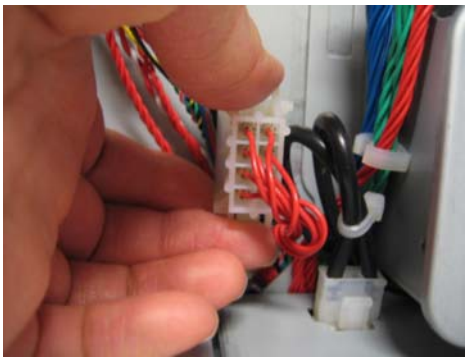
Step	Questions / actions	Yes	No
3	Remove the right cover. See **"Right cover removal" on page 4-51**. Check the option cable for pinch points and any damage.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.
4	Is the option tray 2 the high-capacity input tray (2,000-sheet feeder)?	Replace the HCIT top plate assembly. See **"Top plate assembly removal" on page 4-206**.	Replace the option tray 2 assembly.

162.xx, 163.xx—Motor Error (option tray 3) service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Reseat option tray 3. 3. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **PRINT TESTS** > **Tray 3 > Single**. Did the page print?	Problem resolved.	Go to step 2.
2	1. Remove all input options connected to the machine. 2. Connect tray 3 directly on the printer making it tray 2. 3. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, and turn on the printer). 4. Navigate to **PRINT TESTS** > **Tray 2** > **Single**. Did the page print?	Go to step 3.	Go to step 4
3	Check the top and bottom autoconnect connectors of tray 2 (input option above tray 3) for damages. Are the autoconnect connectors damaged?	Replace tray 2 550 input option	Go to step 4.
4	Check the top and bottom autoconnect connectors of tray 3 for damages. Are the autoconnect connectors damaged?	• For 550 option, replace tray 3 550 input option. • For HCIT, replace the HCIT top plate assembly.	Go to step 5.

Step	Questions / actions	Yes	No
5	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the option cable in connector JOPT1 on the system board for proper connection, for cable pinch points, and for any other damage to the cable or connector. 4. Remove the right cover. See **"Right cover removal" on page 4-51**, 5. Check the option cable for pinch points and any damage. 6. Check the autoconnect connector for damage. Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	• For 550 option, replace tray 3 550 input option. • For HCIT, replace the HCIT top plate assembly.

164.xx, 165.xx—Motor Error (option tray 4) service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Reseat option tray 4. 3. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **PRINT TESTS > Tray 4 > Single**. Did the page print?	Problem resolved.	Go to step 2.
2	Turn the printer off, and then remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Check the option cable in connector JOPT1 on the system board for proper connection, for cable pinch points, and for any other damage to the cable or connector. Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.
3	Remove the right cover. See **"Right cover removal" on page 4-51**. Check the option cable for pinch points and any damage.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.

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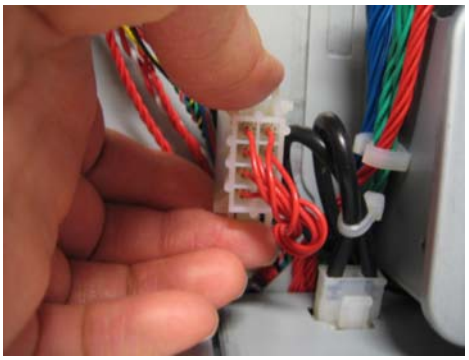
Step	Questions / actions	Yes	No
4	Is the option tray 4 the high-capacity input tray (2,000-sheet feeder)?	Replace the HCIT top plate assembly. See **"Top plate assembly removal" on page 4-206**.	Replace the option tray 4 assembly.

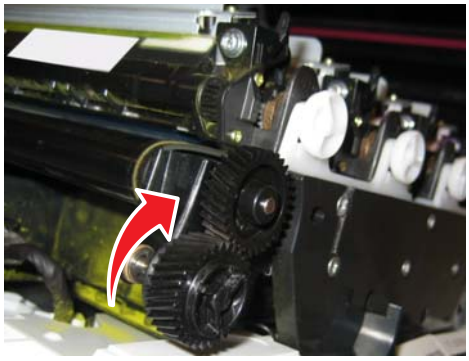
166.xx, 167.xx—Motor Error (option tray 5) service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Reseat option tray 5. 3. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **PRINT TESTS > Tray 5 > Single**. Did the page print?	Problem resolved.	Go to step 2.
2	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the option cable in connector JOPT1) on the system board for proper connection, for cable pinch points, and for any other damage to the cable or connector. Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.
3	Remove the right cover. See **"Right cover removal" on page 4-51**. Check the option cable for pinch points and any damage.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4
4	Is the option tray 5 the high-capacity input tray (2,000-sheet feeder)?	Replace the HCIT top plate assembly. See **"Top plate assembly removal" on page 4-206**.	Replace the option tray 5 assembly.

168.xx—Motor (HCIT elevator) error service check

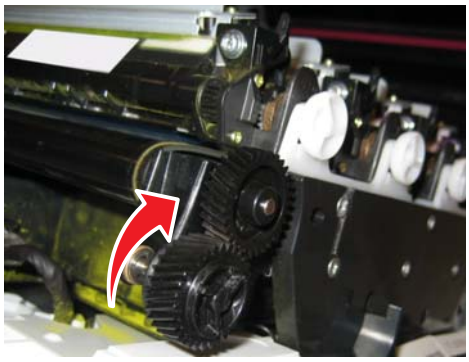
Step	Questions / actions	Yes	No
1	Is the paper properly loaded in the high-capacity input tray (HCIT)?	Go to step 2.	Fan the media, and then stack flat in the HCIT drawer.
2	1. Turn the printer off. 2. Reseat option the HCIT option. 3. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **PRINT TESTS > HCIT > Single**. Did the error clear?	Problem resolved.	Go to step 3.
3	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the option cable in connector JOPT1 on the system board for proper connection, for cable pinch points, and for any other damage to the cable or connector. Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.
4	1. Remove the HCIT right cover. See**"HCIT right cover removal" on page 4-196**. 2. Check the cable in the HCIT. Is the cable damaged?	Replace the elevator-up cable.	Replace the elevator motor with sensor. See **"HCIT elevator motor with sensor removal" on page 4-200**.

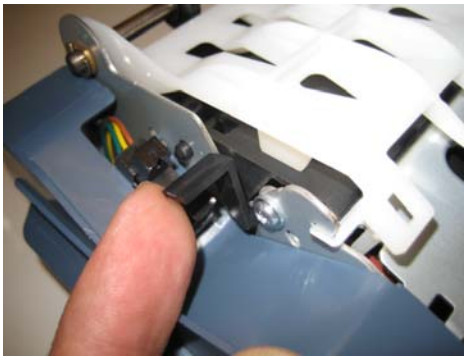
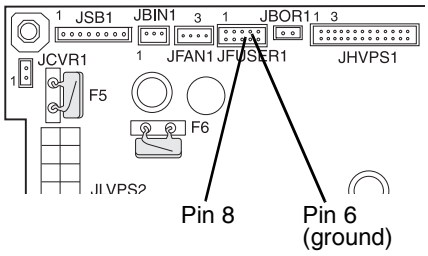
200.11, 250.03—Paper Jam error service check

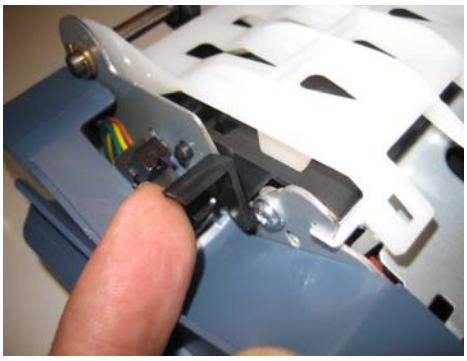
Step	Questions / actions	Yes	No
1	Open the front access door. Turn the transport belt gear clockwise.  Did the transport belt move?	Go to step 2.	Replace the transport belt. See **"Transfer module removal" on page 4-171**.

Step	Questions / actions	Yes	No
2	Run align motor test with old pick assembly installed in the machine. 1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **MOTOR TESTS > Align Motor Test > Forward**. Can you hear the align motor run?	Go to **"920.06—Input sensor service check" on page 2-99**.	Go to step 3.
3	1. Plug in the new pick assembly into the JFDPCK1 connector from outside the machine. 2. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **MOTOR TESTS > Align Motor Test > Forward**. Can you hear the align motor run?	Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.	Replace the system board. See **"System board removal" on page 4-155**.

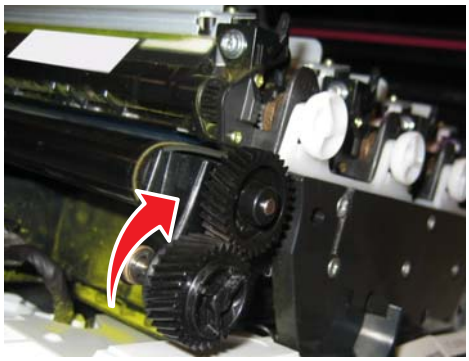
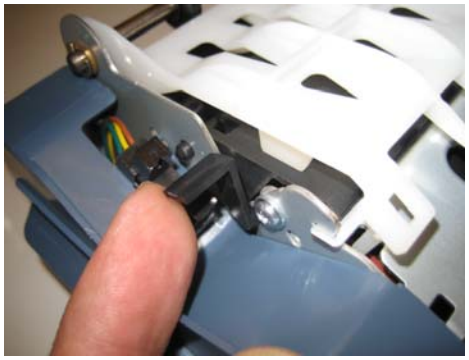
201.06, 201.08, 201.31—Paper Jam error service check

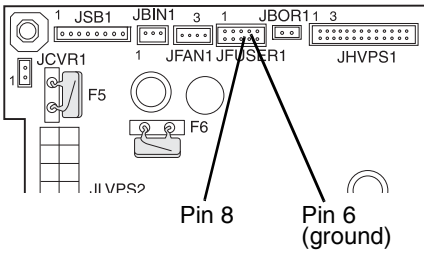
Step	Questions / actions	Yes	No
1	Open the front access door. Turn the transport belt gear clockwise.  Did the transport belt move?	Go to step 2.	Replace the transport module. See **"Transfer module removal" on page 4-171**.
2	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Perform the Align Motor Test. See **"Motor tests" on page 3-10**. Can you hear the align motor run?	Go to step 3.	Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.

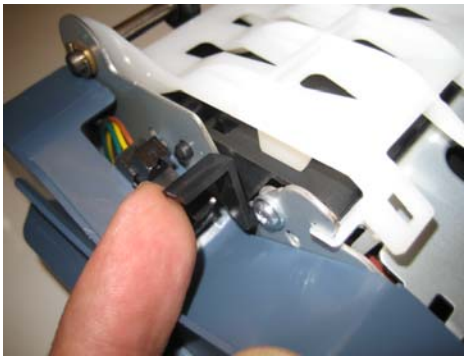
Step	Questions / actions	Yes	No
3	Turn the printer off, and then remove the fuser. See **"Fuser removal" on page 4-110**.  Is the exit sensor flag damaged?	Replace the fuser. See **"Fuser removal" on page 4-110**.	Go to step 4.
4	Verify the paper is loaded properly in the paper tray or manual feed slot. Is the paper properly loaded?	Go to step 5.	Load paper correctly.
5	1. Replace the fuser. See **"Fuser removal" on page 4-110**. **Note:** Do not reset the fuser count until the problem is resolved. 2. Turn the printer off. 3. POR the printer. Did the error clear?	Problem resolved	Replace the original fuser, and go to step 6.
6	Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Check the fuser DC cable in the connector JFUSER1 for proper connection to the system board, for pinch points, and for any other damage to the cable or the connector. Is the cable damaged?	Replace the fuser DC cable. See **"Fuser DC cable removal" on page 4-113**.	Go to step 7
7	1. POR the printer. 2. Place a voltmeter between pin 8 and pin 6 on the JFUSER1 connector.  Does the meter read +5 V dc?	Go to step 8.	Replace the system board. See **"System board removal"**.

Step	Questions / actions	Yes	No
8	Place a voltmeter between Fuser DC autoconnect pin 8 and ground (pin 6). Does the meter read +5 V dc?	Go to step 9.	Replace the fuser DC cable. See **"Fuser DC cable removal" on page 4-113**.
9	1. Replace the fuser. See **"Fuser removal" on page 4-110**. 2. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **SENSOR TESTS** > **Dynamic Sensors** > **Fuser Exit**. 4. Open the front access door and the top access cover.  Did the fuser exit sensor change from Open to Closed?	Problem resolved	Replace the system board. See **"System board removal" on page 4-155**.

203.09—Paper Jam error service check

Step	Questions / actions	Yes	No
1	Open the front access door. Turn the transport belt gear clockwise.  Did the transport belt move?	Go to step 2.	Replace the transport belt. See **"Transfer module removal" on page 4-171**.
2	Turn the printer off, and then remove the fuser. See **"Fuser removal" on page 4-110**.  Is the exit sensor flag damaged?	Replace the fuser. See **"Fuser removal" on page 4-110**.	Go to step 3.
3	Verify the paper is loaded properly in the paper tray or manual feed slot. Is the paper properly loaded?	Go to step 4.	Load paper correctly.
4	Replace the fuser. See **"Fuser removal" on page 4-110**. POR the printer. Did the error clear?	Problem resolved.	Remove the new fuser, and go to step 5.
5	1. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 2. Check the fuser DC cable in the connector JFUSER1 for proper connection to the system board, for pinch points, and for any other damage to the cable or the connector. Is the cable damaged?	Replace the fuser DC cable. See **"Fuser DC cable removal" on page 4-113**.	Go to step 6.

Step	Questions / actions	Yes	No
6	1. POR the printer. 2. Place a voltmeter between pin 8 and pin 6 (ground) on the JFUSER1 connector on the system board.  3. Does the meter read +5 V dc?	Go to step 7.	Replace the system board. See **"System board removal" on page 4-155**.
7	Place a voltmeter between the fuser autoconnect pin 8 and ground (6). Does the meter read +5 V dc?	Go to step 8.	Replace the fuser DC cable. See **"Fuser DC cable removal" on page 4-113**.

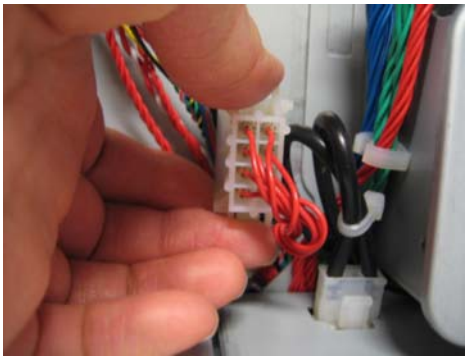
Step	Questions / actions	Yes	No
8	1. Replace the fuser. See **“Fuser removal” on page 4-110**. 2. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **SENSOR TESTS** > **Dynamic Sensors > Fuser Exit**. 4. Open the front access door and top access cover. 5. Activate the fuser exit sensor.  6. Did the fuser exit sensor change from Open to Closed?	Problem resolved.	Replace the system board. See **“Fuser removal” on page 4-110**.

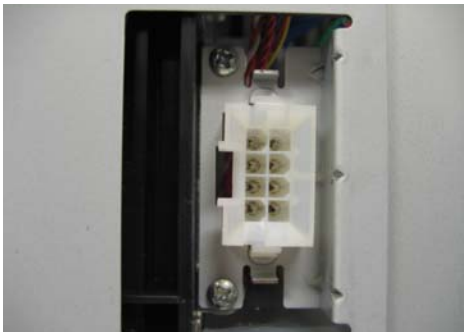
230.03, 230.05—Paper Jam error service check

Step	Questions / actions	Yes	No
1	Check the tray for any damage. Is the tray damaged?	Replace the tray.	Go to step 2.
2	Check the MPF duplex gear for any damage. Is the MPF Duplex gear damaged?	Replace the MPF duplex gear. See **“Multipurpose feeder (MPF)/duplex gear and housing removal” on page 4-123**.	Go to step 3.
3	1. Turn the printer off 2. Remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**. 3. Check the MPF/duplex motor cable in connector JDX1 for proper connection to the system board, cable pinch points, and any other damage to the cable or connector. Is the cable damaged?	Replace the MPF duplex motor cable. See **“Multipurpose feeder (MPF)/duplex motor cable removal” on page 4-128**.	Go to step 4.
4	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **“System board removal” on page 4-155**.	Go to step 5.

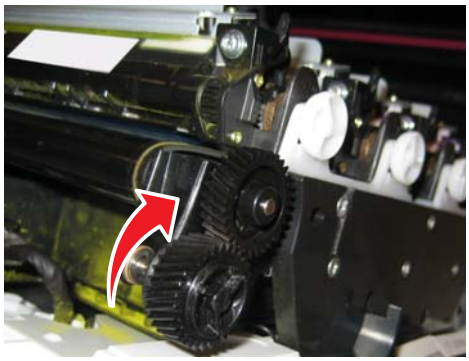
Step	Questions / actions	Yes	No
5	• Check the front access cover for any damage. • Make sure the front access cover can close correctly. • Check the front access cover if its securely fastened to its hinge. Is the front access cover damaged?	Replace the front access cover. See **"Front access cover assembly removal" on page 4-29**.	Go to step 6.
6	1. Check the duplex reference edge guide assembly for damages. 2. Check the gears, rollers and belt for damage and contamination. Manually turn the gears. Is the duplex reference edge guide assembly damaged?	Replace the duplex reference edge guide assembly. See **"Duplex reference edge guide assembly removal" on page 4-87**.	Go to step 7.
7	1. Check the front door for any damage. 2. Check the paper path for any obstruction. 3. Check roller gears for any damage. Is the front door assembly damaged?	Replace the front door assembly. See **"Front door assembly removal" on page 4-100**.	Go to step 8.
8	1. Remove the right cover. See **"Right cover removal" on page 4-51**. 2. Check the MPF duplex motor assembly for proper installation. 3. Check the connectors. Reseat the connector on the motor side and JDX1 on the system board. Is the MPF duplex motor assembly damage?	Replace the MPF duplex motor assembly. See **"Multipurpose feeder (MPF)/duplex motor assembly removal" on page 4-125**.	Go to **"920.06—Input sensor service check" on page 2-99**.

242.02—Paper Jam service check

Step	Questions / actions	Yes	No
1	Has paper been fed from an input option before?	Go to step 4.	Go to step 2.
2	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the cable in connector JOPT1 for proper connection to the system board, cable pinch points, and any other damage to the cable or connector.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.

Step	Questions / actions	Yes	No
3	Carefully lift the printer off the option, and lay the printer on its back. Check the option connector for damage.  Is the option cable connector or cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.
4	Replace the complete tray 2 option. Does the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

242.03, 242.11—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Select **PRINT TESTS**. 3. Select a tray below tray 2 4. Select **Single**. Did the page feed correctly?	Problem resolved.	Go to step 2.
2	1. Turn the printer off. 2. Open the front access door. 3. Turn the transport belt gear clockwise.  Did the transport belt move?	Go to step 3.	Replace the transport belt. See **"Transfer module removal" on page 4-171**
3	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **MOTOR TESTS** > **Align Motor Test**. Can you hear the align motor run?	Go to step 4.	Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.

Step	Questions / actions	Yes	No
4	Is tray 2 a high-capacity input tray (2,000-sheet feeder)?	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**.	Replace the entire tray 2 option.

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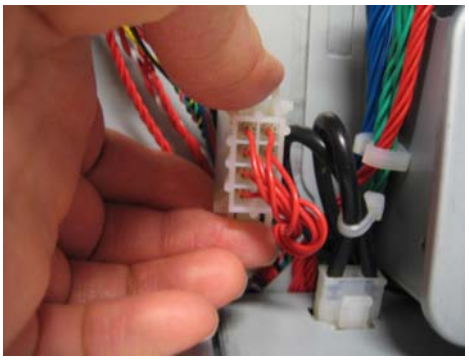
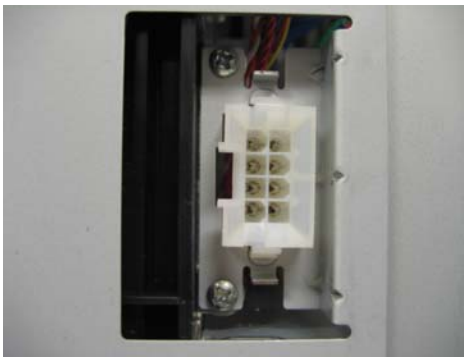
242.05—Paper Jam service check

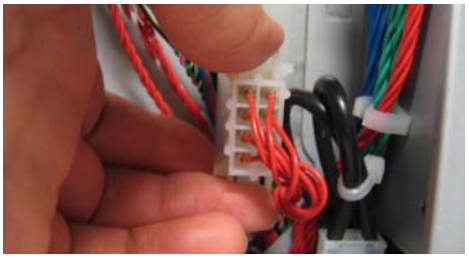
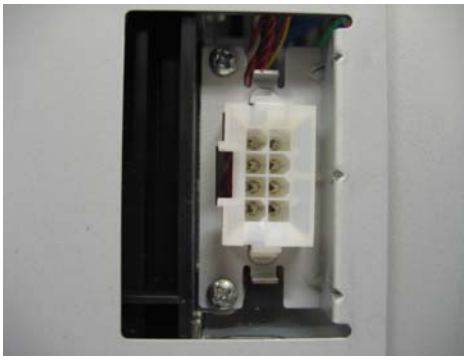
Step	Questions / actions	Yes	No
1	Has the paper been fed from an input option before?	Go to step 5.	Go to step 2.
2	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS >** select a tray below tray 2 > **Single**. Did the page feed correctly?	Problem resolved.	Go to step 3.
3	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the cable in connector JOPT1 for proper connection to the system board, cable pinch points, and any other damage to the cable or connector.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.

Step	Questions / actions	Yes	No
4	Carefully lift the printer off the option, and lay the printer on its back. Check the option connector for damage.  Is the connector damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 5.
5	Is tray 2 a high-capacity input tray (2,000-sheet feeder)?	Go to step 7.	Go to step 6.
6	Replace the tray 2 option. Does the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.
7	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**.	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

242.10—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > select a tray below tray 2 > **Single**. Did the page print correctly?	Problem resolved.	Replace the complete tray 2 option.

242.17—Paper Jam service check

Step	Questions / actions	Yes	No
1	Has paper been fed from an input option before?	Go to step 4.	Go to step 2.
2	1. Turn the printer off 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the cable in connector JOPT1 for proper connection to the system board, cable pinch points, and any other damage to the cable or connector.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.
3	Carefully lift the printer off the option, and lay the printer on its back. Check the option connector for damage.  Is the option cable connector or cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.
4	Is tray 2 an high-capacity input tray (HCIT)?	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**.	Replace the complete tray 2 option.

242.21, 243.21, 244.21. 245.21, 242.30, 243.30, 244.30, 245.30—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Fan the media on the tray. • Use Tray 2 for 242.21 and 242.30 errors. • Use Tray 3 for 243.21 and 243.30 errors. • Use Tray 4 for 244.21 and 244.30 errors. • Use Tray 5 for 245.21 and 245.30 errors. 2. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **Print Test > Tray # > Single**. Does the printer feed from tray 2 successfully?	Problem resolved.	Go to step 2.
2	1. Remove printer from the option tray. 2. Inspect the autonnect cables on the option tray. Is the autoconnect connector damaged?	• For 550 input option, replace the 550 input option. • For HCIT input option, replace the HCIT top plate assembly. See **“Top plate assembly removal” on page 4-206**.	Go to step 3.
3	• For 550 input option, install a new 550 input option. • For HCIT input option, install a new top plate assembly. See **“Top plate assembly removal” on page 4-206** Does this fix the problem?	• For 550 input option, replace the 550 input option. • For HCIT input option, replace the HCIT top plate assembly. See **“Top plate assembly removal” on page 4-206**.	Go to step 4.
4	For HCIT input option, replace the HCIT controller board assembly. See **“HCIT controller board assembly removal” on page 4-199**. Does this fix the problem?	Problem resolved	Replace the system board. See **“System board removal” on page 4-155**.

242.26—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Determine the input tray. 2. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **PRINT TESTS** > select the tray you indicated > **Single**. Did the page feed correctly?	Problem resolved.	Go to step 2.

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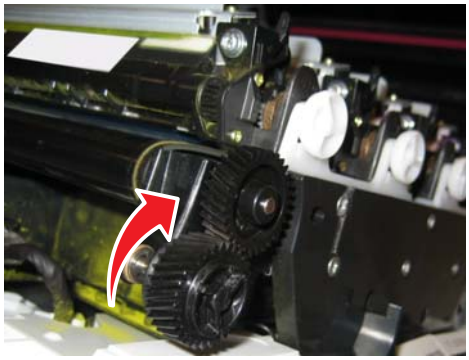
Step	Questions / actions	Yes	No
2	Is the tray 3 a high-capacity input tray (2,000-sheet feeder)?	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**.	Replace the complete tray 3 option.

242.27—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > select the tray below tray 2 > **Single**. Did the page feed correctly?	Problem resolved.	Go to step 2.
2	1. Turn the printer off. 2. Open the front access door. 3. Turn the transport belt gear clockwise.  Did the transport belt move?	Go to step 3.	Replace the transport belt. See **"Transfer module removal" on page 4-171**.
3	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **MOTOR TESTS** > **Align Motor Test**. Can you hear the align motor run?	Replace the complete tray 2 option.	Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.

242.29—Paper Jam service check

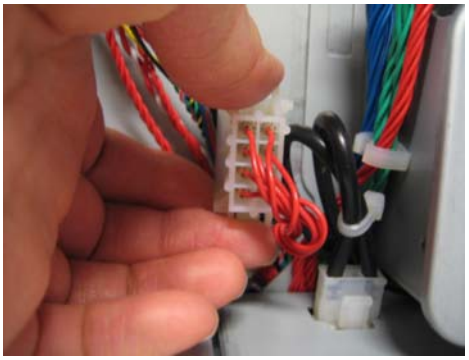
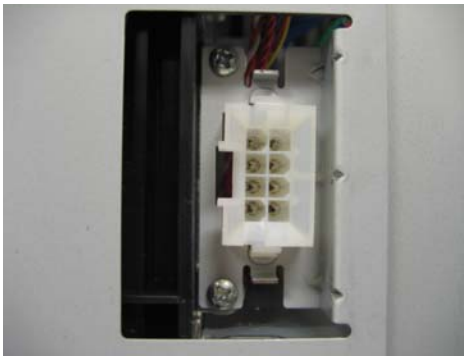
Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > **Tray 5 > Single**. Did the page feed correctly?	Problem resolved.	Go to step 2.
2	Is tray 2 a high-capacity input tray (2,000-sheet feeder)?	Replace the HCIT elevator up sensor. See **"HCIT elevator motor with sensor removal" on page 4-200**.	Replace the complete tray 2 option.

242.32, 243.32, 244.32, 245.32—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Remove the input option tray. • Remove tray 2 for 242.32 errors. • Remove tray 3 for 243.32 errors. • Remove tray 4 for 244.32 errors. • Remove tray 5 for 245.32 errors. 2. Check for obstruction on the paper path. 3. Check the input option pass-through sensor flag for any damage. 4. Remove the input option from the printer and check the autoconnect connector for damage. Is the input option damaged?	Replace the input option tray. If the input option is an HCIT, replace the HCIT top plate assembly. See **"Top plate assembly removal" on page 4-206**.	Go to step 2.
2	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **Print Test > Tray # > Single**. Does the printer print correctly?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 3.
3	• For 550 input option, try installing an new 550 input option. • For HCIT input option, install a new top plate assembly to verify the problem. Does this fix the problem?	• For 550 input option, replace the 550 input option assembly. • For HCIT input option, replace the top plate assembly. See **"Top plate assembly removal" on page 4-206**.	Go to step 4.
4	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the connector JOPT1 for proper connection to the system board, the cable for pinch points, and the cable or connector for any other damage. 5. Reseat JOPT1. 6. Carefully lift the printer off the options, and lay the printer on its back. 7. 7.Check the option connector for damage is the option cable connector damage?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Replace the system board. See **"System board removal" on page 4-155**.

243.02—Paper Jam service check

Step	Questions / actions	Yes	No
1	Has paper been fed from an input option before?	Go to step 4.	Go to step 2.

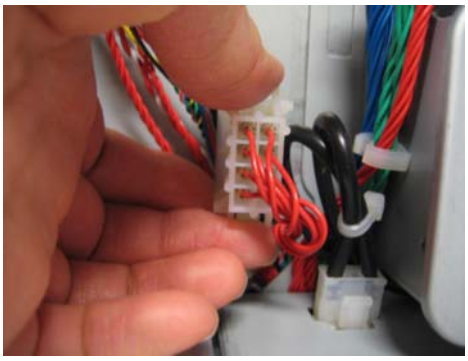
Step	Questions / actions	Yes	No
2	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the connector JOPT1 for proper connection to the system board, the cable for pinch points, and the cable or connector for any other damage.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.
3	Carefully lift the printer off the option, and lay the printer on its back. Check the option connector for damage.  Is the connector damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.
4	Replace the complete tray 3 option. Does the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

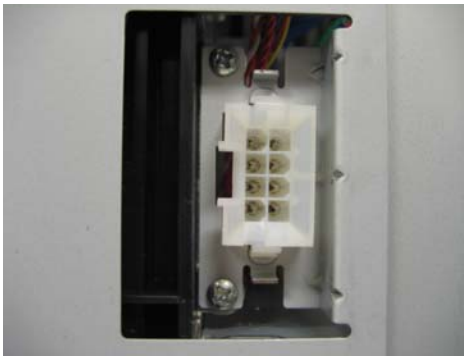
243.03, 243.11—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > select a tray below tray 3 > **Single**. Did the page print correctly?	Problem resolved.	Go to step 2.

Step	Questions / actions	Yes	No
2	Is tray 3 a high-capacity input option (2,000-sheet feeder)?	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**.	Replace the complete tray 3 option.

243.05—Paper Jam service check

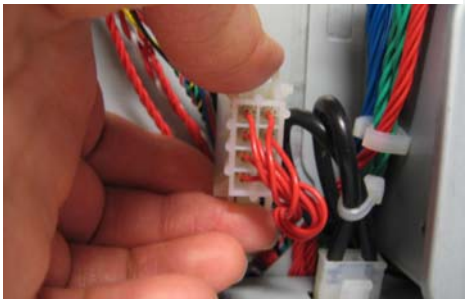
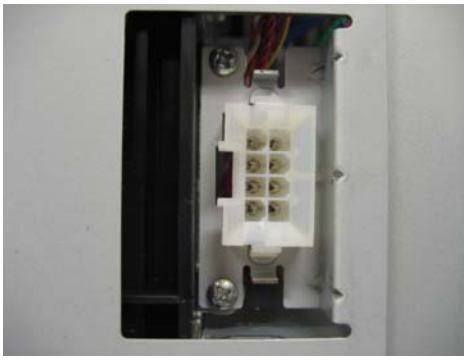
Step	Questions / actions	Yes	No
1	Has paper been fed from an input option before?	Go to step 5.	Go to step 2.
2	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > select a tray below tray 3 > **Single**. Did the page print correctly?	Problem resolved.	Go to step 3.
3	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the connector at JOPT1 on the system board for proper connection, the cable for pinch points, and the cable or connector for any other damage.  Is the cable damaged?	Replace the option cable.	Go to step 4.

Step	Questions / actions	Yes	No
4	1. Carefully lift the printer off the option, and lay the printer on its back. 2. Check the option connector for damage.  Is the connector damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 5.
5	Is tray 3 a high-capacity input option (2,000-sheet feeder)?	Go to step 7.	Go to step 6.
6	Replace the complete tray 3 option. Does the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.
7	Replace the high-capacity input tray (2,000-sheet feeder)?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

243.10—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > select a tray below tray 3 > **Single**. Did the page feed correctly?	Problem resolved	Replace the complete tray 3 option.

243.17—Paper Jam service check

Step	Questions / actions	Yes	No
1	Has paper been fed from an input option before?	Go to step 4.	Go to step 2.
2	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the cable in connector JOPT1 for proper connection to the system board, cable pinch points, and any other damage to the cable or connector.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.
3	Carefully lift the printer off the option, and lay the printer on its back. Check the option connector for damage.  Is the option cable connector or cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.
4	Is tray 3 an high-capacity input tray (HCIT)?	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**.	Replace the complete tray 3 option.

243.26—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Determine the input tray. 2. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **PRINT TESTS** > select indicated input tray **> Single**. Did the page feed correctly?	Problem resolved	Go to step 2.
2	Is tray 2 a high-capacity input tray (2,000-sheet feeder)?	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**.	Replace the complete tray 4 option.

243.27—Paper Jam service check

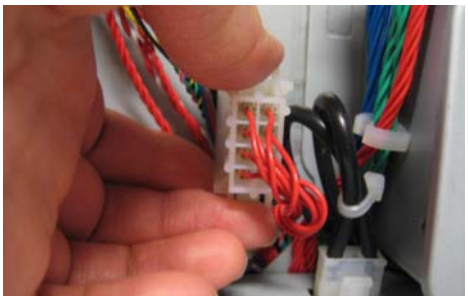
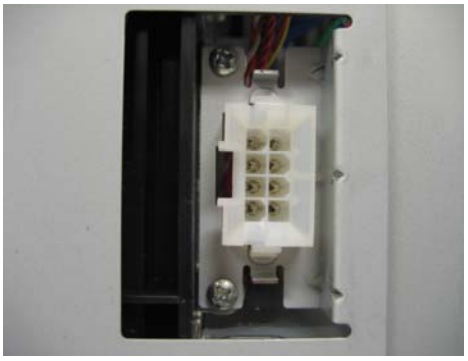
Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > select a tray below tray 4 > **Single**. Did the page feed correctly?	Problem resolved.	Replace the complete tray 4 option.

243.29—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > **Tray 3** > **Single**. Did the page feed correctly?	Problem resolved.	Go to step 2.
2	Is tray 3 a high-capacity input tray (2,000-sheet feeder)?	Replace the HCIT elevator-up sensor. See **"HCIT elevator motor with sensor removal" on page 4-200**.	Replace the complete tray 3 option.

244.02—Paper Jam service check

Previous
Next
Go Back

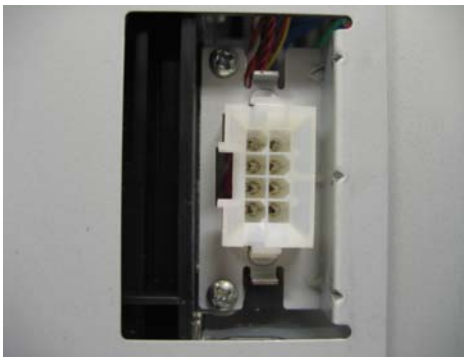
Step	Questions / actions	Yes	No
1	Has paper been fed from an input option before?	Go to step 4.	Go to step 2.
2	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the connector JOPT1 for proper connection to the system board, the cable for pinch points, and the cable or connector for any other damage.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.
3	1. Carefully lift the printer off the options, and lay the printer on its back. 2. Check the option connector for damage.  Is the connector damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.
4	Replace the complete tray 4 option. Does the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

244.03, 244.11—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > select a tray below tray 4 > **Single**. Did the page print correctly?	Problem resolved.	Go to step 2.
2	Is tray 4 a high-capacity input option (2,000-sheet feeder)?	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**.	Replace the complete tray 4 option.

244.05—Paper Jam service check

Step	Questions / actions	Yes	No
1	Has paper been fed from an input option before?	Go to step 5.	Go to step 2.
2	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > select a tray below tray 3 > **Single**. Did the page print correctly?	Problem resolved.	Go to step 3.
3	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the connector at JOPT1 on the system board for proper connection, the cable for pinch points, and the cable or connector for any other damage. Is the cable damaged?	Replace the option cable.	Go to step 4.

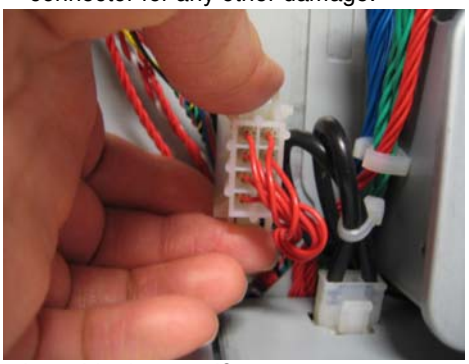
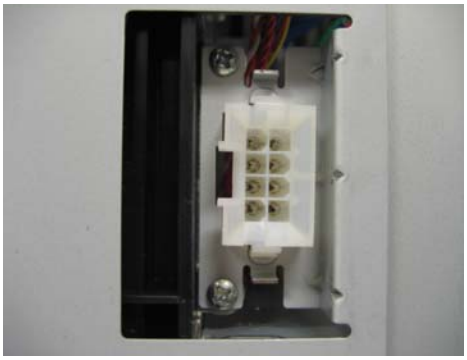
Step	Questions / actions	Yes	No
4	1. Carefully lift the printer off the option, and lay the printer on its back. 2. Check the option connector for damage.  Is the connector damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 5.
5	Is tray 4 a high-capacity input option (2,000-sheet feeder)?	Go to step 7.	Go to step 6.
6	Replace the complete tray 4 option. Does the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.
7	Replace the high-capacity input tray (2,000-sheet feeder)?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

244.10—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > select a tray below tray 4 > **Single**. Did the page feed correctly?	Problem resolved	Replace the complete tray 4 option.

244.17—Paper Jam service check

Step	Questions / actions	Yes	No
1	Has paper been fed from an input option before?	Go to step 4.	Go to step 2.

Step	Questions / actions	Yes	No
2	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the connector in JOPT1 for proper connections to the system board, the cable for pinch points, and the cable or connector for any other damage.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.
3	Carefully lift the printer off the option, and lay the printer on its back. Check the option connector for damage  Did the page feed correctly?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.
4	Is tray 4 an high-capacity input tray (HCIT)?	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**	Replace the complete tray 4 option.

244.26—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Determine the input tray. 2. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **PRINT TESTS** > select the input tray > **Single**. Did the page feed correctly?	Problem resolved	Go to step 2.

Step	Questions / actions	Yes	No
2	Is tray 5 a high-capacity input tray (2,000-sheet feeder)?	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**.	Replace the complete tray 5 option.

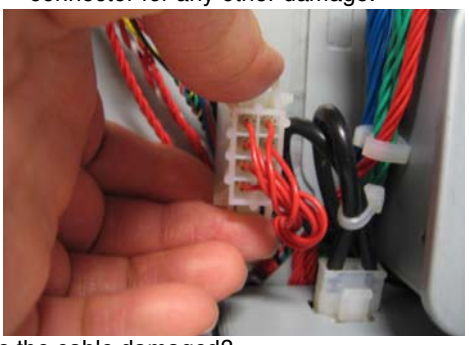
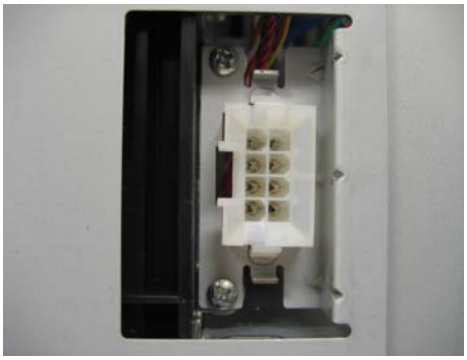
244.27—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > select a tray below tray 4 > **Single**. Did the page feed correctly?	Problem resolved.	Replace the complete tray 4 option.

244.29—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > **Tray 4** > **Single**. Did the page feed correctly?	Problem resolved.	Go to step 2.
2	Is tray 4 a high-capacity input tray (2,000-sheet feeder)?	Replace the HCIT elevator-up sensor. See **"HCIT elevator motor with sensor removal" on page 4-200**.	Replace the complete tray 4 option.

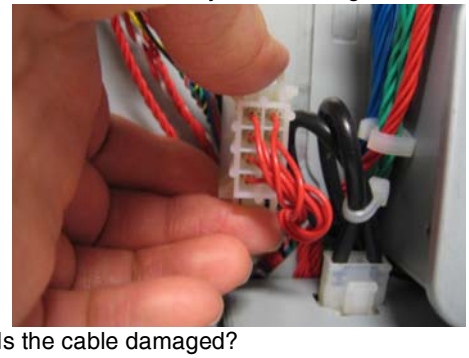
245.02—Paper Jam service check

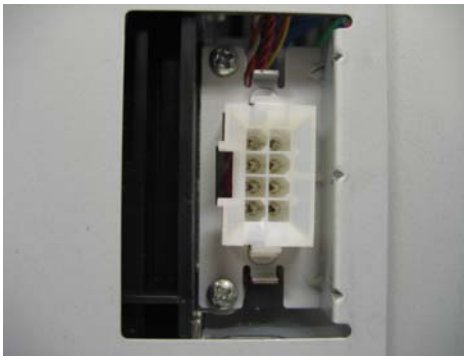
Step	Questions / actions	Yes	No
1	Has paper been fed from an input option before?	Go to step 4.	Go to step 2.
2	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the connector JOPT1 for proper connection to the system board, the cable for pinch points, and the cable or connector for any other damage.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.
3	Carefully lift the printer off the options, and lay the printer on its back. Check the option connector for damage.  Is the connector damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.
4	Replace the complete tray 5 option. Does the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

245.03, 245.11—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. ring the printer up in Diagnostics Menu (turn the multifunction printer off, press and hold **3** and **6,** turn the MFP on, and then release the buttons when the progress bar displays). 2. Navigate to **PRINT TESTS** > select a tray below tray 3 > **Single**. Did the page print correctly?	Problem resolved.	Go to step 2.
2	Is tray 5 a high-capacity input option (2,000-sheet feeder)?	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**.	Replace the complete tray 5 option.

245.05—Paper Jam service check

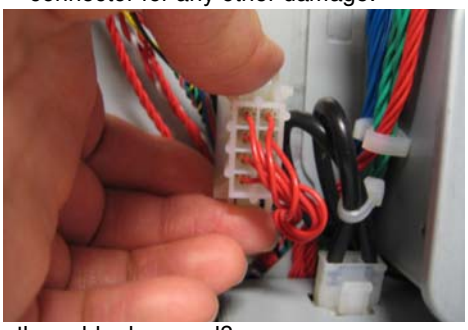
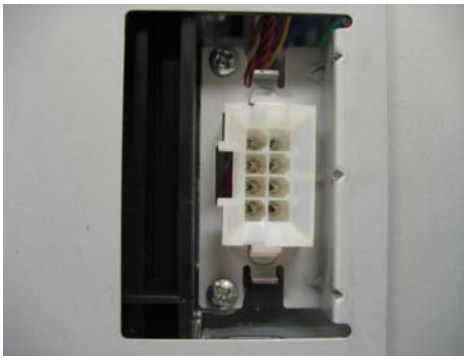
Step	Questions / actions	Yes	No
1	Has paper been fed from an input option before?	Go to step 5.	Go to step 2.
2	1. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > **Tray 5** > **Single**. Did the page feed correctly?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.
3	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the connector at JOPT1 on the system board for proper connection, the cable for pinch points, and the cable or connector for any other damage.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.

Step	Questions / actions	Yes	No
4	Carefully lift the printer off the option, and lay the printer on its back. Check the option connector for damage.  Is the connector damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 5.
5	Is tray 4 a high-capacity input option (2,000-sheet feeder)?	Go to step 7.	Got to step 6.
6	Replace the complete tray 5 option. Does the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.
7	Replace the HCIT top plate. See **"Top plate assembly removal" on page 4-206**.	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

245.10—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostic menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > select a tray below tray 5 > **Single**. Did the page feed correctly?	Problem resolved.	Replace the complete tray 5 option.

245.17—Paper Jam service check

Step	Questions / actions	Yes	No
1	Has paper been fed from an input option before?	Go to step 4.	Go to step 2.
2	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Remove the right cover. See **"Right cover removal" on page 4-51**. 4. Check the connector JOPT1 for proper connection to the system board, the cable for pinch points, and the cable or connector for any other damage.  Is the cable damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 3.
3	Carefully lift the printer off the options, and lay the printer on its back. Check the option connector for damage.  Is the connector damaged?	Replace the option cable. See **"Option cable removal" on page 4-135**.	Go to step 4.
4	Replace the complete tray 5 option. Does the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

245.29—Paper Jam service check

Step	Questions / actions	Yes	No
1	1. Bring the printer up in Diagnostic menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Navigate to **PRINT TESTS** > **Tray 5** > **Single**. Did the page feed correctly?	Problem resolved.	Go to step 2.
2	Is tray 5 a high-capacity input tray (2,000-sheet feeder)?	Replace the HCIT elevator-up sensor. See **"Top plate assembly removal" on page 4-206**.	Replace the complete tray 5 option.

900.00–900.99 (except 900.05)—System software error service check

There are different types of 900.xx errors that can occur. There may be a communication problem (Bad cable, network connection, and so on) software issue, or a hardware problem with the controller board, or ISP (Internal solutions port). The communication and software aspects should be checked first. Determine if the problem is constant or intermittent. Use the troubleshooting procedure below to isolate the issue. Take any notes as instructed. You will need that information in the event you need to contact your next level support.

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

Step	Action and questions	Yes	No
1	POR the device. **Does the error reoccur?**	Go to step 2.	Problem resolved.
2	• 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. **Does the 900.xx error reoccur during startup?**	Go to step 3.	Go to step 6.
3	Check all the cables connected to the RIP board for proper connectivity. **Are the cables properly connected?**	Go to step 5.	Go to step 4.
4	Properly connect the cables to the RIP board. Restart the device into diagnostic mode. **Does the 900.xx error reoccur during startup?**	Go to step 5.	Go to step 6.
5	Replace the RIP board, and restart the device. **Does this fix the problem?** **Note:** If an error, different from the original 900.xx, is displayed, consult the service check for that error.	Problem resolved.	Go to step 31.

Step	Action and questions	Yes	No
6	Print the following: • Error log • Menu settings page • Network settings page **Does the 900.xx error reoccur while these pages were printing?**	Go to step 31.	Go to step 7.
7	Re-attach the communications cable. Restart the printer to operating mode. Send the printer a print job. **Does 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 8.	Go to step 10.
8	Restart the printer to operating mode. Send a different print job to the device. **Does the 900.xx error reoccur?**	Go to step 9.	Go to step 10.
9	Upgrade the firmware. Contact your next level of support for the correct firmware level to use. Restart the printer to operating mode. Send the printer a print job. **Does the 900.xx error reoccur?**	Go to step 31.	Go to step 10.
10	Is the device a Multi Function Printer?	Go to step 11.	Go to step 13.
11	Run a copy job. **Does the 900.xx error reoccur?**	Go to step 31.	Go to step 12.
12	Run a scan to PC job. **Does the 900.xx error reoccur?**	Go to step 31.	Go to step 13.
13	Is there optional memory installed?	Go to step 14.	Go to step16.
14	Reinstall the memory, and send a print job to the device. **Does the 900.xx error reoccur?**	Go to step 15.	Go to step 16.
15	Install a Lexmark recommended memory option. Send a print job to the device. **Does the 900.xx error reoccur?**	Go to step 31.	Problem resolved.
16	Is there a modem installed on the device?	Go to step 17.	Go to step 21.
17	Reinstall the modem. Restart the device. **Does the 900.xx error reoccur?**	Go to step 18.	Go to step 20.
18	Upgrade the firmware. Contact your next level of support for the correct firmware level to use. Restart the printer to operating mode. Send the printer a print job. **Does the 900.xx error reoccur?**	Go to step 19.	Problem resolved.

Step	Action and questions	Yes	No
19	Replace the modem. Restart the device. **Does the 900.xx error reoccur?**	Go to step 31.	Problem resolved.
20	Run a fax job. **Does the 900.xx error reoccur?**	Go to step 31.	Go to step 21.
21	Are there any ISP (internal solutions port) options installed?	Go to step 22.	Problem resolved.
22	Reinstall the first ISP option. Restart the device. **Does the 900.xx error reoccur?**	Go to step 24.	Go to step 23.
23	Run a job to test the option. **Does the 900.xx error reoccur?**	Go to step 24.	Go to step 26.
24	Upgrade the firmware. Contact your next level of support for the correct firmware level to use. Restart the printer to operating mode. **Does the 900.xx error reoccur?**	Go to step 25.	Problem resolved.
25	Replace the faulty ISP option. Restart the device. **Does the 900.xx error reoccur?**	Go to step 31.	Go to step 26.
26	Are there any more ISP options to install?	Go to step 27	Problem resolved.
27	Install the next ISP option. Restart the device. **Does the 900.xx error reoccur?**	Go to step 29.	Go to step 28.
28	Run a job to test the option. **Does the 900.xx error reoccur?**	Go to step 29.	Go to step 26.
29	Upgrade the firmware. Contact your next level of support for the correct firmware level to use. Restart the printer to operating mode. **Does the 900.xx error reoccur?**	Go to step 30.	Go to step 26.
30	Replace the faulty ISP option. Restart the device. **Does the 900.xx error reoccur?**	Go to step 31.	Go to step 26.
31	Contact your next level of 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		

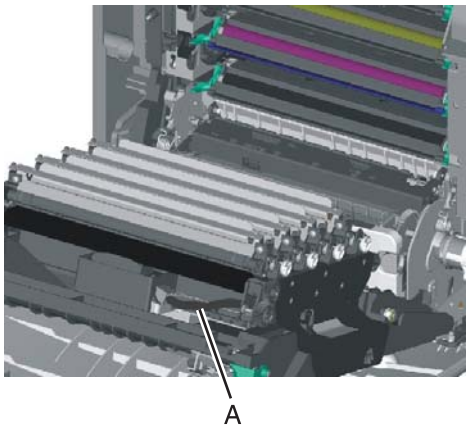
900.05—Transfer module error service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the transport cable in connector JTPS1 for proper connection to the system board. 4. Open the front access door and check the transport cable for pinch points and any other damage to the cable or connector. Is the cable damaged?	Replace the transport cable. See **"Transport cable removal" on page 4-173**.	Go to step 2.
2	Replace the transfer module. Does the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

902.59—Engine software error, NVRAM MGR problem service check

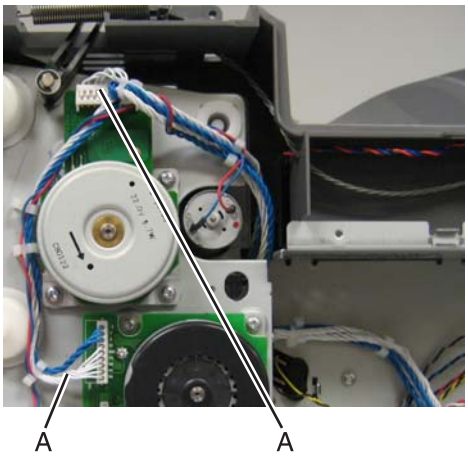
Step	Questions / actions	Yes	No
1	1. Turn off the printer. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check JPH1 and JTPS1 for proper connection and damage. 4. Check the transport cable on the transfer belt module side for any damage. Is either of the cables damaged?	If the JTPS1 cable is damaged, replace the JTPS1 cable. If the JPH1 cable is damaged, replace the printhead assembly. See **"Printhead removal, installation, and adjustment" on page 4-145**	Go to step 2.
2	1. Reseat the JPH1 and JTPS1 cables. 2. Reseat the transport cable on the transfer belt module side. 3. Power on the printer. Does the problem persist?	Go to step 3.	Problem resolved.
3	Install a new transfer module to verify if the old transfer module is defective. Does the problem persist?	Go to step 4.	Replace the transfer module. See **"Transfer module removal" on page 4-171**.
4	Connect a new transport cable from outside of the machine. Does the problem persist?	1. Return the old transfer module and transport cable. 2. Go to step 5.	Replace the transport cable. See **"Transport cable removal" on page 4-173**.
5	Connect a new printhead assembly from outside of the printer and verify the printhead. See **"Printhead verification" on page 3-39**. Does the problem persist?	Replace the system board. See **"System board removal" on page 4-155**.	Replace the printhead assembly. See **"Printhead removal, installation, and adjustment" on page 4-145**

920.03, 920.25—Transfer Module Missing or not connected service check

Step	Questions / actions	Yes	No
1	Open the front access door. Reseat the transport cable.  Does the error clear?	Problem resolved.	Go to step 2.
2	Turn the printer off, and then remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Reseat the transport cable in connector JTPS1. Does the error clear?	Problem resolved.	Go to step 3.
3	Check the transport cable in connector JTPS1 for pinch points and for any other damage to the cable or connector. Is the cable damaged?	Replace the transport cable. See **"Transport cable removal" on page 4-173**.	Go to step 4.
4	Replace the transport belt assembly. See **"Transfer module removal" on page 4-171**. Does the error clear?	Problem resolved.	Go to step 5.
5	Connect a new transport cable to the transfer belt module and the system board from outside of the machine. Does the error clear?	Replace the transport cable. See **"Transport cable removal" on page 4-173**.	Replace the system board. See **"System board removal" on page 4-155**.

920.04—POST (power-on self test) fuser motor not connected error service check

Step	Questions / actions	Yes	No
1	Turn the printer off, and then remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Reseat the cables in connectors JCARTP1) and JCARTS1. Does the error clear?	Problem resolved.	Go to step 2.

Step	Questions / actions	Yes	No
2	Check the cartridge motor 1/fuser cable in connector JCARTP1 and JCARTS1 for pinch points and the cables or connectors for any other damage. Are the cables damaged?	Replace the cartridge motor1/fuser cable. See **"Cartridge motor 1/fuser cable removal" on page 4-67**.	Go to step 3.
3	Remove the right cover.See **"Right cover removal" on page 4-51**. Check the cartridge motor 1/fuser motor cable (A) for proper connection to the EP drive assembly, pinch points for the cable, and damage to the cable or connector.  Is either cable damaged?	Replace the cartridge motor 1/fuser motor cable. See **"Cartridge motor 1/fuser cable removal" on page 4-67**.	Go to step 4.
4	1. Disconnect the cable connecting motor 1/fuser motor cable and cartridge motor 2/motor 3, and connect the cable to the new EP drive assembly outside the machine. 2. POR the printer, then check if the error remains. Did the error clear?	Replace the EP drive assembly. See **"Electrophotographic (EP) drive assembly removal" on page 4-90**.	Go to step 5.
5	Connect a new cartridge motor1/fuser motor cable to the old EP drive assembly without installing it into the machine. Did the error clear?	Replace the cartridge motor 1/fuser motor cable. See **"Cartridge motor 1/fuser cable removal" on page 4-67**.	Replace the system board. See **"System board removal" on page 4-155**.

920.05—POST (power-on self test) printhead motor not connected error service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Reseat the cables in connector JMIRR1. Does the error clear?	Problem resolved.	Go to step 2.
2	Check the cables in connector JMIRR1 for pinch points and any other damage to the cables or connectors. Is the cable damaged?	Replace the printhead. See **"Printhead removal, installation, and adjustment" on page 4-145**.	Go to step 3.

Step	Questions / actions	Yes	No
3	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 4.
4	1. Perform the printhead verification to check whether the new printhead solves the problem. See **"Printhead verification" on page 3-39**. 2. Navigate to **PRINTHEAD TESTS** > **Mirror Motor Test**. Did the mirror motor pass the test?	Replace the printhead. See **"Printhead removal, installation, and adjustment" on page 4-145**.	Replace the system board. See **"System board removal" on page 4-155**.

920.06—Input sensor service check

Step	Questions / actions	Yes	No
1	Is the input sensor flag damaged?	Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.	Go to step 2.
2	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Check the cable in connector JTRAY1 for proper connection to the system board, for pinch points, and any other damage to the cable or connector. Is the cable damaged?	Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.	Go to step 3.
3	1. Disconnect the cable in connector JTRAY1. 2. Connect the cable from the new paper pick assembly in connector JTRAY1. 3. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **SENSOR TESTS** > **Dynamic Sensors** > **Input**. 5. Activate the input sensor. Did the input sensor change from Open to Closed?	Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.	Replace the system board. See **"System board removal" on page 4-155**.

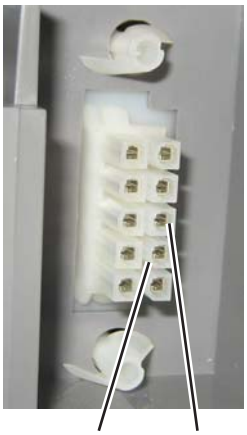
920.07—POST (power-on self test)—Narrow media sensor error service check

Step	Questions / actions	Yes	No
1	Turn the printer off, and then remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Reseat the cable in connector JTRAY1. Does the error clear?	Problem resolved.	Go to step 2.
2	Check the cable in connector JTRAY1 for pinch points and the cable or connector for any other damage. Is the cable damaged?	Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.	Go to step 3.

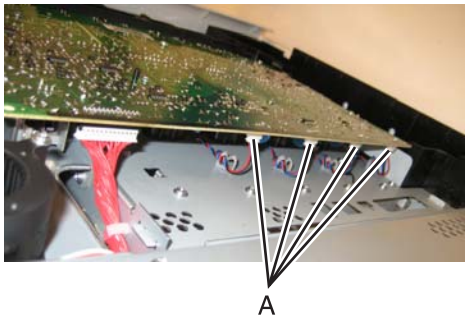
Step	Questions / actions	Yes	No
3	POR the printer. Place a voltmeter between JTRAY1(pin 4), and ground (pin 1). Does the meter read 5 V dc?	Go to step 4.	Replace the system board. See **"System board removal" on page 4-155**.
4	1. Disconnect the cable in JTRAY1. 2. Connect the cable from the new paper pick mechanism. 3. Bring the printer up in Diagnostic menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **SENSOR TESTS** > **Dynamic Sensors** > **Narrow Media**. 5. Activate the narrow media sensor. Did the narrow media sensor change from Closed to Open?	Replace the paper pick mechanism. See **"Paper pick mechanism assembly removal" on page 4-137**.	Replace the system board. See **"System board removal" on page 4-155**.

920.08—Exit sensor service check

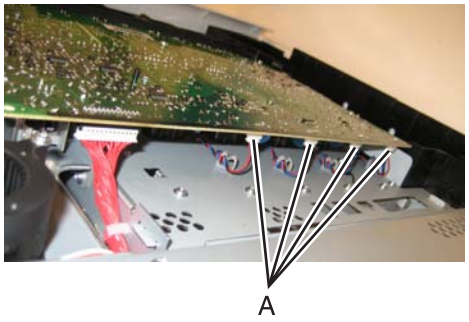
Step	Questions / actions	Yes	No
1	Verify the paper is loaded properly in the paper tray or manual feed slot. Is the paper properly loaded?	Go to step 2.	Load paper correctly.
2	1. Turn the printer off. 2. Install the new fuser. See **"Fuser removal" on page 4-110** **Note:** Do not reset fuser count or run motor calibration yet. 3. POR the printer. Did the error clear?	Problem resolved. **Note:** Complete the fuser installation: reset fuser count and run motor calibration. See **"Fuser removal" on page 4-110**.	Remove the new fuser, and go to step 3.
3	Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Check the fuser DC cable in the connector JFUSER1 for proper connection to the system board, for pinch points, and for any other damage to the cable or the connector. Is the cable damaged?	Replace the fuser DC cable. See **"Fuser DC cable removal" on page 4-113**.	Go to step 4.

Step	Questions / actions	Yes	No
4	Place a voltmeter between the fuser DC autoconnect pin 8 and ground (pin 6).  Does the meter rear +5 V dc?	Go to step 6.	Go to step 5.
5	Place a voltmeter between the connector JFUSER1 pin 8 and ground (pin 6) on the system board. Does the meter read +5 V dc?	Go to step 6.	Replace the fuser DC cable. See **"Fuser DC cable removal" on page 4-113**.
6	1. Replace the fuse without resetting the fuser count. 2. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **SENSOR TESTS** > **Dynamic Sensors > Fuser Exit**. 4. Open the front door, and then the top access cover. 5. Activate the fuser exit sensor. Did the fuser exit sensor change from Open to Closed?	Replace fuser and reset the fuser count. See **"Fuser removal" on page 4-110**.	Replace the system board. See **"System board removal" on page 4-155**.

920.09—POST (power-on self test)—Four toner sensors not connected error service check

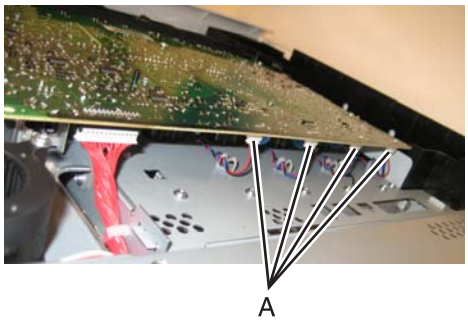
Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Reseat the cable in connector JHVPS1. Does the error clear?	Problem resolved.	Go to step 2.
2	Check the HVPS cable in connector JHVPS1 for pinch points and any other damage to the cable or connector. Is the cable damaged?	Replace the HVPS cable. See **"High-voltage power supply (HVPS) cable removal" on page 4-117**.	Go to step 3.
3	1. Remove the left cover. See **"Left cover removal" on page 4-31**. 2. Reseat and check all the toner level sensor cables (A) connected to the rear of the HVPS for damages and if they are installed correctly.  A Does the problem persist?	Go to step 4.	Problem resolved.
4	Connect four new toner level sensors outside the machine and perform a POR. **Note:** Keep track of which sensors change the error code to reduce the number of failing sensors. Keep the old sensor which does not reduce the failing number, leaving three new sensors and no error reported. Does the problem persist?	Remove the four new toner level sensors and go to step 5.	Replace the failing toner level sensors. See **"Toner level sensor removal" on page 4-163**.
5	Replace the HVPS board. See **"High-voltage power supply (HVPS) removal" on page 4-115**. Does the error clear?	Problem resolved.	Go to step 6.
6	1. Install the old HVPS back to the machine. 2. Replace the HVPS cable. See **"High-voltage power supply (HVPS) cable removal" on page 4-117** Does the problem persist?	Replace the system board. See **"System board removal" on page 4-155**.	Problem resolved.

920.10—POST—Three toner sensors not connected error service check

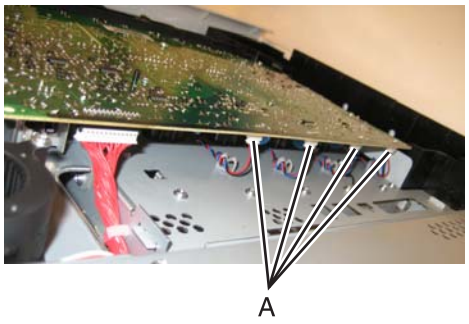
Step	Questions / actions	Yes	No
1	Turn the printer off, and then remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Reseat the cable in connector JHVPS1. Does the error clear?	Problem resolved.	Go to step 2.
2	Check the HVPS cable in connector JHVPS1 for pinch points and any other damage to the cable or connector. Is the cable damaged?	Replace the HVPS cable. See **"High-voltage power supply (HVPS) cable removal" on page 4-117**.	Go to step 3.
3	Remove the left cover. See **"Left cover removal" on page 4-31**. Reseat then and check all the toner level sensor cables (A) connected to the rear of the HVPS for damages and if they are installed correctly.  Does the problem persist?	Go to step 4.	Problem resolved.
4	Connect four new toner level sensors outside the machine and perform a POR. **Note:** Keep track of which sensors change the error code to reduce the number of failing sensors. Keep the old sensor which does not reduce the failing number, leaving three new sensors and no error reported. Does the problem persist?	Go to step 5.	Replace the failing toner level sensors. See **"Toner level sensor removal" on page 4-163**.
5	Replace the HVPS board. See **"High-voltage power supply (HVPS) removal" on page 4-115**. Does the error clear?	Problem resolved.	Go to step 6.
6	1. Install the old HVPS back to the machine. 2. Replace the HVPS cable. See **"High-voltage power supply (HVPS) cable removal" on page 4-117** Does the problem persist?	Replace the system board. See **"System board removal" on page 4-155**.	Problem resolved.

920.11—POST (power-on self test)—Two toner sensors not connected error service check

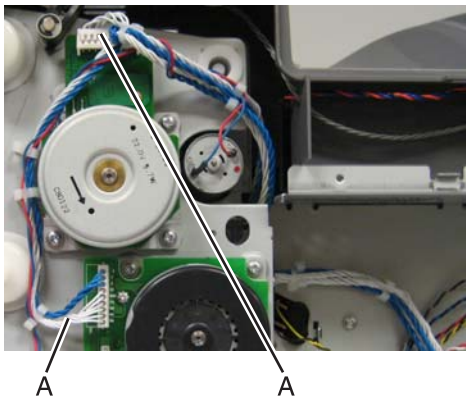
Previous
Next
Go Back

Step	Questions / actions	Yes	No
1	Turn the printer off, and then remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**. Reseat the cable in connector JHVPS1. Does the error clear?	Problem resolved.	Go to step 2.
2	Check the HVPS cable in connector JHVPS1 for pinch points and any other damage to the cable or connector. Is the cable damaged?	Replace the HVPS cable. See **“High-voltage power supply (HVPS) cable removal” on page 4-117**.	Go to step 3.
3	Remove the left cover. See **“Left cover removal” on page 4-31**. Reseat then and check all the toner level sensor cables (A) connected to the rear of the HVPS for damages and if they are installed correctly.  Does the problem persist?	Go to step 4.	Problem resolved.
4	Connect four new toner level sensors outside the machine and perform a POR. **Note:** Keep track of which sensors change the error code to reduce the number of failing sensors. Keep the old sensor which does not reduce the failing number, leaving three new sensors and no error reported. Does the problem persist?	Go to step 5.	Replace the failing toner level sensors. See **“Toner level sensor removal” on page 4-163**.
5	Replace the HVPS board. See **“High-voltage power supply (HVPS) removal” on page 4-115**. Does the error clear?	Problem resolved.	Go to step 6.
6	1. Install the old HVPS back to the machine. 2. Replace the HVPS cable. See **“High-voltage power supply (HVPS) cable removal” on page 4-117** Does the problem persist?	Replace the system board. See **“System board removal” on page 4-155**.	Problem resolved.

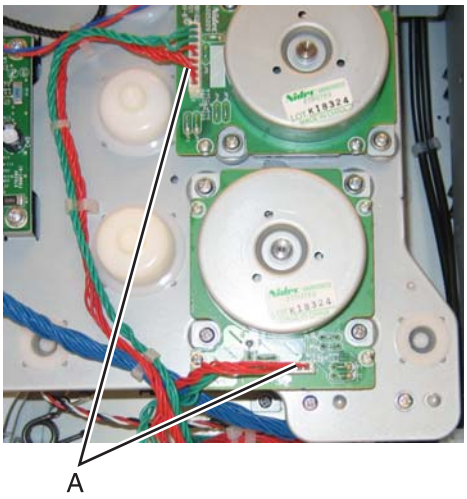
920.12—POST (power-on self test)—One toner sensor not connected error service check

Step	Questions / actions	Yes	No
1	Turn the printer off, and then remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**. Reseat the cable in connector JHVPS1. Does the error clear?	Problem resolved.	Go to step 2.
2	Check the HVPS cable in connector JHVPS1 for pinch points and any other damage to the cable or connector. Is the cable damaged?	Replace the HVPS cable. See **“High-voltage power supply (HVPS) cable removal” on page 4-117**.	Go to step 3.
3	Remove the left cover. See **“Left cover removal” on page 4-31**. Reseat then and check all the toner level sensor cables (A) connected to the rear of the HVPS for damages and if they are installed correctly.  Does the problem persist?	Go to step 4.	Problem resolved.
4	Connect four new toner level sensors outside the machine and perform a POR. **Note:** Keep track of which sensors change the error code to reduce the number of failing sensors. Keep the old sensor which does not reduce the failing number, leaving three new sensors and no error reported. Does the problem persist?	Go to step 5.	Replace the failing toner level sensor. See **“Toner level sensor removal” on page 4-163**.
5	Replace the HVPS board. See **“High-voltage power supply (HVPS) removal” on page 4-115**. Does the error clear?	Problem resolved.	Go to step 6.
6	1. Install the old HVPS back to the machine. 2. Replace the HVPS cable. See **“High-voltage power supply (HVPS) cable removal” on page 4-117** Does the problem persist?	Replace the system board. See **“System board removal” on page 4-155**.	Problem resolved.

920.13—POST (power-on self test) cartridge motor 1 not connected error service check

Step	Questions / actions	Yes	No
1	Turn the printer off, and then remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**. Reseat the cables in connectors JCARTP1 and JCARTS1. Does the error clear?	Problem resolved.	Go to step 2.
2	Check the cables in connectors JCARTP1 and JCARTS1 for pinch points and any other damage to the cables or connectors. Is the cable damaged?	Replace the cartridge motor 1/fuser cable. See **“Cartridge motor 1/fuser cable removal” on page 4-67**.	Go to step 3.
3	Remove the right cover. Check the cartridge motor 1/fuser motor cable (A) for proper connection to the EP drive assembly, pinch points for the cable, or any other damage to the cable or connector.  Is either cable damaged?	Replace the cartridge motor 1/fuser motor cable. See **“Cartridge motor 1/fuser cable removal” on page 4-67**.	Go to step 4.
4	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **“System board removal” on page 4-155**.	Go to step 5.
5	Plug in a new EP drive assembly cartridge motor 1 with the old cable from outside the machine. Does the problem persist?	Go to step 6.	.Replace the EP drive assembly. See **“Electrophotographic (EP) drive assembly removal” on page 4-90**.
6	Plug in a new EP drive assembly cartridge motor 1 with a new cable from outside the machine. Does the problem persist?	Replace the system board. See **“System board removal” on page 4-155**.	Replace cartridge motor 1/fuser cable. See **“Cartridge motor 1/fuser cable removal” on page 4-67**

920.14—POST (power-on self test)—Cartridge motor 2 not connected error service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Reseat the cables in connector JCARTP2 and JCARTS2. Does the error clear?	Problem resolved.	Go to step 2.
2	Check the cable in connector JCARTP2 and JCARTS2 for pinch points and any other damage to the cable or connector. Are the cables damaged?	Replace the cartridge motor 2/3 cable. See **"Cartridge motor 2/3 cable removal" on page 4-69**.	Go to step 3.
3	Remove the right cover. See **"Right cover removal" on page 4-51**. Check the cartridge motor 2/3 cable for the proper connection to the EP drive assembly, pinch point for the cable, or damage to the cable or connectors.  Is either cable damaged?	Replace the cartridge motor 2/3 cable. See **"Cartridge motor 2/3 cable removal" on page 4-69**.	Go to step 4.
4	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-157**.	Go to step 5.
5	Connect a new cartridge motor 1/fuser cable from the outside of the machine. Did the error clear?	Replace the cartridge motor 1/fuser cable. See **"Cartridge motor 1/fuser cable removal" on page 4-67**.	Go to step 6.
6	Connect the old cartridge motor 1/fuser motor cable to a new EP drive assembly outside of the machine. Did the error clear?	Replace the EP drive assembly. See **"Electrophotographic (EP) drive assembly removal" on page 4-90**	Replace system board. See **"System board removal" on page 4-155**.

920.15, 920.20—POST (power-on self test)—Bad transfer module NVRAM data error service check

Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-37**. 3. Check the JTPS1 connector for any damage, and then reseat the JTPS1 cable. 4. Check the transport cable connection to the transport belt for any damages. a. Open the front door cover b. Reseat the transport cable in the transfer belt module. Did the error clear?	Problem resolved.	Go to step 2.
2	Replace the transfer belt module. See **"Transfer module removal" on page 4-171**. Does the problem persist?	Go to step 3.	Problem resolved.
3	Connect a new transport cable from outside of the machine. Does the problem persist?	Return the old transport belt module and old transport cable then replace the system board. See **"System board removal" on page 4-155**.	Return the old transport belt module and replace the transport cable. See **"Transport cable removal" on page 4-173**.

920.16—POST (power-on self test)—Bad printhead NVRAM data error service check

Step	Questions / actions	Yes	No
1	Turn the printer off, and then remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Reseat the large printhead cable in connector JPH1. Does the error clear?	Problem resolved.	Go to step 2.
2	Check the cable in connector JPH1 for pinch points and any other damage to the cable or connector. Is the cable damaged?	Replace the printhead. See **"Printhead removal, installation, and adjustment" on page 4-145**.	Go to step 3.
3	Perform the printhead verification to check whether the printhead replacement fixes the problem. See **"Printhead verification" on page 3-39**. POR the printer. Did the error clear?	Replace the printhead. See **"Printhead removal, installation, and adjustment" on page 4-145**.	Replace the system board. See **"System board removal" on page 4-155**.

920.17—POST (power-on self test)—Output bin cable not connected error service check

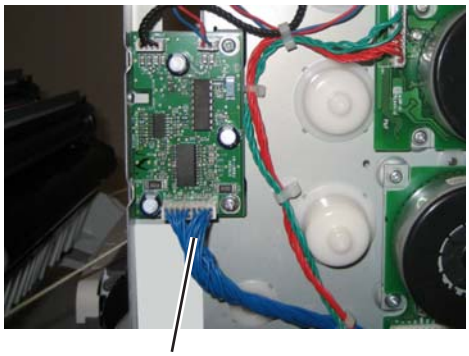
Step	Questions / actions	Yes	No
1	1. Turn the printer off. 2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. 3. Reseat the bin full sensor cable in connector JBIN1. Does the error clear?	Problem resolved.	Go to step 2.
2	Check the bin full sensor cable in connector JBIN1 for pinch points and any other damage to the cable or connector. Is the cable damaged?	Replace the bin full sensor with cable. See **"Bin full sensor removal" on page 4-65**.	Go to step 3.
3	1. Disconnect the cable in the JBIN1 connector. 2. Connect the new bin full flag cable in the JBIN connector. 3. Bring the printer up in Diagnostic menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Navigate to **SENSOR TESTS** > **Other Sensors > Bin Full Test**. 5. Activate the new bin full sensor by placing a sheet of paper in the sensor. Did the bin full sensor change from Open to Closed?	Replace the bin full sensor and cable. See **"Bin full sensor removal" on page 4-65**.	Replace the system board. See **"System board removal" on page 4-155**.

920.18—POST (power-on self test)—Cartridge motor 3 not connected error service check

Step	Questions / actions	Yes	No
1	Turn the printer off and remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**. Reseat the cables in connectors JCARTP2 and JCARTS2. Does the error clear?	Problem resolved.	Go to step 2.
2	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **“System board removal” on page 4-155**.	Go to step 3.
3	1. Remove the right cover. See **“Right cover removal” on page 4-51**. 2. Check the connections on the cartridge motor 2/3 cables and reseat the cables. 3. Check the routing on the cables for pinch points and any other damage to the cables or the connectors. Is the cable free from damage?	Replace the cartridge motor 2/3 cable. See **“Cartridge motor 2/3 cable removal” on page 4-69**.	Go to step 4.
4	Connect a new Cartridge motor 2/3 cable from outside of the machine, then POR the printer. **Note:** Verify first if the cable is working properly by testing connections of the cable on motor 2 and 3 to the JCARTP2 and JCARTS2 connectors. Route the cables properly only when you have verified that the cables are working properly. Did the error clear?	Replace the cartridge motor 2/3 cable. See **“Cartridge motor 2/3 cable removal” on page 4-69**.	Go to step 5.
5	Connect a new EP drive assembly from the outside of the machine. **Note:** Verify first if the EP drive assembly is working properly. Connect the cables on the fuser motor, cartridge motor 1, 2, and 3 on the new EP drive assembly. Route the cables properly only when you have verified that the cables are working properly. Did the error clear?	Return the old cartridge motor 2/3 cable and replace the EP drive assembly. See **“Electrophotographic (EP) drive assembly removal” on page 4-90**	Return the old EP drive assembly and the old cartridge motor 2/3 cable, then replace the system board. See **“System board removal” on page 4-155**.

920.19—POST (power-on self test)—Transfer module stepper motor not connected error service check

Step	Questions / actions	Yes	No
1	Turn the printer off, and then remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**. Reseat the motor driver cable in connector JDVR1. Does the error clear?	Problem resolved.	Go to step 2.

Step	Questions / actions	Yes	No
2	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **“System board removal” on page 4-155**.	Go to step 3.
3	1. Open the right cover. 2. Reseat the motor driver cable on the motor driver side (A). 3. Reseat all cables connected to the motor driver card.  Did this clear the error?	Problem resolved.	Go to step 4.
4	**Note:** Connect a new motor driver cable from outside of the machine.Make sure to verify first if the motor driver cable is working properly by connecting one end to the motor driver card, and the other end to the JDVR1 connector on the system board. Route the cables properly only when you have verified that the cable is working properly. Did this clear the error?	Replace the motor driver cable See **“Motor driver cable removal” on page 4-122**.	Go to step 5.
5	Connect a new transport motor cable. Did this clear the error?	Return the original part from the printer and replace the transport motor cable. See **“Transport motor cable removal” on page 4-175**.	Go to step 6.
6	Connect a new motor driver card. Did this clear the error?	Return the original parts of the printer and replace the motor driver card. See **“Motor driver card removal” on page 4-121**.	Go to step 7.
7	1. Connect a new EP drive assembly from outside of the machine. 2. Transfer the motor driver card and cables to the new EP drive assembly and connect the cables. Did this clear the error?	Replace the EP drive assembly and connect the original parts back to the machine. See **“Electrophotographic (EP) drive assembly removal” on page 4-90**.	Replace the system board. See **“System board removal” on page 4-155**.

920.21—POST (power-on self test)—24 V power supply failure error service check

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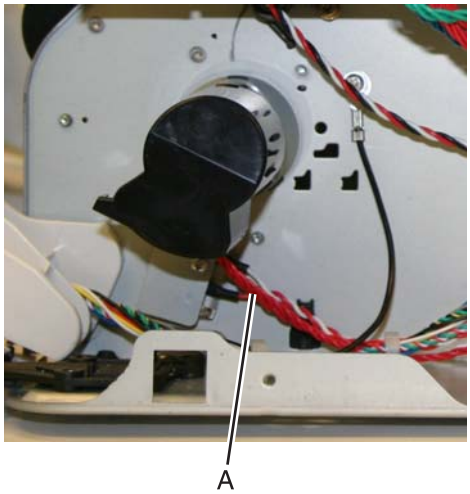
Step	Questions / actions	Yes	No
1	**Note:** The LVPS must be turned off for several seconds before turning back on. This error can occur if the LVPS does not have time to recover after being turned off. 1. Open the front door cover 2. Check the 24V interlock switch for damage and proper installation. 3. Check if the front door actuator can trigger the sensor. Is the front door sensor actuator able to trigger the sensor?	Go to step 3.	Go to step 2.
2	1. Check if the front door assembly can close properly. 2. Check the front door pivot for any damage. 3. Check if the front door can close properly. Is the front door damaged?	Replace the front door. See **“Front door assembly removal” on page 4-100**.	Go to step 3.
3	1. Check the cable in connector JCVR1 for proper connection to the system board, pinch points, and for any other damage to the cable or connector. 2. Reseat the cable. Did the error clear?	Problem resolved.	Go to step 4.
4	1. Disconnect the cable in connector JCVR1 2. Connect a new 24 V interlock switch without properly routing the cables. **Note:** The 24V interlock switch should be plugged in without installing inside the machine. Close the covers, manually actuate the switch, and then turn on the machine. Did the error clear?	Replace the 24 V interlock switch. See **“24 V interlock switch removal” on page 4-63**.	Go to step 5.
5	Check the input voltage switch on the back of the low-voltage power supply (LVPS). Some power supplies do not have the switch. **Note:** If your FRU does not have a switch, proceed to step 6. Is the voltage level (115/230) properly set?	Go to step 6.	Set the switch for the proper voltage supported by your country.
6	Reseat the cable in connector JLVPS1. Did the error clear?	Problem resolved.	Go to step 7.
7	Replace the LVPS. **Note:** Verify first if the new LVPS is working properly before installing it inside the machine. Remove the old LVPS, and install the new LVPS without installing the screws. Connect the fuser and JLVPS1 connectors to the new LVPS. Did the error clear?	Replace the LVPS. See **“Low-voltage power supply (LVPS) removal” on page 4-119**.	Replace the system board. See **“System board removal” on page 4-155**.

920.23—POST (power-on self test)—Duplex motor not connected error service check

Step	Questions / actions	Yes	No
1	Turn the printer off, and then remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Reseat the cable in connector JDX1. Does the error clear?	Problem resolved.	Go to step 2.
2	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 3.
3	Remove the right cover. See **"Right cover removal" on page 4-51**. Check the MPF/duplex motor cable in connector JDX1 for pinch points and any other damage to the cable or connector. Check both ends of the cable.  Is the cable damaged?	Replace the MPF/duplex motor cable. See **"Multipurpose feeder (MPF)/duplex motor cable removal" on page 4-128**. **Note:** Make sure to verify if the new cable is working properly first. Route the cables properly only when you have verified that the cables are working properly.	Go to step 4.
4	1. Replace the MPF/duplex motor assembly. See**"Multipurpose feeder (MPF)/duplex motor assembly removal" on page 4-125**. **Note:** Before replacing a motor, always verify if the new part is working properly by connecting it outside of the machine, 2. POR the printer and check if the error is gone. Did the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

920.27, 920.28, 920.29—POST (power on self test) option tray error service check

Step	Questions / actions	Yes	No
1	Is the specified option the 550-sheet tray?	Replace the 550-sheet tray with a new 550-sheet tray option.	Go to step 2.
2	Is the specified option the special media tray?	Replace the special media tray with a new special tray option.	Go to step 3.
3	Is the specified option the high-capacity input tray (HCIT)?	Replace the HCIT controller board assembly. See **“HCIT controller board assembly removal” on page 4-199**.	

920.32—MPF paper present sensor not connected service check

Step	Questions / actions	Yes	No
1	Check the cable in connector JMPFPP1 for proper connection, reseat cable. Did the error clear?	Problem resolved.	Go to step 2.
2	1. Check the connection on the paper present sensor side. 2. Check for damage and pinch points on the cable. 3. Reseat cable. Did this fix the problem?	Problem resolved.	Go to step 3.
3	Replace the MPF paper present sensor. See **“Multipurpose feeder (MPF) paper present sensor” on page 4-129**. **Note:** Before replacing a part, always verify by connecting the part outside of the machine. Did the error clear?	Problem resolved.	Replace the system board. See **“System board removal” on page 4-155**.

925.01, 925.03, 925.05—Fan error service check

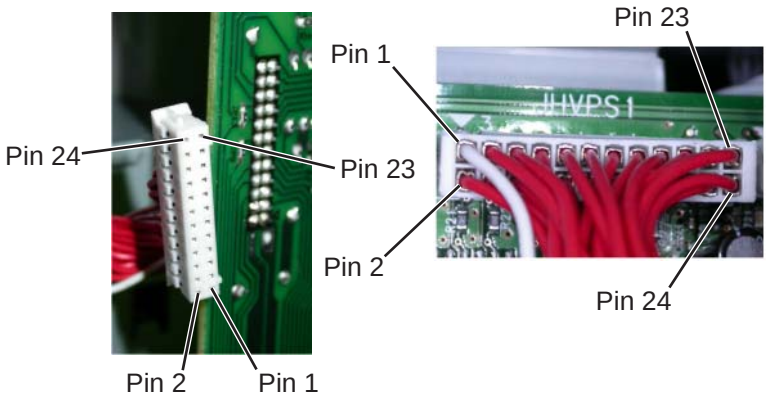
Step	Questions / actions	Yes	No
1	Turn the printer off, and then remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**. Check the cable in connector JFAN1 for proper connection to the system board, for pinch points, and for any other damage to the cable or the connector. Is the cable damaged?	Replace the fan. See **“Cooling fan removal” on page 4-85**.	Go to step 2.
2	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **“System board removal” on page 4-155**.	Go to step 3.

Step	Questions / actions	Yes	No
3	1. Disconnect the cable in connector JFAN1, and install a new fan. 2. Turn the multifunction printer off, and turn the MFP on (perform a POR). **Note:** After installing the new fan, a print test is required to verify operation. Print one page every 30 seconds for 20 minutes to test the highest fan speed. Do not test unless the fan is installed in the machine. Did the error clear?	Replace the cooling fan. See **"Cooling fan removal" on page 4-85**.	Replace the system board. See **"System board removal" on page 4-155**.

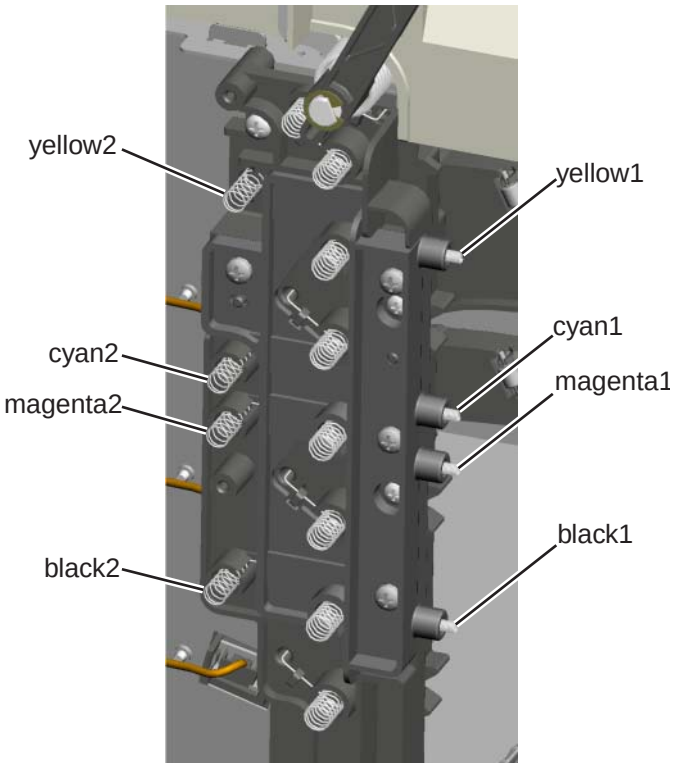
925.02, 925.04, 925.06—Cartridge cooling fan error service check

Step	Questions / actions	Yes	No
1	Turn the printer off, and remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Check the cable in connector JBLW1 for proper connection to the system board, for pinch points, and any other damage to the cable or connector, and reseat the cable. Did the error clear?	Problem resolved.	Go to step 2.
2	Measure the continuity across all of the fuses on the system board. Are any of the fuses blown?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 3.
3	1. Replace the cartridge cooling fan. See **"Cartridge cooling fan removal" on page 4-66**. 2. Turn the multifunction printer off, and turn the MFP on (perform a POR). **Note:** After installing the new fan, a print test is required to verify operation. Print one page every 30 seconds for 20 minutes to test the highest fan speed. Do not test unless the fan is installed in the machine. Did the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

945.xx, 947.xx—Transfer roll error service check

<table>
<tr><th>Step</th><th>Questions / actions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>1. Replace the transfer module. See “Transfer module removal” on page 4-171.
2. POR the printer.
Note: Print 5 pages one at a time to check operation.
Did the error clear?</td><td>Problem resolved.</td><td>Replace the original transfer module. Go to step 2.</td></tr>
<tr><td>2</td><td>Turn the printer off, and then remove the rear frame cover. See “Rear frame cover removal” on page 4-47.
Check the cable in connector JHVPS1 for proper connection to the system board, the cable for pinch points, and the cable or connector for any other damage.
Is the cable damaged?</td><td>Replace the HVPS cable. See “High-voltage power supply (HVPS) cable removal” on page 4-117.</td><td>Go to step 2.</td></tr>
<tr><td>3</td><td>Disconnect JHVPS1 from system board and HVPS. Check for the following continuity.
 

<table>
<tr><th colspan="2">JHVPS1 cable to:</th><th>Error code</th></tr>
<tr><th>HVPS</th><th>System board</th><th></th></tr>
<tr><td>Pin 19</td><td>Pin 19</td><td rowspan="2">945.01, 946.01, 947.01</td></tr>
<tr><td>Pin 20</td><td>Pin 20</td></tr>
<tr><td>Pin 15</td><td>Pin 15</td><td rowspan="2">945.02, 946.02, 947.02</td></tr>
<tr><td>Pin 16</td><td>Pin 16</td></tr>
<tr><td>Pin 17</td><td>Pin 17</td><td rowspan="2">945.03, 946.03, 947.03</td></tr>
<tr><td>Pin 18</td><td>Pin 18</td></tr>
<tr><td>Pin 23</td><td>Pin 23</td><td rowspan="2">945.04, 946.04, 947.04</td></tr>
<tr><td>Pin 24</td><td>Pin 24</td></tr>
</table>
Is continuity present?</td><td>Go to step 3.</td><td>Replace the HVPS cable. See “High-voltage power supply (HVPS) cable removal” on page 4-117.</td></tr>
</table>

Step	Questions / actions	Yes	No
4	Remove the HVPS. See **"High-voltage power supply (HVPS) removal" on page 4-115**. Check for continuity between the contacts (yellow1 and yellow2, cyan1 and cyan2, magenta1 and magenta2, or black1 and black2) on the transfer contact assembly.  Is continuity present?	Go to step 4.	Replace the transfer contact assembly.
4	Replace the HVPS. See **"High-voltage power supply (HVPS) removal" on page 4-115**. Does the error clear?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

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950.00–950.29—EPROM mismatch failure

Warning: When replacing any one of the following components:

- System board
- Operator assembly card or top access cover assembly

Replace only one component at a time or the printer will be rendered inoperable. Replace the required component, bring the printer up in Diagnostic menu (see **"Diagnostics menu" on page 3-2**), 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 operator panel assembly been replaced recently?	Replace the operator panel assembly with a new, and not previously installed, operator panel assembly, See **"Operator panel assembly removal (C746)" on page 4-34** or **"Operator panel assembly removal (C748)" on page 4-37**.	Go to step 2.
2	Has the top access cover assembly been replaced recently?	Replace the top access cover assembly with a new, and not previously installed, operator panel assembly. See **"Top access cover assembly removal" on page 4-54**.	Go to step 3.
3	Has the system board been replaced recently?	Replace the system board with a new, and not previously installed, system board. See **"System board removal" on page 4-155**.	Go to step 4.
4	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 resolved.	Go to step 5.
5	Clear the NVRAM of the printer: 1. Turn the printer power off. 2. With the printer off, press and hold buttons **2**, **6**, **7**, and **8**. 3. Turn the printer power on. 4. When the printer screen displays `Restoring Factory Defaults`, 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. Is the error message still displayed?	Go to step 6.	Problem resolved.

Step	Questions / actions	Yes	No
6	Replace the operator panel assembly. See **“Operator panel assembly removal (C746)” on page 4-34** or **“Operator panel assembly removal (C748)” on page 4-37**. Is the error message still displayed?	Replace the system board. See **“System board removal” on page 4-155**.	Problem resolved.

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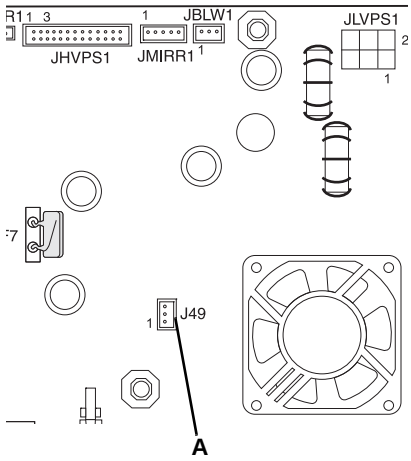
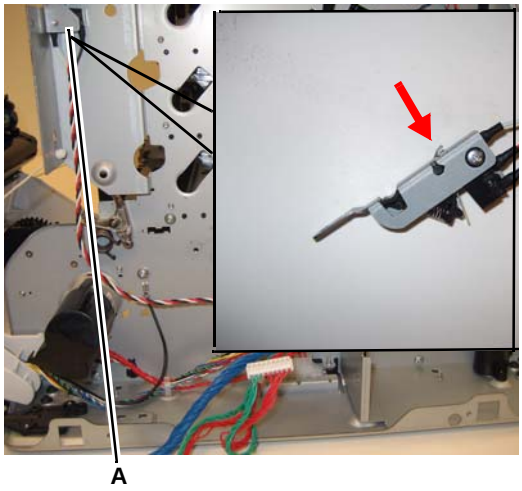
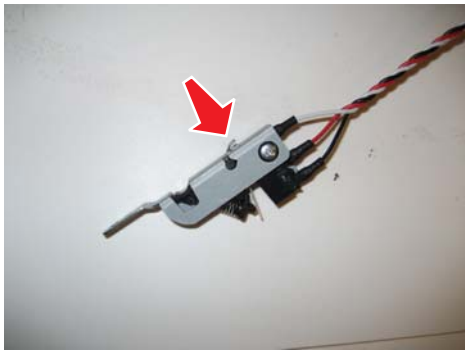
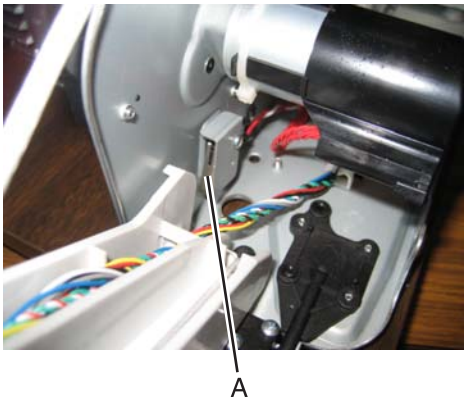
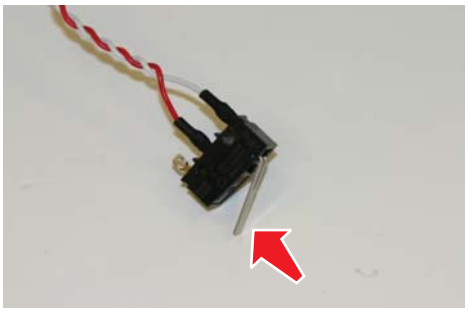
956.xx—System board failure service check

Step	Questions / actions	Yes	No
1	Turn the printer off, and remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**. Check the cable in connector J49 for proper connection to the system board.  Is the cable seated correctly?	Replace the system board. See **“System board removal” on page 4-155**.	Reseat the cable.

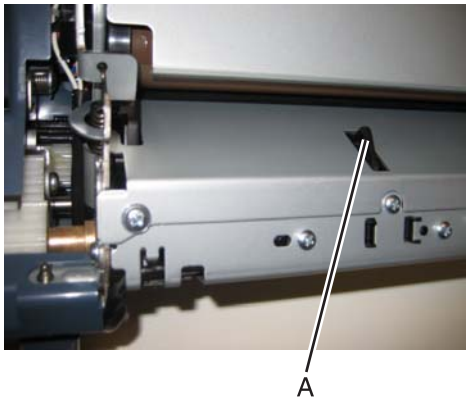
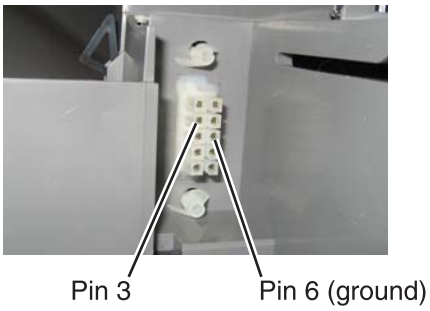
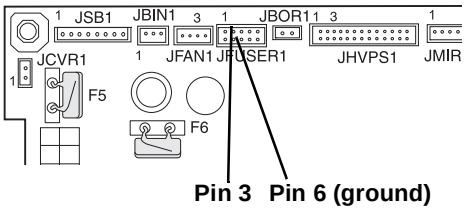
5 V interlock switch service check

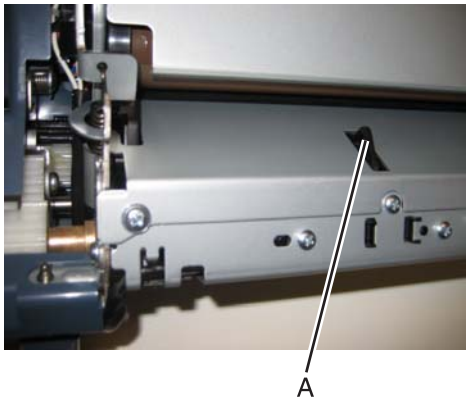
Step	Questions / actions	Yes	No
1	Is the +5 V interlock switch damaged?  	Replace the 5 V interlock switch. See **“5 V interlock switch cable removal” on page 4-61**.	Go to step 2.
2	Turn the printer off, and remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**. Check the cable in connector JINT1 for proper connection to the system board, for pinch points, and for any other damage to the cable or connector. Is the cable damaged?	Replace the 5 V interlock switch. See **“5 V interlock switch cable removal” on page 4-61**.	Go to step 3.
3	1. Disconnect the cable in connector JINT1. 2. Connect the new 5 V interlock switch to JINT1. 3. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Activate the 5 V interlock switch.  Does the display change from `Close Front Door` to the Diagnostic Menu?	Replace the 5 V interlock switch. See **“5 V interlock switch cable removal” on page 4-61**.	Replace the system board. See **“System board removal” on page 4-155**.

24 V interlock switch service check

Step	Questions / actions	Yes	No
1	Is the 24 V interlock switch damaged?  	Replace the 24 V interlock switch. See **"24 V interlock switch removal" on page 4-63**.	Go to step 2.
2	Turn the printer off, and remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**. Check the cable in connector JCVR1 for proper connection to the system board, for pinch points, and for any other damage to the cable or connector. Is the cable damaged?	Replace the 24 V interlock switch. See **"24 V interlock switch removal" on page 4-63**.	Go to step 3.
3	1. Disconnect the cable in connector JCVR1. 2. Connect the new 24 V interlock switch to the connector JCVR1. 3. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 4. Activate the new 24 V interlock switch.  Does the display change from `Close Front Door` to the Diagnostic Menu.	Replace the 24 V interlock switch. See **"24 V interlock switch removal" on page 4-63**.	Replace the system board. See **"System board removal" on page 4-155**.

Bubble sensor service check

Step	Questions / actions	Yes	No
1	Is the bubble sensor flag damaged?  	Replace the fuser. See **“Fuser removal” on page 4-110**.	Go to step 2.
2	Remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**. Check the fuser DC cable in connector JFUSER1 for proper connection to the system board, pinch points, and any other damage to the cable or connector. Is the cable damaged?	Replace the fuser DC cable. See **“Fuser DC cable removal” on page 4-113**. **Note:** Make sure to verify if the new cable is working properly first. Route the cables properly only when you have verified that the cables are working properly.	Go to step 3.
3	Place a voltmeter between the fuser DC autoconnect, pin 3 and ground (pin 6).  Does the voltage meter read +5 V dc?	Go to step 5.	Go to step 4.
4	Place a voltmeter between FUSER1 pin 3 and ground (pin 6).  Does the meter read +5 V dc?	Replace the system board. See **“System board removal” on page 4-155**.	Go to step 5.

Step	Questions / actions	Yes	No
5	1. Replace the fuser. 2. Bring the printer up in Diagnostics Menu (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 3. Navigate to **SENSOR TESTS** > **Dynamic Sensors** > **Bubble**. 4. Open the front door. 5. Activate the bubble sensor.  Did the bubble sensor change from Open to Closed?	Problem resolved.	Replace the system board. See **"System board removal" on page 4-155**.

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Dead printer service check

A dead printer is a condition where the display is blank, the LED on the operator panel is off, no fans turn, no motors turn, and the fuser lamp does not come on.

If a 550-sheet option assembly is installed, remove the option and check the base printer for correct operation. If the base printer operates correctly, replace the 550-sheet option assembly.

Warning: Observe all necessary ESD precautions when removing and handling the system board or any installed option cards or assemblies. See **"Handling ESD-sensitive parts" on page 4-2**.

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.

Remove any input and output paper handling options from the printer.

Step	Questions / actions	Yes	No
1	Check the AC line voltage. Is the line voltage correct?	Go to step 2.	Inform the customer.
2	Is the AC line cord damaged?	Replace the line cord.	Go to step 3.
3	Check the system board for +5 V dc between JLVPS2 pin 1 and ground. Is the voltage correct?	Replace the system board. See **"System board removal" on page 4-155**.	Go to step 4.
4	Is the JLVPS2 cable correctly installed at JLVPS2 on the system board?	Go to step 5.	Reseat the JLVPS2 cable.
5	Turn the printer off. Disconnect the JLVPS2 cable from the system board. Turn the printer on, and then measure the voltage between the JLVPS2 cable pin 1 and the JLVPS2 pin 14 (black wire). Does this measure approximately +5 V dc?	Go to step 6.	Replace the LVPS. See **"Low-voltage power supply (LVPS) removal" on page 4-119**.
6	1. Turn the printer off. 2. Disconnect the cables in J5, JCARTS1, JCARTS2, JDVR1, JFDPCK1, JFUSER1, JINT1, JOPT1, and JTLBT1. 3. Connect the JLVPS2 cable to the system board. 4. POR the printer. Does the printer still appear dead?	Contact your next level of support.	Go to step 7.
7	1. Connect one cable at a time, and POR the printer. 2. Is the printer dead?	The part connected to that cable is faulty. Replace the failing part.	Connect another cable and continue with this step.

Networking service check

Note: Before starting this service check, print out the network setup page. This page is found under **Menu**—**Reports**—**Network Settings**. 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. Do not assign an address that is already in use on the network. **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.
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 system board. See **"System board removal" on page 4-155**.	Contact the network administrator.

Step	Questions / actions	Yes	No
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 is properly seated in their connectors. Is the wireless card seated 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	Replace the ISP wireless card. See Installing an Internal Solutions Port (ISP). Did this fix the problem?	Problem resolved.	Replace the system board. See **“System board removal” on page 4-155**.

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Operator panel service check

One or more operator panel buttons fail

Step	Questions / actions	Yes	No
1	Run the Button Test. See **"Button Test" on page 3-14** in Diagnostics mode. Did any of the buttons fail the test?	Replace the operator panel assembly. See **"Operator panel assembly removal (C746)" on page 4-34**.	Go to step 2.
2	Disconnect the operator panel assembly cable from JOPP1 on the system board, and then measure the voltage on pin 6 and ground. Does the voltage measure approximately +3.3 V dc?	Replace the operator panel assembly. See **"Operator panel assembly removal (C746)" on page 4-34**. If this does not fix the problem, replace the top cover access assembly. See **"Top access cover assembly removal" on page 4-54**.	Replace the system board. See **"System board removal" on page 4-155**.

Operator panel display blank, five *beeps*, and LED is off

Service tip: The printer has detected a problem with the system board, the operator panel assembly cable (part of the top cover access assembly), or the operator panel assembly if POST does not complete. The printer emits five *beeps*, and then sticks in a continuous pattern until the printer is turned off.

Step	Questions / actions	Yes	No
1	Is the operator panel assembly cable properly installed at system board JOPP1 and at the operator panel assembly?	Go to step 2.	Reinstall the cable.
2	Measure the voltage between JOPP1 pin 2 and ground on the system board. Is the voltage approximately +5 V dc?	Go to step 3.	Replace the system board. See **"System board removal" on page 4-155**.
3	Check continuity of the operator panel assembly cable. Is there continuity?	Replace the operator panel assembly. See **"Operator panel assembly removal (C746)" on page 4-34**.	Replace the top cover access assembly. See **"Top access cover assembly removal" on page 4-54**.

Operator panel display blank, five *beeps*, LED on

Service tip: The printer has detected a problem with the system board, the operator panel assembly cable (part of the top cover access assembly), or the operator panel assembly if POST does not complete. The printer emits five *beeps*, and then sticks in a continuous pattern until the printer is turned off.

Step	Questions / actions	Yes	No
1	Check for ground between JOPP1 pin 4 and ground. Is the voltage approximately 0 V dc?	Replace the operator panel assembly. See **"Operator panel assembly removal (C746)" on page 4-34**.	Go to step 2.

Step	Questions / actions	Yes	No
2	Check the operator panel assembly cable. Is the cable damaged?	Replace the top cover access assembly. See **“Top access cover assembly removal” on page 4-54**.	Replace the system board. See **“System board removal” on page 4-155**.

Stripes display, distorted display, and other display issues

Step	Questions / actions	Yes	No
1	1. Turn off the printer. 2. Open the rear cover. 3. Reseat the operator panel cable (J2) on the system board. 4. Check the J2 connector on the system board for any damage. Is the connector damaged?	Replace the system board. See **“System board removal” on page 4-155**.	Go to step 2.
2	1. Turn off the printer. 2. Disconnect the J2 operator panel cable. 3. Connect a new top access cover assembly from outside of the machine for verification. Does the problem persist?	Return to the Old Top access cover assembly, then go to step 6.	Return to the Old Top access cover assembly, then go to step 3.
3	1. Open the top access cover assembly, Refer to **“Top access cover assembly removal” on page 4-54**. 2. Reseat the operator panel cable on both ends. 3. Check for any damage on the cable. Is the cable damaged?	Replace operator panel cable. See **“Operator panel cable removal” on page 4-132**.	Go to step 4.
4	• For C746x: Replace the 2.3 inch operator panel assembly with card. See **“Operator panel assembly removal (C746)” on page 4-34**. • For C748x: Replace the UICC card. See **“Operator panel assembly removal (C748)” on page 4-37**. Does the problem persist?	• For C746x: Return the old 2.3 inch operator panel assembly with card, then go to step 6. • For C748x: Return the old UICC card, then go to step 5.	Problem resolved.
5	Replace the LCD panel. Does the problem persist?	Go to step 6.	Problem resolved.
6	Replace the Operator panel cable. Does the problem persist?	For dead display. Go to Dead printer service check. Replace the system board. See **“System board removal” on page 4-155**.	Problem resolved.

Print quality service check

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.
   Note: Be sure and keep the original menu page to restore the customer's custom settings if needed.
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: Select **Reset Defaults** to zero out all colors.
   - Check the paper type, texture and weight settings against what is loaded in the printer.

   Once the printer has been restored to its default levels, do the following:
3. Inspect the transfer module for damage. Replace if damaged.
4. Inspect the photoconductor units and toner cartridges for damage. Replace if damaged.
5. If paper other than 20 lb plain letter/A4 paper is being used, load 20 lb 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.

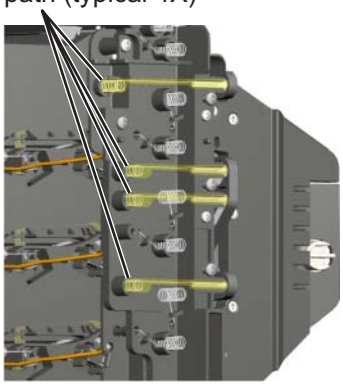
Measure all voltages from the connector to the printer ground.

Print quality—background

Service tip: Some background problems can be caused by rough papers, non-Lexmark toner cartridges or if the media texture is set to the rough setting.

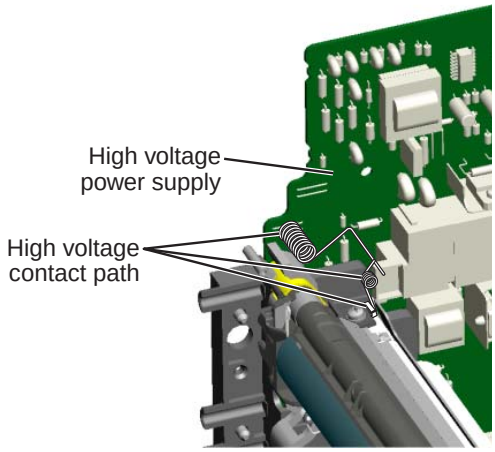
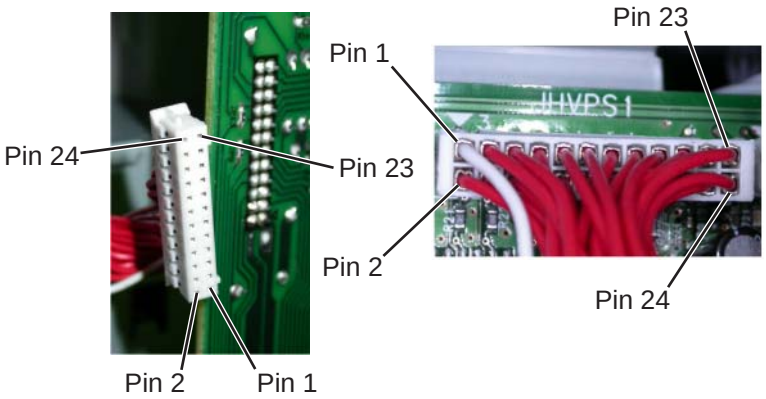
Some slick or coated papers may also cause background problems. Some problems occur with printers that run a large amount of graphics in a humid environment.

Step	Questions / actions	Yes	No
1	Read the current status of the photoconductor unit from the customer menus. To view the status of the photoconductor units: 1. In Ready mode, select **Admin Menu**. 2. Select **Reports**. 3. Select **Device Statistics**. Ask the customer if the photoconductor unit has been recently replaced. It is possible the photoconductor value was not reset and the photoconductor unit is past end of life. If the PC unit was recently replaced, reset the value. If the PC unit was not replaced, replace the PC unit. Has the photoconductor unit been recently replaced?	Reset the value. To reset this value: 1. In Ready mode, select Admin Menu. 2. Select **Supplies Menu**. 3. Select **Replace Supply**. 4. Select the PC color unit you want to change 5. Select **Yes**. If this does not fix the problem, go to step 2.	Go to step 2.
2	Replace the PC unit. See **"Photoconductor unit removal" on page 4-142**. Does this fix the problem?	Problem solved.	Go to step 3.

Step	Questions / actions	Yes	No
3	Check the high voltage contact from the HVPS to the transfer module. Transfer belt high voltage path (typical 4X)  Is a problem found?	Replace the spring or the transfer contact assembly.	Go to step 4.
4	Reseat the JHVPS connector. Does this fix the problem?	Problem solved.	Go to step 5.
5	Replace the HVPS. See **“High-voltage power supply (HVPS) removal” on page 4-115**. Does this fix the problem?	Problem solved.	Go to step 6.
6	Clean the printhead. Does this fix the problem?	Problem solved.	Replace the printhead. See **“Printhead removal, installation, and adjustment” on page 4-145**.

Print quality—blank page

Step	Questions / actions	Yes	No
1	Is all the packing material for the photoconductor unit in question removed?	Go to step 2.	Remove the packing material.
2	Replace the photoconductor unit for the color in question. Does this fix the problem?	Problem solved.	Go to step 3.
3	1. Enter the Diagnostics mode (turn off the printer, press and hold buttons **3** and **6**, then turn on the printer). 2. Perform the appropriate cartridge drive motor test for the missing color. See **“General motor tests procedures” on page 3-10**. Did the motor run?	Go to step 4.	Replace the EP drive assembly. See **“Electrophotographic (EP) drive assembly removal” on page 4-90**.

Step	Questions / actions	Yes	No
4	Check the high voltage contact from the HVPS to the photoconductor charge roll. Ensure the contact springs are properly mounted and that the charge roll contact spring is making good contact with the HVPS spring that runs through the left printer frame to view the proper mounting and for removal procedures.  Are the spring(s) defective?	Replace the transfer contact assembly.	Go to step 5.
5	Turn off the printer and check the continuity of the HVPS cable.  Is there continuity?	Go to step 6.	Replace the cable assembly.
6	Replace the HVPS. See **“High-voltage power supply (HVPS) removal” on page 4-115**. Did this fix the problem?	Problem solved.	Go to step 7.
7	Replace the printhead. See **“Printhead removal, installation, and adjustment” on page 4-145**. Did this fix the problem?	Problem solved.	Replace the system board. See **“System board removal” on page 4-155**.

Print quality—blurred or fuzzy print

Blurred or fuzzy print is usually caused by a problem in the EP drive assembly or in the transfer module. Check the EP drive assembly and transfer module for correct operation.

Blurred print can also be caused by incorrect feeding from one of the input paper sources, paper trays, or duplex paper path.

Check the high voltage spring contacts to ensure they are not bent, corroded, or damaged. Replace as necessary.

Print quality—half-color page

A photoconductor unit is not properly seated. Reset the specific photoconductor unit.

Print quality—horizontal banding

Step	Questions / actions	Yes	No
1	Measure the distance between repeating bands. Is the distance between bands either 27 or 36mm?	Replace the print cartridge.	Replace the photoconductor unit. See **“Photoconductor unit removal” on page 4-142**.

Print quality—horizontal line

The photoconductor unit is defective. Replace the photoconductor unit.

Print quality—insufficient fusing

Step	Questions / actions	Yes	No
1	Is the fuser properly installed?	Go to step 2.	Install the fuser properly.
2	Replace the fuser. See **“Fuser removal” on page 4-110**. Does this fix the problem?	Problem solved.	Replace the LVPS. see **“Low-voltage power supply (LVPS) removal” on page 4-119**.

Print quality—missing image at edge

Reseat the developer cartridge.

Print quality—mottle (2–5mm speckles)

Keep running prints through, and the problem normally clears up. If the problem persists, replace the developer cartridge.

Print quality—narrow vertical line

Step	Questions / actions	Yes	No
1	Replace the photoconductor unit. See **“Photoconductor unit removal” on page 4-142**.	Problem solved.	Replace the print cartridge.

Print quality—random marks

Service tip: The primary cause of random marks is due to loose material moving around inside the printer and attaching to the photoconductor unit, developer roll, or transfer module.

Step	Questions / actions	Yes	No
1	Is there any loose or foreign material on the photoconductor unit?	Replace the photoconductor unit. See **“Photoconductor unit removal” on page 4-142**.	Go to step 2.
2	Is there any loose or foreign material on the cartridge roll?	Replace the print cartridge.	Go to step 3.
3	Is there any loose or foreign material on the transfer module?	Replace the transfer module. See **“Transfer module removal” on page 4-171**.	Contact your next level of support.

Print quality—residual image

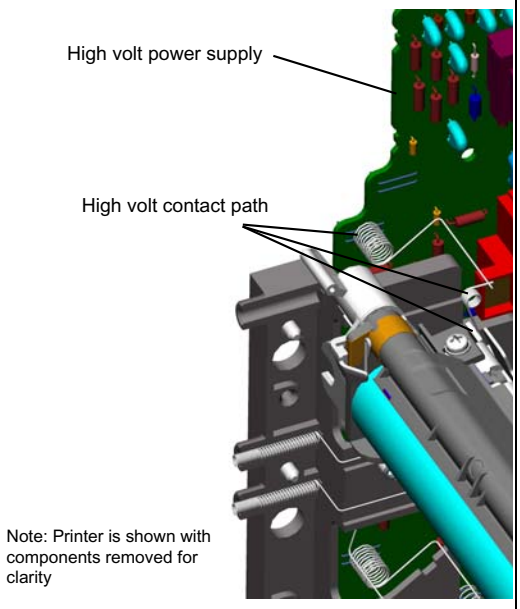
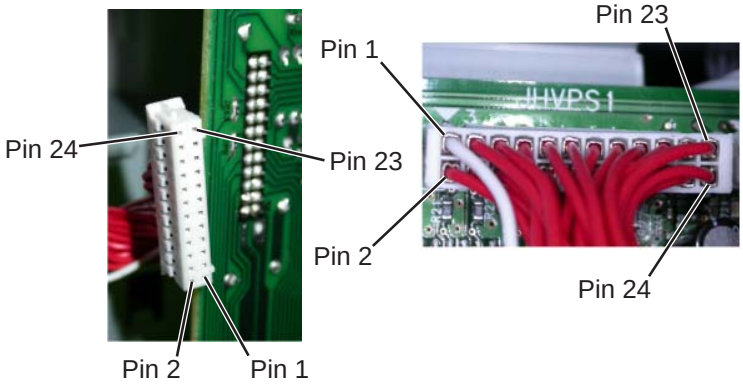
Service tip: Install a new print cartridge if available before doing this service check. Residual image can be caused by the photoconductor, cleaning blade, and other parts inside the print cartridge.

Step	Questions / actions	Yes	No
1	Is there any toner contamination on the fuser assembly?	Replace the fuser. See **“Fuser removal” on page 4-110**.	Contact your next level of support.

Print quality—solid color page

Service tip: A solid color page is generally caused by a problem in the high voltage system or an incorrect high voltage in the printing process resulting in toner development on the entire photoconductor drum.

Step	Questions / actions	Yes	No
1	Replace the photoconductor unit for the color in question. Does this fix the problem?	Problem solved.	Go to step 2.

Step	Questions / actions	Yes	No
2	Check the high voltage contact from the HVPS to the photoconductor charge roll. Ensure the contact springs are properly mounted and that the charge roll contact spring is making good contact with the HPVS spring that runs through the left printer frame to view the proper mounting and for removal procedures.  Note: Printer is shown with components removed for clarity Are the spring(s) defective?	Replace the transfer contact assembly.	Go to step 3.
3	Turn the printer off, and then check the continuity of the HVPS cable.  Is there continuity?	Go to step 4.	Replace the cable assembly.
4	Replace the HVPS. See **“High-voltage power supply (HVPS) removal” on page 4-115**. Did this solve the problem?	Problem solved.	Replace the system board. See **“System board removal” on page 4-155**.

Print quality—vertical banding

Replace the developer cartridge.

Tray 1 missing service check

Step	Questions / actions	Yes	No
1	1. Check if the tray assembly can close properly. 2. Make sure the paper path is cleared of jams. 3. Check for any damage. Does the tray assembly close properly?	Go to step 3.	Go to step 2.
2	1. Clear the tray path of any obstruction. 2. Check for damage on the tray. Is the tray free of damage?	Go to step 3.	Replace the tray.
3	1. Remove the tray and inspect the narrow media flag on the paper pick assembly for any damage. 2. Reseat the connector Jtray1 and JFDPCK on the system board, then check for any damage on the connectors. Are the flag and cable connectors free of damage?	Go to step 4.	Replace the paper pick assembly. See **“Paper pick mechanism assembly removal” on page 4-137**.
4	1. Disconnect the cable in JTRAY1, and connect the cable from the new paper pick mechanism. 2. Bring the printer up in the Diagnostics menu (turn off the printer, press and hold buttons **3** and **6**, turn on the printer). 3. Navigate to **Sensor Tests** > **Dynamic Sensors** > **Narrow Media**. 4. Activate the narrow media sensor Did the narrow media sensor status change on the touchscreen?	Replace the paper pick assembly. See **“Paper pick mechanism assembly removal” on page 4-137**.	Replace the system board. See **“System board removal” on page 4-155**.

Tray linking service check

Tray linking is useful for large print jobs or multiple copies. When one linked tray is empty, paper feeds from the next linked tray. When the Paper size and Paper Type settings are the same for any trays, the trays are automatically linked.

Step	Questions / actions	Yes	No
1	Load the same size and type of paper in each tray. Move the paper guides to the correct positions for the paper size loaded in each tray. Does tray linking work properly?	Problem resolved.	Go to step 2.
2	Print a menu settings page from the Admin Menu, and compare the settings for each tray. Are the settings for each tray to be linked the same for paper type and paper size?	Problem resolved.	In the Admin menus, set the same settings for paper size and paper type in each tray.

3. Diagnostic aids

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

Accessing test and diagnostic procedure 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 buttons **3** and **6**. 3. Turn on the printer. 4. Release the buttons when the clock graphic displays.	The Diagnostics menu group contains the settings and operations used while manufacturing and servicing the printer. See **“Diagnostics menu” on page 3-2** for more information.
Configuration menu	1. Turn off the printer. 2. Press and hold buttons 2 and 6. 3. Turn on the printer. 4. Release the buttons when the progress bar displays.	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 (CONFIG MENU)” on page 3-27** for more information.
Network SE Menu	1. While in Network/Ports Menu (**Menus**—**Network/Ports**—**Standard Network**—**STD NET SETUP**), press and hold buttons **6**, **7**, and **9**.	The Network SE menu contains advanced network menu tools. This key press only accesses the Network SE Menu when the panel displays the top-most settings inside the Standard Network menu.
SE Menu	From browser, add “/se” to device’s IP address (e.g. http://158.183.3.2/se)	

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

Diagnostics menu

Note: Tray 2 refers to the 550-sheet tray located in the 550-sheet option assembly.

Diagnostics menu structure

When the Diagnostics mode is entered, each Diagnostics main menu item displays on the operator panel. When a diagnostic test is selected from the main menu, a sub menu displays and each individual test displays in the order shown. Any options that are referred to in the menus are displayed when the option is installed.

Available tests

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

REGISTRATION	
Top Margin	See **“Registration” on page 3-5**.
Bottom Margin	
Left Margin	
Right Margin	
Skew	See **“Skew” on page 3-5**.
Quick Test	See **“Quick Test” on page 3-8**.
ALIGNMENT MENU	
Cyan	See **“Alignment” on page 3-8**.
Magenta	
Yellow	
Factory Scanner	A summary page for all the color alignment settings. Can be used in place of alignment pages for each individual color.
Factory Manual	
MOTOR TESTS (order differs depending upon model)	
Align Motor Test	**Note:** Many of these tests require special conditions in order to successfully test the motors. See **“General motor tests procedures” on page 3-10**.
Cart 1	
Cart 2	
Cart 3	
CAM	
COD	
DUPLEX	
Fuser	
MPF	
Transfer Belt	
Option Motors	
Tray 1	

PRINT TESTS	
Tray 1	See **“Input source tests” on page 3-12**.
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 test pages (Print Quality Pages)” on page 3-13**.
HARDWARE TESTS	
Panel Test	See **“Panel Test” on page 3-14**.
Button Test	See **“Button Test” on page 3-14**.
DRAM Test	See **“DRAM Test” on page 3-14**.
Serial 1 Wrap (if a serial port is available in the PCI slot 1)	See **“Serial 1 Wrap” on page 3-14**.
USB HS Test Mode	See **“USB HS Test Mode” on page 3-16**.
DUPLEX TESTS (if installed)	
Quick Test	See **“Quick Test (duplex)” on page 3-16**.
Print Test	See **“Print Test (duplex)” on page 3-17**.
Top Margin	See **“Top Margin (duplex)” on page 3-18**.
Left Margin	See **“Left Margin (duplex)” on page 3-18**.
Skew	See **“Skew (duplex)” on page 3-18**.
SENSOR TESTS	
Static Sensors	See **“Sensor Test” on page 3-19**.
Waste Toner	
Belt Waste	
Fuser Temp	
Fuser BUR Temp	
Power	
Dynamic Sensors	
Fuser Exit	
Input	
Front Door	
Narrow Media	
K Toner	
M Toner	
C Toner	
Y Toner	
TPS	
Bubble	
Dynamic MPF	
Other Sensors	
Bin Full Test	
PRINTHEAD TESTS	
Mirror Motor Test	See **“Mirror Motor Test” on page 3-20**.

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Servo Laser Test	See **“Servo Laser Test” on page 3-20**.
DEVICE TESTS (if hard disk or flash is installed)	
Quick Disk Test	See **“Quick Disk Test” on page 3-21**.
Disk Test/Clean	See **“Disk Test/Clean” on page 3-22**.
Flash Test	See **“Flash Test” on page 3-22**.
PRINTER SETUP	
Defaults	See **“Defaults” on page 3-22**.
Prt Color Pg Count	See **“Page Counts” on page 3-23**.
Prt Mono Pg Count	
Perm Page Count	
Serial Number	See **“Serial Number” on page 3-23**.
Model Name	See **“Model Name” on page 3-23**.
Engine Setting 1 through 4	See **“Engine Setting 1 through 4” on page 3-23**.
Configuration ID	See **“Configuration ID” on page 3-23**.
Reset Color Cal	See **“Reset color calibration (Reset Color Cal)” on page 3-24**.
Par 1 Strobe Adj	See **“Parallel 1 strobe adjustment (Par 1 Strobe Adj)” on page 3-24**.
Motor Calibration	See **“Motor Calibration” on page 3-24**.
EP SETUP	
EP Defaults	See **“EP Defaults” on page 3-24**.
Fuser Temp	See **“Fuser temperature (Fuser Temp)” on page 3-24**.
DC Charge Adjust	See **“DC Charge Adjust, Dev Bias Adj, Transfer Adjust” on page 3-25**.
Dev Bias Adj	
Transfer Adjust	
REPORTS	
Menu Settings Page	See **“Menu Settings Page” on page 3-25**.
EVENT LOG	
Display Log	See **“Display Log” on page 3-25**.
Print Log	See **“Print Log” on page 3-26**.
Clear Log	See **“Clear Log” on page 3-26**.
EXIT DIAGNOSTICS	This selection exits Diagnostics mode, and `Resetting the Printer` displays. The printer performs a POR, and returns to normal mode.

Registration

Note: If you need to perform alignment or registration, see **“Printhead alignment” on page 4-8**.

The following information is meant to explain the uses for the menu items.

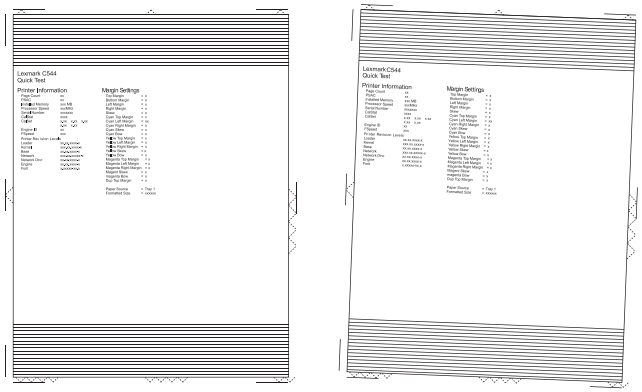
Print registration makes sure the black printing is properly aligned on the page. This is one of the steps in aligning a new printhead. It is also the first step in aligning the duplex registration. See **“Quick Test (duplex)” on page 3-16**.

The settings available are Top Margin, Bottom Margin, Left Margin, Right Margin, Skew, and Quick Test.

Skew

One printhead houses the four color planes. The black plane is aligned to the printer, and the color planes are internally aligned to black. Adjust the skew mechanically by moving the printhead with a printhead adjustment screw. See **“Printhead mechanical alignment (C746)” on page 4-8** for instructions on setting printhead alignment. Electronic alignment fine tunes the alignment of the color planes to the black plane once the printhead is installed. Skew adjustment must be performed before color alignment is attempted. The following illustration shows proper alignment versus skewed alignment.

Proper alignment **Skewed alignment**



Print registration

Print registration (C746x)

To set print registration:

1. Select **REGISTRATION** from the Diagnostics Menu.
2. Select **Quick Test**.
   The message `Quick Test Printing…` appears on the display.
   Note: Retain this page to determine the changes you need to make to the margin settings.
3. Use ▼ or ▲ to select the margin setting you need to change, and press OK.
4. Use ◀ to decrease or ▶ to increase the offset values, and press OK to confirm the value.
5. The message `Submitting selection` displays and the original REGISTRATION screen appears.
   The print registration range is:

Description	Value	Direction of change
Skew	-50 to +50 Each increment corresponds to 1/1200 of an inch.	Skew settings should be between -5 and +5. If not, readjust the skew with the printhead mechanical setting. See **"Printhead alignment" on page 4-8**.
Top margin	-25 to +25 Each increment corresponds to 8 scans at a 600 dpi scan rate (0.0133 inches or 0.339 mm).	A positive change moves the image down the page and increases the top margin. A negative change moves the image up and decreases the top margin. **Note:** Make sure media selection size matches the media size in tray 1.
Bottom margin	-25 to +25 Each increment causes approximately 0.55 mm shift in the bottom margin.	A positive offset moves text up the page and widens the bottom margin. A negative offset moves text down the page and narrows the bottom margin.
Left margin	-50 to +50 Each increment corresponds to 4 pels at 600 dpi (0.00666 in. or 0.1693 mm).	A positive change moves the image to the right. A negative change moves the image to the left.
Right margin	-50 to +50 Each increment corresponds to an approximate shift of 4 pels at 600 dpi.	A positive change moves the image to the left. A negative change moves the image to the right.

6. Continue changing the settings by repeating steps 2 through 4.
7. Print another copy of the Quick Test to verify your changes.

To exit without changing the value, press ↩.

Print registration (C748x)

To set print registration:

1. Select **REGISTRATION** from the Diagnostics Menu.
2. Select **Quick Test**.
   The message `Quick Test Printing…` appears on the display.
   Note: Retain this page to determine the changes you need to make to the margin settings.
3. Select the margin setting you need to change.
4. Touch − to decrease or + to increase the offset values,.
5. The message `Submitting changes` displays and the original REGISTRATION screen appears.

The print registration range is:

Description	Value	Direction of change
Skew	-50 to +50 Each increment corresponds to 1/1200 of an inch.	Skew settings should be between -5 and +5. If not, readjust the skew with the printhead mechanical setting. See **"Printhead alignment" on page 4-8**.
Top margin	-25 to +25 Each increment corresponds to 8 scans at a 600 dpi scan rate (0.0133 inches or 0.339 mm).	A positive change moves the image down the page and increases the top margin. A negative change moves the image up and decreases the top margin. **Note:** Make sure media selection size matches the media size in tray 1.
Bottom margin	-25 to +25 Each increment causes approximately 0.55 mm shift in the bottom margin.	A positive offset moves text up the page and widens the bottom margin. A negative offset moves text down the page and narrows the bottom margin.
Left margin	-50 to +50 Each increment corresponds to 4 pels at 600 dpi (0.00666 in. or 0.1693 mm).	A positive change moves the image to the right. A negative change moves the image to the left.
Right margin	-50 to +50 Each increment corresponds to an approximate shift of 4 pels at 600 dpi.	A positive change moves the image to the left. A negative change moves the image to the right.

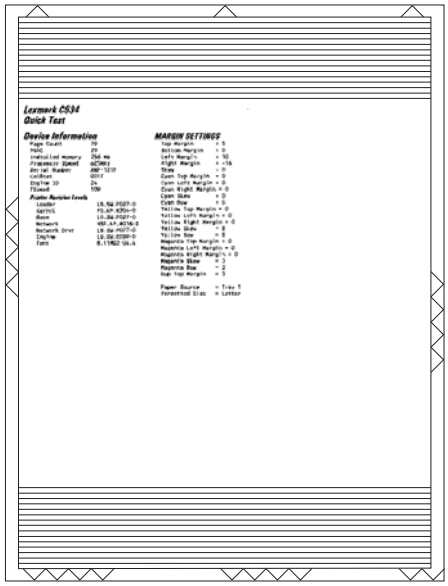
6. Continue changing the settings by repeating steps 2 through 4.
7. Print another copy of the Quick Test to verify your changes.

To exit without changing the value, touch **Back**.

Quick Test

The Quick Test contains the following information:

- Print registration settings
- Alignment diamonds at the left, right, top and bottom
- Horizontal lines to check for skew
- General printer information, including current page count, installed memory, serial number, and code level.



Note: Print the Quick Test Page on letter or A4 paper.

1. Select **REGISTRATION** from the Diagnostics Menu.
2. Select **Quick Test**.
   The message `Quick Test Printing…` appears on the display.
   Once the Quick Test Page completes printing, the Registration screen displays again.

Alignment

Note: If you need to perform alignment or registration, see **"Printhead alignment" on page 4-8**.

The following information is meant to explain the uses for the menu items.

Alignment is part of the process of adjusting the printhead and the color planes to the black plane and to each other. Before you start, perform the black alignment (Registration). See **"Printhead alignment" on page 4-8**. If you are replacing a new printhead, see **"Printhead removal, installation, and adjustment" on page 4-145**.

Alignment (C746x)

To perform alignment:

1. Select **ALIGNMENT MENU** from the Diagnostics Menu. Scroll until you reach the color that you desire to align. Go to each submenu, press OK and use the right and left arrow keys to zero out all settings. Press OK after you zero out each setting.
   Note: It is important to zero out all settings to make the adjustment easier.
2. Scroll to Quick Test in the same color menu. Press OK; two pages print.
3. On the pages, make sure all the Current Values are set to zero. If not, go back two steps and repeat.

4. Look at the coarse and fine adjustments on the top left of the page, and enter the best number for the top adjustment in the T space. Transfer this number over to the computation area for Z.
5. On the operator panel, use ▲ and ▼ to locate Top Margin. Press OK, and then use ◀ or ▶ to enter the setting computed for T. Press OK to save.
6. Repeat this process for skew (Z). Add the T value and the current Z value to obtain the new skew (Z) value.
7. Reprint the Quick Test page, and observe the results. Make additional adjustments if necessary before proceeding on to Quick Test step two page.
8. Obtain left (L), right (R), and Bow (P) value using the same method as obtaining T from Quick Test Step 1. Reprint the Quick Test to ensure the settings are correct. Make additional adjustments as required.
9. Press ↩ to return to ALIGNMENT MENU.

Alignment (C748x)

To perform alignment:

1. Touch **ALIGNMENT MENU** from the Diagnostics Menu. Scroll until you reach the color that you desire to align. Go to each submenu, and use − and + to zero out all settings.
   Note: It is important to zero out all settings to make the adjustment easier.
2. Scroll and touch **Quick Test** in the same color menu. Two pages print.
3. On the pages, make sure all the Current Values are set to zero. If not, go back two steps and repeat.
4. Look at the coarse and fine adjustments on the top left of the page, and enter the best number for the top adjustment in the T space. Transfer this number over to the computation area for Z.
5. On the operator panel, touch **Top Margin**, and then use − or + to enter the setting computed for T. Touch ✓ to save.
6. Repeat this process for skew (Z). Add the T value and the current Z value to obtain the new skew (Z) value.
7. Reprint the Quick Test page, and observe the results. Make additional adjustments if necessary before proceeding on to Quick Test step two page.
8. Obtain left (L), right (R), and Bow (P) value using the same method as obtaining T from Quick Test Step 1. Reprint the Quick Test to ensure the settings are correct. Make additional adjustments as required.
9. Touch **Back** to return to ALIGNMENT MENU.

See **“Printhead mechanical alignment (C746)” on page 4-8** for printout samples and additional information.

Motor tests

The motor tests are run to locate noises in the printer and isolate failures between the motors, cables, and system board.

General motor tests procedures

In some instances, when you enter a particular test, you will be given the choice to run the motor in forward or reverse. Other times, there will only be the option to run the motor in forward direction.

In general, the test should work as follows:

1. Select **MOTOR TESTS** from the Diagnostics Menu.
2. Select the motor that you need to test.
3. Check the table below for setup requirements, if any.
4. Select the direction if a choice is offered (Forward or Reverse) or other setting for that test.

Press or to stop the motor and end the test.

The following tests have special setup before running the test:

Motor diagnostic setup

Motor	Setup requirements		Notes
	Top cover position	Front door position	
Tray 1	N/A	Closed	• Ok • Picks paper – use empty or remove tray
		Open	Ok
Align	N/A	Closed	Ok
		Open defeat +25 V switch	• Ok • View align mechanism
Duplex	N/A	Closed	Ok
		Closed split front door	• Ok • View duplex mechanism (pull tray to isolate gears)
		Open defeat +25 V switch	• Ok • Duplex mechanism disconnected from motor
Belt stepper	N/A	Closed	• No motion • No error reported
		Open	• Ok • Belt disconnected from motor
Cartridge K – 3	N/A	Closed	• No motion • No error reported
		Open	• Ok • Cartridge disconnected from motor
Cart MCY – 2	N/A	Closed	• No motion • No error reported
		Open	• Ok • Cartridge disconnected from motor

Motor	Setup requirements		Notes
	Top cover position	Front door position	
PCU CY – 1	N/A	Closed	• No motion • No error reported
		Open	• Ok • Cartridge disconnected from motor
Fuser	Closed	Closed	Ok
		Open	Possible under-temp 120.04 error
	Open	N/A	Not recommended, fuser errors possible
Cam	N/A	Closed	• Ok • Front door locks & unlocks
		Open	• Ok • Door disconnected from motor • View gearbox
COD	N/A	Closed	• Ok • Engages and disengages cartridges
		Open	• No motion • No error reported (open while test is running)

Motor diagnostics

Motor	Direction	Action	Notes
Tray 1	Forward	Pick from Main Tray	• Will pick continuously • View with tray removed or empty
	Reverse	N/A	Function not supported
Align	Forward	Push media toward belt	• Nip is closed • Fails with waste box missing
	Reverse	Align leading edge	Function not supported
Duplex	Forward	Push media down toward input	• Will run continuously • View with front cover split
	Reverse	Pick from MPF (MPF test)	• Will pick continuously • View empty or pull tray
Belt stepper	Forward only	Gear turns counter clockwise	View with front cover open (No forward menu)
	Reverse	N/A	Only used to clear cleaner nip
Cartridge K – 3	Forward only	Gear turns counter clockwise	View with front cover open (runs PCU KM also)
	Reverse	N/A	Only used to clear blade nip
Cart MCY – 2	Forward only	Gear turns counter clockwise	View with front cover open
	Reverse	N/A	Not used
PCU CY – 1	Forward only	Gear turns counter clockwise	View with front cover open
	Reverse	N/A	Only used to clear blade nip
Fuser	Forward	Push media toward output bin	Backup roll turns Top cover should be closed
	Reverse	Push media toward output bin	Backup roll is disengaged

Motor	Direction	Action	Notes
Cam	Forward	Engage motor couplings	• Runs to stall position • Locks door • Enables print operations
	Reverse NOP	Disengage motor couplings	• Runs to stall position • Unlocks door • Disables printing
COD	Forward	Engage color cartridges	• Runs to stall position • Disables color print operations
	Reverse NOP	Disengage color cartridges	• Runs to stall position • Enables color printing

Print Tests

Input source tests

The purpose of the diagnostic Print Tests is to verify that the printer can print on media from each of the installed input options. The contents of the Print Test Page varies depending on the media installed in the selected input source.

Check each Test Page from each source to assist in print quality and paper feed problems.

To run the Print Test Page:

1. Select **PRINT TESTS** from the Diagnostics Menu.
2. Select the media source.
   Tray 1
   Tray 2 (if installed)
   Tray 3 (if installed)
   Tray 4 (if installed)
   Tray 5 (if installed)
   Multi-Purpose Feeder (if installed)
3. Select **Single** or **Continuous**.
   - If **Single** is selected, a single page is printed.
   - If **Continuous** is selected, printing continues until ✕ is pressed to cancel the test.

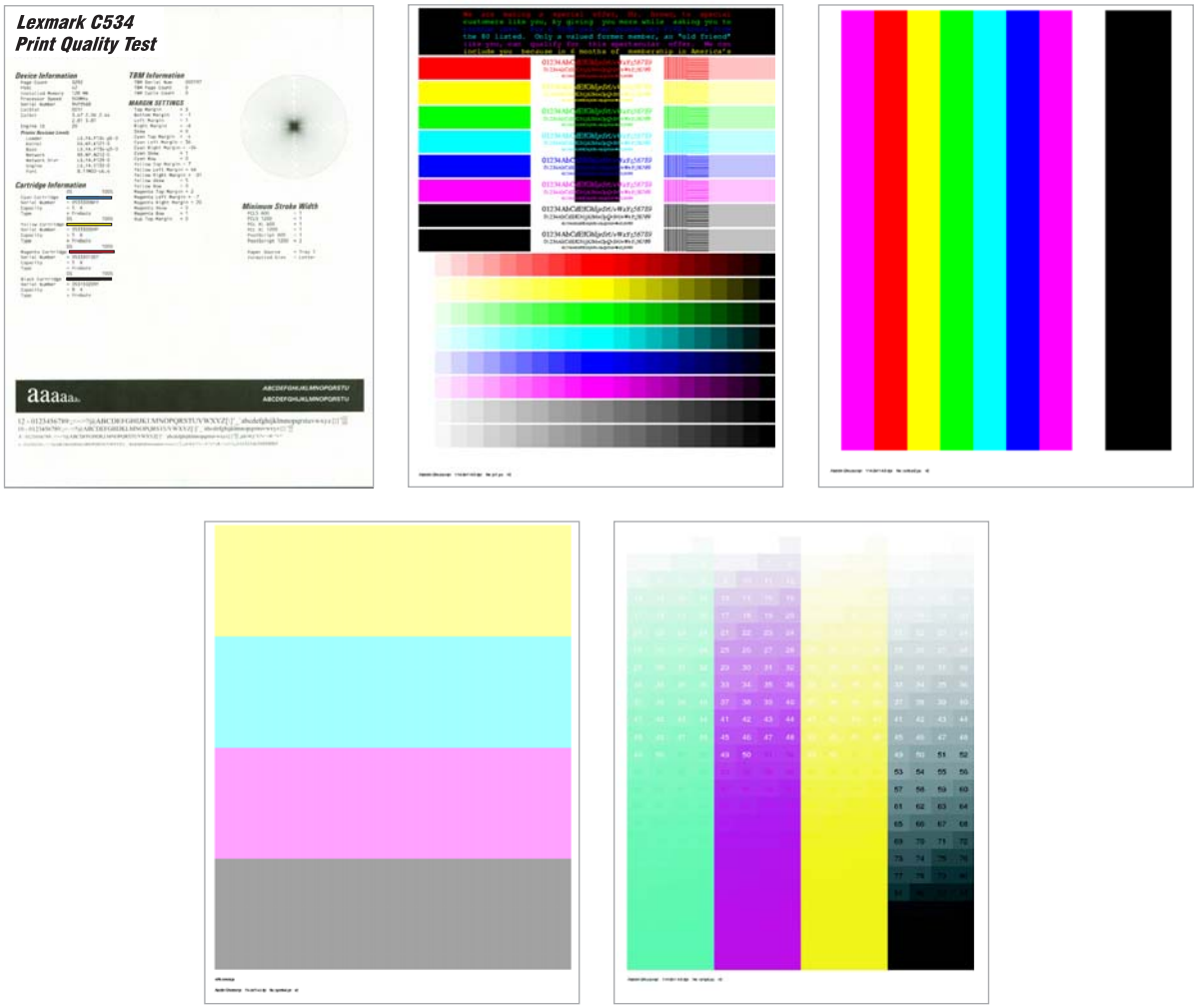
If a source is selected that contains envelopes, an envelope test pattern is printed. If Continuous is selected, the test pattern is printed only on the first envelope.

Note: The Print Test Page always prints on one side of the paper, regardless of the duplex setting.

4. Press ⮌ or touch **Back** to return to PRINT TESTS.

Print quality test pages (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. The test prints on the media in the default tray.



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

To run the Print Quality Test Pages, select **Print Quality Pages** from PRINT TESTS. The message `Printing Quality Test Pages` is displayed, and the test prints.

Hardware Tests

Panel Test

This test verifies the operator panel LCD function.

To run the Panel Test:

1. Select **HARDWARE TESTS** from the Diagnostics Menu.
2. Select **Panel Test**.
   Note: For C748x, the panel test continually executes. Each pixel is activated at the darkest level to the lightest level, and then the backlight illuminates and turns off. This is repeated continuously.

   Note: For C746x, the operator panel display cycles through red, green, blue, white, and black.
3. Press ✕ to cancel the test at any point.

Button Test

This test verifies the operator panel button function.

To run the Button Test:

1. Navigate to **Diagnostics Menu > HARDWARE TESTS > Button Test**.
2. C746x and C748x models have different button tests.
   - For C746x, follow the instruction on the operator panel display on which button to press.
   - For C748x, a keypad displays on the operator panel. Press each physical button one at a time and observe if its corresponding button on the display lights up.
3. Press ✕ or touch **Back** to end the test.

DRAM Test

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

To run the DRAM Test, navigate to **Diagnostics Menu> HATDWARE TEST > DRAM Test**. The power indicator *blinks* indicating the test is in progress.

Note: If you need to exit the test before it is complete, turn off the printer.

```
DRAM Test       128M P:######      F:#####
```

P:###### represents the number of times the memory test has passed and finished successfully. Initially, 000000 displays with the maximum pass count being 99,999.

F:##### represents the number of times the memory test has failed and finished with errors. Initially, 00000 displays with the maximum fail count being 99,999.

Once the maximum pass count or fail count is reached, the test is stopped, the power indicator turns on solid, and the final results appear. If the test fails, SDRAM Error appears for approximately three seconds and the failure count increases by 1.

Serial 1 Wrap

The Serial 1 Wrap Test is used to check the operation of the serial port hardware using a wrap plug. Each serial signal is tested.

To perform the Serial 1 Wrap Test:

1. Disconnect the serial interface cable, and install the serial wrap plug.
2. Select **HARDWARE TESTS** from the Diagnostics Menu.
3. Select **Serial 1 Wrap**.
   The power indicator *blinks* indicating the test is in progress. The following screens appear

```
Serial Wrap [x] Testing…
```

```
Resetting the
Printer
```

Upon completion of the POR, the following screen is displayed:

```
Serial Wrap
P:######      F:####
```

P:###### represents the number of times the serial port hardware has passed.
Initially, 000000 is displayed. The maximum pass count is 999,999.
F:###### represents the number of times the serial port hardware has failed.
Initially, 0000 is displayed. The maximum fall count is 999,999.
Any of the following explanations for failure may display:

- 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

USB HS Test Mode

1. Select **HARDWARE TESTS** from the Diagnostics Menu.
2. Select **USB HS Test Mode**.
3. Select the port (**Port 0**, **Port 1**, **Port 2**, **Port 3**).
4. Select the test for that port from the following list:
   - **Test J**
   - **Test K**
   - **Test SE0 NAK**
   - **Test Packet**
   - **Test Force Enable**
5. While the test executes, `USB High Speed Testing…` displays.

To exit the test, restart the printer.

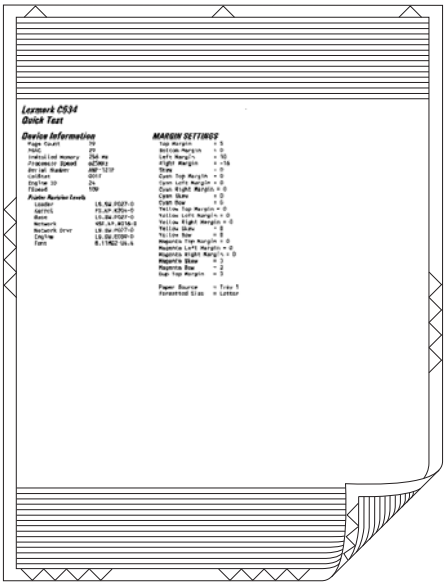
Duplex Tests

Quick Test (duplex)

Note: Before you set the duplex top margin, be sure to set the skew and alignment. See **"Printhead alignment" on page 4-8**.

This test prints a duplex version of the Quick Test that can be used to verify the correct placement of the top margin on the back side of a duplex page.

You can run one duplexed page (**Single**), or continue printing duplexed pages (**Continuous**) until ✕ is pressed. For information about changing the margin, see **"Top Margin (duplex)" on page 3-18**.



The paper you choose to print the page on should be either Letter or A4.

To run the Quick Test (duplex):

1. Select **Quick Test** from DUPLEX TESTS.
2. Select **Single** or **Continuous**.
   - The single Duplex Quick test cannot be canceled.
   - The printer attempts to print the Quick Test Page from the default paper source.
   - Check the Quick Test Page for the correct offset between the placement of the first scan line on the front and back side of a duplexed sheet.

The single test stops automatically when a single duplex sheet is printed, and the continuous test continues until you press ✕.

Print Test (duplex)

This test provides service personnel with a way to verify the function of the printer's duplex hardware. After the user selects this test, the device automatically executes a continuous print test that generates a duplexed, color output page. To stop the test, the user must press ✕. While this test executes, the power indicator light blinks green and the panel displays "DUPLEX TESTS Printing...".

The paper you choose to print the page on should be either Letter or A4.

To run the Print Test (duplex):

1. Select **DUPLEX TEST** in the Diagnostics Menu.
2. Select **Print Test**.
   The printer executes a continuous print test that generates a duplexed, color output page.
3. To stop the test, press ✕.

Skew (duplex)

This setting adjusts the duplex motor speed when it feeds through the aligning roll. It controls the skew between the first scan line and the top of the page. Adjustments are made to the image that is facedown in the output tray.

To set the Skew (duplex):

1. Select **DUPLEX TESTS** from the Diagnostics Menu.
2. Select **Quick Test**.
3. Select **Single**.
   The test page prints.
4. Look at the dotted arrows at the top of the page. If the page is skewed on the page, select **Skew**.
5. For C746x, use ▲ or ▼ to select the skew setting you need to change, and press OK. For C748x, use − or + to select the skew setting you need to change, and touch ✓.
   - Each increment shifts the skew by about 6 pixels at 600 dpi.
   - The Skew (duplex) range is -50 to +50, and the default value is 0.
   - An increase moves the image at the top right down the page. A decrease moves the image at the top right up the page.
6. Perform **Quick Test** again to verify the adjustment. Check the page to see if the image on the page is still skewed. If it is, repeat the adjustment.

Top Margin (duplex)

This setting controls the offset between the first scan line on the front of the duplex page and the first scan line on the back of the page. The duplex adjustments are made to the image that is face down in the output tray. Therefore, be sure to set the top margin in REGISTRATION before setting the duplex top margin. See **"Registration" on page 3-5**.

To set the Top Margin (duplex):

1. Select **DUPLEX TESTS** from the Diagnostics Menu.
2. Select **Quick Test**.
3. Select **Single**.
   The test page prints.
4. Hold the page to the light to see whether the top margin of the back aligns with the top margin of the front.
5. If they do not match, select **Top Margin**.
6. For C746x use ◀ or ▶ to select the margin setting you need to change, and press OK. For C748x, use − or + to select the margin setting you need to change, and touch ✓.
   - Each increment shifts the duplex top margin by 1/100 of an inch.
   - The Top Margin (duplex) range is -25 to +25, and the default value is 0.
   - An increase moves the top margin down and widens the top margin. A decrease moves the top margin upward and narrows the top margin.
7. Print the Quick Test again to verify the adjustment. Repeat until the front and back top scan lines match.

Left Margin (duplex)

By modifying this setting you can shift the image on the back side of a duplex page to the right or to the left.

To set the Left Margin (duplex):

1. Select **DUPLEX TESTS** in the Diagnostics Menu.
2. Select **Quick Test**.
3. Select **Single**.
   The test page prints.
4. Hold the page to the light to see whether the left margin of the back aligns with the left margin of the front.
5. If they do not match, select **Left Margin**.

6. Use ◀ or ▶ to select the margin setting you need to change, and press OK. For C748x, use − or + to select the margin setting you need to change, and touch ✓.
   - Each increment shifts the duplex left margin by 4 pixels at 600 dpi (0.00666 inches or 0.1693 mm).
   - The Left Margin range is -50 to +50, and the default value is 0.
   - An increase moves the margin to the right, and a decrease moves the margin to the left.

Sensor Test

There are two groups of sensors tests, static sensors and dynamic sensors.

To run the Sensor Test:

1. Select **Sensor Tests** from the Diagnostics Menu.
2. Select **Static Sensors** or **Dynamic Sensors**.
   - For static sensors—view the current status. Exit menus and re-enter to change state.
   - For dynamic sensors—view the current status and toggle the state to test the sensor.
3. Select the particular sensor you need to test.

Touch **Back** or press ✕ to exit the test.

Sensor type	Sensor name	Possible values	Sensor activation
Static sensors	Waste Toner	Empty, Full, or Missing	N/A
	Belt Waste	Empty or percentage full	N/A
	Fuser Temp	Degrees (C)	N/A
	Fuser BUR Temp	Degrees (C)	N/A
	Power	Voltage	Open and close the front access door.

Sensor type	Sensor name	Possible values	Sensor activation
Dynamic sensors	Fuser Exit	Open/Closed	Open the top access cover. Activate the fuser exit flag. The sensor should change state.
	Input	Open/Closed	Remove the paper tray 1. Activate the input sensor flag. The sensor should change state.
	Door	Open/Closed	Open the front door. The sensor should change state.
	Narrow Media	Open/Closed	Test the MP feeder tray by inserting a sheet of paper, and pushing up to sensor. The sensor should change state.
	K Toner	Open/Closed	Remove the black toner cartridge. Shine a flashlight on the toner level sensor. The sensor should change state.
	M Toner	Open/Closed	Remove the magenta toner cartridge. Shine a flashlight on the toner level sensor. The sensor should change state.
	C Toner	Open/Closed	Remove the cyan toner cartridge. Shine a flashlight on the toner level sensor. The sensor should change state.
	Y Toner	Open/Closed	Remove the yellow toner cartridge. Shine a flashlight on the toner level sensor. The sensor should change state.
	TPS (toner patch sensor)	Open/Closed	Open the front access door. Slip a piece of paper between the TPS and the transfer module. The sensor should change state.
	Bubble	Open/Closed	Open the front door. Activate the fuser entry flag. The sensor should change state.
	Dynamic MPF	Open/Closed	Test by removing the MPF pick arm and activating the paper present sensor or remove the tray and shine a flashlight on the paper present sensor.
Other Sensors	Bin Full Test	Open/Closed	Move the bin full sensor flag (located on the fuser) up and down to toggle the sensor state.

Printhead Tests

Mirror Motor Test

1. Select **PRINTHEAD TESTS** from the Diagnostics Menu.
2. Select **Mirror Motor Test**.
   The panel displays `Motor Running`.
   After the test completes, the panel displays either `Pass` or `Fail`.

To stop the test, Touch **Back** or press ✕.

Servo Laser Test

1. Select **PRINTHEAD TESTS** from the Diagnostics Menu.
2. Select **Servo Laser Test**.

The panel displays `Motor Running`. After the test completes, the panel displays either `Pass` or `Fail`.

To stop the test, Touch **Back** or press ✕.

Device Tests

Note: These tests only appear if the flash or disk option is installed.

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.

To run the Quick Disk Test:

1. Select **DEVICE TESTS** from the Diagnostics Menu.
2. Select **Quick Disk Test**.
   - The power indicator *blinks* while the test is in progress.
   - `Quick Disk Test/Test Passed` is displayed if the test passes and the power indicator turns on solid.
   - `Quick Disk Test/Test Failed` is displayed if the test failed and the power indicator turns on solid.

You cannot stop the test while it is running, but when it is complete, press to return to DEVICE TESTS.

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.

To run the Disk Test/Clean Test:

1. Select **DEVICE TESTS** from the Diagnostics Menu.
2. Select **Disk Test/Clean**.
   `Files will be lost/Go or Stop?` is displayed to warn the user.
3. To exit the test immediately and return to DEVICE TESTS, touch **Back** or press ✕. To continue with the test, press OK or touch ✓.
   `Disk Test/Clean/BAD:000000 00%` is displayed. The screen updates periodically, indicating the percentage of test completed and the number of bad blocks found.
4. The power indicator *blinks* during the test. Touch **Back** or **press** ✕ to cancel the test.
   - Once the test is complete, the power indicator turns on solid and a message displays.
   - *xxxx* `Bad Blocks/`*yyyyyy* Usable is displayed if fewer than 2000 bad blocks are detected. xxxx indicates the number of bad blocks, and *yyyyyy* indicates the number of usable blocks.
   - *xxxx* `Bad Blocks/Replace Disk` is displayed if more than 2000 bad blocks are detected. The disk cannot be recovered because too many bad blocks exist on the disk.
5. Touch **Back** or press ✕ 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.

To run the Flash Test:

1. Select **DEVICE TESTS** from the Diagnostics Menu.
2. Select **Flash Test**,.
   - The power indicator *blinks* while the test is running.
   - `Flash Test/Test Passed` is displayed if the test passes and the power indicator turns on solid.
   - `Flash Test/Test Failed` is displayed if the test fails and the power indicator turns on solid.
3. Touch **Back** or press ✕ to return to DEVICE TESTS.

Printer Setup

Defaults

U.S./Non-U.S. defaults changes whether the printer uses the U.S. factory defaults or the non-U.S. factory defaults. The settings affected include paper size, envelope size, PCL symbol set, code pages, and units of measure.

Warning: Changing this setting resets the printer to factory defaults, and data may be lost. It cannot be undone.

Page Counts

You can view, but not change any of the three counts displayed under PAGE COUNTS.

To view the Prt Color Pg Count, the Prt Mono Pg Count, or the Perm Page Count:

1. Select **PRINTER SETUP** from the Diagnostics Menu.
2. Select the page count you wish to view:
   - Prt Color Pg Count
   - Prt Mono Pg Count
   - Perm Page Count

Touch **Back** or press ⮌ to return to PRINTER SETUP.

Serial Number

The serial number can only be viewed and cannot be changed.

To view the serial number:

1. Select **PRINTER SETUP** from the Diagnostics Menu.
2. Select **Serial number**.

Touch **Back** or press ⮌ to return to PRINTER SETUP.

Engine Setting 1 through 4

Warning: Do not change these settings unless requested to do so by your next level of support.

Model Name

The model name can only be viewed and cannot be changed.

Configuration ID

The two configuration IDs are used to communicate information about certain areas of the printer that cannot be determined using hardware sensors. The configuration IDs are originally set at the factory when the printer is manufactured. However, the servicer may need to reset Configuration ID 1 or Configuration ID 2 whenever the system board is replaced. The IDs consist of eight digits. The first seven digits in each ID are hexadecimal numbers, while the last digit is a checksum of the preceding seven digits. Each ID can contain a combination of the digits 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` displays.

To set the configuration ID:

1. Select **Printer Setup** from the Diagnostic mode.
2. Select **Configuration ID** from the Printer Setup menu.
3. The value for Configuration ID 1 displays.
4. Enter the Configuration ID 1.
   - Use the keypads on the operator panel to enter the configuration ID.
   - Press ◀ or touch **Clear** to delete the default configuration ID displayed.
   - After the last digit is changed, press OK or touch ✓ to validate the Configuration ID 1.
     If `Invalid ID` appears, the entry is discarded.
     If the process is successful, `Submitting Changes` appears on the display.

5. Repeat the steps for entering the Configuration ID 2, and press OK.

Note: The printer will NOT perform an automatic POR after the Configuration IDs are accepted.

Reset color calibration (Reset Color Cal)

The Reset Color Cal enables the alignment of the color planes using pre-programmed values. Automatic Color Adjust Calibration may be more effective.

1. Select **PRINTER SETUP** from the Diagnostics Menu.
2. Select **Reset Color Cal**.
   `Resetting` displays on the screen.
3. The printer returns to the previous screen when calibration is complete.

Parallel 1 strobe adjustment (Par 1 Strobe Adj)

Note: This setting appears only if the printer has a parallel port available in the PCI slot 1.

This setting enables the servicer to adjust the amount of time the strobe is sampled in order to determine if valid data is available on the parallel port. The range of values is -4 to 6. Each time this value is incremented by 1, the strobe is sampled 50 ns (nanoseconds) longer. Each time this value is decreased by 1, the strobe is sampled 50 ns less often. When the value of this setting is 0, the factory default is used to determine the length of time the strobe is sampled. If the servicer, for example, decreased the value from 0 to 3, the strobe will be sampled for 150 ns longer than the factory setting.

Motor Calibration

This test is run to calibrate the leading edge of the paper to each transfer station.

1. Select **MOTOR TESTS** from the Diagnostics Menu.
2. Select **Motor Calibration**.
   The printer generates eight pages as part of this test.

To stop the test, press ✖.

EP Setup

EP Defaults

This setting is used to restore each printer setting listed in EP SETUP to its factory default value. Sometimes this is used to help correct print quality problems.

To restore EP Defaults:

1. Select **EP SETUP** from the Diagnostics Menu.
2. Select **EP Defaults**.
3. Select **Restore** to reset the values to the factory settings, and select **Do Not Restore** to exit without changing the settings.

Fuser temperature (Fuser Temp)

This adjustment can be used to help solve some customer problems with paper curl on low grade papers and problems with letterheads on some types of media.

The fuser temperature can be adjusted to: Low, Normal, High. The default is Normal.

DC Charge Adjust, Dev Bias Adj, Transfer Adjust

Each of these three settings enables you to adjust the high voltage levels controlling the electrophotographic process. You will use these settings to compensate for unusual operating circumstances such as high humidity. The printer uses the value of these settings together with other settings to calculate printing speed and media selection.

Reports

Menu Settings Page

The Menu Settings Page is a list of DIAGNOSTICS settings with the current value.

Event Log

Display Log

The event log provides a history of printer errors. It contains the 12 most recent errors that have occurred on the printer. The most recent error displays in position 1, and the oldest error displays in position 12 (if 12 errors have occurred). If an error occurs after the log is full, the oldest error is discarded. Identical errors in consecutive positions in the log are entered, so there may be repetitions. All 2*xx* and 9*xx* error messages are stored in the event log.

To view the event log:

1. Select **EVENT LOG** from the Diagnostics Menu.
2. Select **Display Log**.

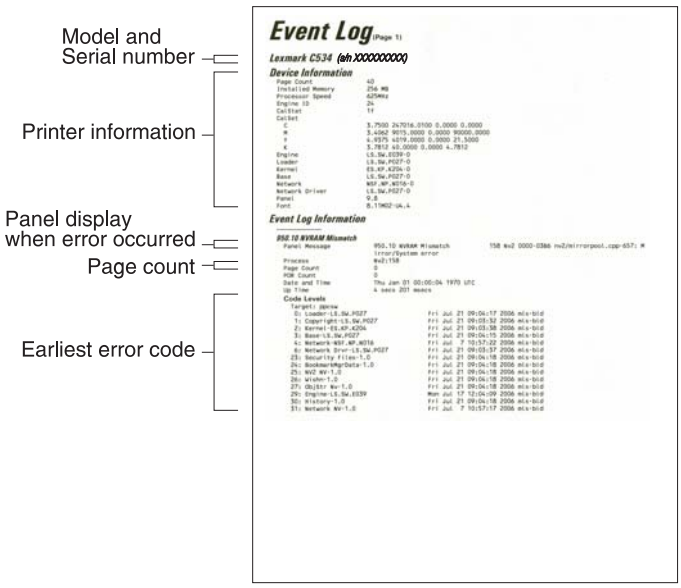
Touch **Back** ore press ⮌ to return to the EVENT LOG menu.

Print Log

Additional diagnostic information is available when you print the event log from DIAGNOSTICS rather than CONFIG MENU.

The Event Log printed from DIAGNOSTICS includes:

- Detailed printer information, including code versions
- Time and date stamps
- Page counts for most errors
- Additional debug information in some cases



The printed event log can be faxed to Lexmark or your next level of support for verification or diagnosis.

To print the event log:

1. Select **EVENT LOG** from the Diagnostics Menu.
2. Select **Print Log**.

Touch **Back** or press ⮌ to return to EVENT LOG.

Clear Log

Use Clear Log to remove the current information in the Event Log. This affects both the viewed log and the printed log information.

1. Select **EVENT LOG** from the Diagnostics Menu.
2. Select **Clear Log**.
3. Select **YES** to clear the Event Log or **NO** to exit the Clear Log menu.
   If **YES** is selected, `Deleting EVENT LOG` displays on the screen.

Touch **Back** or press ⮌ to return to EVENT LOG.

EXIT DIAGNOSTICS

The printer performs a power-on reset and returns to normal mode.

Configuration menu (CONFIG MENU)

Available tests

The tests display on the operator panel in the order shown.

Reset Fuser Cnt	See **“Reset Fuser Cnt” on page 3-28**.
Color Lock Out	See **“Color Lock Out” on page 3-28**.
Print Quality Pages	See **“Print Quality Pages” on page 3-28**.
Reports	
Menu Settings Page	See **“Menu Settings Page” on page 3-29**.
Event Log	See **“Event Log” on page 3-29**.
Color Trapping	See **“Color Trapping” on page 3-29**.
Tray Insert Msg	See **“Tray Insert Msg” on page 3-29**.
Panel Menus	See **“Panel Menus” on page 3-29**.
PPDS Emulation	See **“PPDS Emulation” on page 3-30**.
Download Emuls (if available)	See **“Download Emuls” on page 3-30**.
Demo Mode	See **“Demo Mode” on page 3-30**.
Factory Defaults	See **“Factory Defaults” on page 3-30**.
Energy Conserve	See **“Energy Conserve” on page 3-30**.
Automatic Color Adjust	See **“Automatic Color Adjust” on page 3-31**.
Auto Align Adj	See **“Auto Align Adj” on page 3-31**.
Color Adj State	See **“Color Adj State” on page 3-31**.
Enforce Color Order	See **“Enforce Color Order” on page 3-31**.
Color Alignment	See **“Color Alignment” on page 3-31**.
Motor Calibration	See **“Motor Calibration” on page 3-32**.
Paper Prompts	See **“Paper Prompts” on page 3-32**.
Envelope Prompts	See **“Envelope Prompts” on page 3-32**.
Action for Prompts	See **“Action for Prompts” on page 3-32**.
Jobs on Disk (if hard disk is installed)	See **“Jobs on Disk” on page 3-32**.
Disk Encryption (if hard disk is installed)	See **“Disk Encryption” on page 3-33**.
Wipe Disk (if hard disk is installed)	See **“Wipe Disk” on page 3-33**.
Wipe All Settings	See **“Wipe All Settings” on page 3-33**.
Duplex Gloss	See **“Duplex Gloss” on page 3-34**.
Font Sharpening	See **“Font Sharpening” on page 3-34**.
Require Standby	See **“Require Standby” on page 3-34**.
UI Automation	See **“UI Automation” on page 3-34**.
Key Repeat Initial Delay	See **“Key Repeat Initial Delay” on page 3-34**.
Key Repeat Rate	See **“Key Repeat Rate” on page 3-34**.
Clear Custom Status	See **“Clear Custom Status” on page 3-34**.
USB Speed	See **“USB Speed” on page 3-34**.
Automatically Display Error Screens	See **“Automatically Display Error Screens” on page 3-35**.

Exit Config	This selection exits Configuration Menu, and `Resetting the Printer` displays. The printer performs a POR and returns to normal mode.

Reset Fuser Cnt

Resets the fuser count value to zero. The Event Log records each time that a user executes the Reset Fuser Count operation. See **"Event Log" on page 3-29** for more information. This setting only appears if the Maintenance Warning and Intervention function is enabled in the printer Configuration ID.

To reset the fuser count:

1. Select **Reset Fuser Cnt** from the Configuration Menu.
   To cancel a reset, touch **Back** or press ↩.
2. Select **Reset Fuser Cnt**. Once you select Reset Fuser Cnt, you cannot cancel.
   `Resetting Fuser Counter` appears.

Color Lock Out

Select **On** when printing for extended periods with only black toner. This saves the color toner cartridges (cyan, magenta, and yellow) and photoconductor units from excessive wear. In addition to setting the values, the cyan, magenta, and, yellow toner cartridges and their matching photoconductor units must be removed from the printer. The default value is **Off**.

1. Select **Color Lock Out** from the Configuration Menu.
2. Select **On**.
3. Remove all color supplies. Remove the color cartridges and the color photoconductor units. Leave only the black supplies.
4. Select **Exit Config menu**, or power off and on again.

Note:

- If **On** is selected, and the color supplies are left installed when the printer is returned to normal mode, the printer displays `Remove All Color Supplies`. Remove all the color supplies, and press OK or touch ✓.
- If **Off** is selected, then at step 3, install all color supplies. If the supplies are not installed when the printer returns to normal mode, the printer displays `31 Missing or Defective {color} Cartridge`. Replace the color cartridges and color photoconductors, and press OK or touch ✓.

Print Quality Pages

To help isolate print quality problems, print the Print Quality Test Pages. The pages are formatted. The `Printing Quality Test Pages` message appears, then the pages print. The message remains on the operator panel until all the pages print.

Press OK or touch ✓ to print the pages. The Print Quality Test Pages contain several pages. The first page which is printed in English text only contains a mixture of text and graphics. The information includes values of the Quality Menu settings in Settings and printer and toner cartridge configuration information. The remaining pages contain only graphics. For samples of the pages, see **"Print quality test pages (Print Quality Pages)" on page 3-13**.

Reports

Reports

Menu Settings Page

The Menu Settings Page generates a list of Configuration Menu settings and the current values.

Event Log

This menu item lets the system support person print a limited set of the information contained in the Diagnostics mode version of the printed Event Log. For a sample of a Diagnostics Menu Event Log printout, see **"Event Log" on page 3-25**. The limited Configuration log and the full Diagnostics log printed versions show the same operator panel messages when they print and follow the same layout guidelines.

To print the Event Log:

1. Select **EVENT LOG** from the Configuration Menu
2. Select **Print Log** to begin printing the log.

Note: If an optional parallel card is supported and installed, then after the Event Log prints, a separate report prints that details the parallel card's history.

Color Trapping

Uses an algorithm to compensate for mechanical misregistration in the printer. When small black text or fine black lines are being printed, the printer checks to see if they are being printed on top of a colored background. If so, rather than remove the color from beneath the black content, the printer leaves the color around the edge of the text or line. The hole in the colored region is reduced in size which prevents the characteristic white gap that is caused by mis-registration.

This menu item applies to PCL 5e emulation, PCL XL, PDF, and PostScript.

Selections are **Off** and the values **1** through **5**, with **2** as the default. Values 1 through 5 indicate the amount of color remaining beneath the black content. Each setting increments by 1/600 of an inch. The less accurate the registration setting, the higher the setting needs to be adjusted. Selecting **Off** disables color trapping. The default value is 2.

Tray Insert Msg

This setting determines how many seconds the panel will display the `Tray Insert` message after inserting a tray into the printer.

Selections are **Disabled** and the values between **1** and **90**. The default value is **5**.

Panel Menus

Lets the system support person turn enable or disable the operator panel Administration Menu. Selecting **On** (the default) prevents users from changing values for the printer. **Off** allows users to changes the values. The default value is set to On.

This menu item only appears when the PJL PASSWORD Environment variable is set to 0.

PPDS Emulation

Activates or deactivates (default) the Personal Printer Data Stream (PPDS) emulation language. This menu item only appears if the PPDS interpreter is available.

Download Emuls

This menu item allows the system support person turn the download emulator off temporarily. This menu item only appears if at least one download emulator is installed.

The only selection is **Disable**. The printer automatically re-enables all download emulators after two instances of a power-on reset for the printer. To re-enable these emulators, a user would perform another power-on reset after exiting the Config Menu.

Demo Mode

This menu item allows marketing personnel or merchandisers demonstrate the printer to potential customers by printing the demo page.

Selections include Deactivate (default) and Activate. Select **Deactivate** to turn Demo Mode off; or select **Activate** to turn Demo Mode on.

Factory Defaults

This menu item resets the majority of printer values back to their factory default settings.

Warning: This selection cannot be reversed, so this operation should only be used as a last resort to fix any printer problem.
When factory default settings are restored:

- All downloaded resources (fonts, macros, symbol sets) in the printer memory (RAM) are deleted.
- All menu settings return to the factory default setting *except*:
  - The Display Language setting in the “Setup” Menu.
  - All settings in the Parallel Menu, Serial Menu, Network Menu, Infrared Menu, LocalTalk Menu, and USB Menu.

Selections are **Restore Base** and **Restore STD NET**. The Restore Network value only appears on printer models that have integrated network support.

`Restoring Factory Defaults` appears on the operator panel while factory defaults are restored.

Energy Conserve

This menu item affects the values that appear in the Power Saver menu on the operator panel. Energy Conserve only appears when the Power Saver feature is disabled.

Select **Off** in Energy Conserve to add a menu item to the Power Saver called `Disabled`. Energy Conserve does not disable Power Saver, it only allows the users to select **Disable**. When **On** (default) is selected in the Energy Conserve menu `Disabled` does **not** appear on as a choice in the Power Saver menu. Power Saver cannot be disabled from the user‘s operator menu.

Automatic Color Adjust

Sets the suggested number of pages which the printer should print between consecutive calibrations.

Selections are **Off** and the values between **100** and **1000** in increments of 50. The default is 500 pages.

If the printer exceeds the set value while printing a job, it completes the current job and any other jobs received while printing the current job before it initiates a calibration. The printer does not cancel or suspend an active job in order to perform a calibration. If a user is in any of the menus, including the Configuration Menu and the Diagnostics mode, an automatic color adjust calibration does not occur.

Auto Align Adj

Controls whether the printer executes the automatic alignment calibration after an initiating event occurs. When an event initiates a TPS operation, the printer performs a toner density calibration, (TPS) an alignment calibration, or both of the calibrations.

Toner Patch Sensing (TPS) is a diagnostic mechanism that automatically adjusts the printer toner density and alignment settings. When TPS executes, the printer generates toner patches on the transfer module. It then uses these to calculate the appropriate adjustment, to density, if necessary.

Selections are **On** (default) and **Off**. Turning this setting to **Off** is not recommended for normal operation because it prevents the printer from using the results of automatic color calibration and automatic alignment to make minor adjustments. Eventually, the user will have to manually correct alignment and color on the printer.

Color Adj State

These settings allow you to select when color calibrations occur. Selecting **Busy** indicates the color calibrations will complete queued jobs, but refuse to add new jobs to the queue. When calibration is complete jobs are again accepted. Selecting **Idle** allows calibrations only when the printer is idle.

Enforce Color Order

This setting gives the system support person the ability to enforce where the color cartridges may be placed, and if messages appear when cartridges are in the wrong location.

When **On** (default) is selected, the printer lets users place each toner cartridge in only its specified slot. For instance, the Magenta toner cartridge must be in the Magenta slot. If the user tries to place a cartridge in an incorrect slot, the printer message `31 Defective or Missing <color> Cartridge` or `32 Unsupported <color> Cartridge` appears where <*color*> stands for Cyan, Magenta, Yellow, or Black.

When **Off** is selected, the printer does not issue any message to let the user know that the cartridge is placed in the wrong slot inside the printer.

Color Alignment

Color alignment should be performed when the printhead may become misaligned because it was removed or replaced. Perform Color Alignment when a new transfer belt assembly is installed.

To perform color alignment:

1. Select **Color Alignment** from the Configuration Menu.
2. Select **Print Alignment Page**.
3. Select **Set A**.
   Consulting the printed page, follow the instructions on the operator panel to choose the best appearing line numbered 0 through 20 for line A.
   Continue selecting the best lines for the sets through **Set L**.

Motor Calibration

This test is run to calibrate the leading edge of the paper to each transfer station.

1. Select **Motor Calibration** from the Configuration Menu.
2. `Calibrating` displays, and the printer prints eight blank pages and then returns to the Configuration Menu.

Note: This test should be run at 600 dpi resolution and with duplex disabled.

Paper Prompts

Controls the source the printer selects for a change paper source message. The printer displays the change paper source message based on the size of the paper requested and not by the paper type.

Selections include Auto, Multi-Purpose Feeder, and Manual Paper.

Note: Multi-Purpose Feeder is only available on some printer models.

Note: If the Configure MP setting is changed to Manual, a power-on reset is performed, and the value of the Paper Prompts menu item before the power-on reset was Multi-Purpose Feeder, then when the printer restarts, the printer automatically changes the Paper Prompts setting to Manual Paper.

Load Manual overrides that would result in a change paper message are disabled for Paper or Envelope prompts that are set to Manual, Manual Paper, or Manual Envelope.

Envelope Prompts

Controls the source the printer selects for a change envelope source message. The printer displays the change envelope message based on the size of the envelope requested and not by the envelope type.

Selections include Auto, Multi-Purpose Feeder, and Manual Envelope.

Note: Multi-Purpose Feeder is only available on some printer models.

Note: If the Configure MP setting is changed to Manual, and a power-on reset is performed, and the value of the Envelope Prompts menu item before the power-on reset was Multi-Purpose Feeder, then when the printer restarts, the printer automatically changes the Envelope Prompt setting to Manual Envelope.

Load Manual overrides that would result in a change paper message are disabled for Paper or Envelope prompts that are set to Manual, Manual Paper, or Manual Envelope.

Action for Prompts

This setting gives the user the option of having the printer resolve change prompt situations without requiring any user assistance. If the **Prompt user** value is selected, the printer displays change prompts if the job does not match the media in the selected source. The user must select another source or change the paper. If **Continue** or **Use current** is selected, the printer acts as if the user made the selection **Continue** or **Use current** and continues without user intervention, in most cases.

Jobs on Disk

Lets the user select whether or not the printer deletes all buffered jobs on the hard disk. This menu item only appears if a hard disk is installed. It appears even if no buffered jobs exist on the hard disk.

Selections include **Do Not Delete** and **Delete**.

Note: **Delete** does not remove Print and Hold jobs. Use **Remove Held Jobs** in the Utilities Menu (user menu) to delete these jobs.

Disk Encryption

Controls whether the printer encrypts the information that it writes to the hard disk.

Warning: When the value for Disk Encryption, the printer completely formats the hard disk which means that all information on the disk is deleted.

Note: If an encrypted disk is removed from the printer and another disk is installed, the `Disk Corrupted. Reformat?` message appears. The newly installed disk must either be formatted or removed from the printer.

Selections include **Disable** (default) and **Enable**. When Disk Encryption is selected, Yes or No appears for you to confirm. Select either **Yes** or **No** to continue. To cancel, select **No**.

The Disk Encryption menu item only appears when:

- A non-defective disk is installed in the printer.
- The values of bits 3-2 of digit 4 in the Configuration ID 2 are either 01 for Supported, or 10 for Supported with an internal network adapter (INA).

A graphic appears, showing:

- The message `Encrypting Disk` or `Formatting Disk`
- A percentage scale
- The message `DO NOT POWER OFF`

The process is complete when the percentage scale displays 100.

Wipe Disk

Note: Due to the lengthy amount of time required to wipe an entire hard disk using either method, a wipe should not be initiated unless it is absolutely unavoidable (for example, disk corruption), or unless the printer can remain offline for several hours without inconveniencing users.

Warning: A user should not initiate either type of wipe from the Configuration Menu if the hard disk contains downloaded fonts, macros, held jobs, and so forth that should not be erased.

This setting initiates either a single pass wipe or a multiple pass wipe of the entire hard disk. Select **Disk Wipe (fast)** to complete a single pass wipe and replacement of the file system. Select **Disk Wipe (secure)** to complete a multiple pass wipe at a more basic level.

Wipe All Settings

The purpose of this setting is to make any sensitive information that may exist on the device's volatile or non-volatile storage completely indecipherable.

After selecting this setting, the operator panel displays the following message:

```
This operation will clear all settings, solutions, and jobs on this device. The device will reboot during this process. Continue?
```

To cancel the NAND wipe operation and return to the main Configuration Menu, select **No**. To execute the NAND wipe operation, select **Yes**.

After selecting **Yes**, the device initiates a non-critical NVRAM reset, and the operator panel displays the message `Resetting the device`, and then the device reboots.

The progress bar area of the Lexmark logo screen that appears during boot up displays the following message until the wiping process is finished:

```
Wiping disk...Pass [x] of [y]. [Z]% done.
```

Duplex Gloss

Generates higher quality duplex copies than when using the normal duplex mode. The major difference between normal duplex and duplex gloss mode is the number of sheets in the duplex print media path. Normal duplex mode feeds two sheets simultaneously, while duplex gloss feeds only one sheet.

Selections include **Off** (default) and **On**.

Font Sharpening

Lets a user set a text point-size value below the setting of the high frequency screens used when printing font data. This menu item only affects the PostScript, PCL, XL, and PDF emulators.

Settings are in the range of 0–150 (24 is the default). For example, if the value is set to 24, then all fonts sized 24 points or less use the high frequency screens.

Require Standby

When set to **Off**, the Standby Mode setting in the General Settings Menu displays a **Disabled** value.

UI Automation

This setting allows external developers to measure the stability of their applications by performing their own automated testing against the device.

Selections include **Enable** and **Disable** (default).

When **Enable** is selected, the machine creates a file called ENABLE_UI_AUTOMATION in the /var/fs/shared/ directory. As long as this file exists, the device permits automated testing by external users.

When **Disable** is selected, the machine removes the ENABLE_UI_AUTOMATION file from the /var/fs/shared/ directory and prohibits automated testing.

Key Repeat Initial Delay

This determines the initial length of delay before a repeating key starts repeating.

The selection values are from **0.25** to **5.00** with 0.25 second increments. The default value is **1.00**.

Key Repeat Rate

This determines the value for the number of presses per second for a repeating key.

The selection values are from **0.5** to **100.0** with 0.5 second increments. The default value is **15.0**.

Clear Custom Status

This operation erases any strings that have been defined by the user for the Default or Alternate custom messages.

USB Speed

Full or Auto (default).

Automatically Display Error Screens

Selections include **On** (default) and **Off** (default).

When **On** is selected, the operator panel automatically displays any existing printer-related IR after the device remains inactive on the Home screen for a length of time equal to the Screen Timeout setting. Any IR that appears on the operator panel will display the option to return to the Home screen without clearing it. Once the device returns to the Home screen, though, any existing IR again will appear after the device remains inactive on the Home screen for a length of time equal to the Screen Timeout setting.

Note: SFPs and MFPs use a different default value for this setting in order to preserve their legacy behavior with respect to IRs.

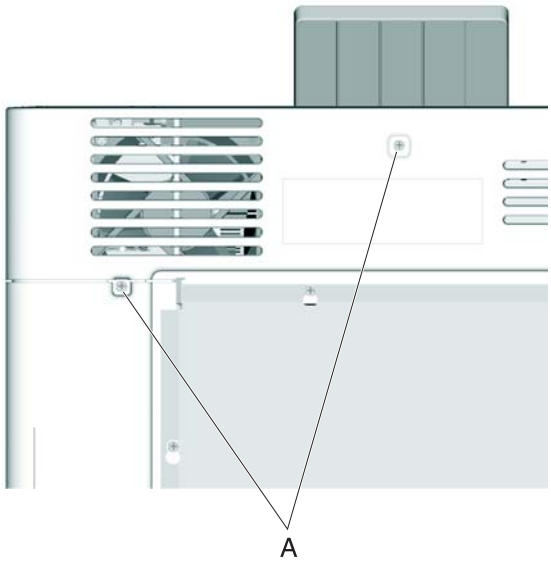
Exit Config

Exits the Configuration Menu. The printer performs a power-on reset and returns to normal mode.

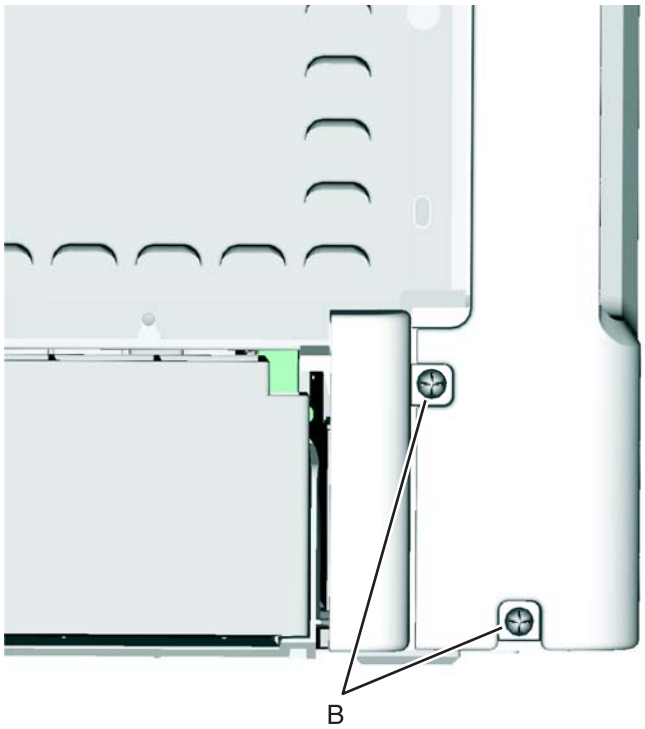
Front cover locked in place

The front door locks during certain Busy events, and unlocks when those events are complete. This is a normal function. You can hear the door lock into place when one of these events take place. However, if the printer is turned off, or has an error while the front door is locked (for example, while printing or calibrating), the front door may not unlock. If this happens, turn the printer off, and restart it. Once it goes through POR, it may unlock itself. If this does not work, use the following procedure to unlock the front door:

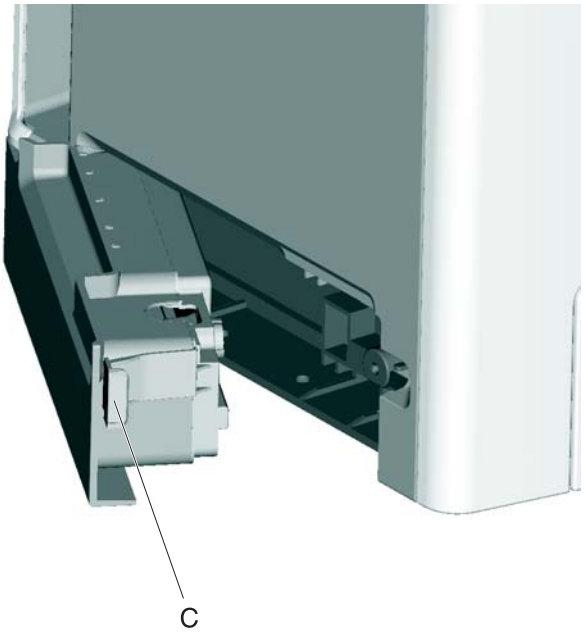
1. Remove the two screws (A) from the rear upper cover, and remove the cover.



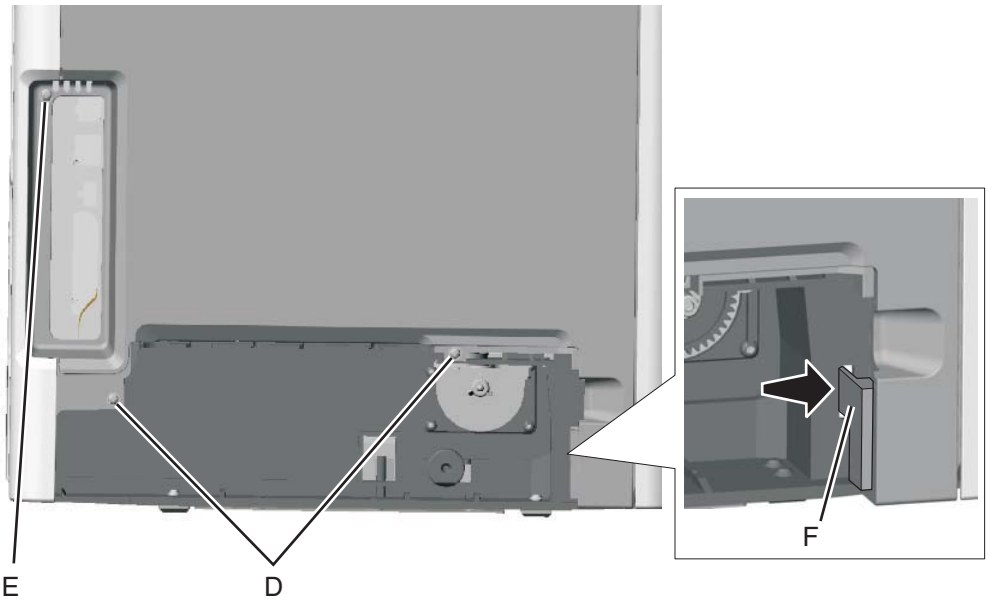
2. Remove the two screws (B) from the rear left cover.



3. Press the waste toner release latch (C), swing the front of the waste toner assembly away from the printer, and remove.

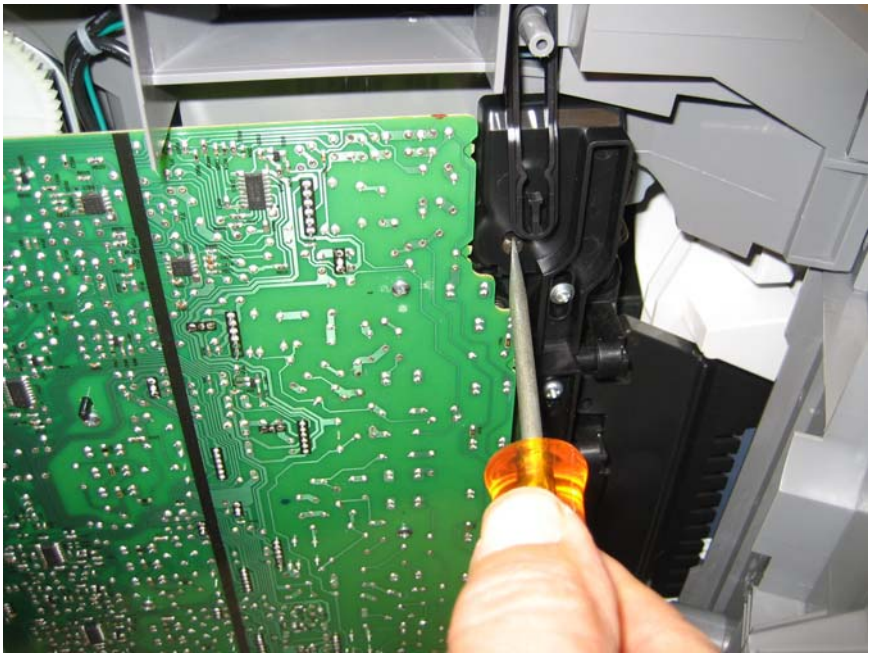


4. Remove the two screws (D) on the bottom and one screw higher up (E).
5. Press the locking tab (F).



6. Lift the rear of the left cover out, and rotate it out of position.
   Note: It will not come completely off with the front cover locked.

7. With a flatblade screwdriver, turn the camshaft counterclockwise until the door unlocks.



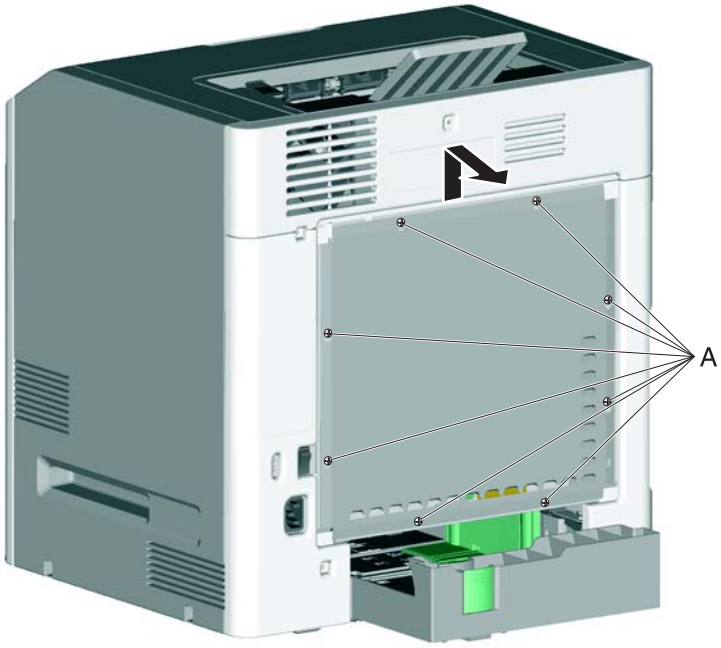
8. Open the front cover.

Printhead verification

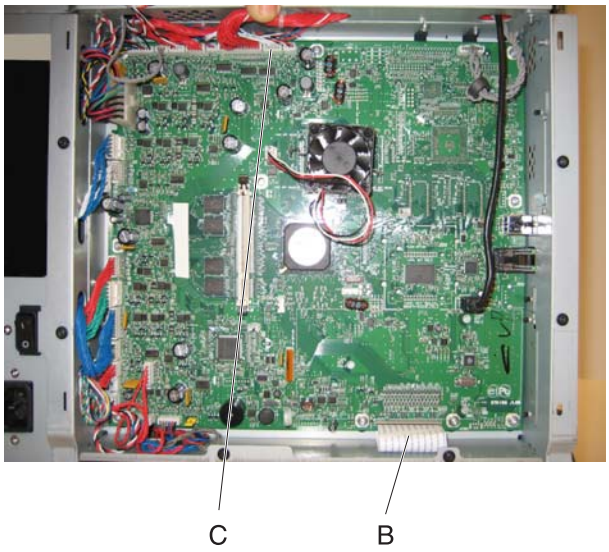
You can verify that the printhead is the failing FRU by following this procedure:

1. Turn the printer off, and remove the power cord from the outlet. Remove all cords and cables from the printer before beginning.
2. Locate the printer on a corner of a work area so the front and back can be accessed.

3. Remove the rear frame cover.
   a. **Loosen** the eight screws on the rear frame cover (A).
      Note: Do not remove the screws.
   b. Lift up on the rear frame cover to remove it from the back of the printer.



4. Carefully unplug the printhead ribbon (B) and the mirror motor cables (C) from the system board, and carefully connect the printhead ribbon and mirror motor cables from the new printhead into the system board. It is important to position the laser in the printhead down into the packaging as shown.
   Note: Use the packaging that came with the printhead FRU to prop the printhead up.

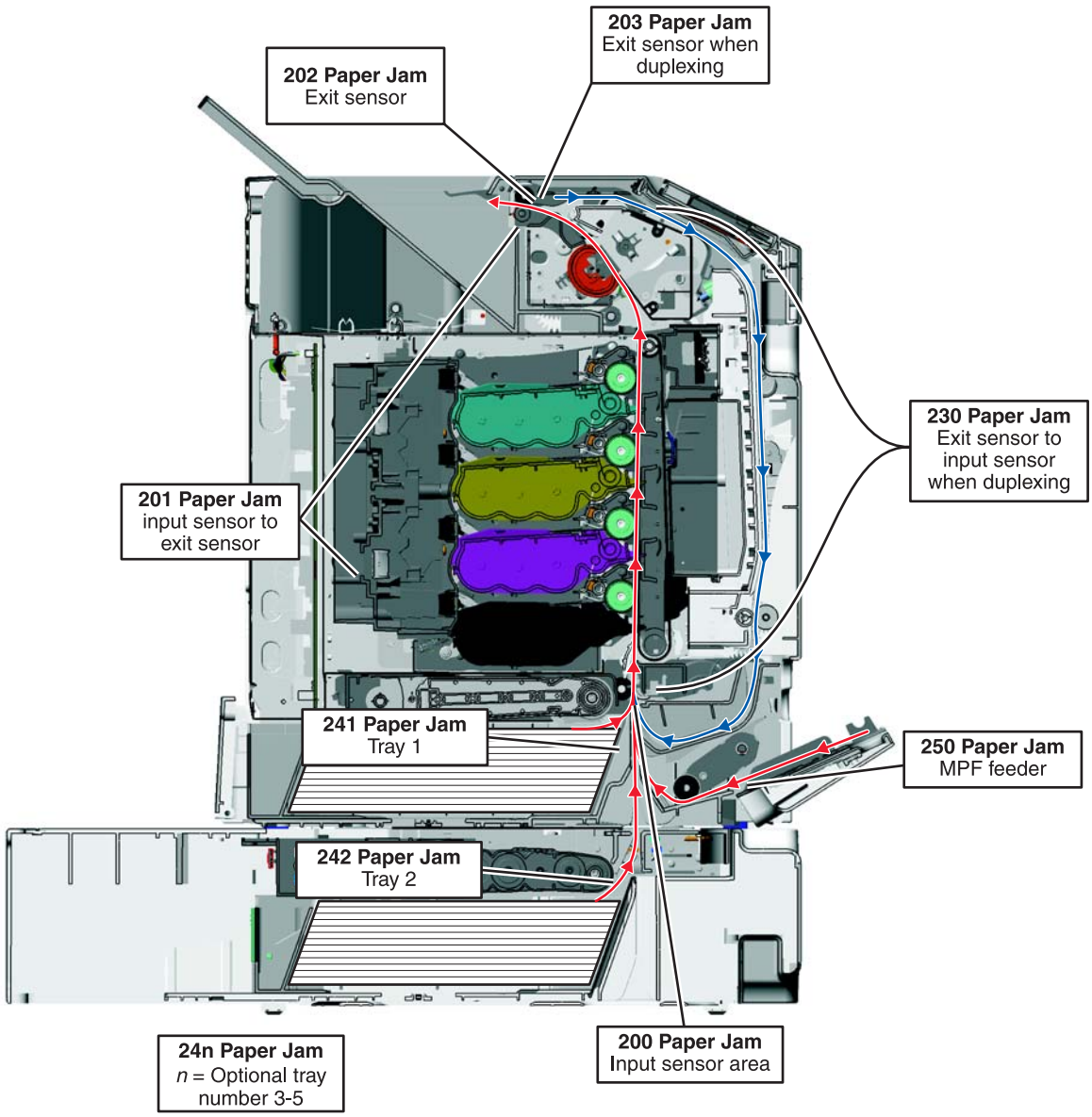


5. Connect the power cord to the outlet and to the printer. Reconnect any cords.
6. Enter the Diagnostics menu (press and hold buttons **3** and **6**, turn on the printer, and release the buttons when the progress bar displays.)
7. Perform the Mirror Motor Test:
   a. Select **PRINTHEAD TESTS**.
   b. Select **Mirror Motor Test**.
      The panel displays `Motor Running`.
      At the end of the test, the panel displays either `Pass` or `Fail`.
      - If the test fails, replace the system board.
      - If the test passes, perform the Servo Laser Test in step 8.
8. Perform the Servo Laser Test:
   a. Press ↩ or ✕ to go back to the **PRINTHEAD TESTS** menu.
   b. Select **Servo Laser Test**.
      The panel displays `Servo Laser Test—Motor Running...`.
      At the end of the test, the panel displays either `Pass` or `Fail`.
      - If the test fails, replace the system board.
      - If the test passes, install the printhead FRU.

Paper Jams

Error jam locations

The following illustration shows the location and error codes generated for specific paper jams and the corresponding locations of these jams.



Clearing jams

CAUTION—HOT SURFACE

The fuser and the inside of the printer near the fuser may be hot. Wait for the fuser to cool before clearing jams from this area.

By carefully selecting papers and specialty media (see **"Paper guidelines" on page 1-13**) and loading it properly, you should be able to avoid most jams. If jams do occur, follow the steps outlined below.

To resolve the jam messages, you must clear the entire paper path, and press OK or touch ✓ to clear the message and resume printing. The printer prints a new copy of the page that jammed if Jam Recovery is set to On or Auto; however, the Auto setting does not guarantee the page will print.

Note: Jam recovery is set to Auto by default. When jam recovery is set to Auto, the memory that holds the image of a page may be re-used after the page is printed but before it has successfully exited the printer if that memory is needed for another use. Therefore, a jammed page may or may not be reprinted, depending on the overall memory usage in the printer.

Avoiding jams

The following hints can help you avoid jams:

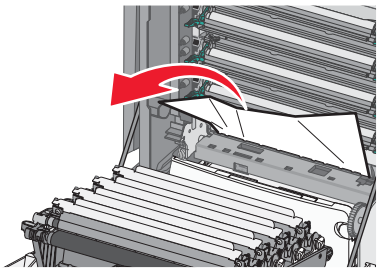
- Use only recommended paper or specialty media.
  For more information, refer to the *Card Stock & Label Guide* available on the Lexmark Web site at **www.lexmark.com/publications**.
- Do not load too much paper. Make sure the stack height does not exceed the indicated maximum height.
- Do not load wrinkled, creased, damp, or curled paper.
- Flex, fan, and straighten paper before loading it.
- Do not use paper that has been cut or trimmed by hand.
- Do not mix paper sizes, weights, or types in the same stack.
- Store the paper in an appropriate environment.
- Do not remove trays while the printer is printing. Wait for `Load tray <x>` or `Ready` to appear before removing a tray.
- Do not load the multipurpose tray while the printer is printing. Load the tray prior to printing, or wait for `Load Multipurpose tray with <x>` to appear.
- Push all trays in firmly after loading paper.
- Make sure the guides in the trays are properly positioned and are not pressing too tightly against the paper.
- Make sure all paper sizes and paper types are set correctly in the printer control panel menu.
- Make sure all printer cables are attached correctly. For more information, refer to the setup documentation.

200 paper jams

If paper jams behind the inner door, but not under the photoconductor units, `200.xx Paper jam` appears.

Note: To avoid overexposing the photoconductor units, do not leave the front door open longer than 10 minutes.

1. Open the front door.
2. Pull the jammed paper up and out to remove it from behind the toner cartridge area.
   Note: Make sure all paper fragments are removed.

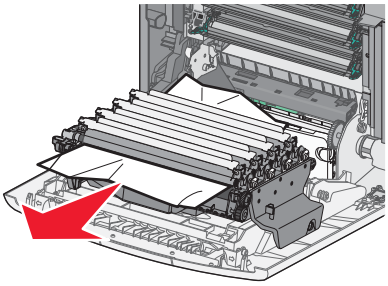


3. Close the front door.
4. Press OK or touch ✓.

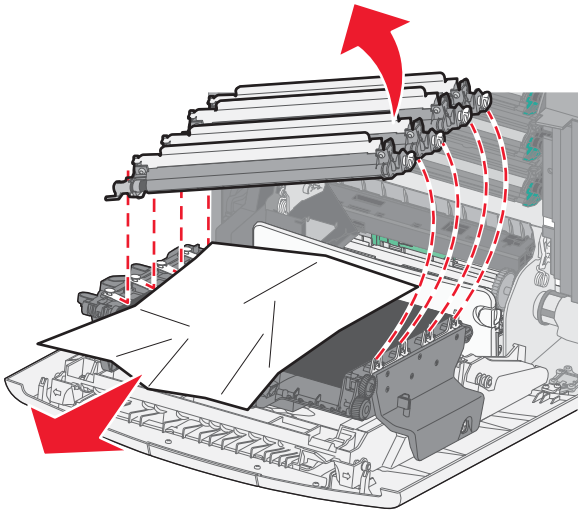
200 or 201 paper jam

If paper jams under the photoconductor units, `200.xx Paper jam` or `201.xx Paper jam` may appear.

1. Open the front door.
   Note: To avoid overexposing the photoconductor units, do not leave the front door open longer than 10 minutes.
2. Pull the paper forward if it is lodged under the photoconductor units.
   Note: You may need to remove the photoconductor units if the paper is lodged too tightly under them.



3. Remove each photoconductor unit, and place it on a flat surface.



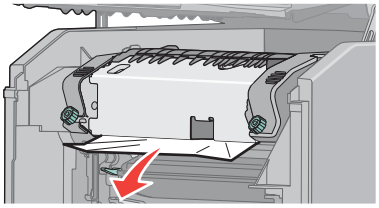
4. Remove the jammed paper, and then replace each photoconductor unit.
5. Close the front door.
6. Press OK or touch ✓.

201 paper jam

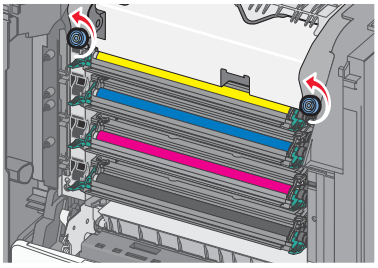
If paper is jammed under the fuser or the top cover, `201.xx Paper jam` appears.

1. Open the front door, and then open the top cover.
   Warning: Potential Damage: To avoid overexposing the photoconductor units, do not leave the front door open longer than 10 minutes.

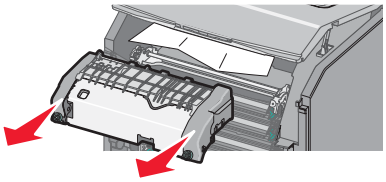
2. Determine where the jam is located:
   a. If paper is visible under the fuser, grasp it on each side and pull it forward.



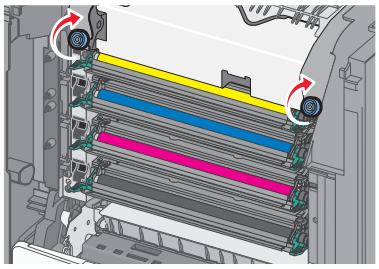
   b. If paper is not visible, turn the screws on the fuser unit to the left.



c. Lift the unit and pull to remove it.



d. Remove the jammed paper.
e. Replace the fuser unit, and then turn the screws to the right to fasten it securely.



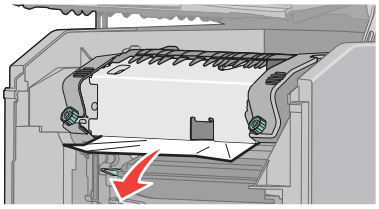
3. Close the top cover, and then close the front door.
4. Press OK or touch ✓.

202 paper jam

If paper is jammed both under the fuser unit and in the slot behind the fuser unit, `202.xx Paper jam` appears.

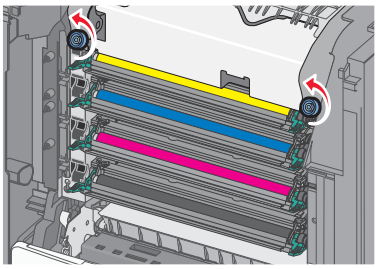
1. If the paper is visible in the standard exit bin, grasp the paper and pull it away from the bin.

2. Open the front door, and then open the top cover.
3. Grasp the paper on each side, and pull it forward.

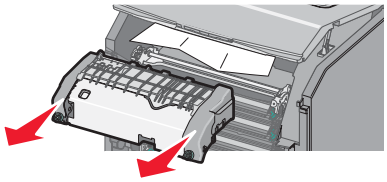


If the paper is jammed behind the fuser, you will need to remove the fuser unit.

a. Turn the screws on the fuser unit to the left.

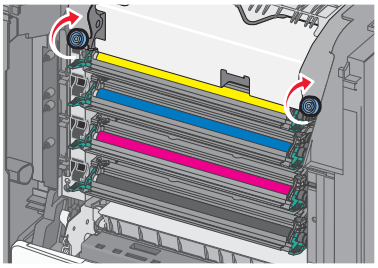


b. Lift the unit and pull to remove it.



c. Pull the paper gently out of the printer or up toward the standard exit bin to remove it.

d. Place the fuser unit back into the printer, and turn the screws to the right to fasten the fuser unit securely.



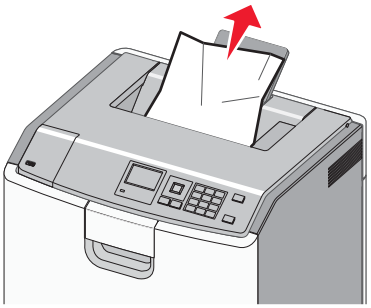
4. Close the top cover, and then close the front door.

5. Press OK or touch ✓.

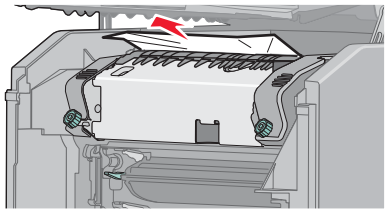
203 paper jam

If paper is jammed under the rollers near the fuser, or in the standard exit bin `203.xx Paper jam` appears.

1. Grasp the paper that is visible in the standard exit bin, and pull it away from the bin.



2. Open the front door, and then open the top cover.
3. Grasp the paper on each side, and pull it out gently.

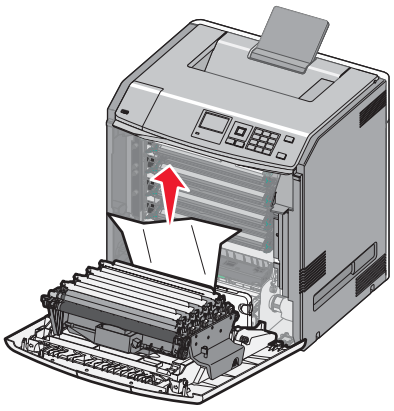


4. Close the top cover, and then close the front door.
5. Press OK or touch ✓.

230 paper jam

If paper is jammed between the front door and tray 1, `230.xx Paper jam` appears.

1. Remove tray 1.
2. Open the front door.
3. Pull straight up to remove the jammed paper.

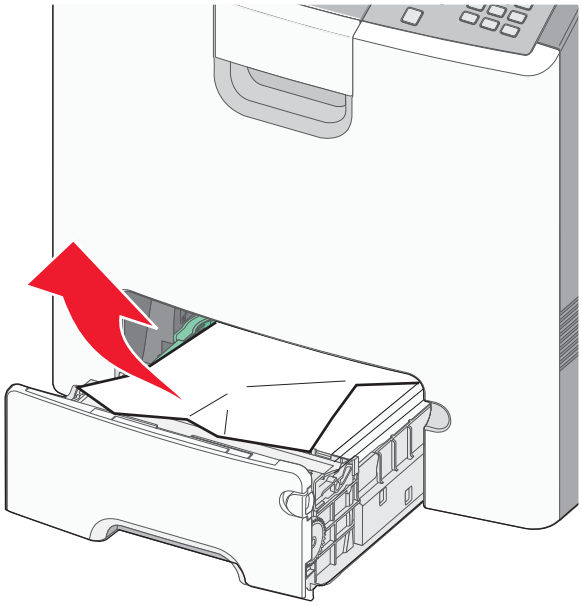


4. Close the front door.
5. Reinsert tray 1.
6. Press OK or touch ✓.

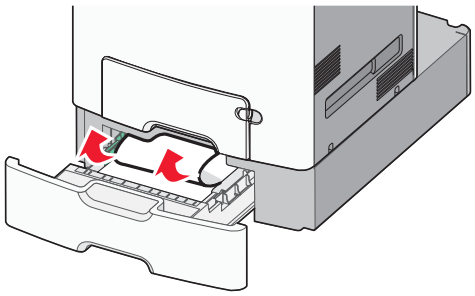
240 paper jam

If paper is jammed in Tray 1, `241.xx Paper jam` appears. If paper is jammed in any of the optional trays, `24x.xx Paper jam` appears.

- If the jammed paper is located in tray 1, follow these steps to remove the paper from tray 1.
  1. Open tray 1, and pull the jammed pages straight up and out.
  2. If the jam is located in front of the tray, pull the jammed pages up and out.



  3. After removing the tray, the front door may need to be opened to access the jam.
  4. Close tray 1.
  5. Press OK or touch ✓.
- If the jammed pages are located in one of the optional trays, follow the appropriate steps below to remove the pages from an optional tray.
  1. Open the specified optional tray, and pull the jammed pages out as illustrated.

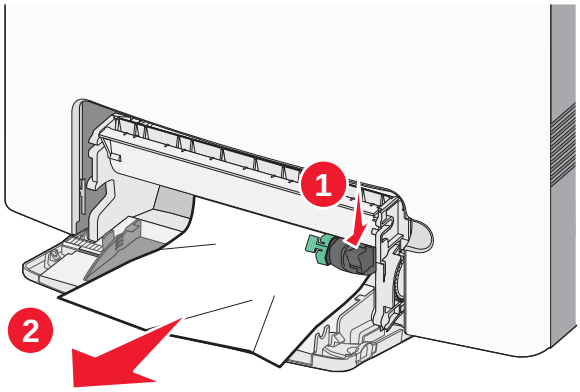


  2. After removing the tray, the tray above may need to be opened to access the jam.
  3. Close the specified optional tray.
  4. Press OK or touch ✓.

250 paper jam

If paper is jammed in the multipurpose tray, `250.xx Paper jam` appears.

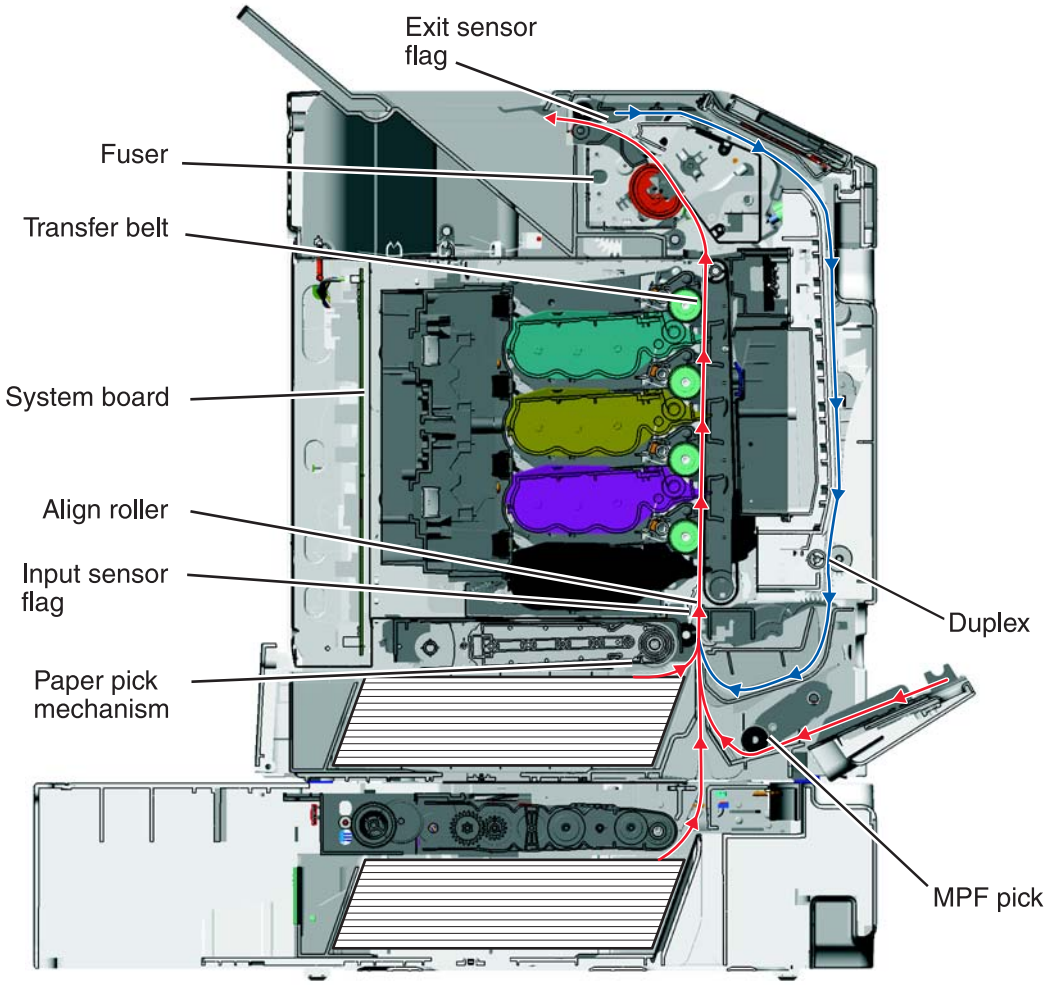
1. Press the paper release lever, and then remove the jammed pages from the multipurpose tray.



2. Load new paper into the multipurpose tray.
3. Press OK or touch ✓.

Theory of operation

Paper path



Main Components

System board

The system board provides the intelligence of the printer. Command and control signals originate in the system card that make print media travel possible. The system card controls the timing of the print media during the printing so the media arrives at certain positions in the print process at certain times.

Paper tray

Houses the print media.

Paper pick mechanism

Picks the print media from the paper tray. The paper pick mechanism contains the paper pick (input) sensor and the multifunction transparency sensor.

Bump aligner roll

The bump aligner roll advances the print media onto the transfer belt and corrects any media skew as it comes out of the paper trays or MPF.

Transfer belt

The transfer rolls (located inside the transfer belt unit) are an integral part of the electrophotographic process, and the transfer belt advances the print media through the printer.

Fuser

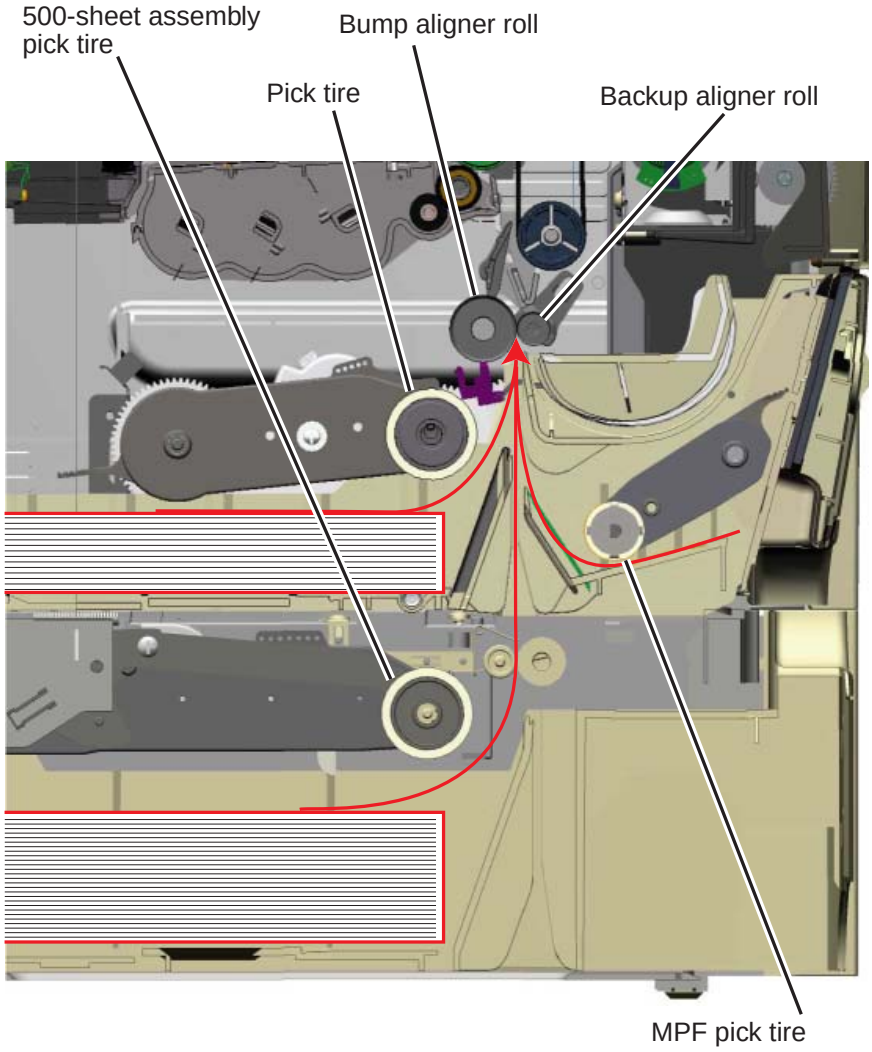
The fuser bonds toner to the print media and advances the print media through the last portion of the paper path. The paper exit sensor is also located in the fuser, and a flag is present on all fusers that activates the bin full sensors on network model printers.

Duplex

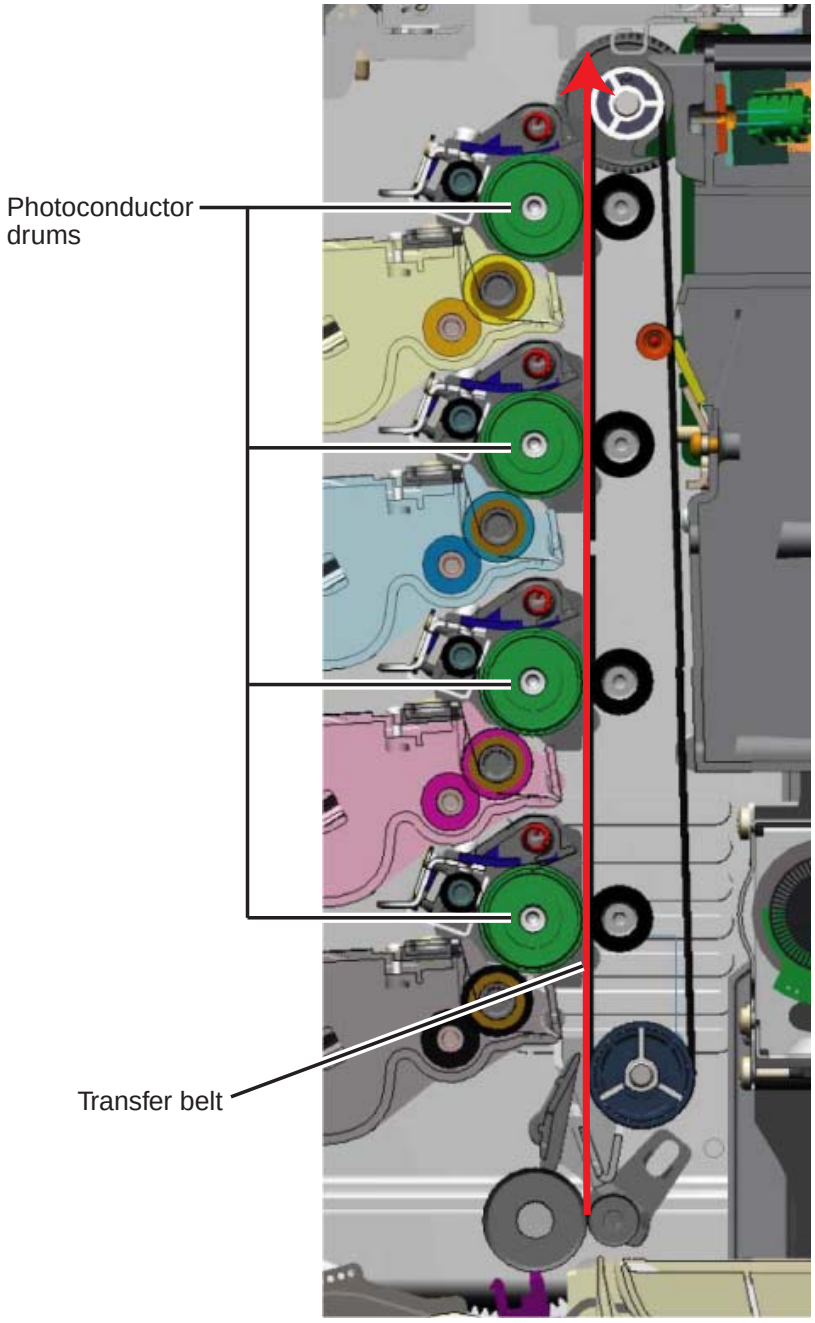
The duplex function is built into the front access door and uses a two-pass method for rerouting the paper down and back through the paper path for a second time. To accomplish the two-pass method, the paper is fed partially out of the printer and is then reversed back into the printer.

Print media transport

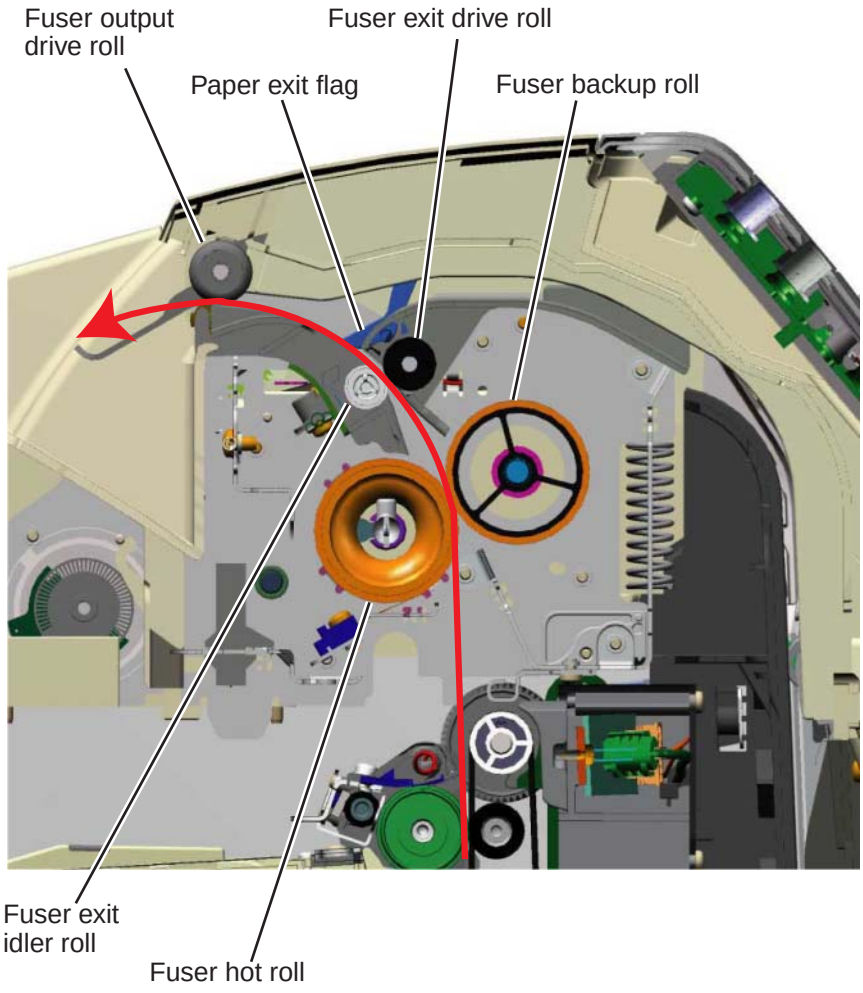
The print media is picked from the input source and fed to the bump aligner roll. The media movement is detected by a sensor located in the paper pick mechanism. It does not matter where the media comes from (Tray 1, Tray 2, or, the MPF); it will enter the electrophotographic process at the bump aligner drive. The bump aligner motor drives the bump aligner roll which feeds the paper to the transfer belt.



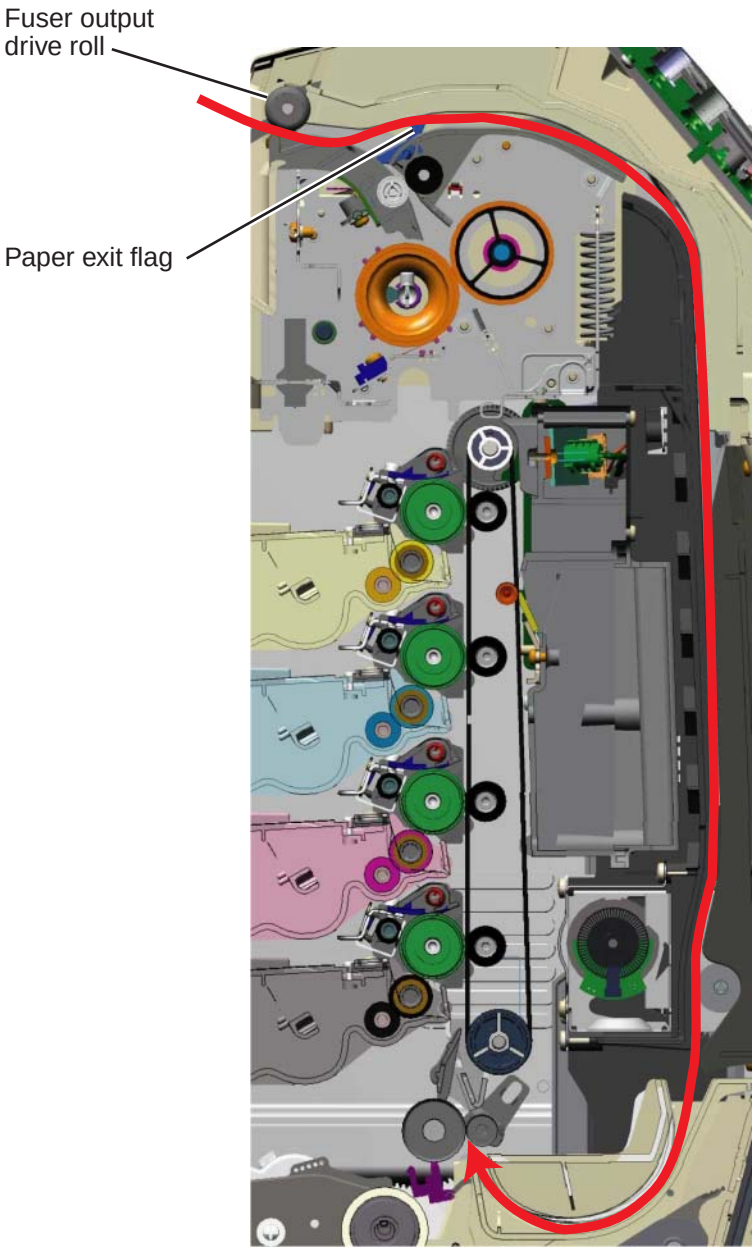
Once the paper is fed onto the transfer belt, the photoconductor drums in conjunction with the transfer belt pull the print media through the paper path.



Once the print media exits the transfer belt, it enters the fuser where heat and pressure are applied to bond the toner permanently to the media. The fuser rollers continue to turn and pull the print media through the paper path until it reaches the exit drive roll. The exit drive roll pulls the print media from the fuser rollers and delivers it to the fuser output drive roll. Once the print media reaches the fuser output drive roll, the roller pushes the print media into the output bin.



If the page is to be duplexed, the fuser output drive roll continues to pull the media until it clears the paper exit flag and then reverses the rotation of the roller in order to pull the media back into the printer duplex assembly. The media is then routed down through the duplex path until it reaches the bump aligner roll. Once in this position, it enters the EP path for the second time.



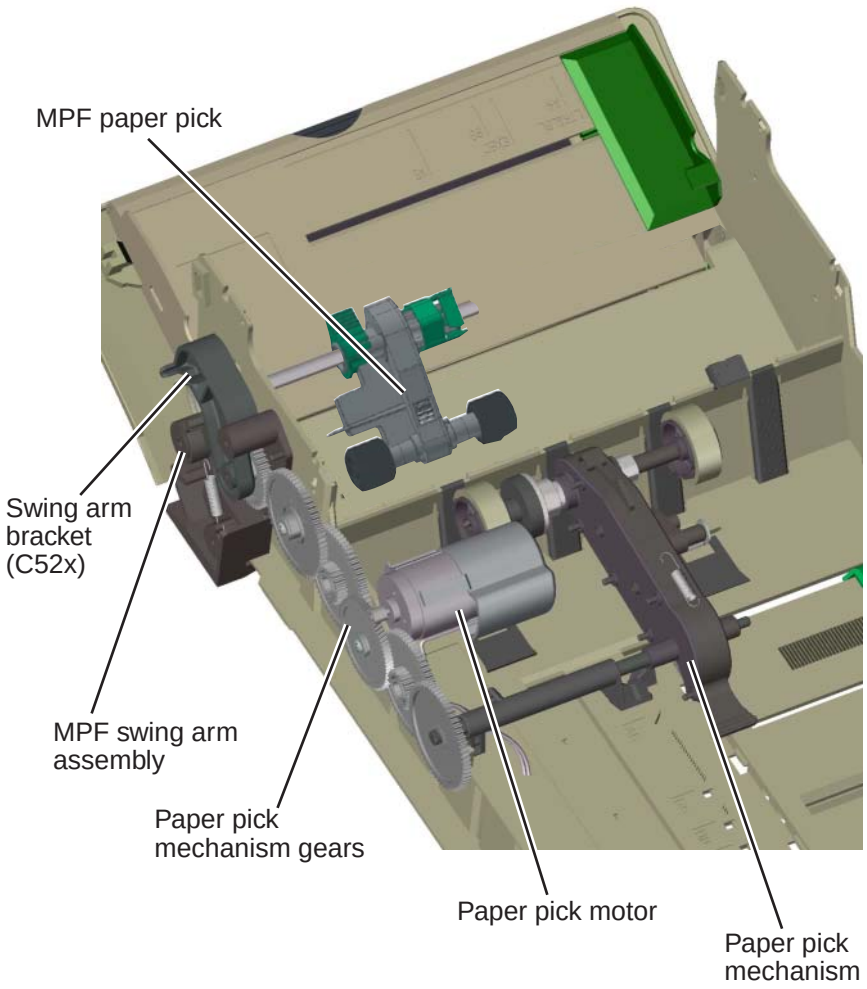
The paper exit flag serves two purposes. When it triggers the paper exit sensor, it serves as a one-way gate for the media when it is exiting the printer to the output bin and also serves as a one-way gate when the media is entering back into the printer for a duplex print. In other words, it diverts the print media's path, directing it to either the output bin or the duplex paper path.

Mechanical drive

In order for the print media to move through the paper path, there are several drive motors that supply the mechanical power to the rollers discussed previously. The drives for these components are illustrated and discussed in the following paragraphs.

Paper pick mechanism drive

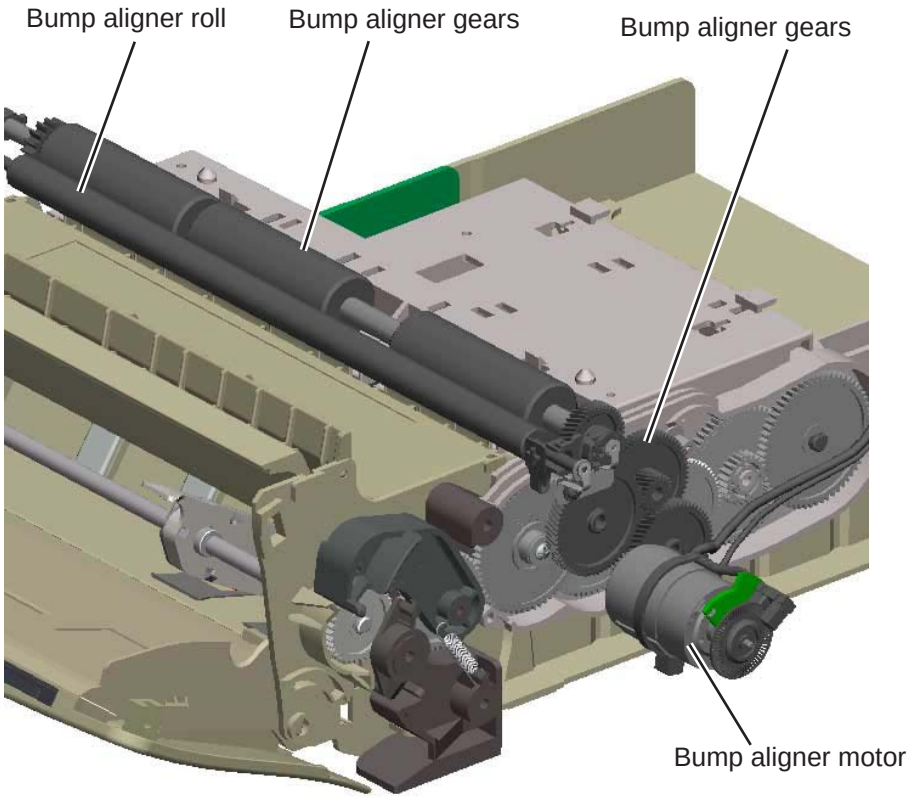
When printing from Tray 1 or Tray 2, the paper pick motor drives the paper pick gears which causes the pick roller to turn. During an MPF print, the paper pick motor drives the swing arm assembly for the MPF and causes the MPF paper pick roller to turn.



Paper tray and paper pick mechanism shown from rear with components removed for clarity

Bump aligner drive

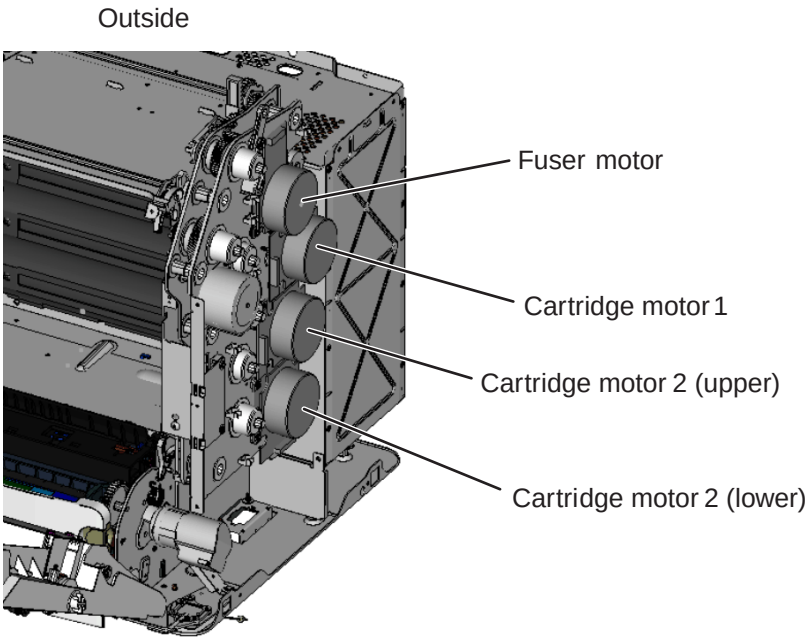
The power to turn the bump aligner roll is supplied from the bump aligner motor. The motor drives a set of bump aligner gears which causes the bump aligner roll to turn.

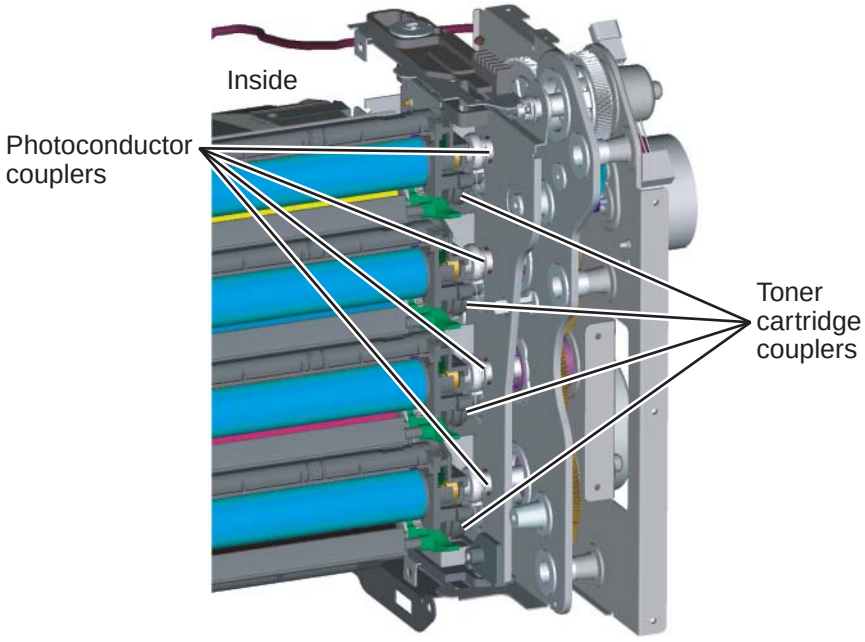


Note: If this motor is stalling or causing waste toner box full messages, the vertical auger mechanism might be causing the problem.

Photoconductor unit/toner cartridge drive

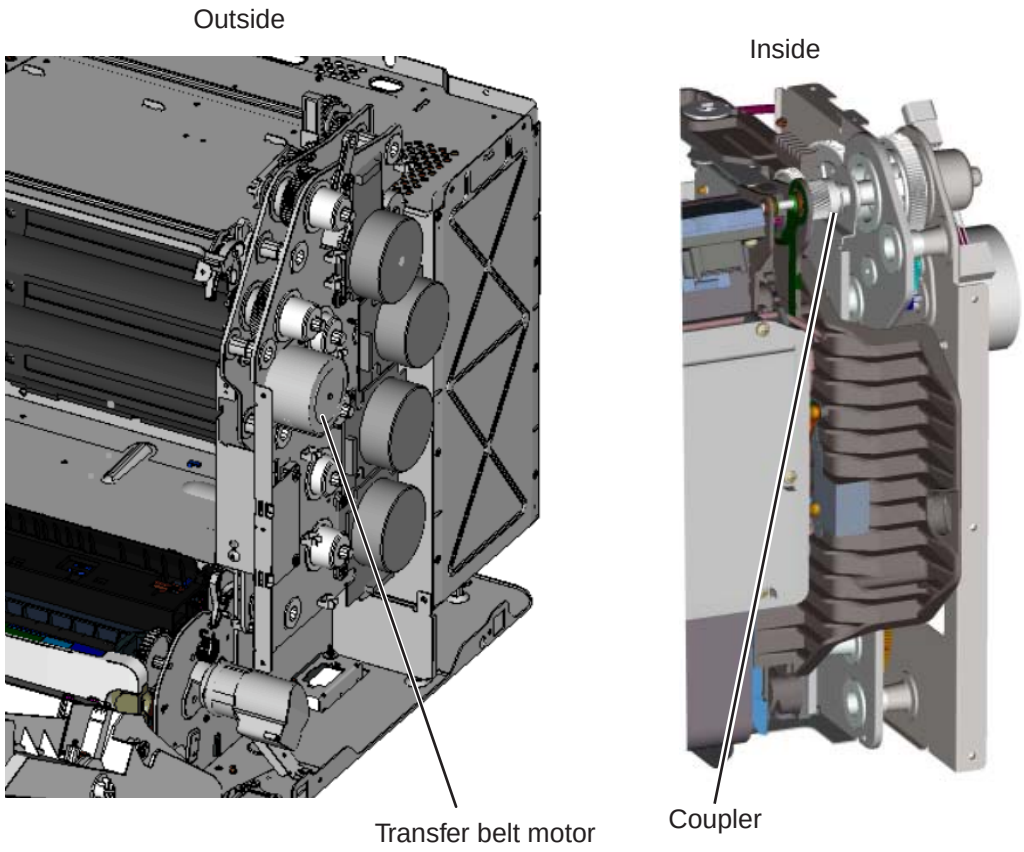
The photoconductor units (four) and toner cartridges (four) receive drive power from the EP drive assembly motors. The top cartridge motor 1 on the EP drive assembly provides drive to the top two photoconductor units and toner cartridges (yellow and cyan). Likewise, the bottom cartridge motor 2 drives the two bottom photoconductor units and toner cartridges. When the printer's top access door is open, the couplers for the toner cartridges and photoconductor units disengage.





Transfer belt drive

The transfer belt unit receives drive from a motor located on the EP drive assembly. When the top access door is open, the coupler for the transfer belt disengages.



Fuser drive

The fuser drive (motor) is built into the fuser assembly and drives the fuser rollers to turn.

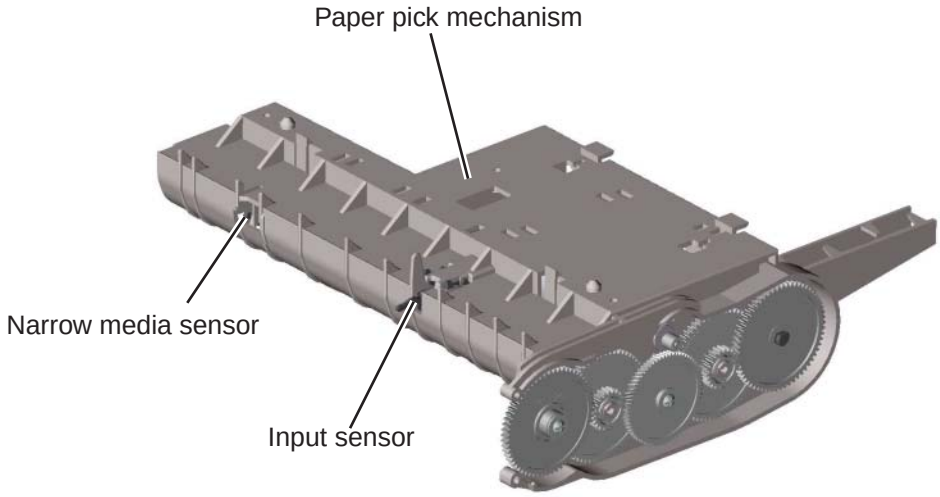
Duplex drive

The duplex drive is driven by the MPF/duplex motor through the MPF/duplex gear. Drive is provided to three drive shafts in the duplex unit by a belt that is driven by the MPF/duplex motor. The drive shafts move the print media through the duplex unit during printing.

Paper sensing

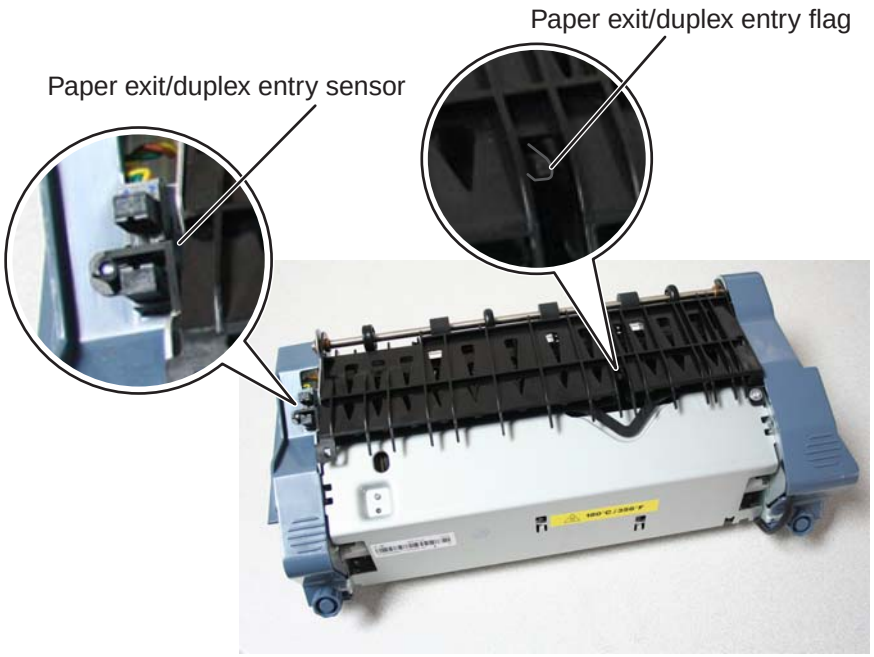
Sensors are strategically placed in the printer to ensure that the print media is making it to specific points within a given time in the electrophotographic process. There are two paper flags: one at the bottom of the machine (paper pick) to detect input paper, including duplex second side, from all sources and one at the top (paper exit) to detect paper movement beyond the fuser. The flags are similar in design, in that a mechanical arm is moved by the media to interrupt an optical sensor; both are normally blocked when no media is present. There is also a multifunction transparency sensor that detects if: 1) tray 1 is present, 2) narrow media is being used, and 3) the media is a transparency. The sensor works for tray 1, tray 2 (500-sheet option), and the MPF.

Paper pick sensor



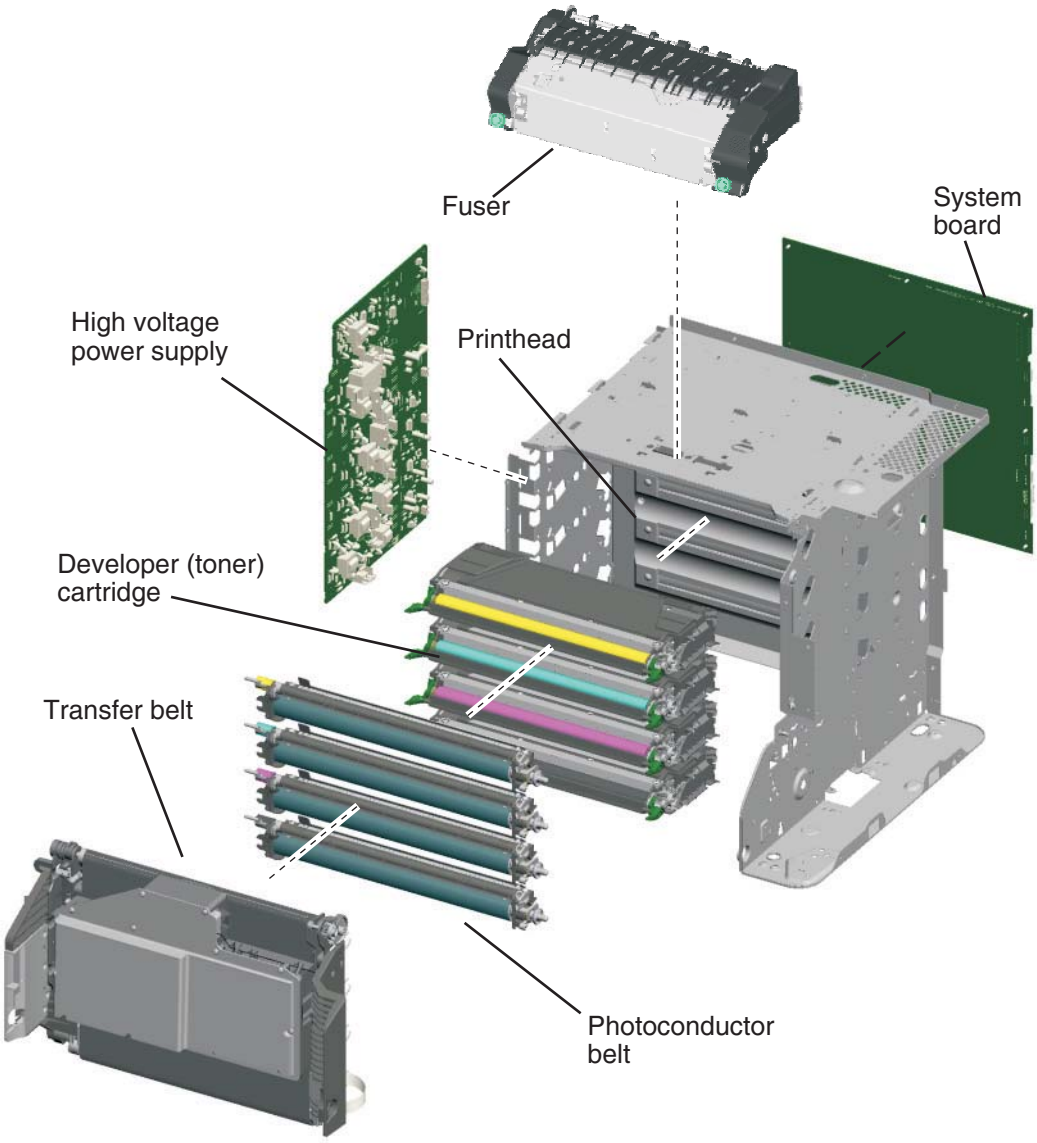
Paper exit/duplex entry sensor and bin full flag

The paper exit/duplex sensor flag detects movement in two directions: as the paper exits the fuser and as it is retracted from the exit tray back into the duplex path. Each sheet must be driven past the fuser exit flag and allowed to fall before being turned around and starting the duplex path. If the print media activates the paper exit flag for too long, or the print media doesn't reach the paper exit flag within a given time, a paper jam error will be posted.



Electrophotographic (EP) process

Main components



System board

The system board is the brain of the printer. During the print process, an image is sent from a computer to the system board. The raster image processor (RIP) portion of the system card converts the data into a raster image and feeds this data along with control information to the printhead.

High voltage power supply (HVPS)

Provides a high voltage charge to:

- The charge roll located in the photoconductor unit
- The photoconductor drum located in the photoconductor unit
- The toner adder roller (TAR) located in the toner cartridge
- The developer roll located in the toner cartridge
- The doctor blade located in the toner cartridge
- The four transfer rolls located in the transfer belt

Printhead assembly

The printhead receives control and image data from the system card (RIP). Through the use of a laser unit, the printhead irradiates the photoconductor drum with light and creates an invisible image called a latent or electrostatic image.

Photoconductor unit

The photoconductor unit consists primarily of a charge roll and the photoconductor drum. The charge roll charges the surface of the photoconductor drum to prepare it for the latent image “drawn” by the laser. Once the photoconductor drum has been written to by the laser, it is responsible for picking up toner from the cartridge developer roller and then transferring the image to the print media.

Toner cartridge

This unit consists primarily of the developer roll and the toner adder roll. The primary function of this unit is to supply charge toner to the photoconductor unit for transfer onto the print media. The toner adheres to the electrostatic image on the surface of the photoconductor drum which is then transferred to the print media.

Fuser

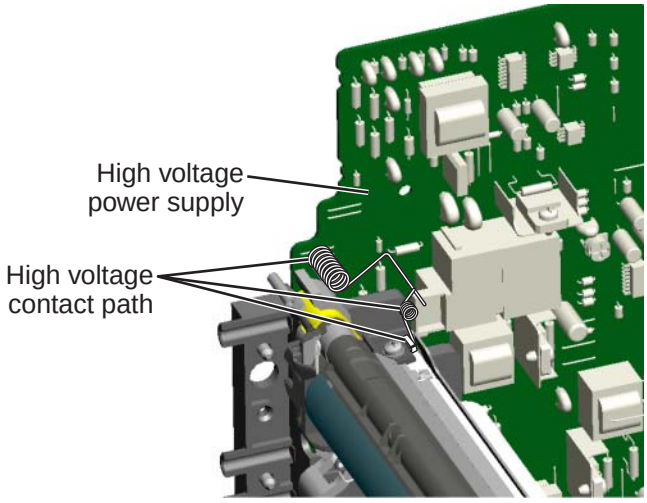
The fuser assembly uses heat and pressure to fuse the toner image onto the print media.

Charging

The primary component of the charging process is the high voltage power supply. The following provides information that covers the mechanical transfer of the high voltage through a set of springs to each subcomponent of the charging process.

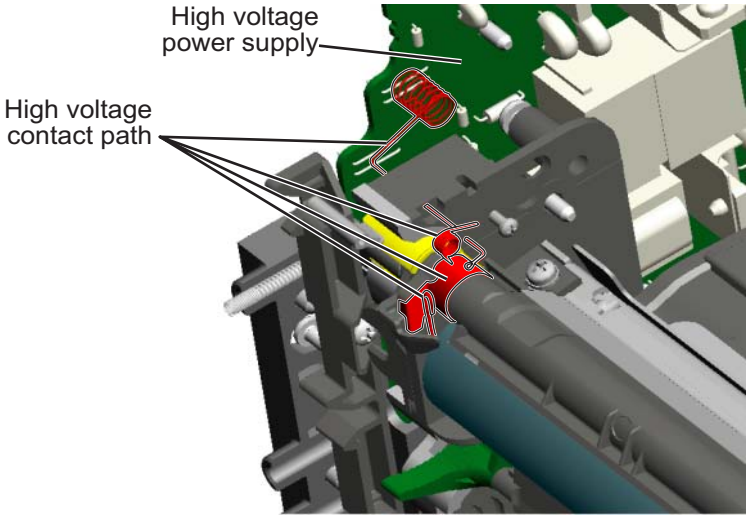
Photoconductor unit (charge roll)

The following illustration shows the circuit path that allows high voltage current to flow from the HVPS to the charge roll contact on the photoconductor unit. It is essential that the contact springs are properly touching to provide a good flow. If not, print quality problems will occur.



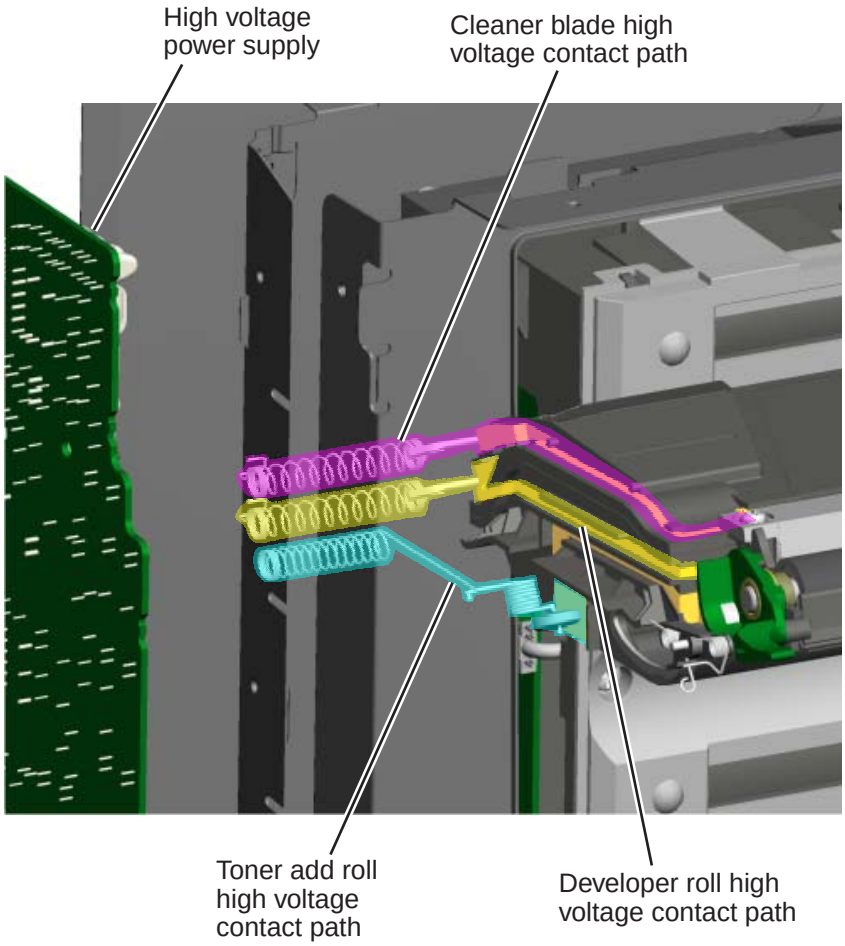
Photoconductor unit (photoconductor drum)

The following illustration shows the circuit path that allows high voltage current to flow from the HVPS to the photoconductor drum contact on the photoconductor unit. It is essential that the contact springs are properly touching to provide a good flow. If not, print quality problems will occur.



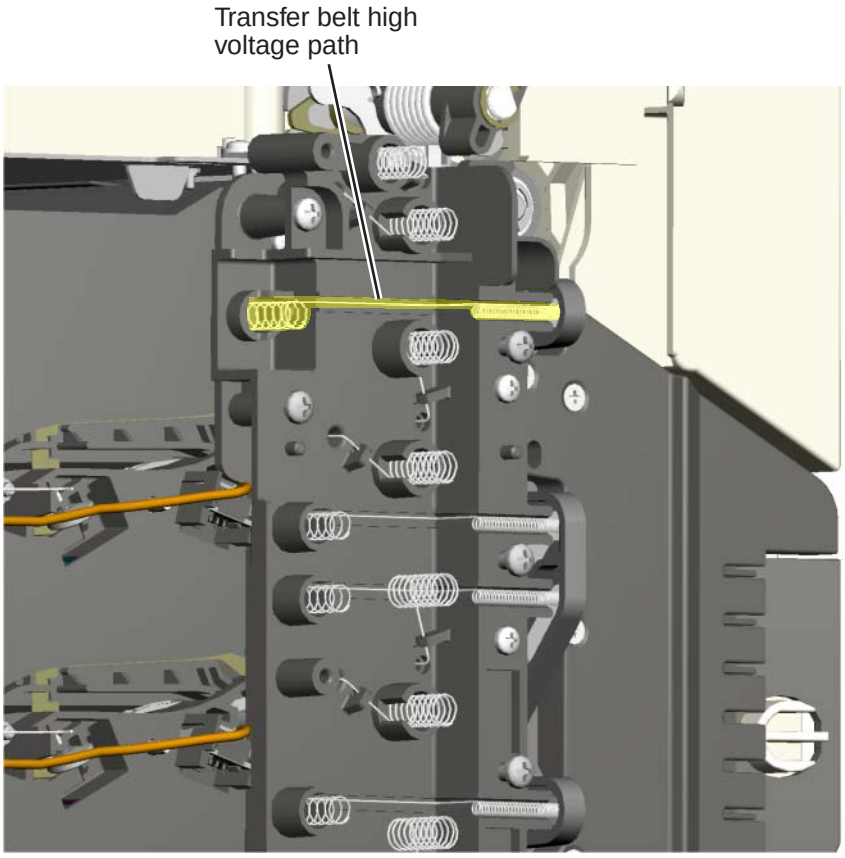
Toner cartridge

The following illustration shows the circuit path that allows high voltage current to flow from the HVPS to the toner cartridge. The toner cartridge contains three parts that are provided high voltage from the HVPS. These three parts are: the doctor blade, the developer roll, and the toner adder roll (TAR). It is essential that the contact springs are properly touching to provide a good flow. If not, print quality problems will occur.



Transfer belt

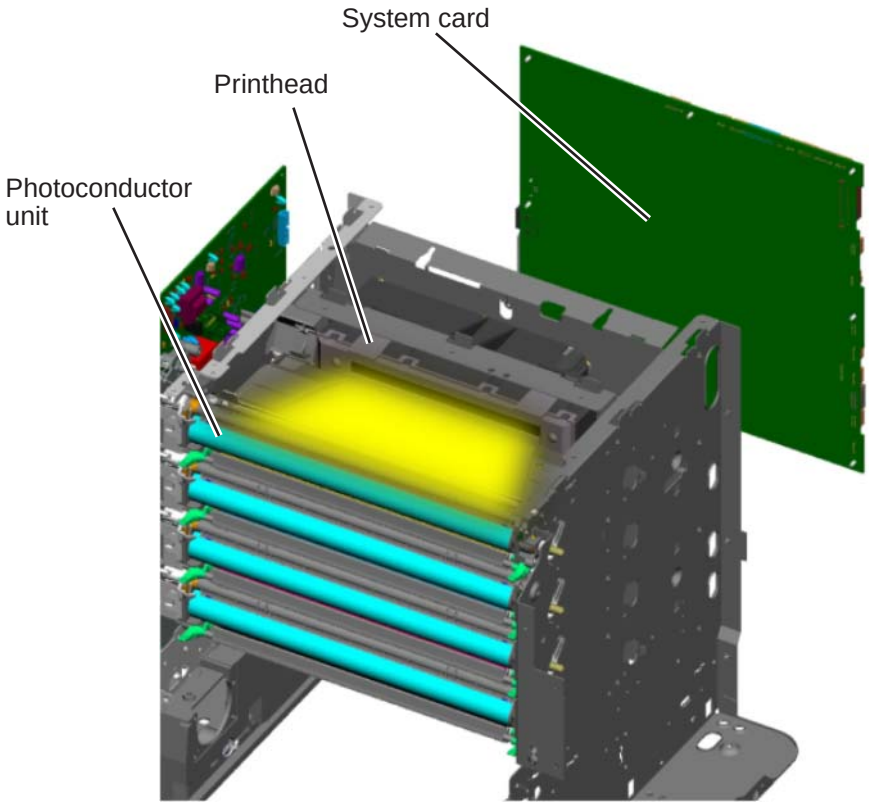
The transfer belt houses four transfer rollers that provide image transfer from the photoconductor drum to the print media. The transfer belt receives its high voltage charge through spring contacts located on the transfer contact assembly as shown in the following illustration. For the sake of simplicity, only one of the roller's high voltage paths is shown. This path is typical for the other three rollers as well.



Exposing

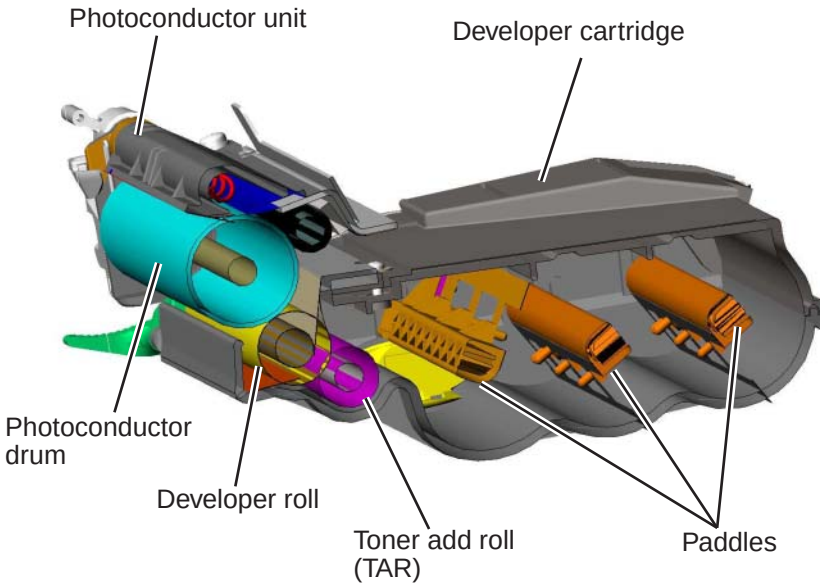
The main components in the exposure process are the system card, the printhead and the photoconductor unit. The following illustration depicts a typical data path for a single color exposure.

Data is received from a computer into a port on the system card. The system card's RIP function converts this data into raster information which is fed to the printhead along with other control data. The data is converted by the printhead laser into light energy data that is directed to the light sensitive photoconductor unit.



Developing

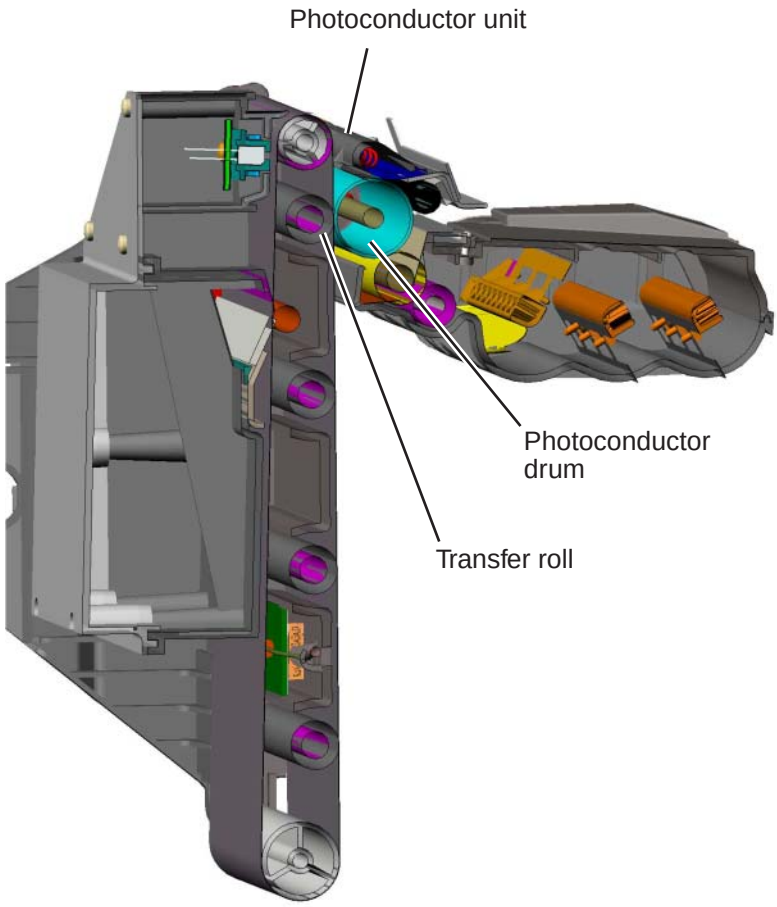
The two primary components of the developing process are the photoconductor unit and the toner cartridge. The toner cartridge contains a toner adder roll, developer roll and toner. Toner is advanced toward the toner adder roll by three paddle assemblies. The advanced toner clings to the electrically charged toner adder roll. The toner on the toner adder roll is then electrically attracted to the developer roll because of the difference in electrical charge between the toner adder roll and the developer roll. The toner uniformly coats the developer roll with help from the doctor blade and is introduced to the electrostatic image on the photoconductor drum. The toner then transfers to the photoconductor drum.



Transferring

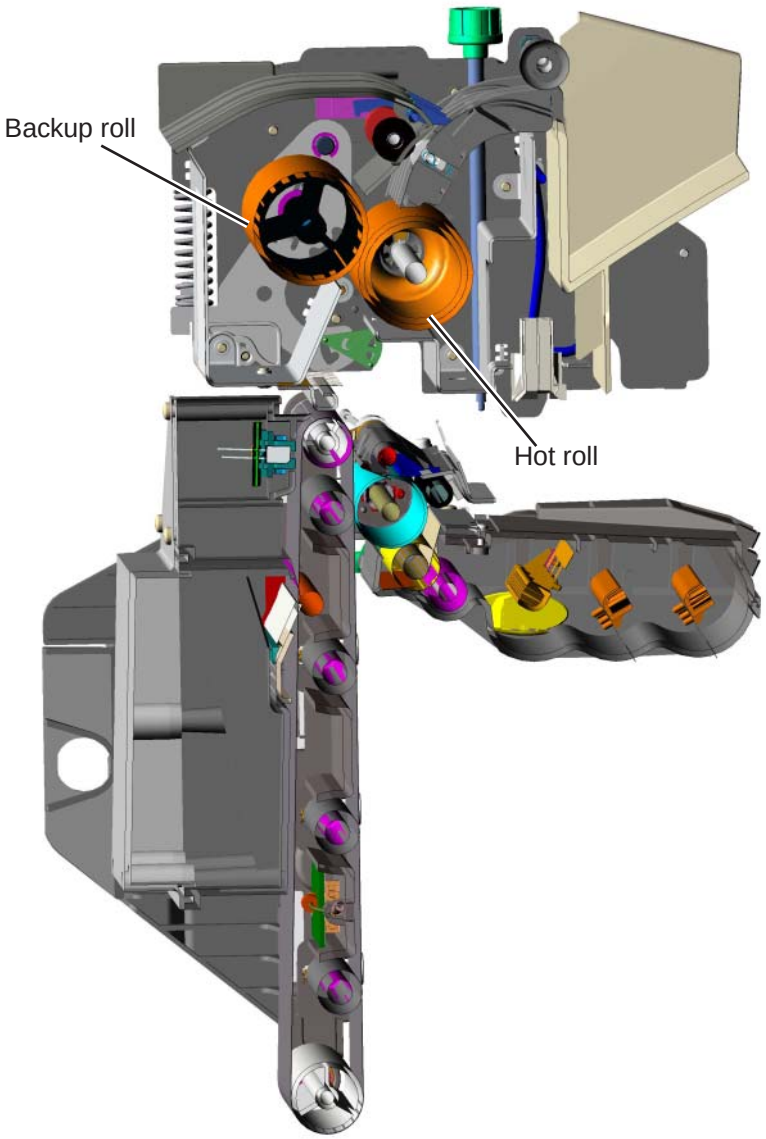
After the toner is attracted to the photoconductor drum, the image is ready for transfer onto the print media. The print media is advanced in the paper path onto the transfer belt and is carried along the belt underneath each photoconductor unit. The charged transfer roll(s) located inside the transfer belt pulls the image from the photoconductor drum to the print media. This is a direct transfer method.

The main function of the transfer belt is to provide transport for the print media. Toner is not transferred directly to the belt during the print process.



Fusing

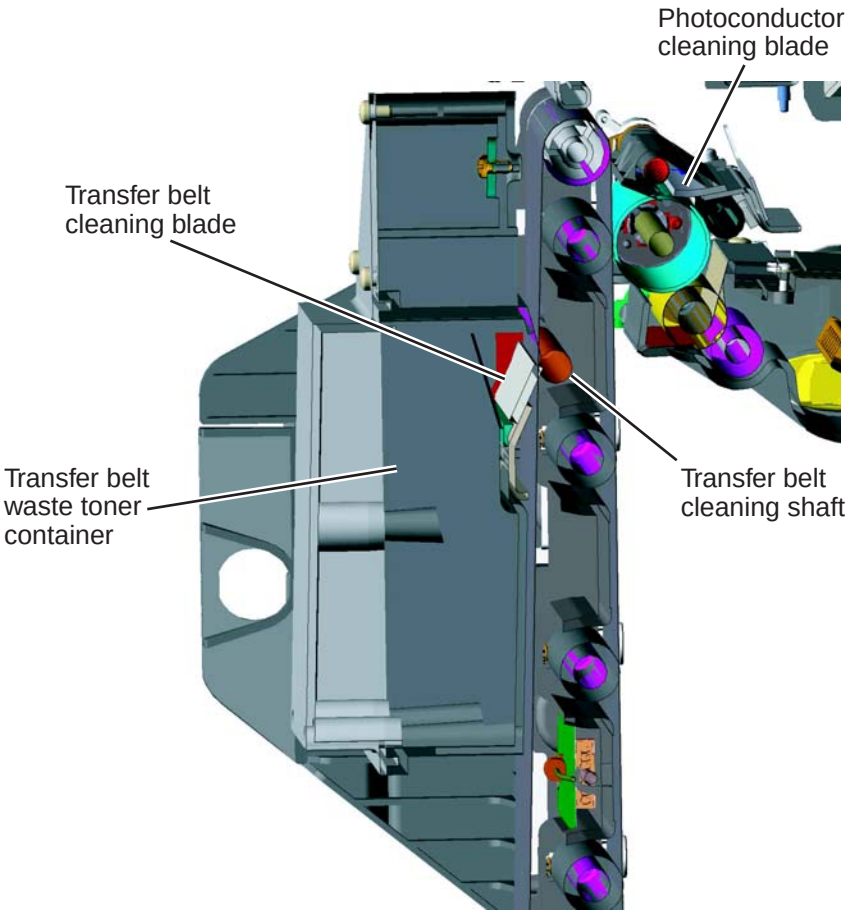
After the image has been transferred onto the print media, it is ready for fusing. The print media is transported into the fuser where the hot roll and backup roll use a combination of high heat and pressure to melt and press the toner to the media.



Cleaning

The transfer belt and photoconductor drum are cleaned at the end of the electrophotographic process cycle. The transfer belt surface is cleaned as it rotates past a cleaning blade and shaft located inside the transfer belt assembly. Any waste toner that is scraped off of the belt is collected in the waste toner container located next to the belt inside the transfer belt unit.

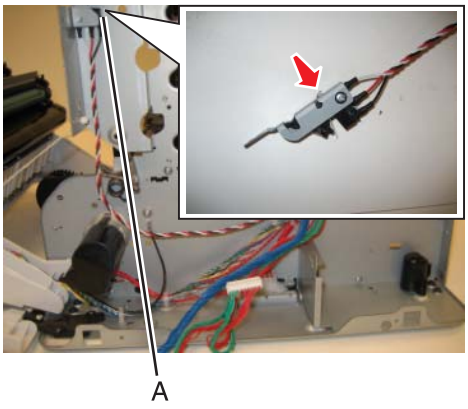
The photoconductor drum is cleaned by the cleaning blade.



Electrical interlock

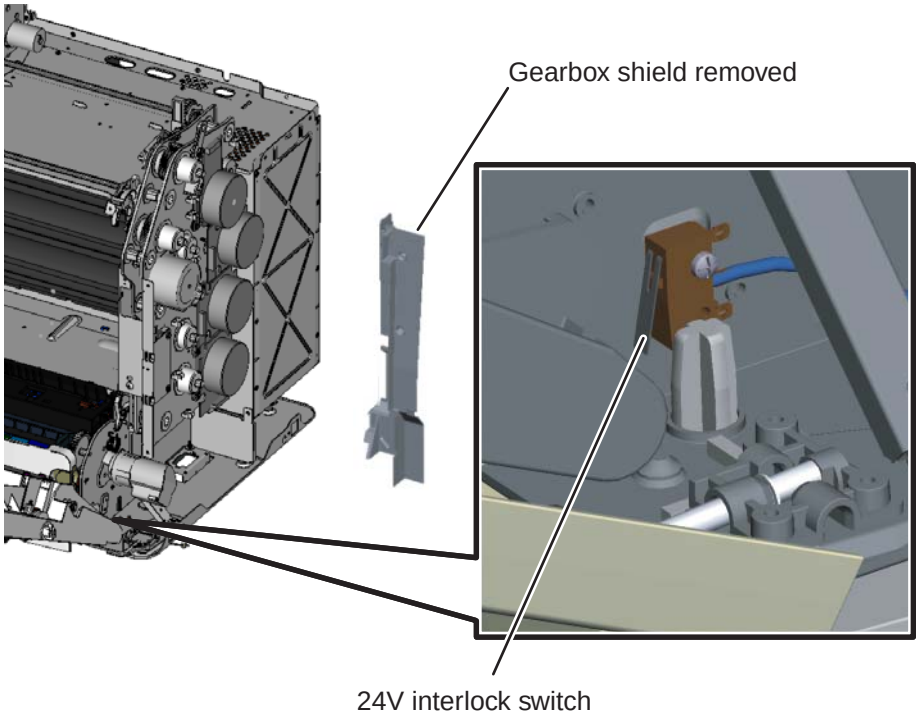
5 V interlock switch

An interlock switch (A) triggered by the front access door disables the +5 V output to the printhead which turns off the laser.



24 V interlock switch

The 24 V interlock switch is located at the front-right side of the machine when you open the front door. Opening the front door disengages the 24 V interlock switch and cuts the 24 V supply to the system board, HVPS, motors, and fuser. Closing the front door triggers a switch that initializes the motor.



When the 24 V switch opens, the normally open side of the switch is activated which signals the system board to disable a +24 V power supply output, turning off all high voltage supplies, the bump/align motor, the duplex motor and the fuser motor for safety considerations.

Warning: Never poke or force cover the switch while fixing the machine. This can harm the person and machine.

4. Repair information

	CAUTION—POTENTIAL INJURY: The printer weight is greater than 54 lbs (24.5kg), and requires two or more trained personnel to lift safety.

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.
- **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.

Data Security Notice

This printer contains various types of memory that are capable of storing device and network settings, information from embedded solutions, and user data. The types of memory-along with the types of data stored by each-are described below.

- **Volatile memory**—This device utilizes standard Random Access Memory (RAM) to temporarily buffer user data during simple print and copy jobs.
- **Non-volatile memory**—This device may utilize two forms of non-volatile memory: EEPROM and NAND (flash memory). Both types are used to store the operating system, device settings, network information, scanner and bookmark settings, and embedded solutions.
- **Hard disk memory**—Some devices have a hard disk drive installed. The printer hard disk is designed for device-specific functionality and cannot be used for long term storage for data that is not print-related. The hard disk does not provide the capability for users to extract information, create folders, create disk or network file shares, or FTP information directly from a client device. The hard disk can retain buffered user data from complex scan, print, copy, and fax jobs, as well as form data, and font data.

To erase volatile memory, turn off the printer.

To erase non volatile memory see **“Configuration menu (CONFIG MENU)” on page 3-27** item pertaining to this.

To erase the printer hard disk see **“Configuration menu (CONFIG MENU)” on page 3-27** item pertaining to this.

The printer operator panel and RIP/controller board contain NVRAM. After removing the old part the part must be returned to your second level support.

Handling ESD-sensitive parts

Warning: Read the following before handling electronic parts.

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

- Keep the ESD-sensitive part in its original shipping container (a special “ESD bag”) until you are ready to install the part in the printer.
- Make the fewest 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 printer.
- Hold the ESD-sensitive part by its edge connector shroud (cover); do not touch its pins.
- If you need to put down the ESD-sensitive part for any reason, first put it into its special bag.
- Printer 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 printer covers when you are not working on the printer, 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.

Handing the photoconductor unit

The following precautions must be observed when handling the photoconductor unit. The photoconductor unit is a supply item you will have to remove during some of the repair procedures:

Transportation/storage

Use the specified carton whenever moving or storing the photoconductor unit.

Handling

- The optical photoconductor roller in the photoconductor unit exhibits the greatest light fatigue after being exposed to strong light over an extended period of time. Never expose it to direct sunlight. Cover the photoconductor unit when you remove it from the printer.
- Use care not to contaminate the surface of the optical photoconductor roller with an oil-based solvent, fingerprints, and other foreign matter.
- Do not scratch the surface of the optical photoconductor roller.

Parts not to be touched

Any part where the mounting screws are used to meet a printer alignment set at the factory must not be removed, disassembled, or adjusted.

Screw and retainer identification table

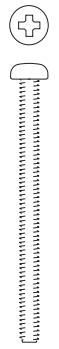
The following table contains screw types and retainers, locations, and quantities necessary to service the printer. Pay careful attention to each screw type location when doing removals. You must install the correct screw type in each location during reassembly.

Sizes are as close to actual as possible, as long as the printout is not scaled or resized.

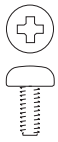
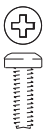
Screw identification table

P/N	Screw type	Location	Qty
10B1580	#6 panhead	Cartridge cooling fan to top cover	2
		Cooling fan to top cover	2
1126828	E-clip M3	LR overcenter bell crank to side frame	1
1126829	E-ring M4	MP feeder gears to right side frame studs	2
18B0832	Taptite M3 L6 panhead	5 V interlock switch to right frame	1
		Card support plate to upper plate	2
		Card support plate to lower plate	3
		Card support plate (and printhead ground) to left frame	5
		Card support plate to right frame	4
		Cartridge left guide assembly to left plate (interior side of plate assembly)	4
		COD (color-on-demand) drive assembly to upper plate	3
		COD shaft assembly to upper plate	2
		Contacts assembly to left frame next to auger worm gear	2
		Contacts assembly to left frame near duct	2
		EP drive to right plate (exterior side)	8
		Front door ground wire to right frame bracket	1
		HVPS to left frame plate	1

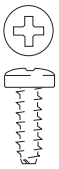
Screw identification table (continued)

P/N	Screw type	Location	Qty
18B0832 (Cont.)	Taptite M3 L6 panhead	Laser support plate to lower plate	2
		Left camshaft lock assembly to printer frame	2
		Left frame assembly to laser support plate	2
		Left frame assembly to lower plate	4
		Lower plate to left frame assembly	2
		LVPS support plate to right plate	4
		LVPS to right frame plate and support bracket	5
		Motor driver card to EP drive assembly	2
		MPF driver cover to right frame	3
		Right camshaft lock assembly to printer frame	2
		Right frame assembly to laser support plate	2
		Right frame assembly to lower plate	3
		System board to RIP plate	9
		Top cover assembly to printer frame	5
		Upper plate to right frame assembly	3
		Upper plate to left frame assembly	3
		Upper plate to laser support plate	3
18B0939	Plastite M3x6 flathead	Gearbox plate assembly to frame	4
18B2302	Machine M2.6 L3-3.5	MP feeder/duplex drive motor to rightside plate	2
18B2315 	Machine M3 panhead L35	Printhead	1
27S2836	Taptite M3 L6 panhead, black	Left cover to printer frame (next to system board)	1
		Rear cover frame to frame	8
		Rear left cover to printer frame	1
		Rear right cover to printer frame	1
		Right cover to printer frame	4

Screw identification table (continued)

P/N	Screw type	Location	Qty
27S2837	M3.5X1.34 panhead 8L, black	Left cover to lower frame	2
		Rear left cover through lower swingout frame into left cover	1
		Rear right cover to rear upper cover	1
		Rear upper cover to top cover	1
		Top cover to right cover	1
27S2838	Machine M3X0.5–6GL	Contacts assembly to left/front edge of printer frame	2
		Fax modem blank plate to left plate	1
		ISP blank plate to left plate	2
		Second USB connector to left frame	1
		System board USB connector to frame	1
		USB-A Blank plate to left plate	1
27S2839	Taptite M3 L6 Taptite slotted hex black	Rear cover frame to frame	8
88A0003	Machine M3X0.5-6G 8L	Printhead	3
88A0095	M2.5x10 Machine	5 V interlock switch actuator assembly	1
		24 V interlock switch and shield to right frame	1
88A0212 	Taptite M3.5x0.6 PAN	Fuser AC cable's ground wire to left plate	1
88A0232	Taptite M3 L6 PANHD	Cartridge right guide assembly to rightside plate	10
		Lower plate to lower swingout frame assembly	1
		Lower swingout frame assembly to left frame assembly	4
		Lower frame support to right frame assembly	4
88A0233 	Taptite M3 L8 PANHD	Lower swingout frame assembly to leftside frame assembly (rearmost position)	1

Screw identification table (continued)

P/N	Screw type	Location	Qty
88A0293	Plastite M2.2 L5	Contact spring cap to left guide assembly	4
88A0312	Plastite M2.9 L6 PAN	Backup springs to reference edge plate assembly	2
		Cartridge cooling fan duct to top cover	2
		Cartridge left guide assembly to leftside plate assembly (exterior side of plate assembly)	4
		Cover mount to rightside plate	3
		Display detent spring to display back bezel	1
		Door straps to front access door cover	2
		Door bracket to front access door cover	2
		Duplex entry guide to front access door cover	4
		Exterior screws attaching cover bracket to front access door cover	2
		Front cover bracket to front access door cover	4
		Ground terminal/operator panel card to top access door cover CBM	1
		Lower frame support to lower left frame assembly	2
		Operator panel card to top access door cover CBM	3
		Option locator to rightside plate	1
88A0313	Plastite M2.9 L8 PAN	Contacts assembly to leftside cartridge guide	1
		Cover bracket to front access door cover	2
		Cover pivot to swingout frame	3
		HVPS to transfer contact assembly	3
		HVPS to leftside cartridge guide assembly	2
		Interior screws attaching cover bracket to front access door cover	2
88A0323	M3.5X1.34 Panhead 8L	Duplex upper guide to top access door cover CBM	9
		Ground strap/contact to front door frame	1
		Lower right frame to right side plate	3
		Pick assembly to lower plate	4
		Secures reference edge assembly to door assembly	2
		Static brush bracket to top access door cover CBM	1
		Torque tube cover to front door frame	6
88A0324 	M3.5X1.34 PANHD 10L	EP drive to rightside plate	2
		Secures door cap to door assembly	1

Screw identification table (continued)

P/N	Screw type	Location	Qty
88A0412	M2.9x5.2 Plastite	GS COD bell cranks to guide	3
		NGS COD bell cranks to guide	3
		Top access door assembly to fuser retract link	1
		Top cover left link to cover	1

Adjustments

Printhead alignment

Overview

When aligning the printhead, it is important to keep in mind that the printhead mounting screws should be initially loose enough to just hold the printhead in the printer. This allows the pages to be printed that will be used to align the black plane to the printer frame and also allows skew adjustment with the printhead alignment screw. Once the black skew is adjusted, the mounting screws are fully tightened.

There is one printhead that houses the four color planes. The black plane is aligned to the printer, and the color planes are internally aligned to black. Electrical alignment is done to fine tune the alignment of the color planes to the black plane once the printhead is installed and skew is adjusted.

The first step in aligning the printhead is to loosen the printhead mounting screws, and to set the skew for black.

Note: If you need to replace the printhead, see **"Printhead removal, installation, and adjustment" on page 4-145**.

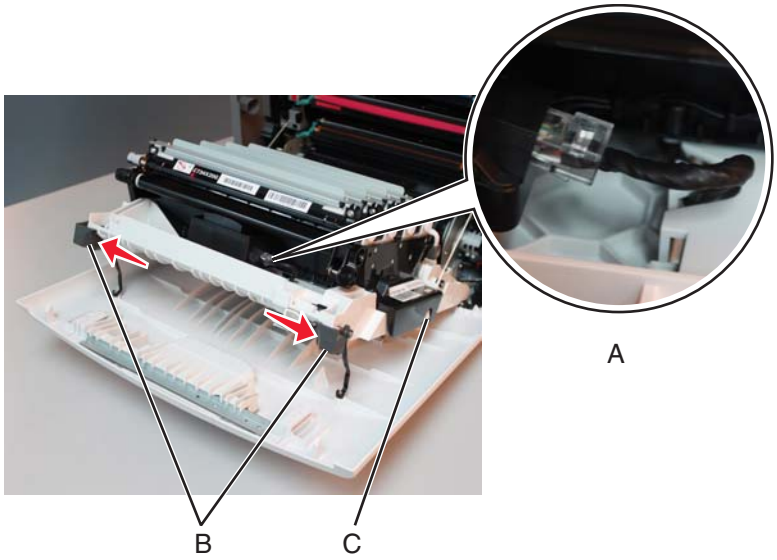
Printhead mechanical alignment (C746)

Skew (black)

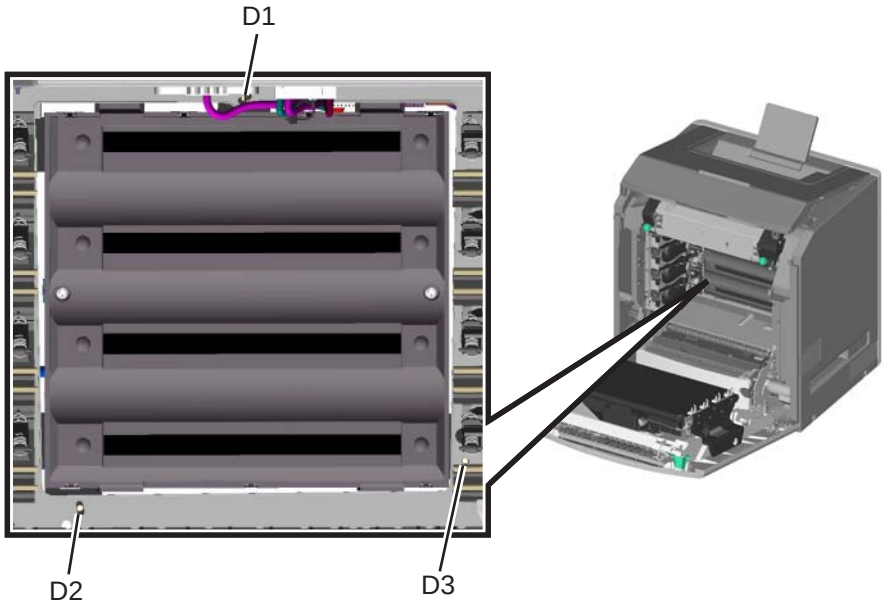
1. Turn off the printer.
2. Disconnect the power cord from the electrical outlet.
3. Remove the transfer module and photoconductor units:
   a. Disconnect the transfer module cable (A).
   b. Press the two tabs (B) to release the front access cover assembly.
   c. Press the two tabs (C) on either side of the transfer module, and lift out the transfer module.

   Note: Leave the photoconductor units on the transport belt when removing.

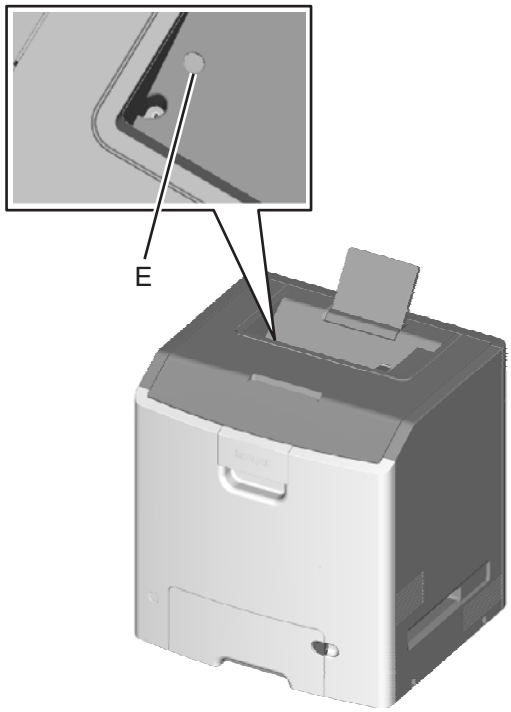
   To avoid damaging the photoconductor drum, place the transfer module with the photoconductor units on a clean surface. Never expose the photoconductor units to light for a prolonged period of time. You can place a clean, dry cloth over the transfer module and photoconductor units until they are required.



4. Loosen the printhead mounting screws in the following order: D1, D2, and D3.



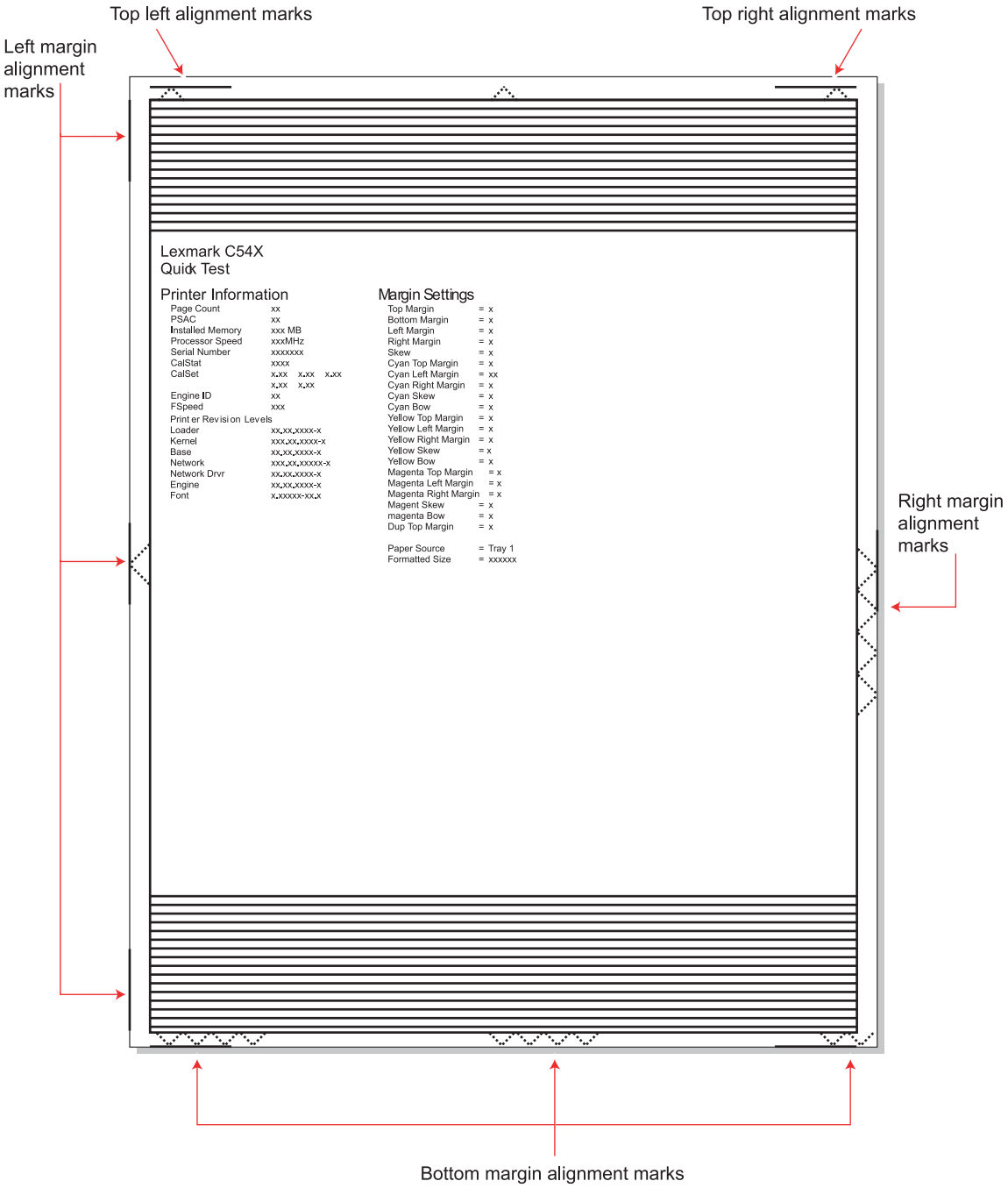
5. Remove the printhead alignment screw cover (E).



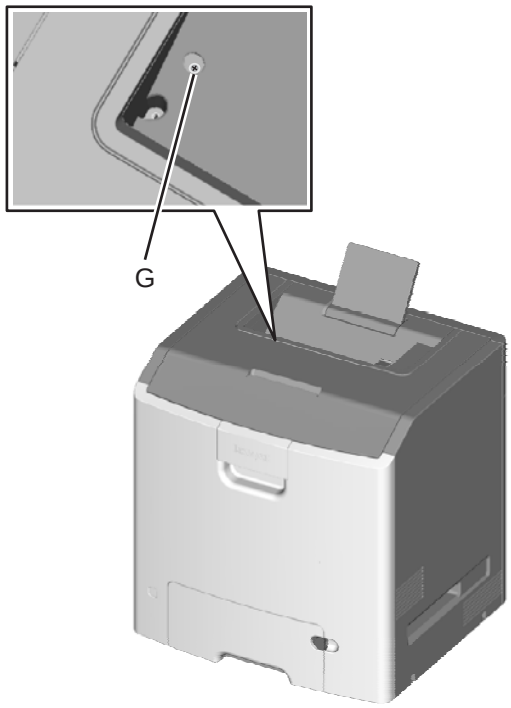
6. Reinstall the transfer module with the photoconductor units still attached.
7. Reconnect the transfer module cable.
8. Replace the toner cartridges.
9. Close the top access door.
10. Close the front access door.
11. Plug the electrical cord into the printer.
12. Plug the electrical cord into the outlet.

13. Align the printhead skew for black.

- **a.** Enter the Diagnostic menu (turn off the printer, press and hold buttons **3** and **6**, turn on the printer, and release the buttons when the clock graphic displays).
- **b.** Select **REGISTRATION** from the DIAGNOSTICS menu, and select **Settings**.
- **c.** Select **Skew**, and press OK.
- **d.** Use ▼ or ▲ to set the Skew to zero, and press OK.
- **e.** Scroll down to **Quick Test**, and press OK. A page similar to this one prints:



f. Adjust the printhead alignment screw (G) to change the skew and straighten the image on the printout.

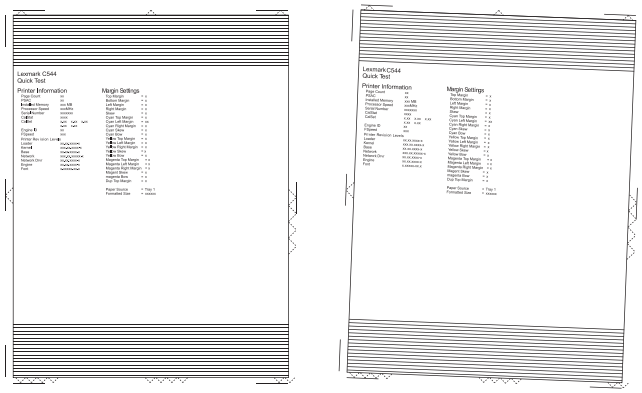


If the top right alignment marks are lower than the top left alignment marks, rotate the alignment screw counterclockwise a full revolution, and print the Quick Test page. Repeat adjusting the screw and printing the Quick Test until the top alignment marks are the same distance from the top of the media.

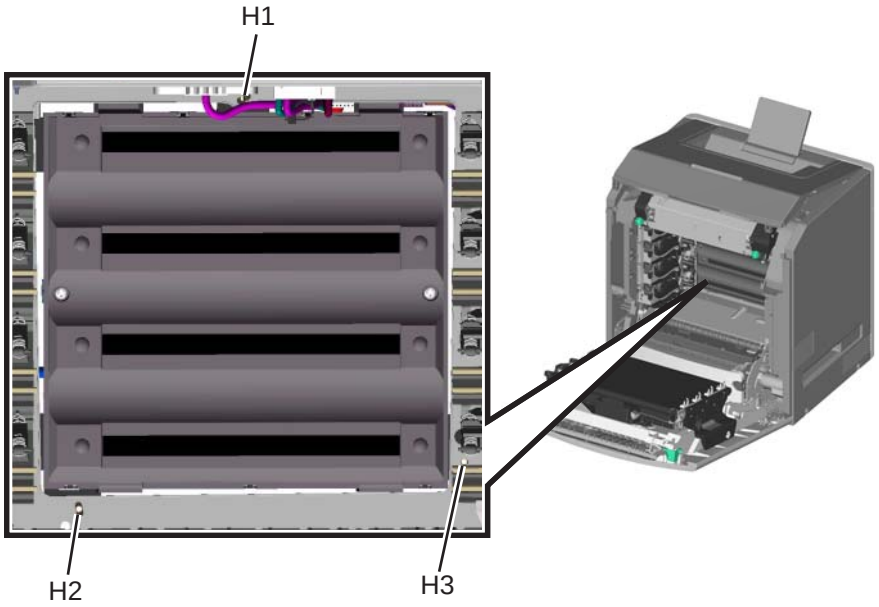
Note: One rotation of the printhead alignment screw equals approximately 0.5 millimeter movement of the top edge print alignment marks.

g. When the top right and top left alignment marks are both showing and are even on the page, the skew is aligned.

Straight **Skewed**



14. Tighten the printhead mounting screws.
    a. Turn off the printer.
    b. Disconnect the power cord from the electrical outlet.
    c. Disconnect the transfer module cable.
    d. Press the two tabs on either side of the transfer module, and lift out the transfer module with the photoconductor units in place.
    e. Remove all of the toner cartridges.
    f. Tighten the printhead mounting screws in the following order: H1, H2, and H3.

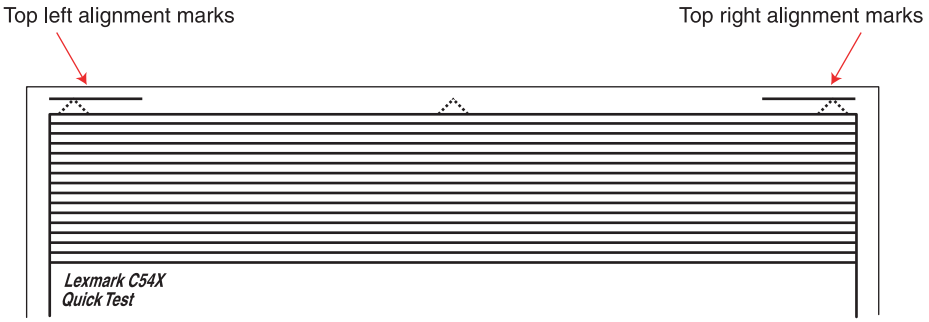


15. Replace the printhead alignment screw cover.
16. Replace the toner cartridges.
17. Reinstall the transfer module and the photoconductor units.
18. Connect the transfer module cable.

Registration (black)

Top Margin

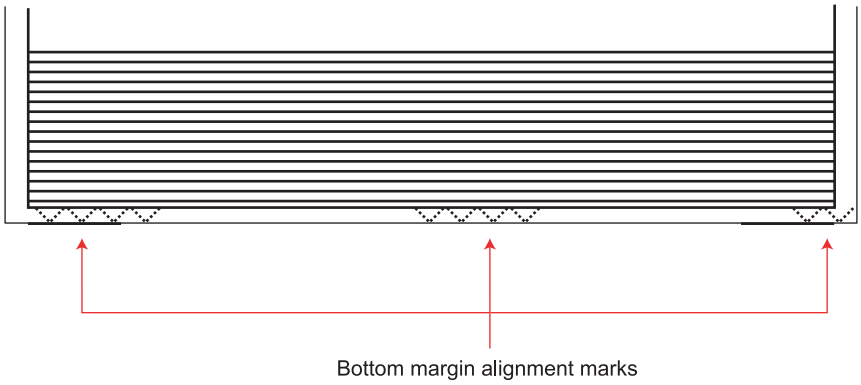
1. Reconnect the power cord to the electrical outlet, but do not turn on the printer yet.
2. Enter Diagnostic mode (press and hold buttons **3** and **6**, turn on the printer, and release the buttons when the clock graphic displays).
3. Select **REGISTRATION**, and press OK.
4. Select **Quick Test**, and press OK or use the last Quick Test you used to adjust skew.



5. Select **Top Margin**, and press OK.
6. Adjust the values until both top alignment marks are on the top edge of the print.
   - Increasing the value (▶) moves the top alignment marks down on the page.
   - Decreasing the value (◀) moves the top alignment marks up on the page.
7. Press OK to save the value.
8. Print the Quick Test page, and check the top alignment marks. Repeat adjustment of the top margin and printing of the Quick Test page until top margin is set.

Bottom Margin

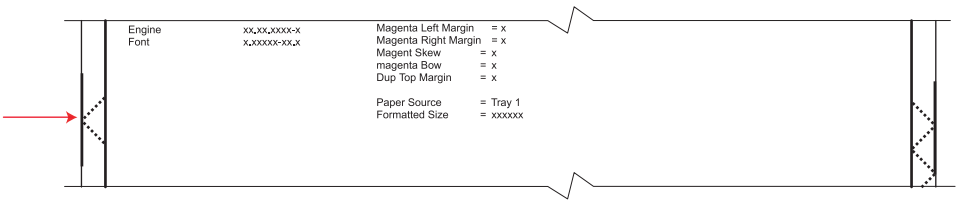
1. Select **Bottom Margin**, and press OK.
2. Adjust the bottom margin until the points of the bottom margin alignment marks are visible and touching the edge of the paper.
   - Increasing the value (▶) moves the bottom alignment marks up on the page.
   - Decreasing the value (◀) moves the bottom alignment marks down on the page.



3. Press OK to save the value.
4. Print the Quick Test page, and repeat this process until the bottom margin is adjusted.

Left Margin

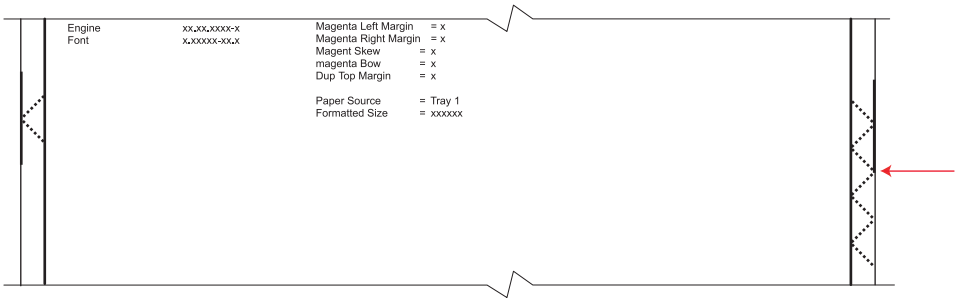
1. Select **Left Margin**, and press OK.
2. Adjust the left margin until the points of the left alignment marks touch the edge of the page.
   - Increasing the value (▶) moves the left alignment marks away from the edge of the page.
   - Decreasing the value (◀) moves the left alignment marks toward the edge of the page.



3. Press OK to save the value.
4. Print the Quick Test page, and check the left alignment marks each time until you are satisfied.

Right Margin

1. Select **Right Margin**, and press OK.
2. Adjust the right margin until the points of the left alignment marks touch the edge of the page.
   - Increasing the value (▶) moves the right alignment marks away from the edge of the page.
   - Decreasing the value (◀) moves the right alignment marks toward the edge of the page.

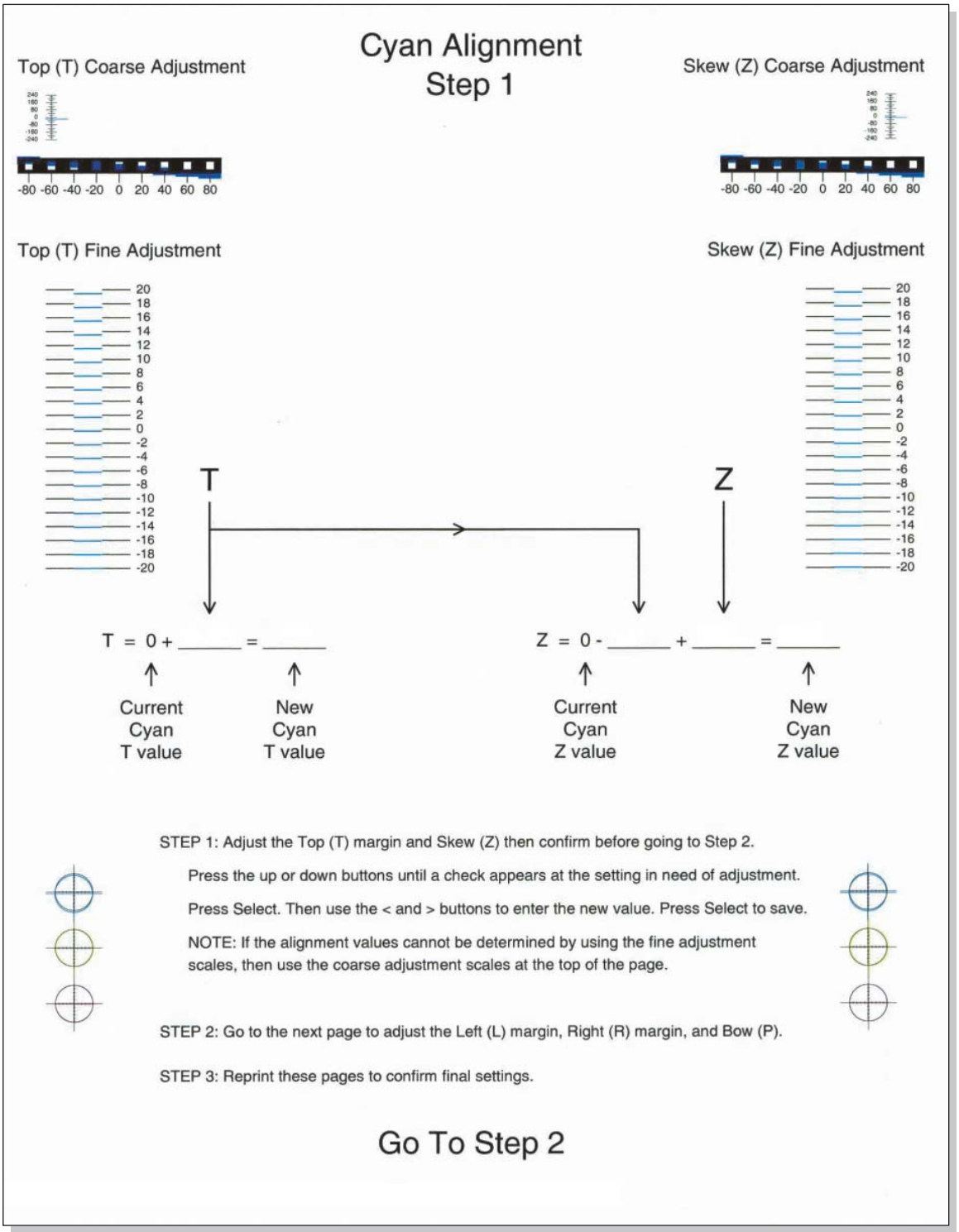


3. Press OK to save the value.
4. Print the Quick Test page, and check the results. Repeat if necessary.
5. When the registration is complete, proceed to the color alignment.

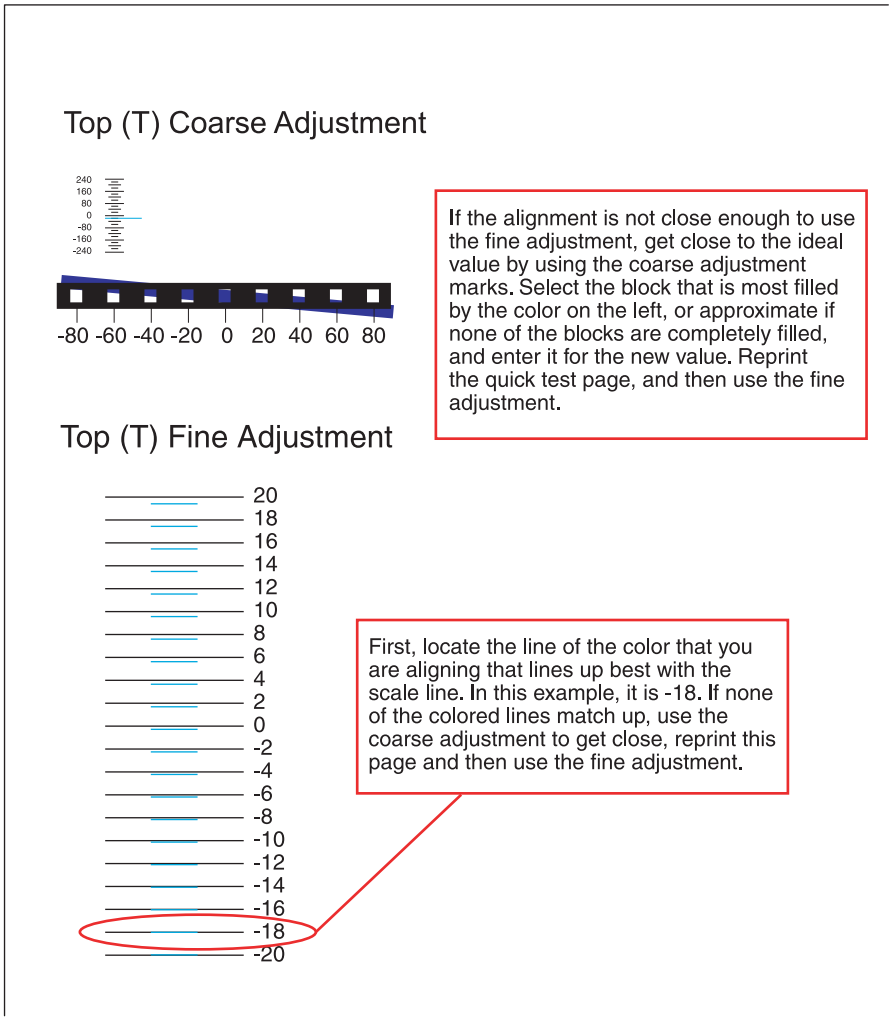
Alignment (cyan, yellow, and magenta)

1. Press ⮌ until you reach the top menu.
2. Select **ALIGNMENT MENU**, and press OK.
3. Select **Cyan**, and press OK.
4. Select Top Margin, and press OK.
5. Use ◀ and ▶ to set **Top Margin** to zero, and press OK to save the value.
6. Do the same for **Left Margin**, **Right Margin**, **Bottom Margin**, **Skew**, and **Bow**.
   It is important to set all the values to zero before starting.

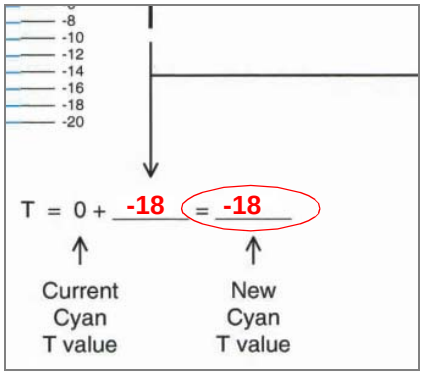
7. Select **Quick Test** in the Cyan menu, and press OK.
Two pages print. You may have to print these pages several times until you get T (**Top Margin**) and Z (Skew) aligned. Do not go to step 2 until T and Z are aligned. The first page is similar to the following:



8. Determine the line under Fine Adjustment that is closest. If the value is beyond the Fine Adjustment scale, use either of the Coarse Adjustment scales.

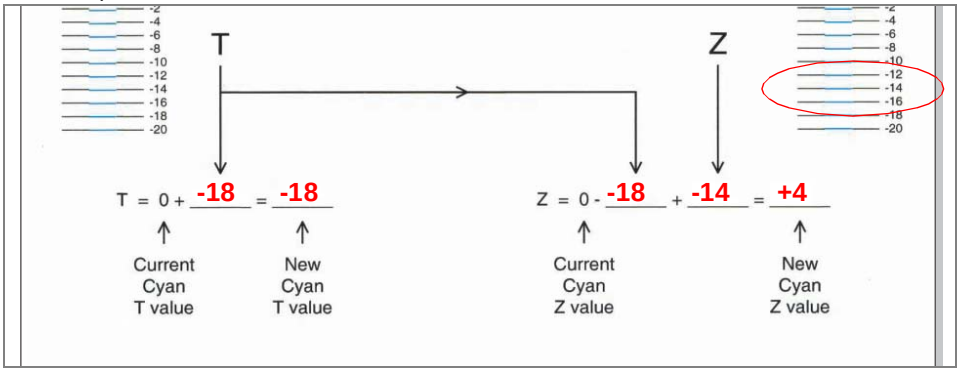


9. Enter the number determined from the Fine Adjustment scale or the Coarse Adjustment scales on the part of the page for the “T” value. The current value is automatically entered on the sheet. At this point, it should be zero.

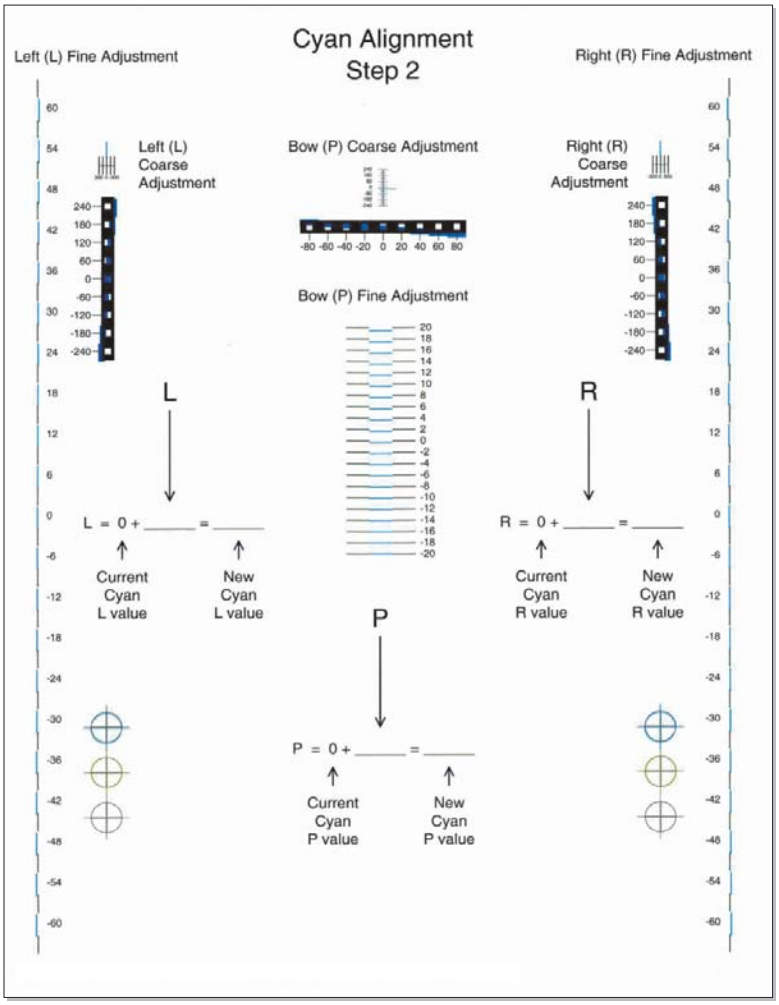


10. Enter the “New Cyan T value” on the operator panel using the left and right arrows, and press OK to save the value.
11. Reprint the Quick Test, and evaluate whether you are at zero changes.

12. Repeat this process for skew (Z). Don't forget to subtract the T value and add the current cyan Z value to obtain the new skew (Z) value.
An example is shown below:



13. Continue to follow the directions on the bottom of the first page to find the Cyan Top Margin (T), the Skew (Z), and on the second page of the Quick Test page, the Left Margin (L), Right Margin (R), and Bow (P).



14. Repeat steps 1 through 13 for yellow and magenta.
Note: Start each color group by setting the Top Margin, Left Margin, Right Margin, Bottom Margin, Skew, and Bow to zero.

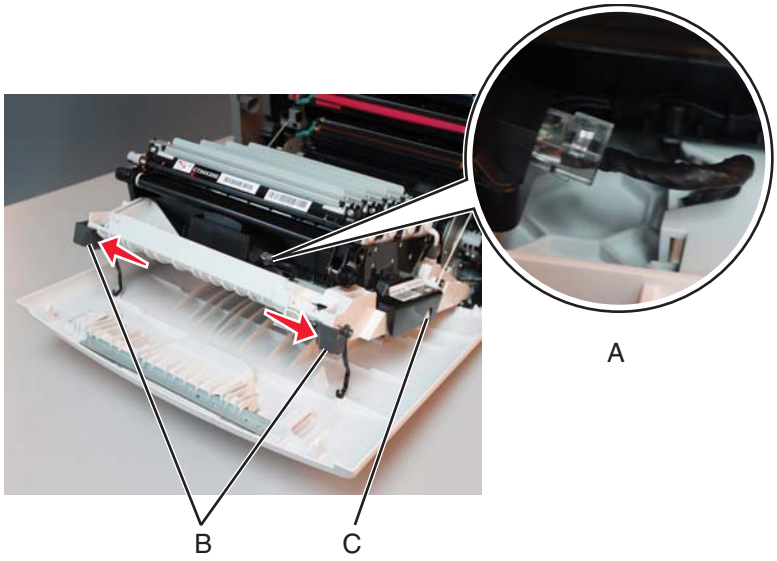
Printhead mechanical alignment (C748)

Skew (black)

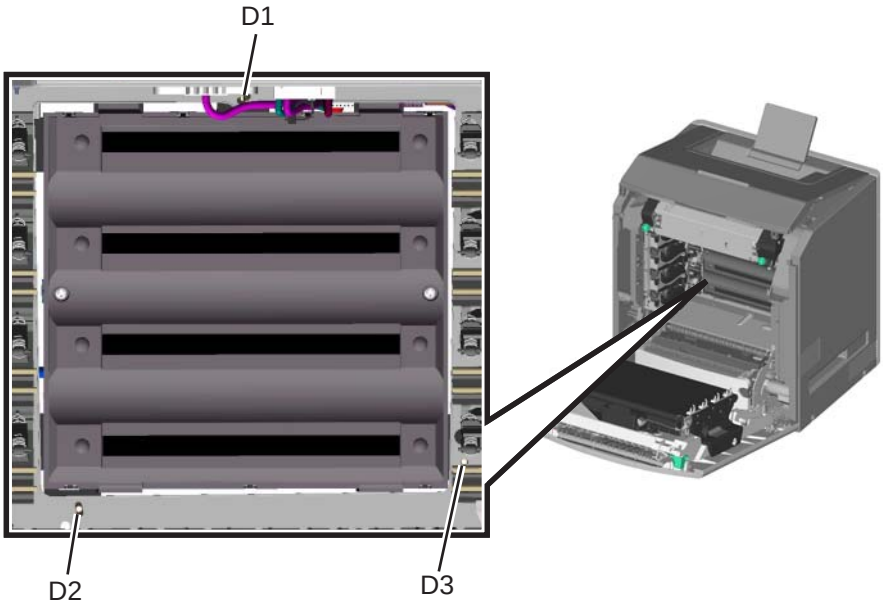
1. Turn off the printer.
2. Disconnect the power cord from the electrical outlet.
3. Remove the transfer module and photoconductor units:
   a. Disconnect the transfer module cable (A).
   b. Press the two tabs (B) to release the front access cover assembly.
   c. Press the two tabs (C) on either side of the transfer module, and lift out the transfer module.

Note: Leave the photoconductor units on the transport belt when removing.

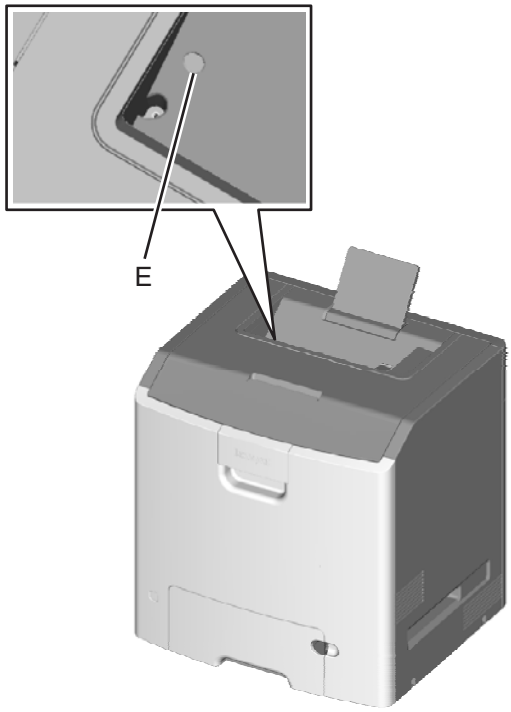
To avoid damaging the photoconductor drum, place the transfer module with the photoconductor units on a clean surface. Never expose the photoconductor units to light for a prolonged period of time. You can place a clean, dry cloth over the transfer module and photoconductor units until they are required.



4. Loosen the printhead mounting screws in the following order: D1, D2, and D3.

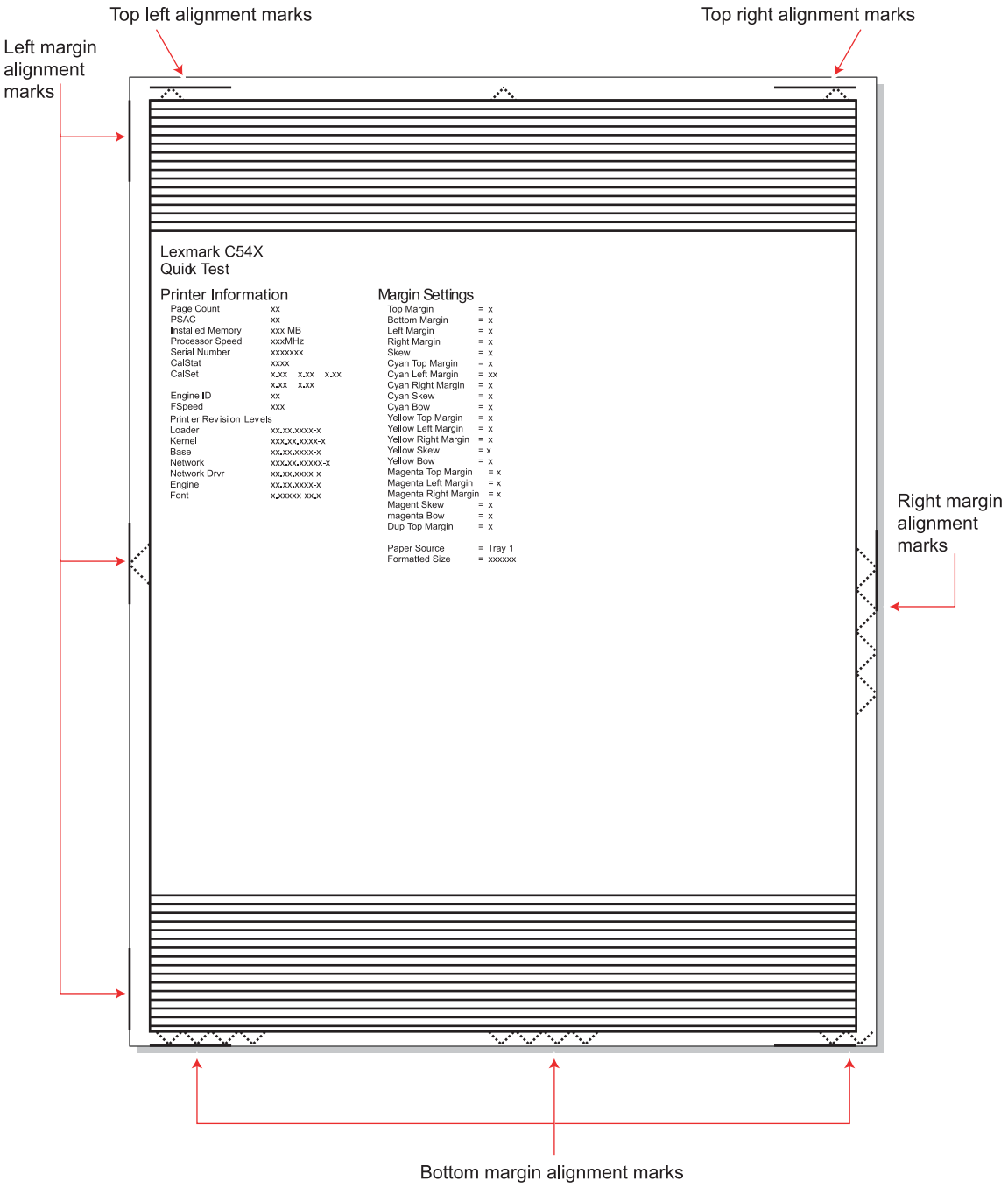


5. Remove the printhead alignment screw cover (E).

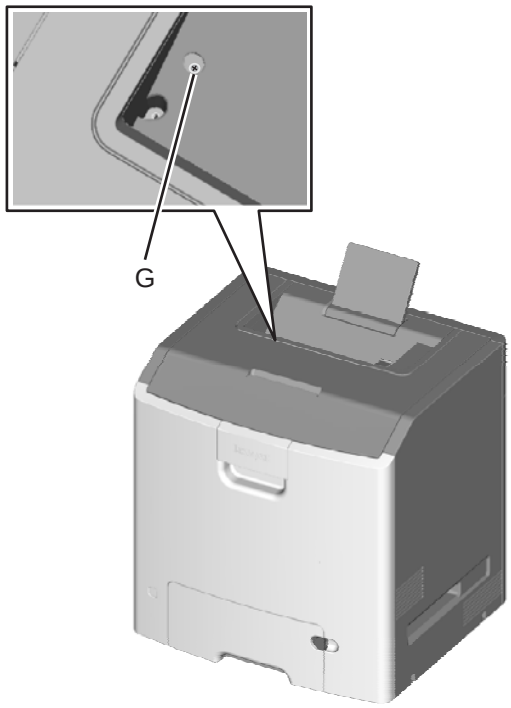


6. Reinstall the transfer module with the photoconductor units still attached.
7. Reconnect the transfer module cable.
8. Replace the toner cartridges.
9. Close the top access door.
10. Close the front access door.
11. Plug the electrical cord into the printer.
12. Plug the electrical cord into the outlet.
13. Align the printhead skew for black.
    a. Enter the Diagnostic menu (turn off the printer, press and hold buttons **3** and **6**, turn on the printer, and release the buttons when the clock graphic displays).
    b. Touch **REGISTRATION** from the DIAGNOSTICS menu, and then touch **Settings**.
    c. Touch **Skew**.
    d. Set the Skew to zero.

e. Scroll down and touch **Quick Test**. A page similar to this one prints:



f. Adjust the printhead alignment screw (G) to change the skew and straighten the image on the printout.

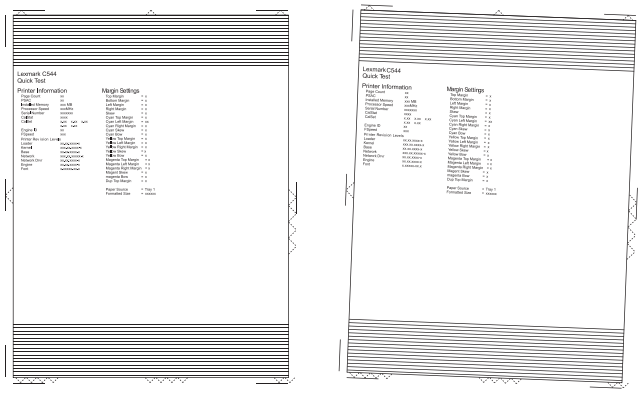


If the top right alignment marks are lower than the top left alignment marks, rotate the alignment screw counterclockwise a full revolution, and print the Quick Test page. Repeat adjusting the screw and printing the Quick Test until the top alignment marks are the same distance from the top of the media.

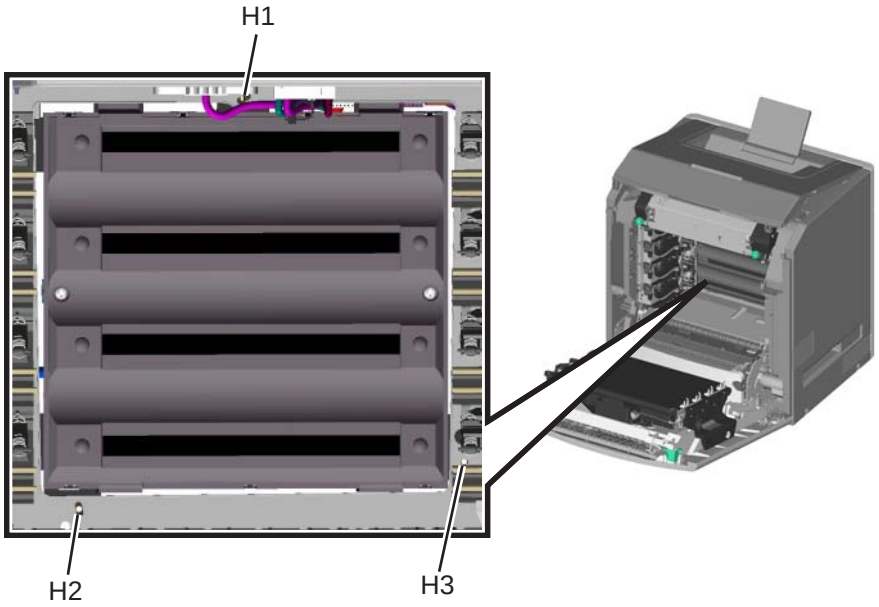
Note: One rotation of the printhead alignment screw equals approximately 0.5 millimeter movement of the top edge print alignment marks.

g. When the top right and top left alignment marks are both showing and are even on the page, the skew is aligned.

Straight **Skewed**



14. Tighten the printhead mounting screws.
    a. Turn off the printer.
    b. Disconnect the power cord from the electrical outlet.
    c. Disconnect the transfer module cable.
    d. Press the two tabs on either side of the transfer module, and lift out the transfer module with the photoconductor units in place.
    e. Remove all of the toner cartridges.
    f. Tighten the printhead mounting screws in the following order: H1, H2, and H3.

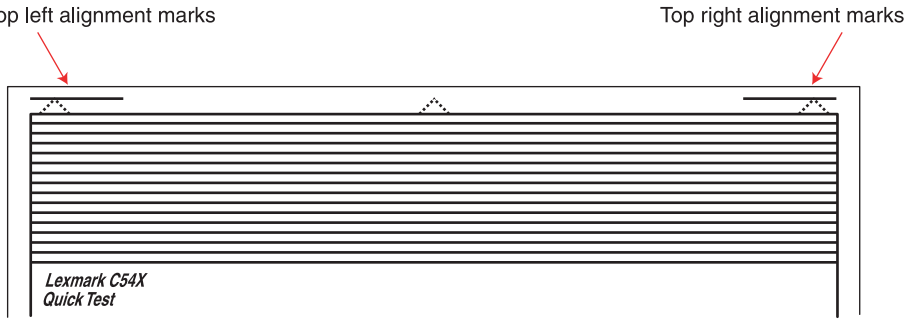


15. Replace the printhead alignment screw cover.
16. Replace the toner cartridges.
17. Reinstall the transfer module and the photoconductor units.
18. Connect the transfer module cable.

Registration (black)

Top Margin

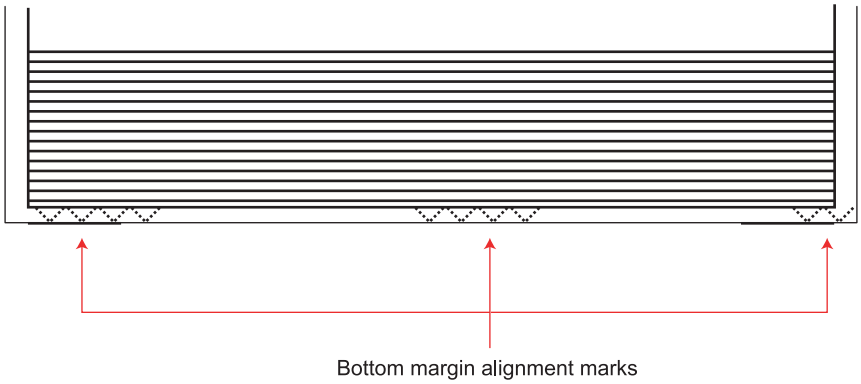
1. Reconnect the power cord to the electrical outlet, but do not turn on the printer yet.
2. Enter Diagnostic mode (press and hold buttons **3** and **6**, turn on the printer, and release the buttons when the clock graphic displays).
3. Touch **REGISTRATION**.
4. Touch **Quick Test** or use the last Quick Test you used to adjust skew.



5. Touch **Top Margin.**
6. Adjust the values until both top alignment marks are on the top edge of the print.
   - Increasing the value (**+**) moves the top alignment marks down on the page.
   - Decreasing the value (**-**) moves the top alignment marks up on the page.
7. Touch ✓ to save the value.
8. Print the Quick Test page, and check the top alignment marks. Repeat adjustment of the top margin and printing of the Quick Test page until top margin is set.

Bottom Margin

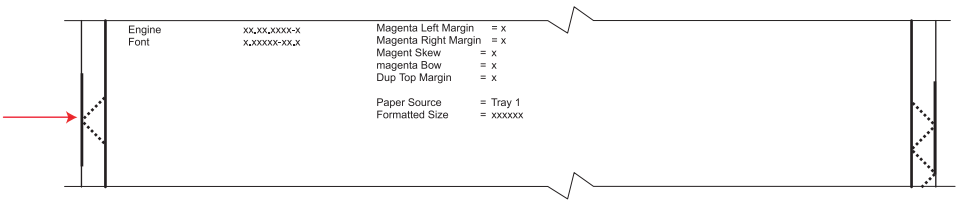
1. Touch **Bottom Margin**.
2. Adjust the bottom margin until the points of the bottom margin alignment marks are visible and touching the edge of the paper.
   - Increasing the value (**+**) moves the bottom alignment marks up on the page.
   - Decreasing the value (**-**) moves the bottom alignment marks down on the page.



3. Touch ✓ to save the value.
4. Print the Quick Test page, and repeat this process until the bottom margin is adjusted.

Left Margin

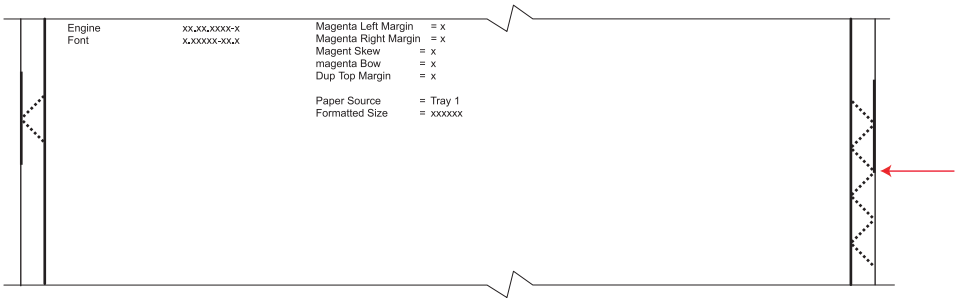
1. Touch **Left Margin**.
2. Adjust the left margin until the points of the left alignment marks touch the edge of the page.
   - Increasing the value (**+**) moves the left alignment marks away from the edge of the page.
   - Decreasing the value (**-**) moves the left alignment marks toward the edge of the page.



3. Touch ✓ to save the value.
4. Print the Quick Test page, and check the left alignment marks each time until you are satisfied.

Right Margin

1. Touch **Right Margin**.
1. Adjust the right margin until the points of the left alignment marks touch the edge of the page.
   - Increasing the value (**+**) moves the right alignment marks away from the edge of the page.
   - Decreasing the value (**-**) moves the right alignment marks toward the edge of the page.

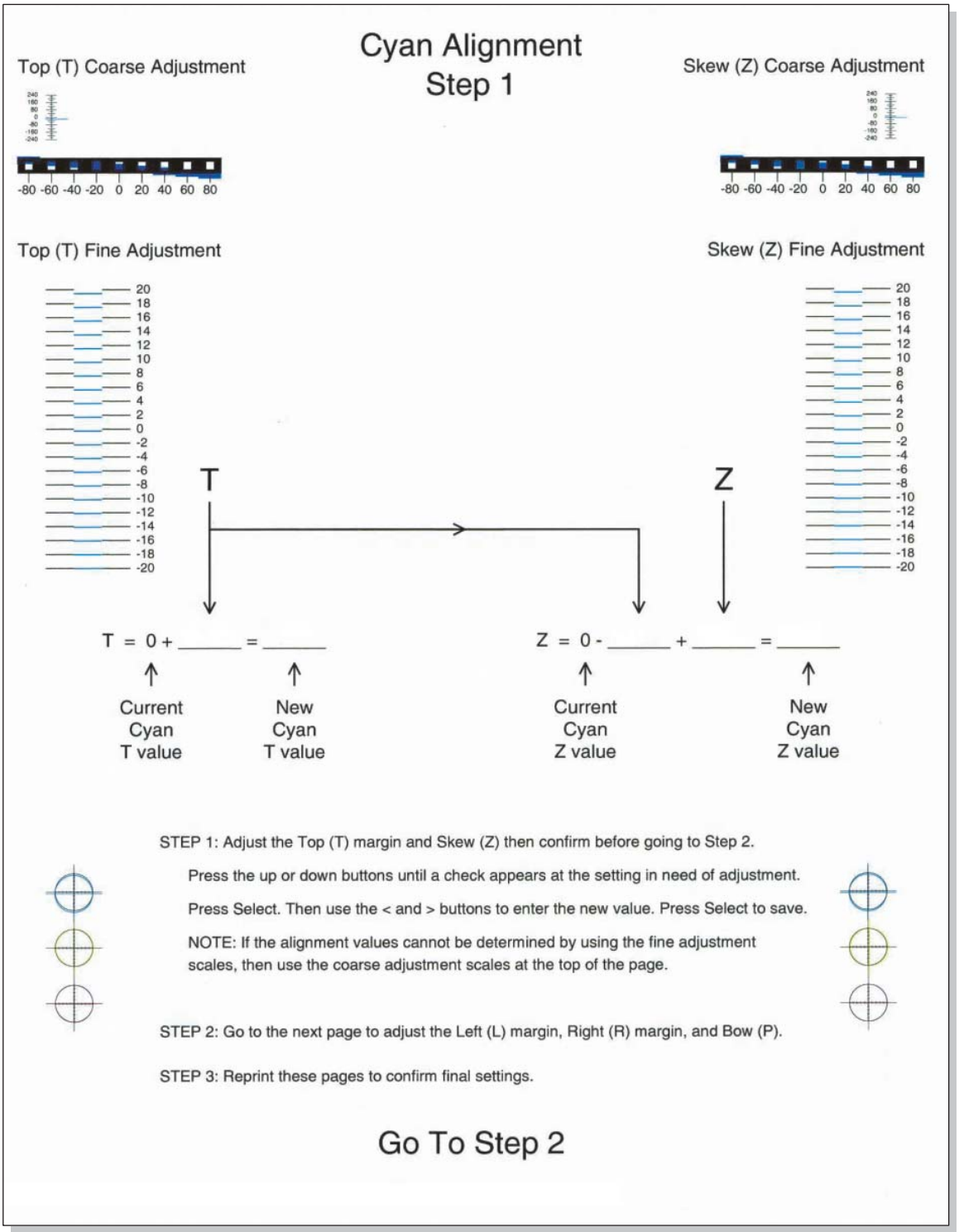


2. **Touch** ✓ to save the value.
3. Print the Quick Test page, and check the results. Repeat if necessary.
4. When the registration is complete, proceed to the color alignment.

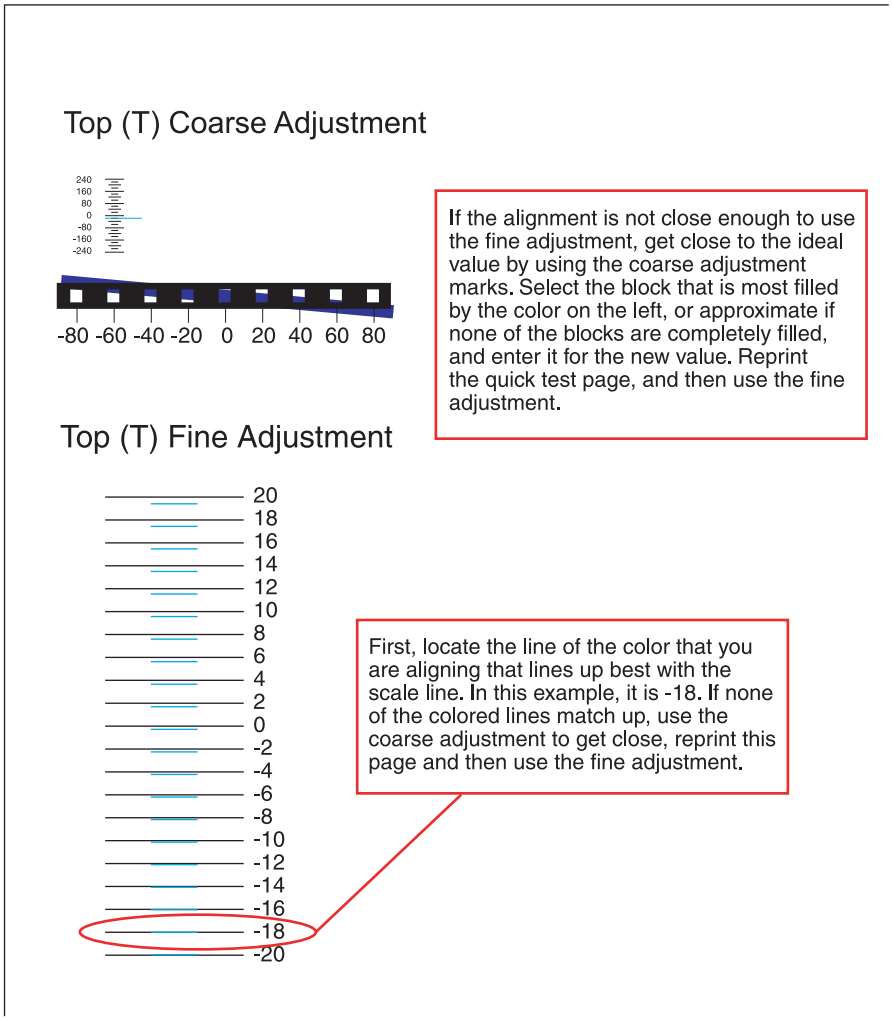
Alignment (cyan, yellow, and magenta)

1. Touch **Back** until you reach the top menu.
2. Touch **ALIGNMENT MENU**.
3. Touch **Cyan**.
4. Touch **Top Margin**.
5. Use **+** and **-** to set the **Top Margin** to zero, and then touch ✓ to save the value.
6. Do the same for **Left Margin**, **Right Margin**, **Bottom Margin**, **Skew**, and **Bow**.
   It is important to set all the values to zero before starting.

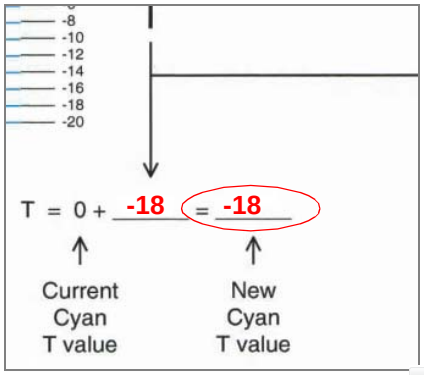
7. Touch **Quick Test** in the Cyan menu.
Two pages print. You may have to print these pages several times until you get T (**Top Margin**) and Z (Skew) aligned. Do not go to step 2 until T and Z are aligned. The first page is similar to the following:



8. Determine the line under Fine Adjustment that is closest. If the value is beyond the Fine Adjustment scale, use either of the Coarse Adjustment scales.

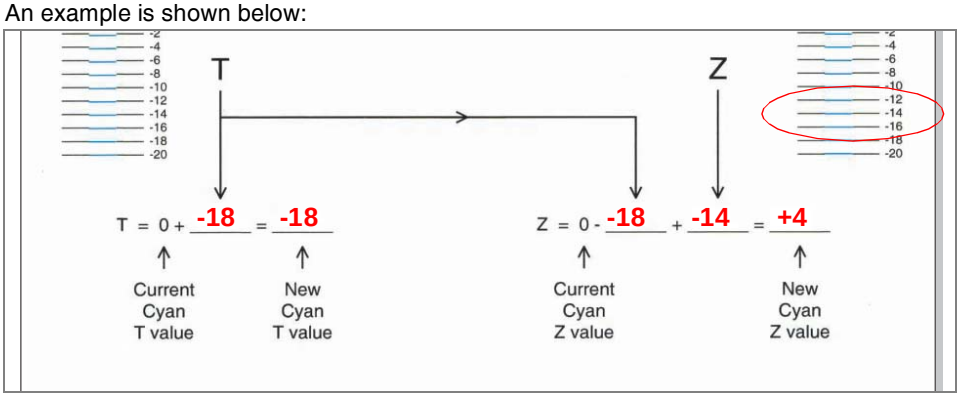


9. Enter the number determined from the Fine Adjustment scale or the Coarse Adjustment scales on the part of the page for the “T” value. The current value is automatically entered on the sheet. At this point, it should be zero.

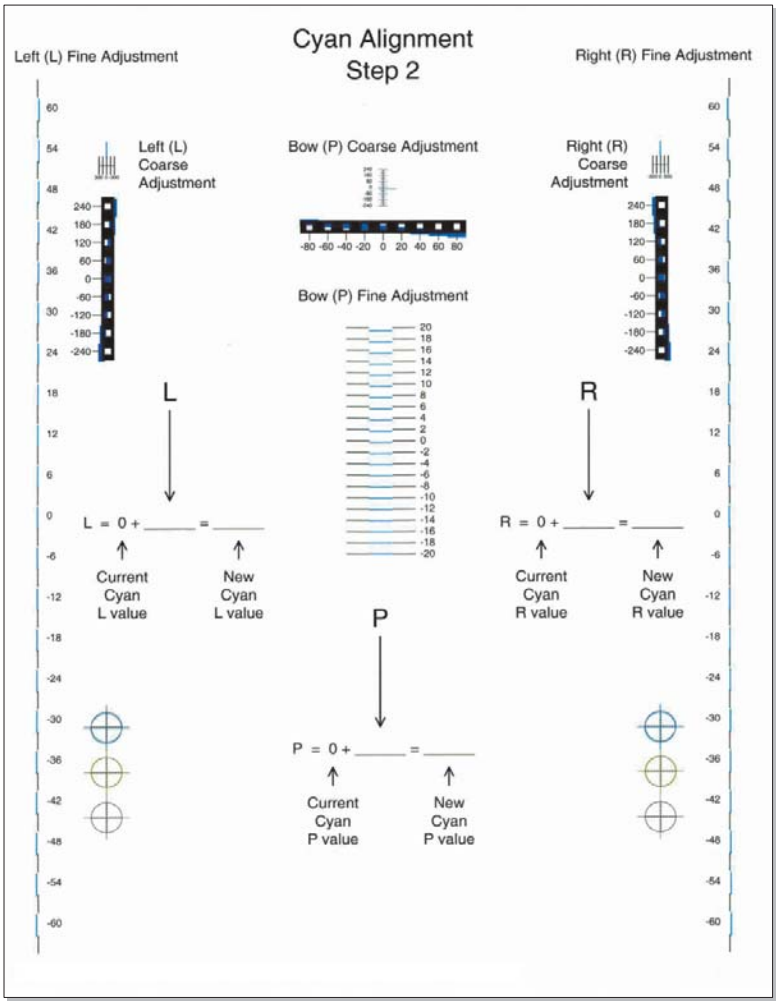


10. Enter the “New Cyan T value” on the operator panel and touch ✓ to save the value.
11. Reprint the Quick Test, and evaluate whether you are at zero changes.

12. Repeat this process for skew (Z). Don't forget to subtract the T value and add the current cyan Z value to obtain the new skew (Z) value.
An example is shown below:



13. Continue to follow the directions on the bottom of the first page to find the Cyan Top Margin (T), the Skew (Z), and on the second page of the Quick Test page, the Left Margin (L), Right Margin (R), and Bow (P).



14. Repeat steps 1 through 13 for yellow and magenta.

Note: Start each color group by setting the Top Margin, Left Margin, Right Margin, Bottom Margin, Skew, and Bow to zero.

Printer removal procedures

Precautions to take before maintenance work

Do not implement any operation, removal, or modification and so on, which is not presented in this manual.

1. Turn the printer power off and unplug the power cable from the outlet prior to starting removals or checks.

2. Prior to starting any repairs, read and understand the warnings in this manual.
   - High temperature
   - High voltage
   - Laser radiation
3. Confirm the direction of all parts and screw lengths during removal/replacement.
4. Utilize the proper cleaning procedures/solvents during maintenance.
5. Confirm that all parts and covers are properly installed and assembled prior to starting the print test.

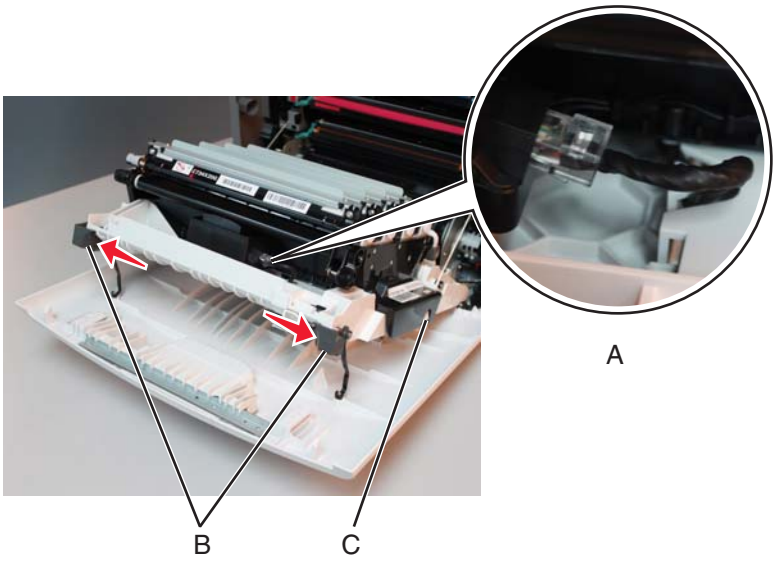
Cover removals

Front access cover assembly removal

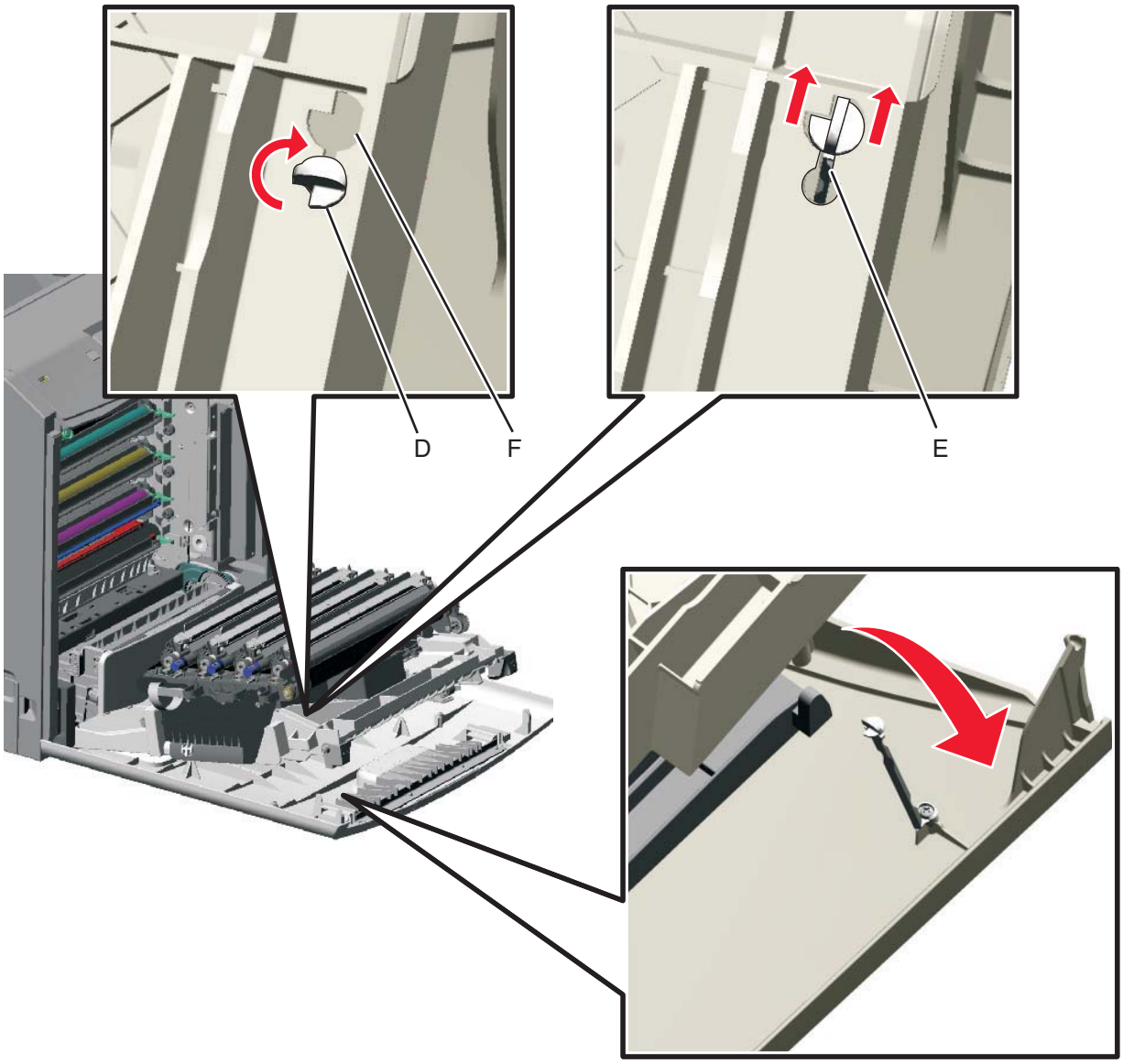
See Front access door cover assembly for the part number for the models you need on **page 7-3**.

1. Remove the paper tray.
2. Disconnect the transfer module cable (A).
3. Press the two tabs (B) to release the front access door cover assembly.
4. Press the two tabs (C) on either side of the transfer module, and lift out the transfer module.
   Note: Leave the photoconductor units on the transport belt when removing.

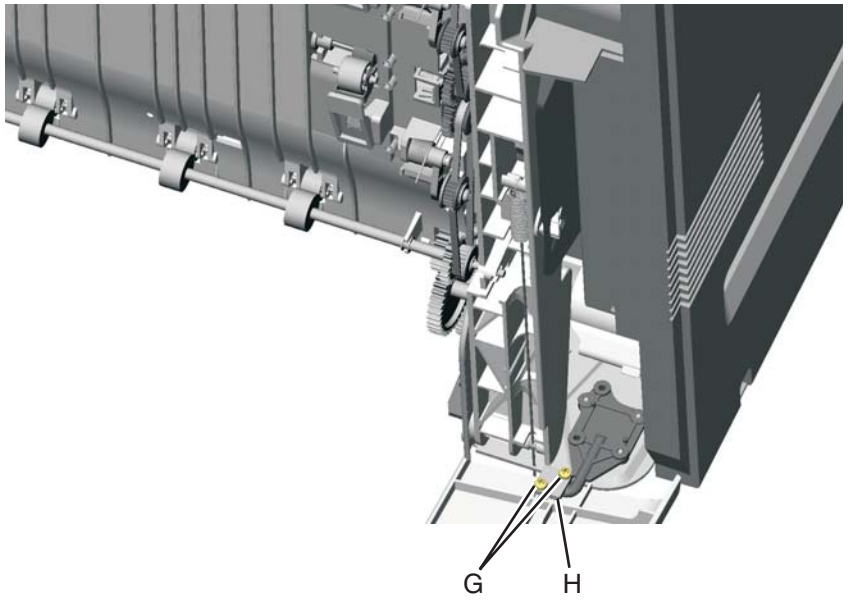
   Warning: To avoid damaging the photoconductor drum, hold the photoconductor units by their handle and place the photoconductor units on a clean surface. Never expose the photoconductor units to light for a prolonged period of time. See **"Handing the photoconductor unit" on page 4-2** for additional information.



5. Looking down at the keyed end of the restraint (D), twist the end clockwise, slide the restraint upward through the slit (E), and slip the end of the restraint through the keyed hole (F). Repeat for the other side.



6. Close the front access door assembly.
7. Remove the two screws (G) that attach the pivot pin to the front access door cover assembly.
8. Remove the bracket (H).

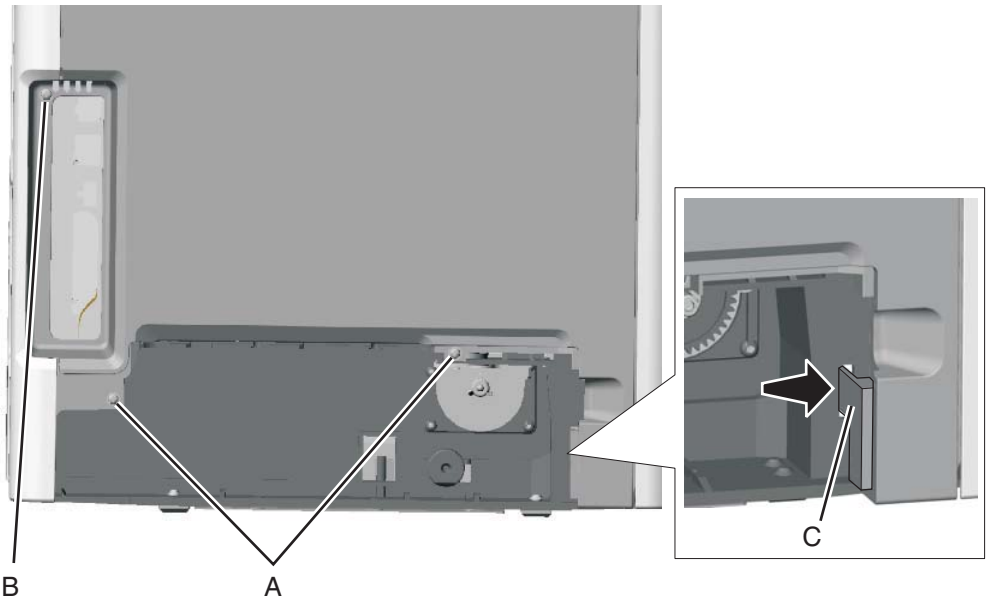


9. Remove the front access cover assembly.

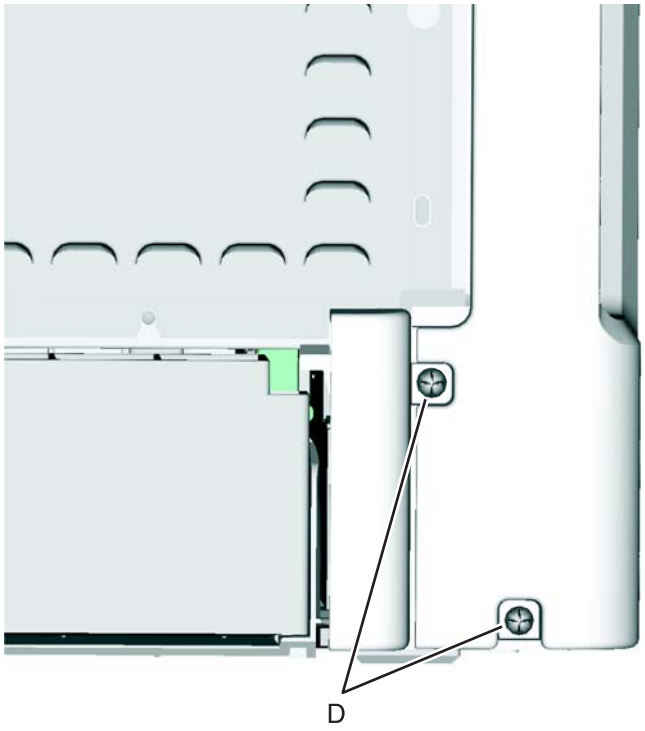
Left cover removal

See **“Left cover” on page 7-3** for the part number.

1. Remove the paper tray.
2. Remove the waste toner assembly. See **“Waste toner assembly removal” on page 4-176**.
3. Open the front access door.
4. Open the top access door.
5. Remove the two screws (A) on the bottom and one screw higher up (B).
6. Press the locking tab (C).



7. Remove the screws (D) from the rear left cover.



8. Unsnap the right cover from the top cover, then lift and remove the left cover and rear left cover together.
Note: Because the paper tray dust cover is loose at this point, set it aside.

Note: If you are removing the left cover to access another part, leave the left cover and the rear left cover attached, and you are done. If you need to replace the left cover FRU, continue with the next step to remove the separate rear left cover FRU.

9. Separate the left cover and rear left cover by sliding the left rear cover as shown to disengage the latch (E).

Operator panel assembly removal (C746)

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See operator panel assembly with card on **page 7-3** for the part number.

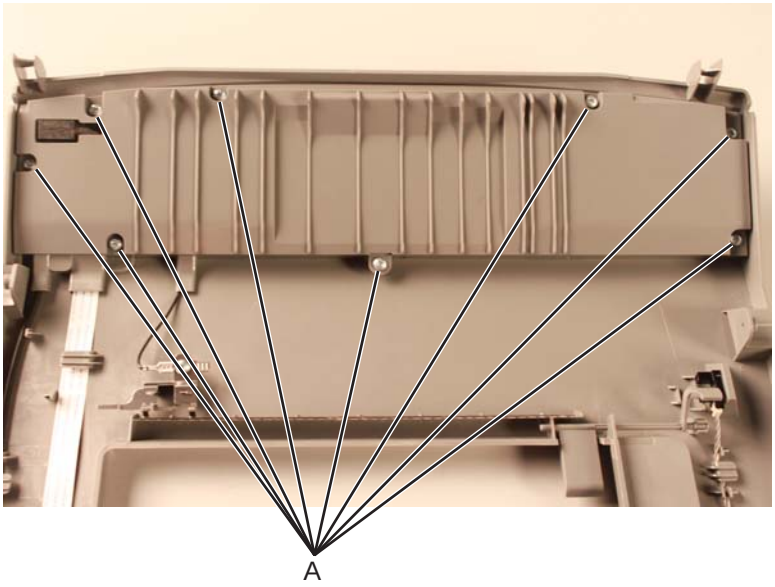
Warning: This part might contain customer confidential information. See **"Data Security Notice" on page 4-1** for more details. After removing this part, return it to your next level of support so any data can be removed. If the customer requests to keep the part, they must sign a confirmation of memory device retention form.

Warning: When replacing any one of the following components:

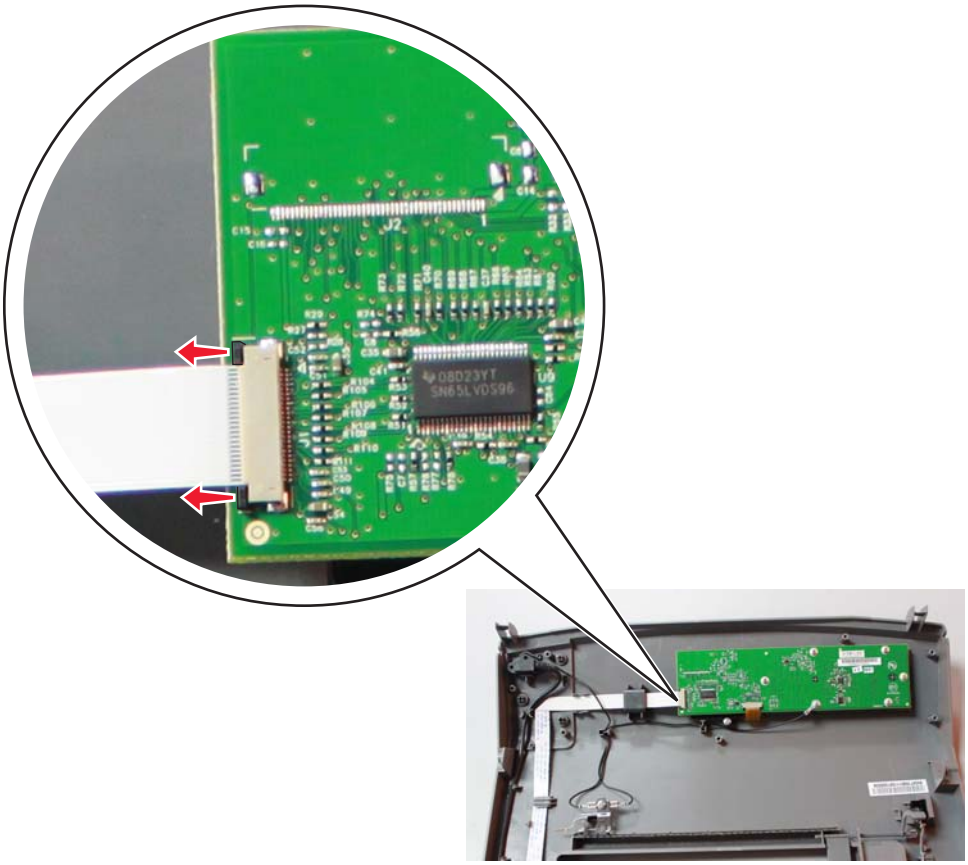
- **Operator panel assembly**
- **System board**
- **Top access cover assembly**

Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable.

1. Remove the top access cover assembly. See **"Top access cover assembly removal" on page 4-54**.
2. Turn the top access cover assembly over.
3. Remove the eight screws (A) securing the position guide cover.

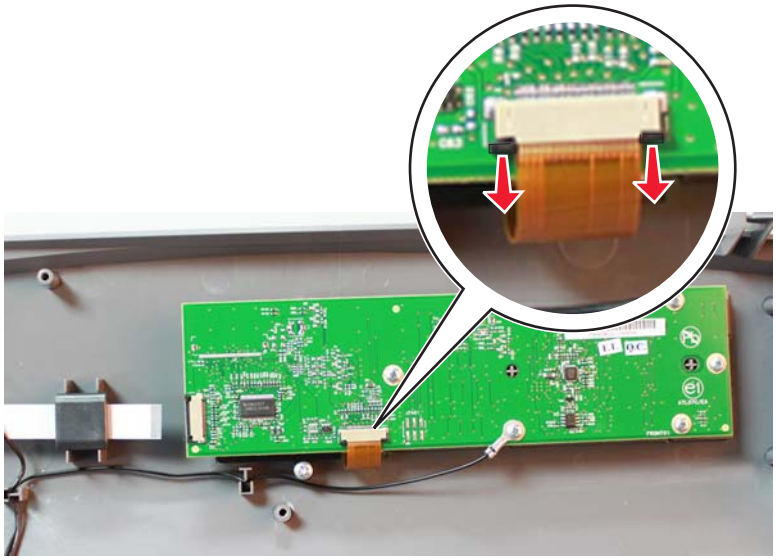


4. Pull open the UICC connector and disconnect the UICC cable.

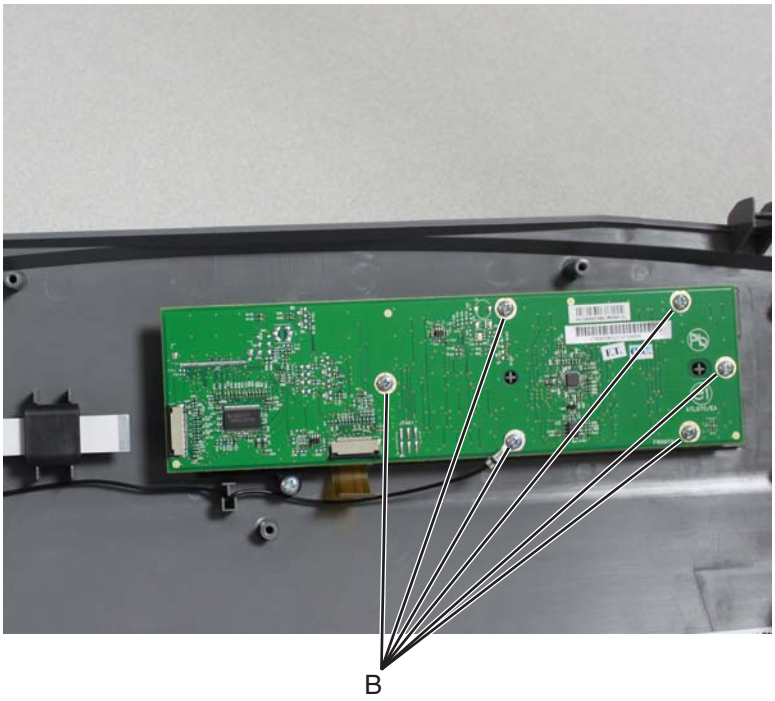


Installation note: Make sure the contact pins on the cable are facing up when reconnecting the operator panel cable to the connector.

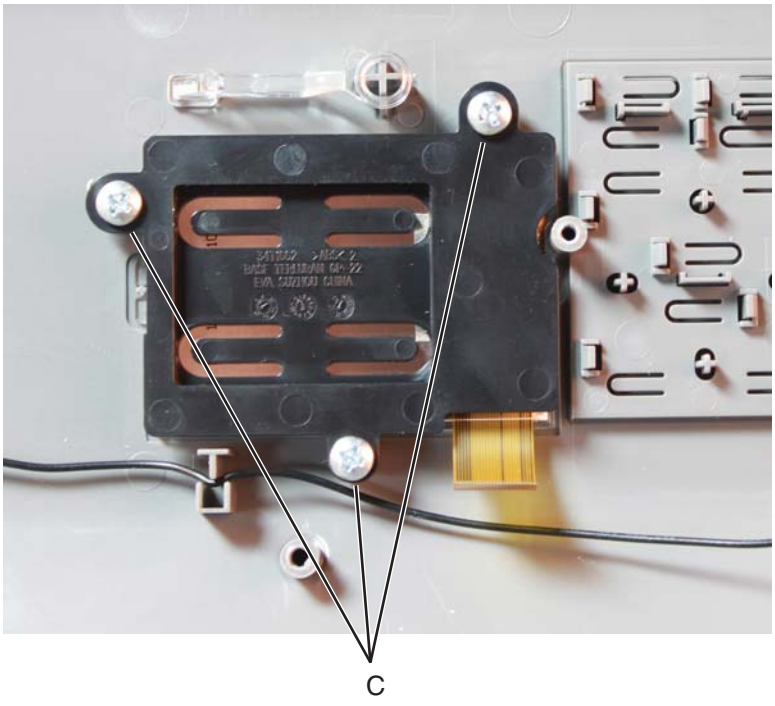
5. Flip open the LCD connector and disconnect the LCD cable.



6. Remove the six screws (B) securing the operator panel card, then remove the operator panel card.

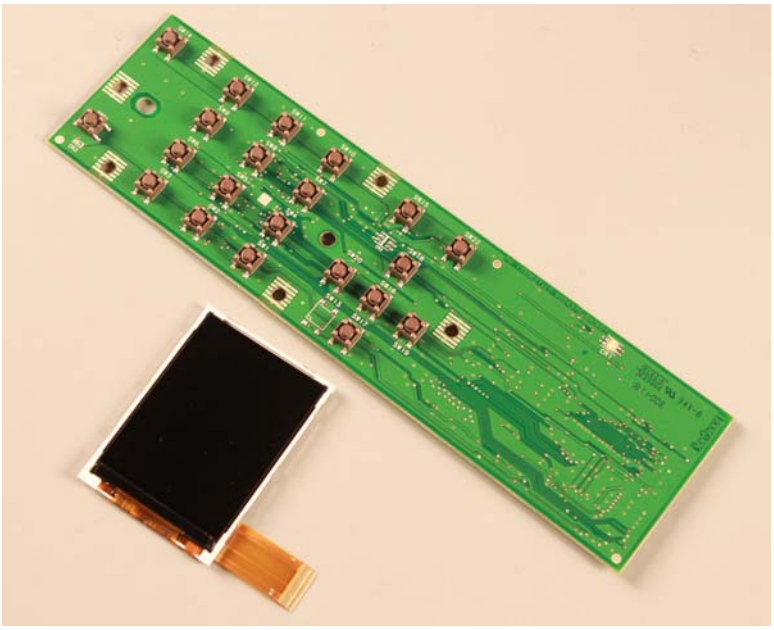


7. Remove the three screws (C) securing the LCD bracket, then remove the LCD bracket.



8. Remove the operator panel LCD together with the LCD protector.

9. Remove the operator panel LCD from the LCD protector.
   Note: The operator panel assembly consist of the operator panel LCD and the operator panel card.



Operator panel assembly removal (C748)

See operator panel assembly with card on **page 7-3** for the part number.

Warning: This part might contain customer confidential information. See **"Data Security Notice" on page 4-1** for more details. After removing this part, return it to your next level of support so any data can be removed. If the customer requests to keep the part, they must sign a confirmation of memory device retention form.

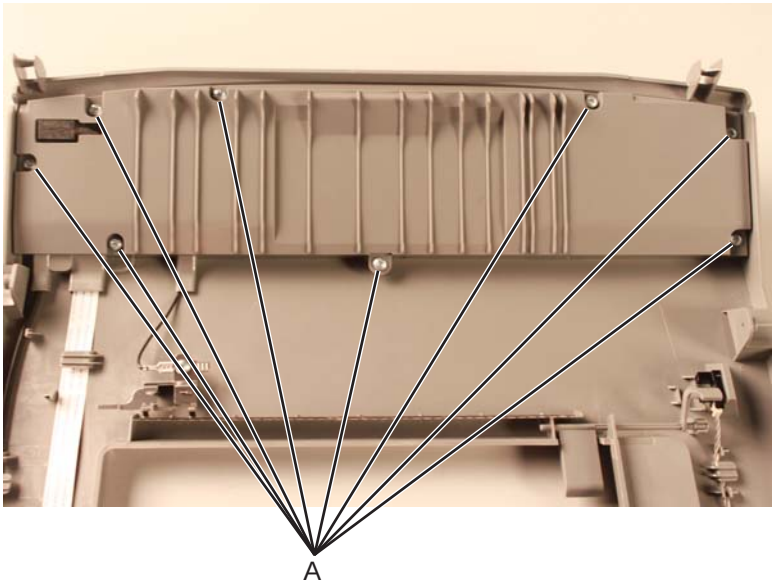
Warning: When replacing any one of the following components:

- **Operator panel assembly**
- **System board**
- **Top access cover assembly**

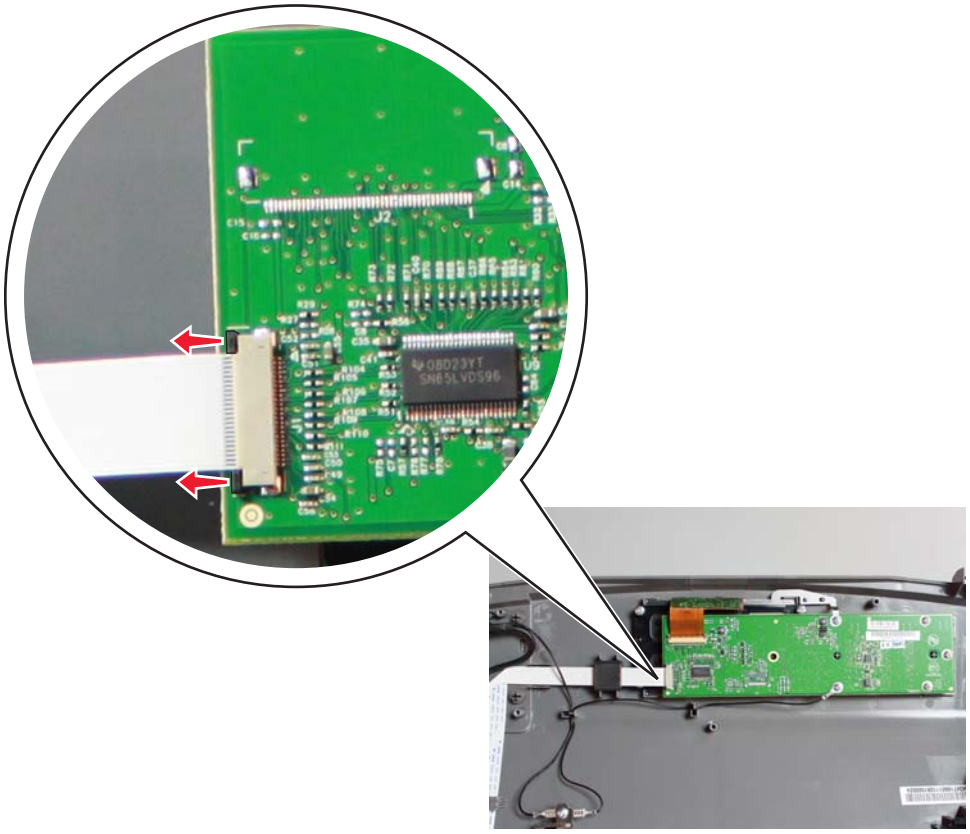
Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable.

1. Remove the top access cover assembly. See **"Top access cover assembly removal" on page 4-54**.
2. Turn the top access cover assembly over.

3. Remove the eight screws (A) securing the position guide cover.

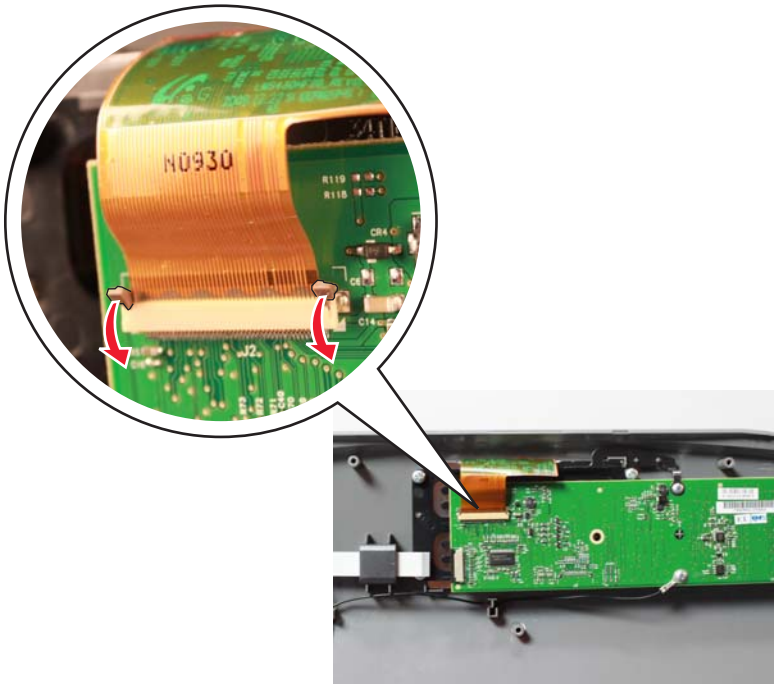


4. Pull open the operator panel connector and disconnect the operator panel cable.

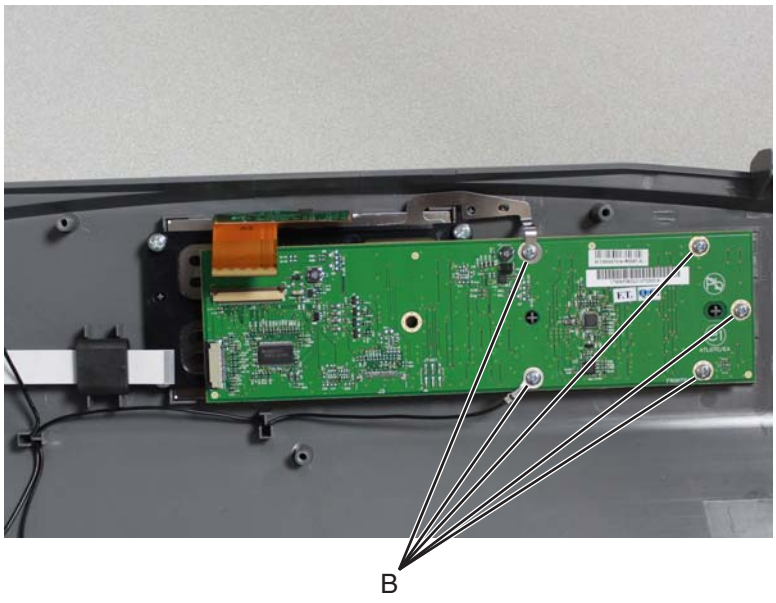


Installation note: Make sure the contact pins on the cable are facing up when reconnecting the operator panel cable to the connector.

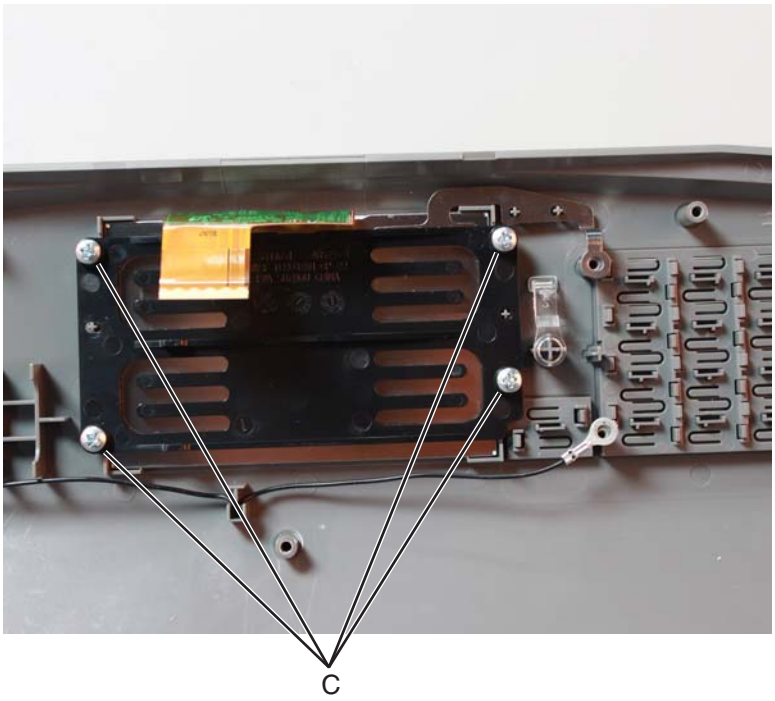
5. Flip open the LCD connector and disconnect the LCD cable.



6. Remove the five screws (B) securing the operator panel card, then remove the operator panel card.



7. Remove the four screws (C) securing the LCD bracket.

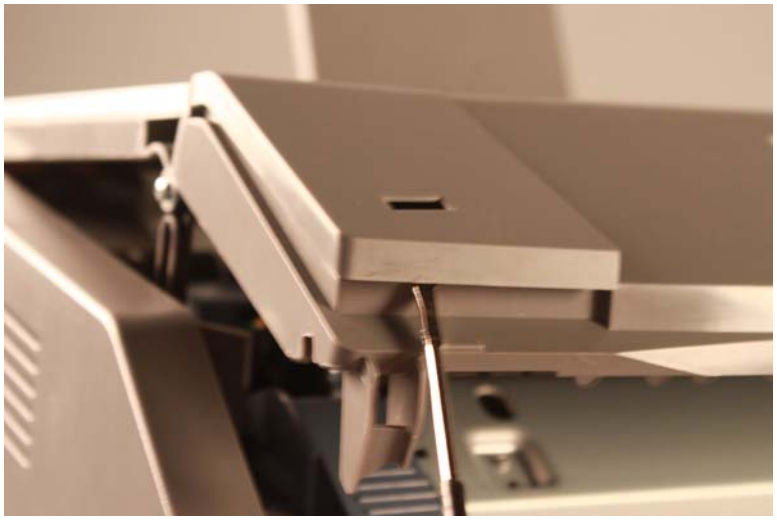


8. Remove the LCD bracket and ground connector.
9. Remove the operator panel LCD.

Operator panel bezel removal

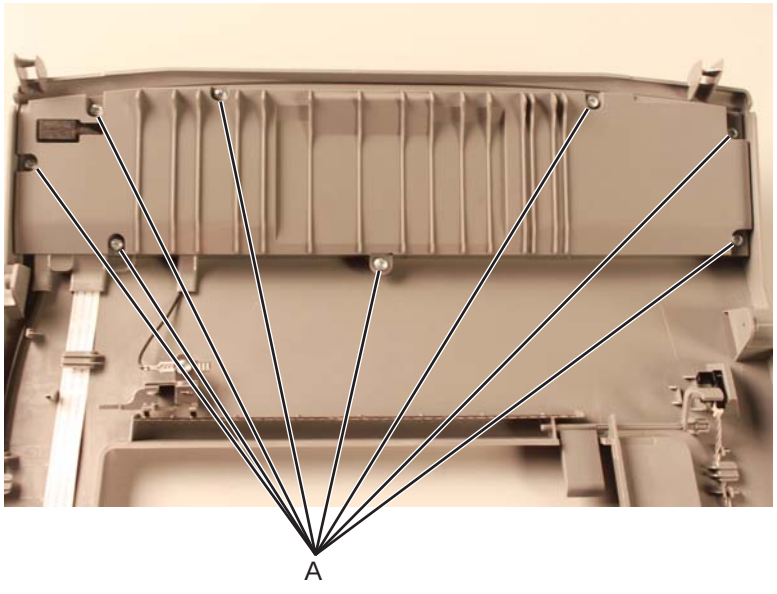
See operator panel bezel on page 7-3 for the part number.

1. Open the front cover.
2. Pry the bezel using a flat-head screw driver to remove.

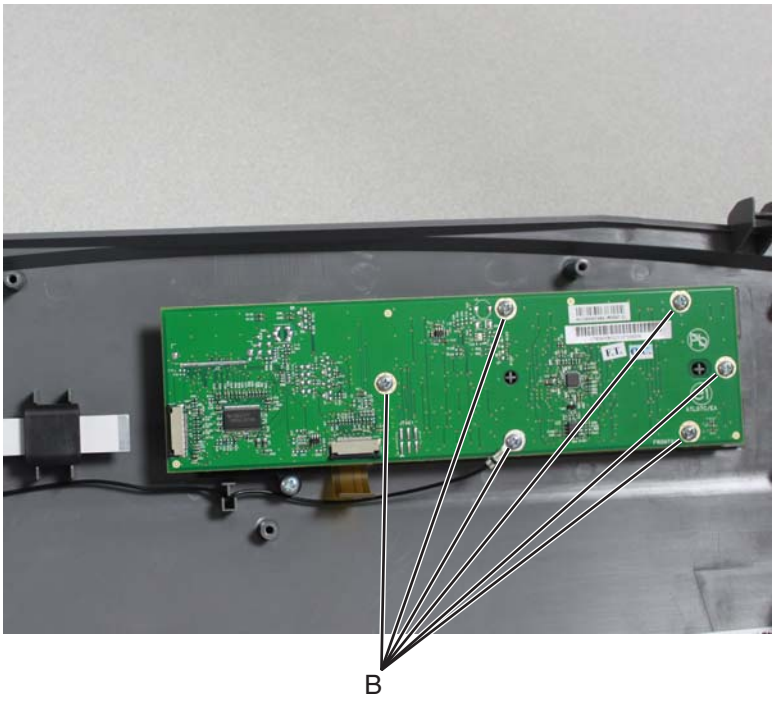


Operator panel buttons removal (C746)

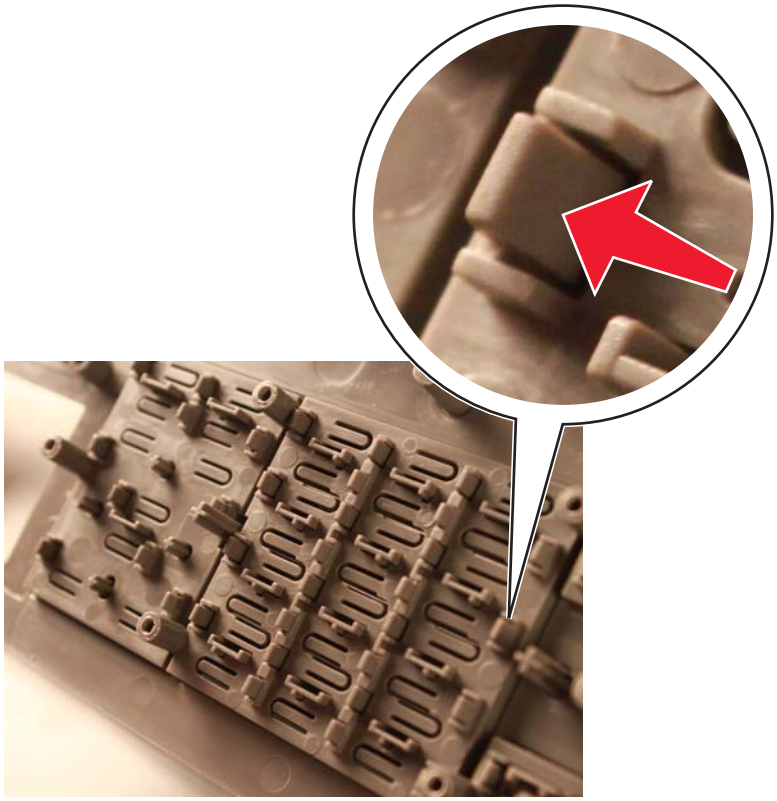
1. Remove the top access door cover assembly. See "Top access cover assembly removal" on page 4-54.
2. Turn the top access cover assembly over.
3. Remove the eight screws (A) securing the position guide cover.



4. Remove the six screws (B) securing the operator panel card, then remove the operator panel card.

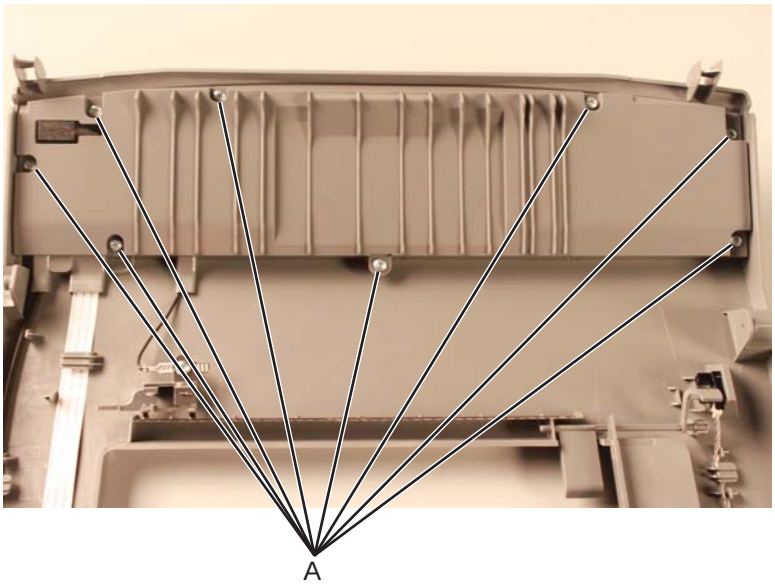


5. Unsnap the small latches securing the buttons, then remove them.

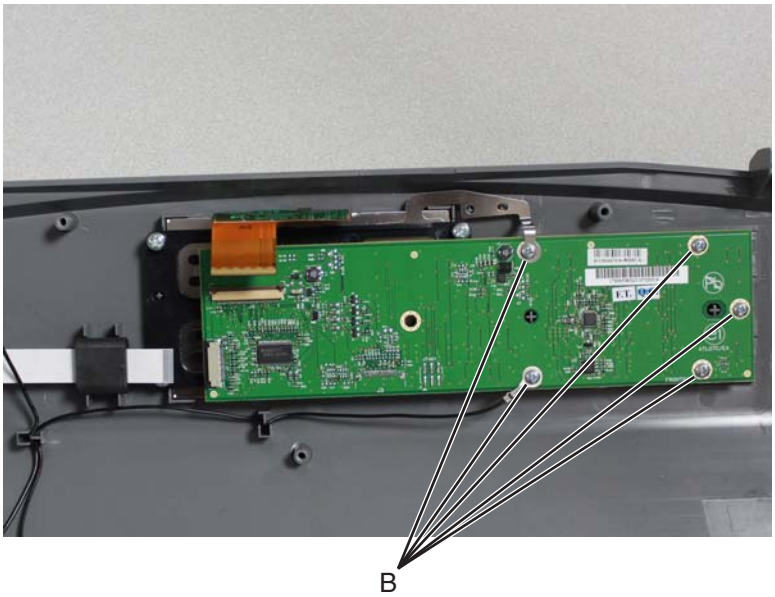


Operator panel buttons removal (C748)

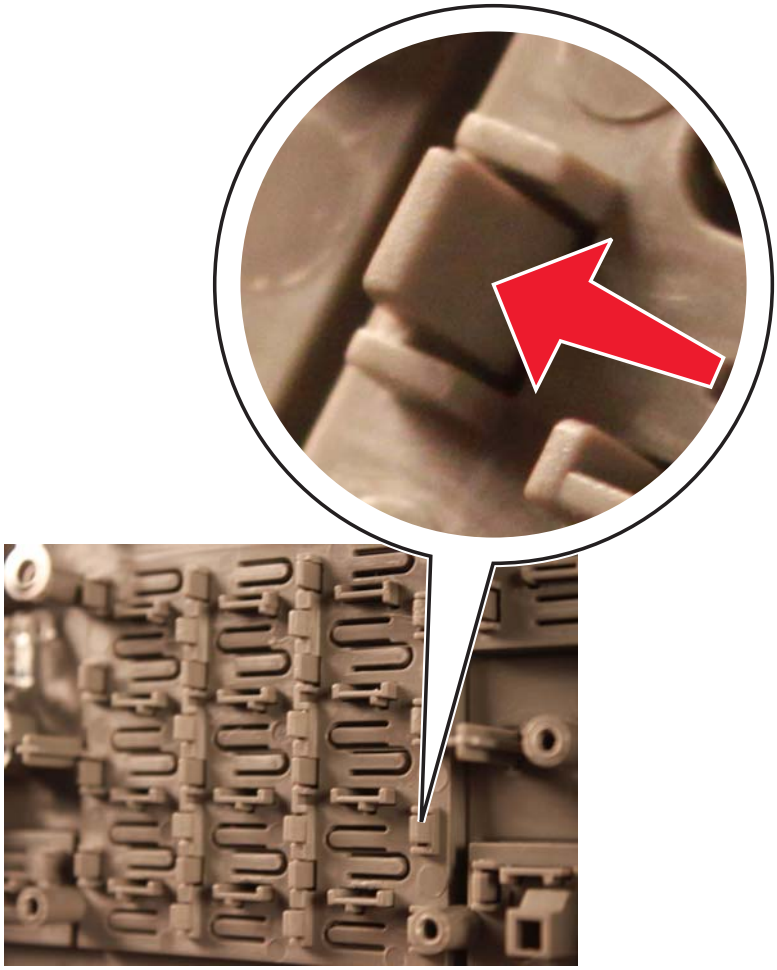
1. Remove the top access door cover assembly. See **"Top access cover assembly removal" on page 4-54**.
2. Turn the top access cover assembly over.
3. Remove the eight screws (A) securing the position guide cover.



4. Remove the five screws (B) securing the operator panel card, then remove the operator panel card.



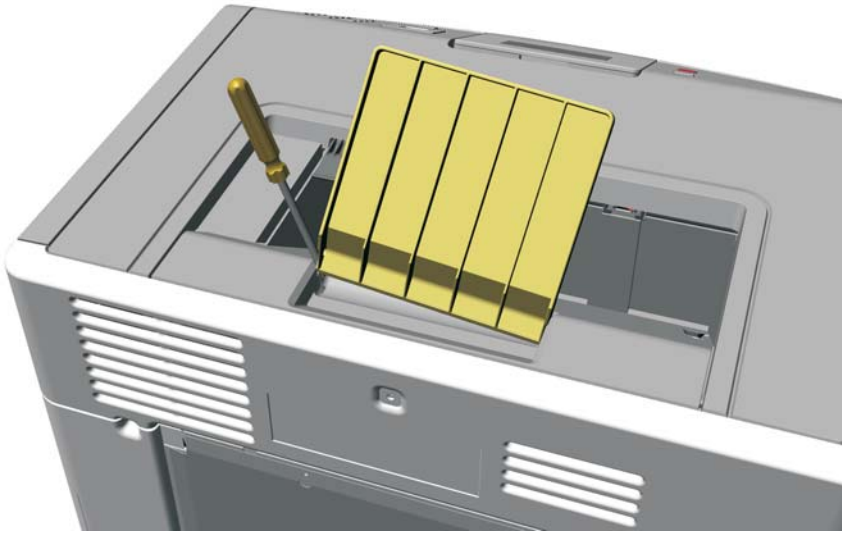
5. Unsnap the small latches securing the buttons, then remove them.



Output bin extension cover removal

See **“Output bin extension cover” on page 7-3** for the part number.

1. Turn the printer around, so the back is toward you.
2. Rotate the output bin extension cover toward the front of the printer.
3. Use a flathead screwdriver to ease the posts from the holes on one side.



Paper tray dust cover removal

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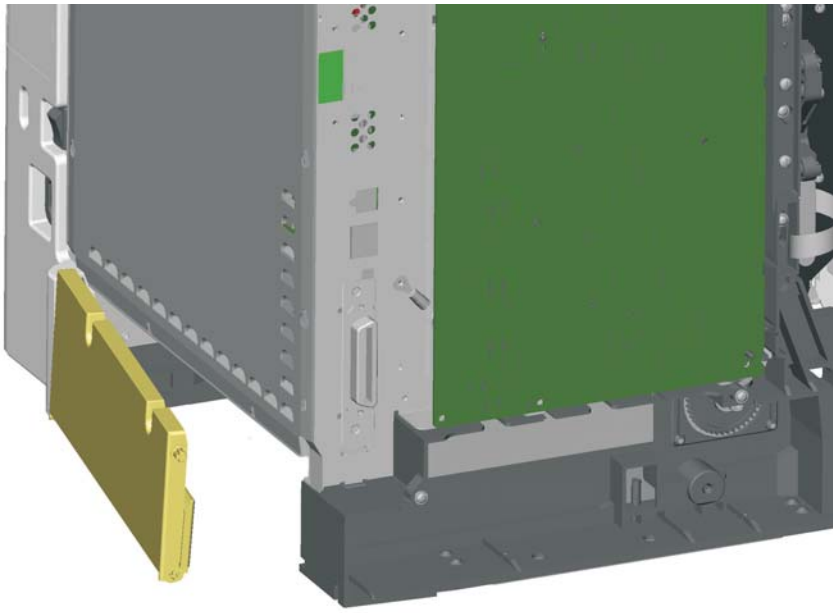
See **“Dust cover assembly” on page 7-3** for the part number.

1. Remove the paper tray.
2. Remove the left cover. See **“Left cover removal” on page 4-31**.
3. Remove the paper tray dust cover assembly.



Installation notes:

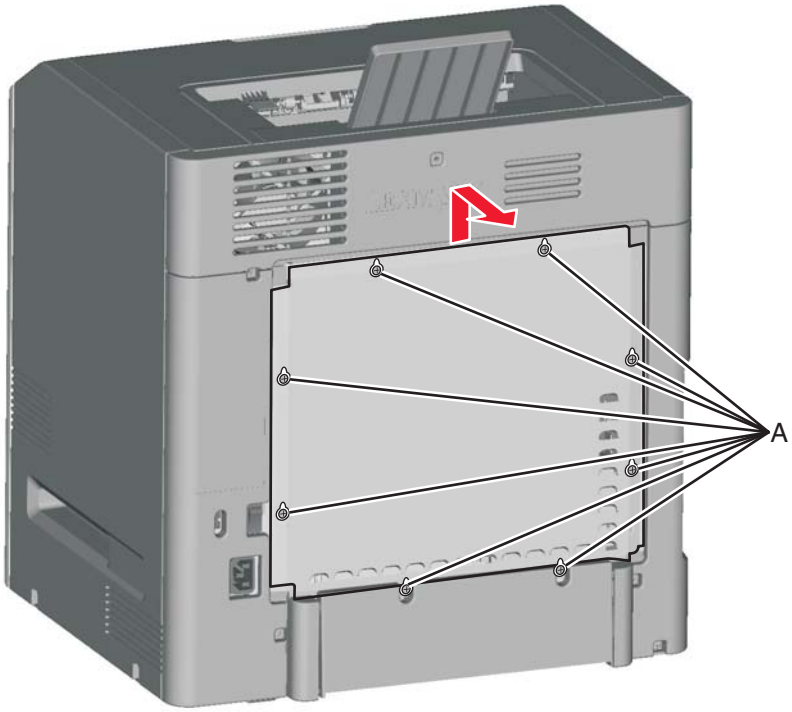
1. Place the paper tray dust cover into position.
2. Slide the left cover down until it locks into place.
   Note: Be sure the post in the left cover engages the hole in the left cover, and that the post in the paper tray dust cover engages the hole in the left cover properly.
3. Replace the three screws on the left cover.

Note: Verify that the paper tray dust cover swings properly.

Rear frame cover removal

See **“Rear frame cover” on page 7-3** for the part number.

1. Remove paper tray
2. **Loosen** the eight screws (A) on the rear frame cover.
   Note: Do not remove the screws.
3. Lift up on the rear frame cover to remove it from the back of the printer.



Rear left cover removal

1. Remove the left cover. See **“Left cover removal” on page 4-31**.
2. Separate the left cover and rear left cover by sliding the left rear cover as shown to disengage the latch (A).

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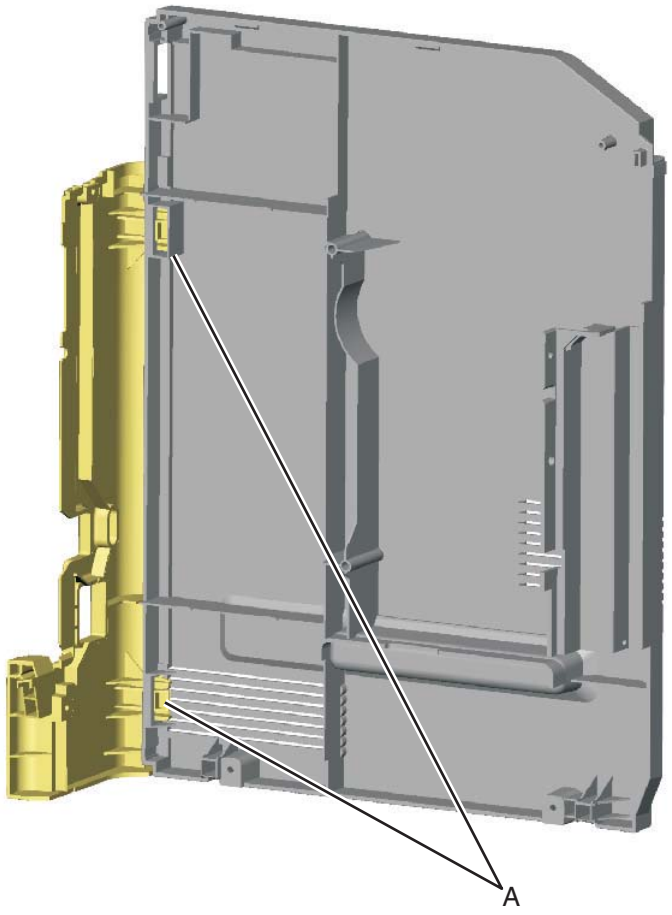
Rear right cover removal

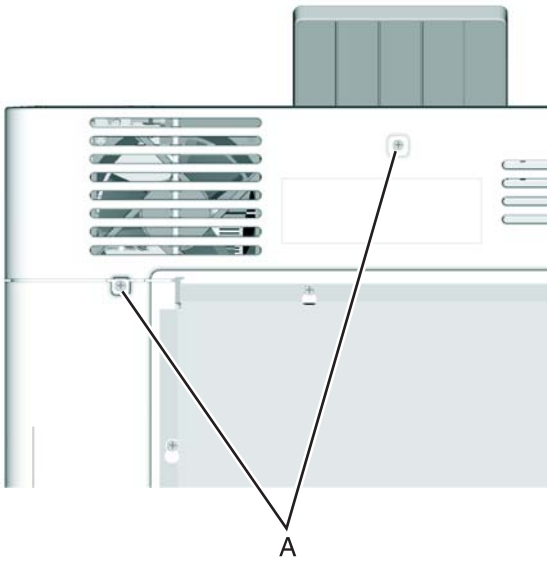
See **“Rear right cover” on page 7-3** for the part number.

1. Remove the right cover. See **“Right cover removal” on page 4-51**.
2. Press the two tabs (A) to separate the right cover from the rear right cover.



Rear upper cover removal

1. Remove the two screws (A).



2. Slide the cover up and remove the rear upper cover.

Note: If you are removing the rear upper cover to access another part, leave the cooling fan filter attached, and you are done. If you need to replace the rear upper cover FRU, continue with the next step to remove the cooling fan filter FRU.

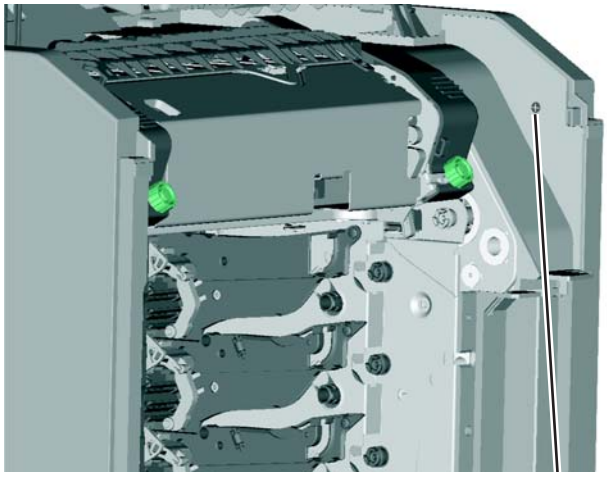
3. Remove the cooling fan filter. See **“Cooling fan filter removal” on page 4-86**.

Right cover removal

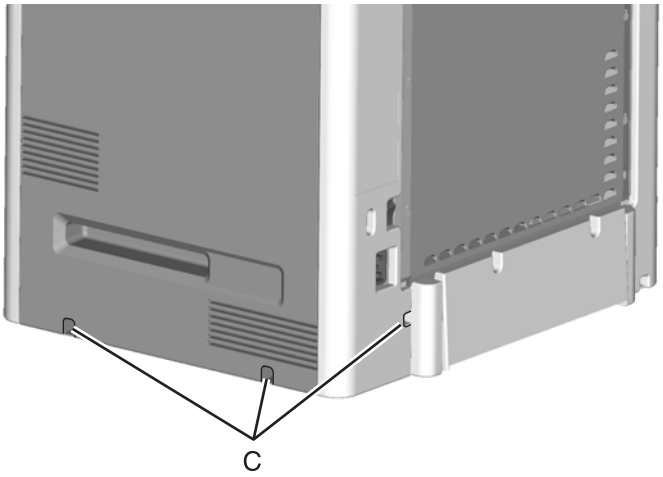
See **“Right cover” on page 7-3** for the part number.

1. Remove the power cord from the printer.
2. Remove the paper tray.
3. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-50**.
4. Open the front cover.
5. Open the top access cover.
6. Remove the two screws (A) on the inside front.

7. Remove the plastic screw (B) on the inside front.

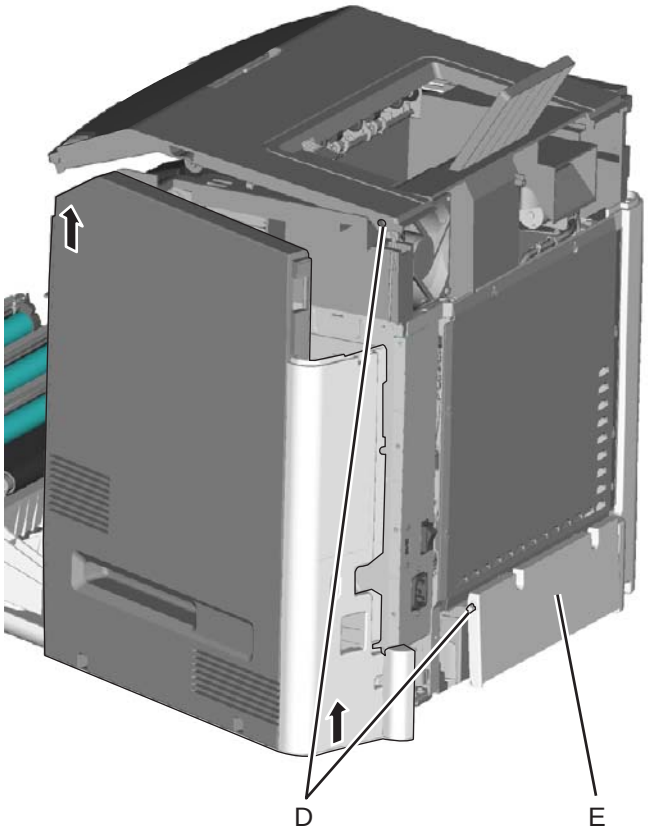


8. Remove the three screws (C).



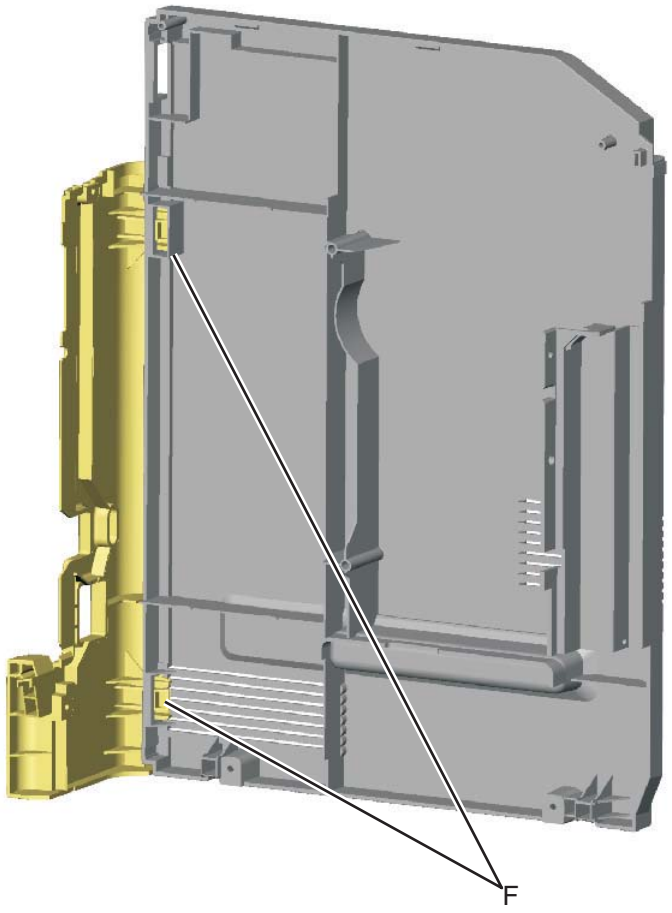
9. Lift the bottom of the cover out, pull up at the points shown, and remove the cover.
Note: There are posts on the top access cover and the paper tray dust cover (D). When you reinstall, be sure to verify that the top access cover opens correctly and that the paper tray dust cover swings properly.

10. Remove the paper tray dust cover (E).



Note: If you are removing the right cover to access another part, leave the right cover and the rear right cover attached, and you are done. If you need to replace the right cover FRU, continue with the next step to remove the separate rear right cover FRU.

11. Press the two tabs (F) to separate the right cover from the rear right cover.



Top access cover assembly removal

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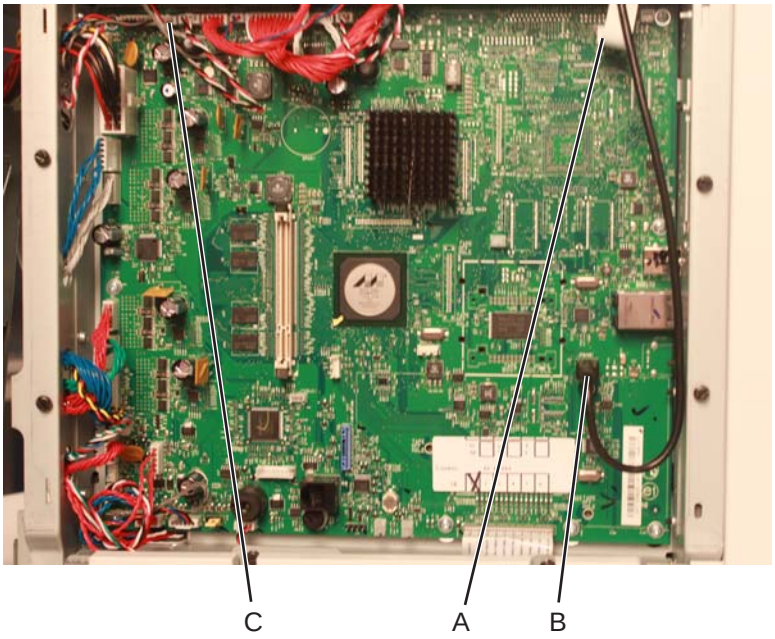
See **“Top access cover assembly, 2.3 inch” on page 7-3** for the part number.

Warning: When replacing any one of the following components:

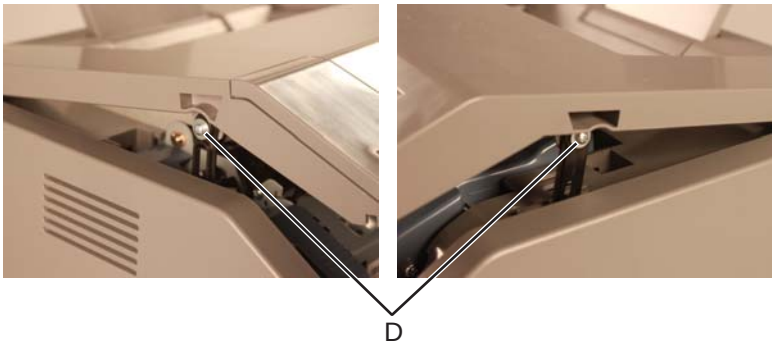
- **Operator panel assembly**
- **System board**
- **Top access cover assembly**

Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable.

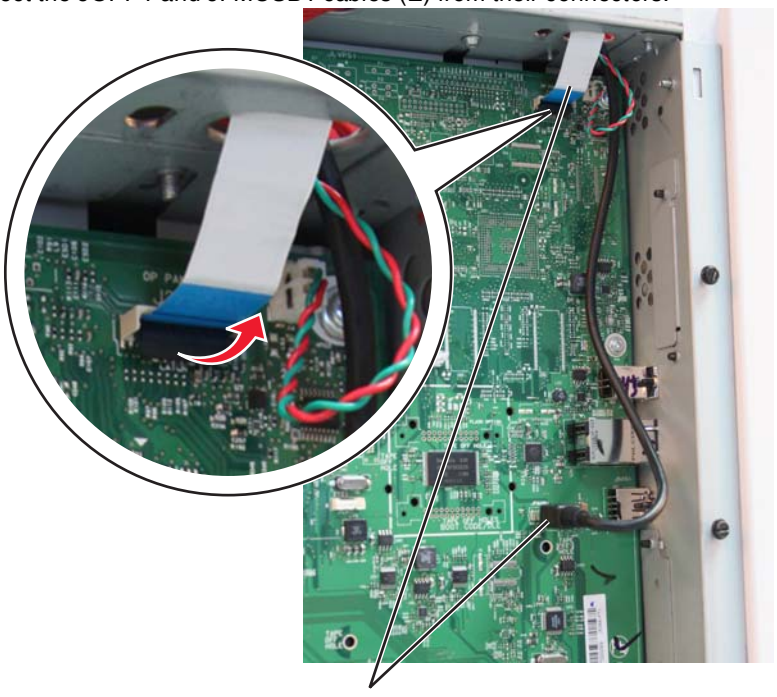
1. Remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**.
2. Disconnect the cable connectors at operator panel connector (A), JFMUSB1 (B), and JBIN1 (C) on the system board.



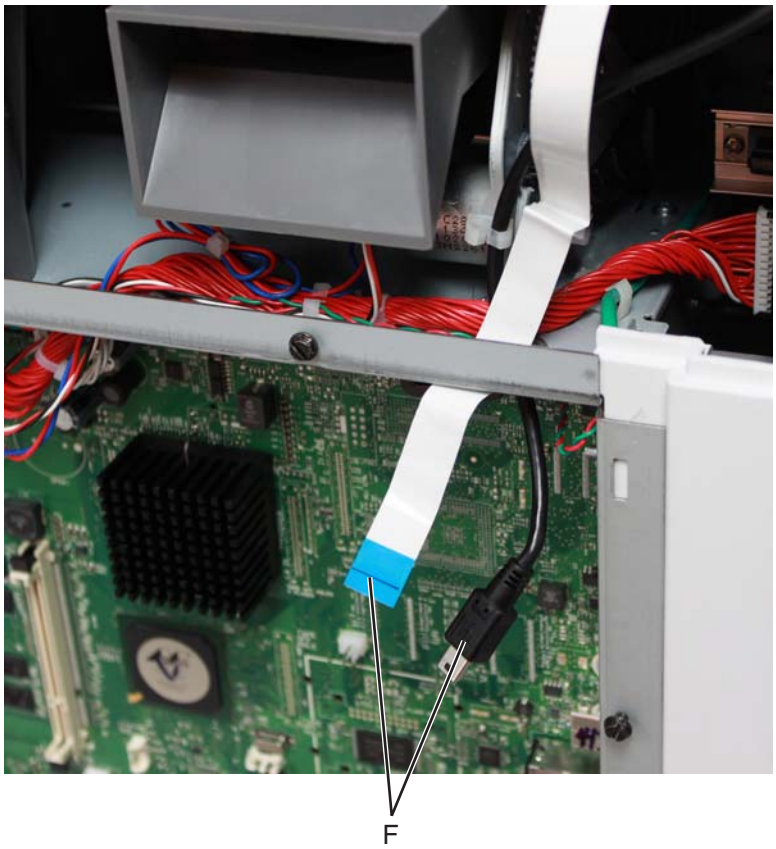
3. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-50**.
4. Open the front access cover and top access cover
5. Remove the two screws (D), one on either side of the printer, that connects the links.



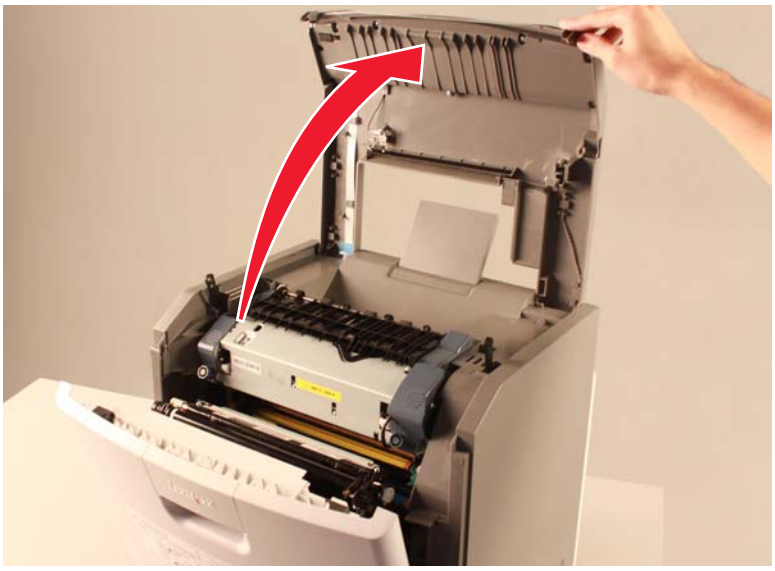
6. Disconnect the JOPP1 and JFMUSB1 cables (E) from their connectors.



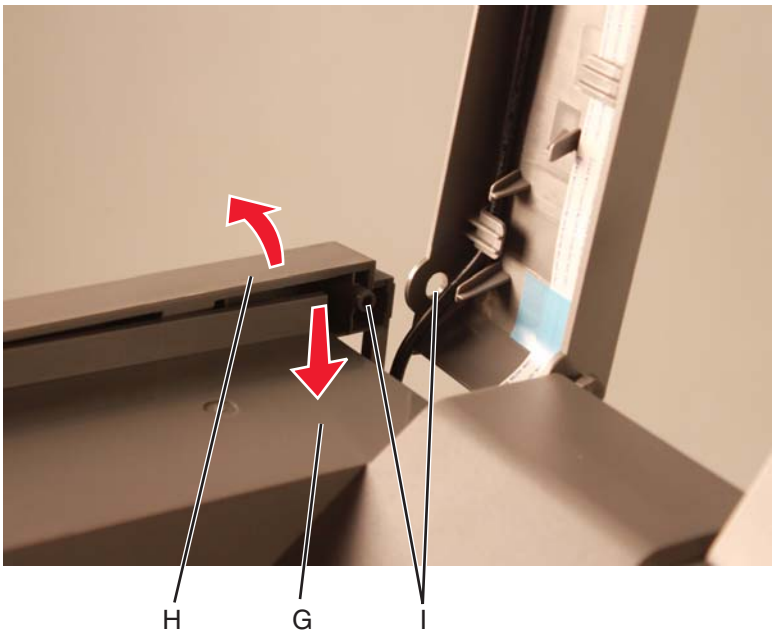
7. Take out the JOPP1, and JFMUSB1 cables (F).



8. Raise the top access cover assembly.



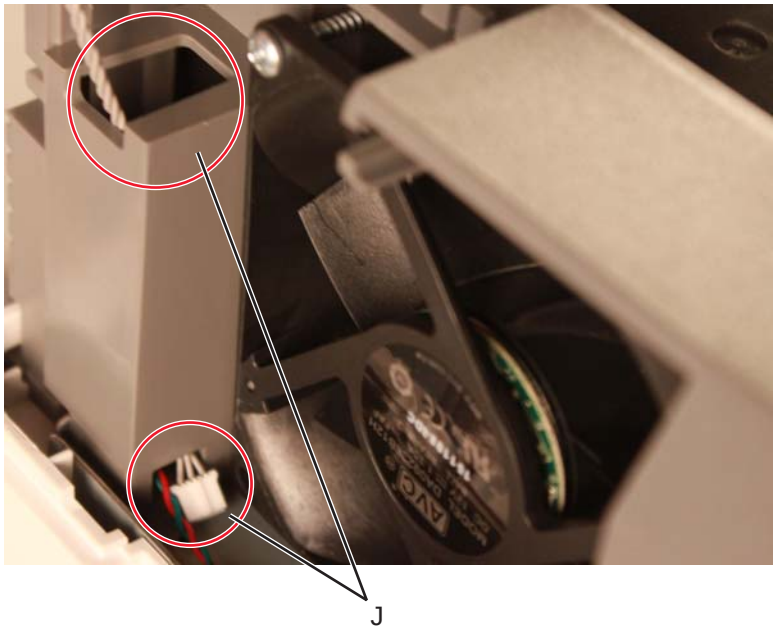
9. Push down on the rear-right side of the top cover (G) then pull out the right cover (H) lightly to release the top cover from the hinge (I).



10. Slide out the top access cover to remove.

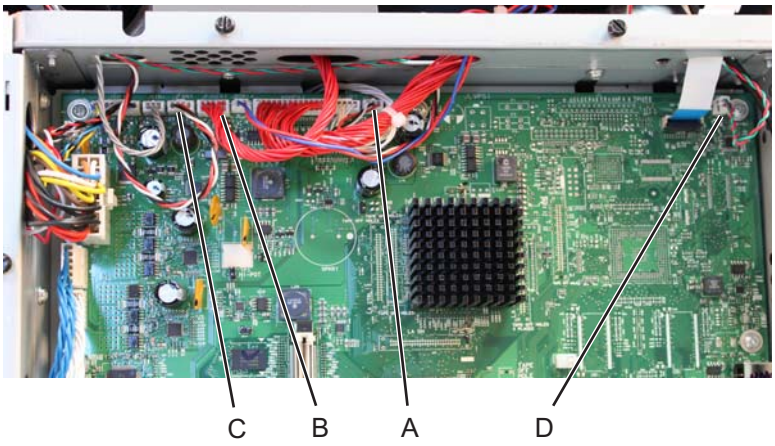
Note: If you are removing the top access cover assembly to access another FRU, then leave the operator panel bezel attached, and you are done. If you are replacing the top access cover assembly FRU, then remove the separate operator panel bezel FRU. See **"Operator panel bezel removal" on page 4-41**

Installation note: When reinstalling the top access cover assembly, guide the speaker and bin full sensor cables through the two holes (J) on the rear of the top cover first.

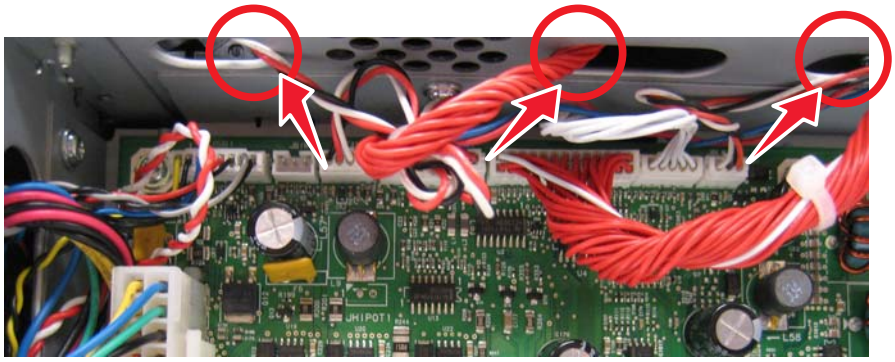


Top cover assembly removal

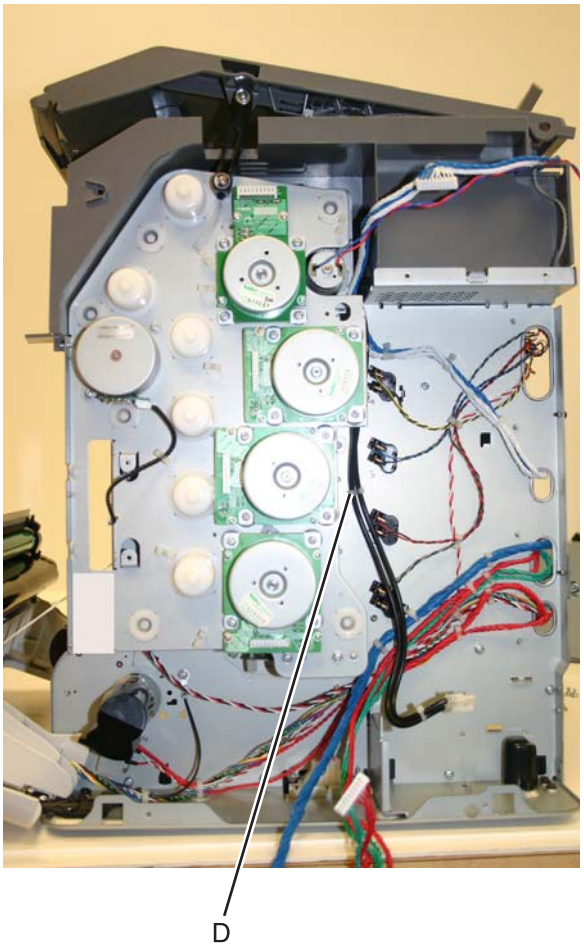
1. Remove the fuser. See **“Fuser removal” on page 4-110**
1. Remove the LVPS. See **“Low-voltage power supply (LVPS) removal” on page 4-119**.
2. Remove the top access cover assembly. See **“Top access cover assembly removal” on page 4-54**.
3. Disconnect the connectors in JBLW1 (A), JFUSER1 (B), JFAN1 (C) on the system board.
   Note: If you are removing the top cover assembly of the C748x model, make sure to remove the speaker connector (D).



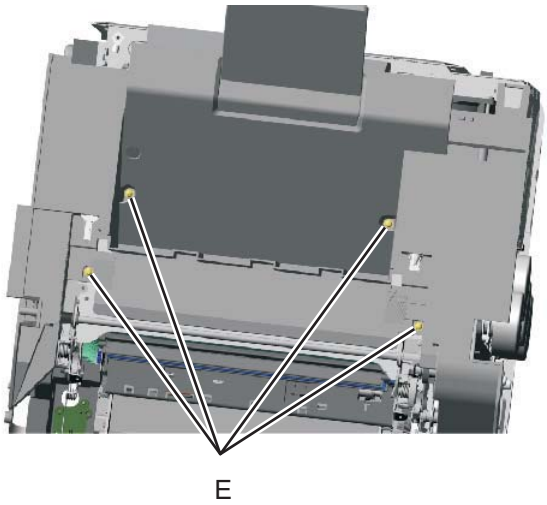
4. Pull the cables through the openings.
   Note: Be sure to observe the routing for the cables.

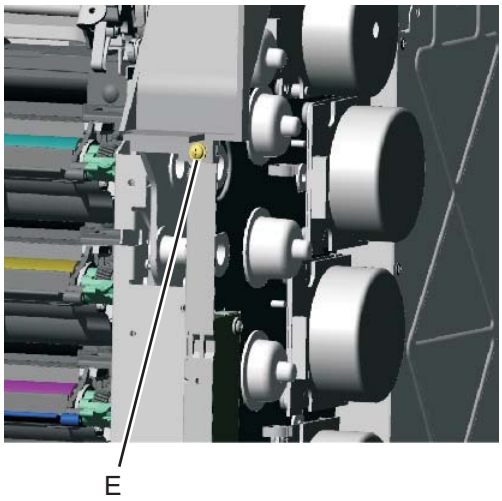


5. Remove the fuser AC cable from the cable restraint (D).

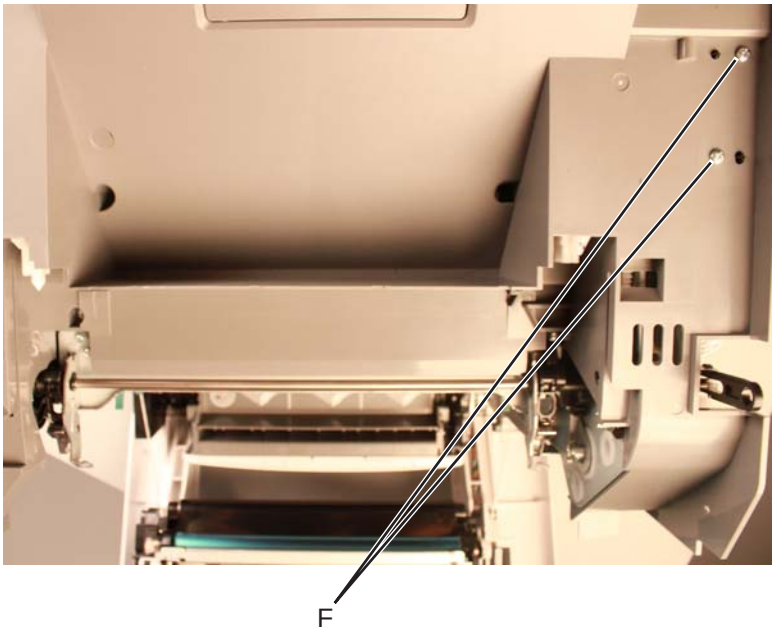


6. Remove the five screws (E).

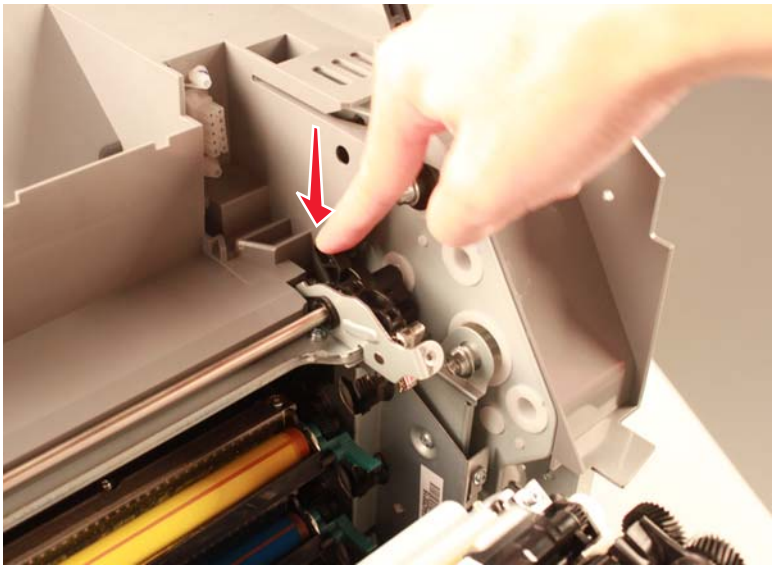




Note: If you are removing the top cover assembly of the C748x model, remove the two screws (F) to detach the speaker mount. The speaker mount is not included as part of the top access cover assembly FRU.



7. Lift and remove the top cover assembly.
   Installation note: Make sure to push down on the cam after reinstalling the top cover assembly.

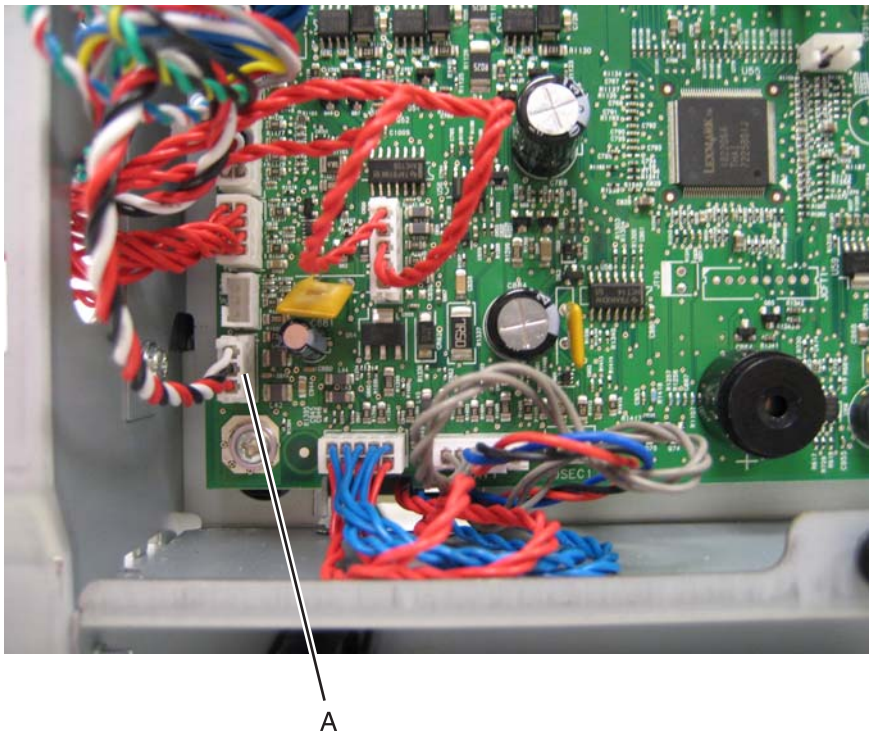


Printer removals

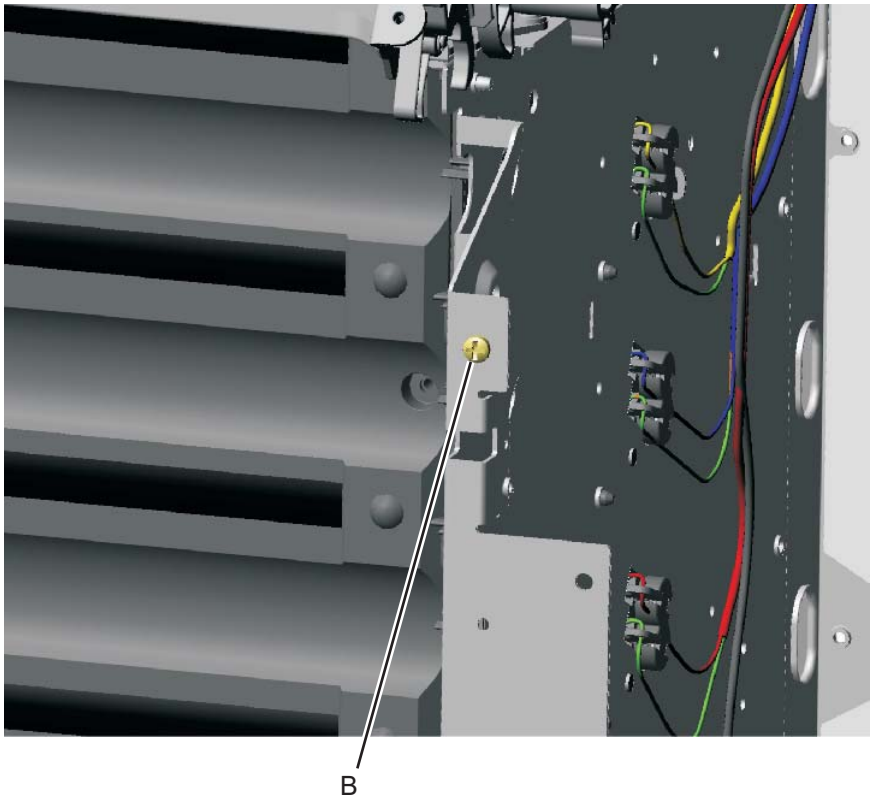
5 V interlock switch cable removal

See **“5 V interlock switch” on page 7-9** for the part number.

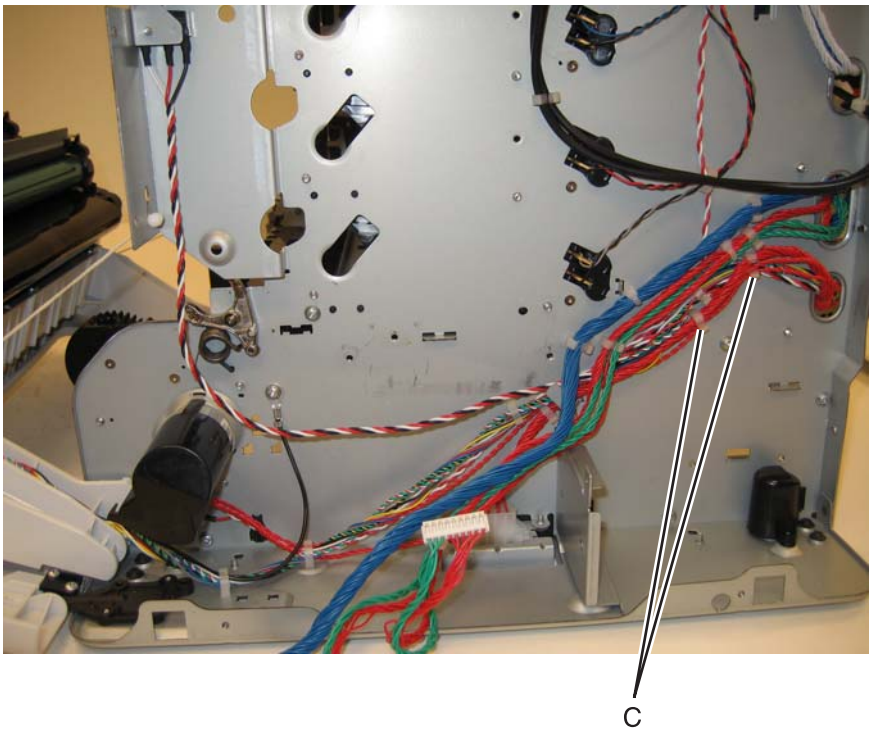
1. Remove the EP drive assembly. See **“Electrophotographic (EP) drive assembly removal” on page 4-90**.
2. Disconnect the connector at JINT1 (A) on the system board.



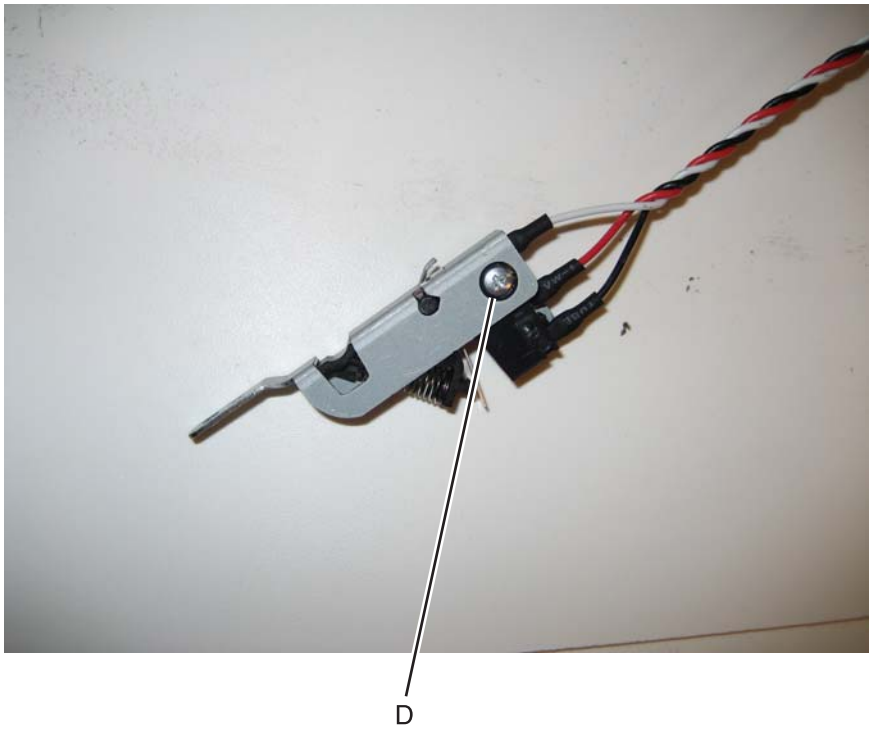
3. Open the front access door cover, and remove the screw (B).



4. Remove the cable from the two cable retainers (C).



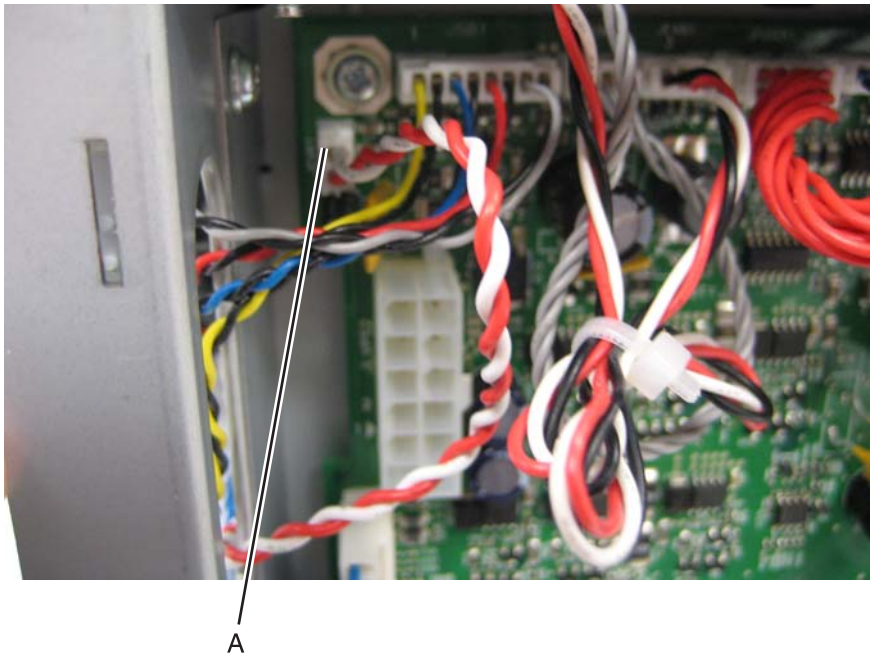
5. Remove the 5 V interlock switch and bracket from the printer.
6. Remove the screw (D), and remove the 5 V interlock switch cable from the bracket.



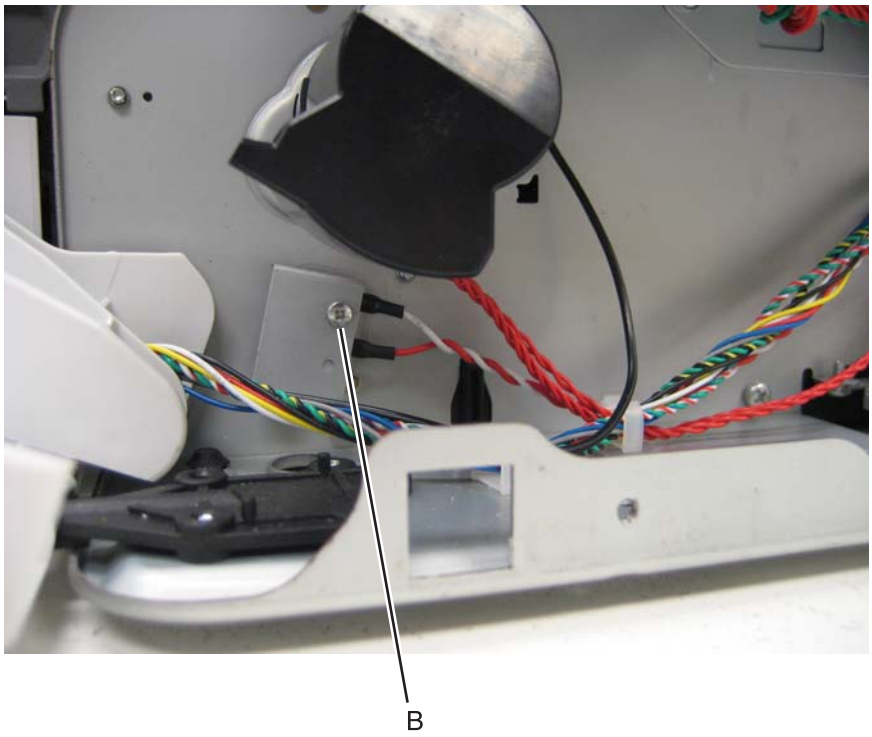
24 V interlock switch removal

See **“24 V interlock switch” on page 7-9** for the part number.

1. Remove the LVPS. See **“Low-voltage power supply (LVPS) removal” on page 4-119**.
2. Disconnect the connector at JCVR1 (A) at system board.

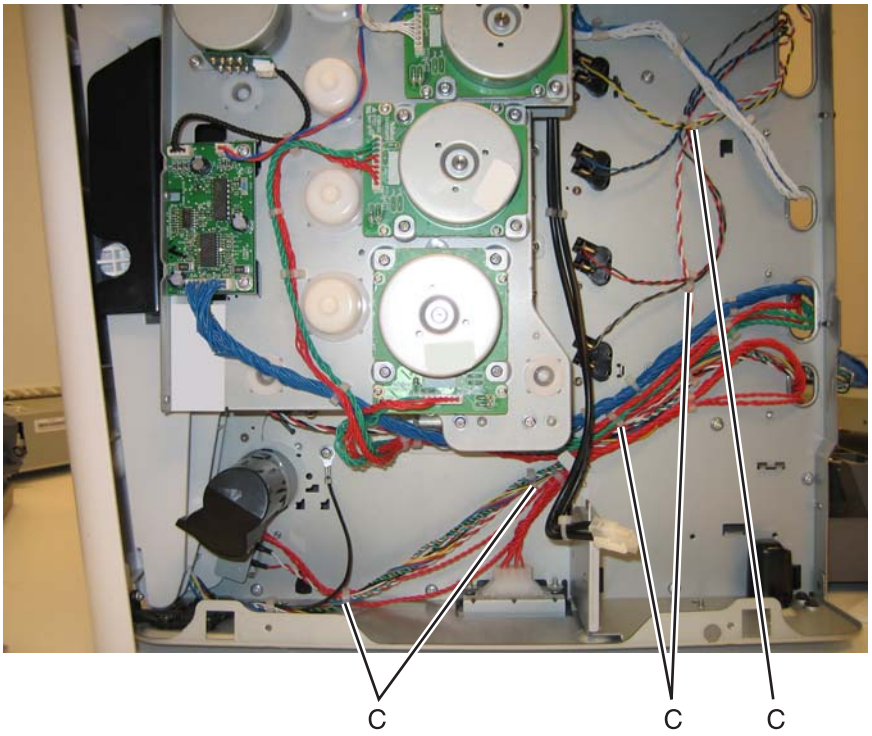


3. Remove the screw (B), and the bracket separates from the 24 V interlock switch.



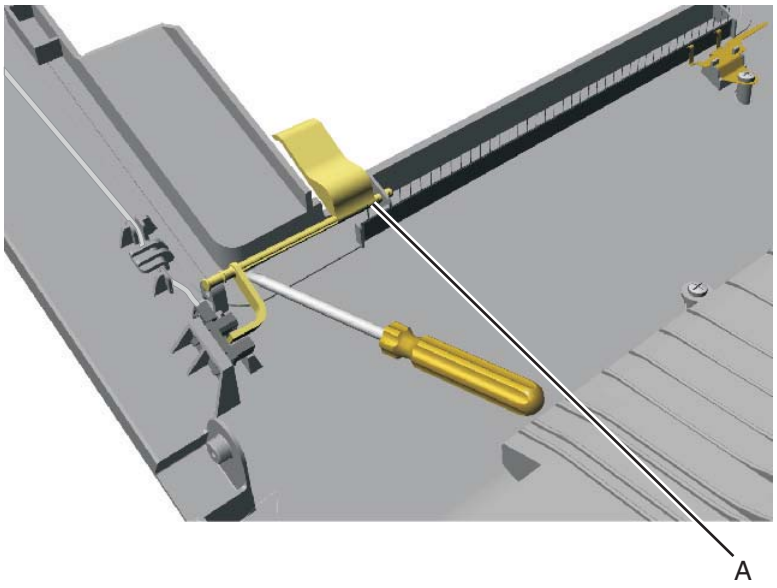
Installation notes:

Observe the routing of the 24 V interlock switch cable (C).



Bin full sensor flag removal

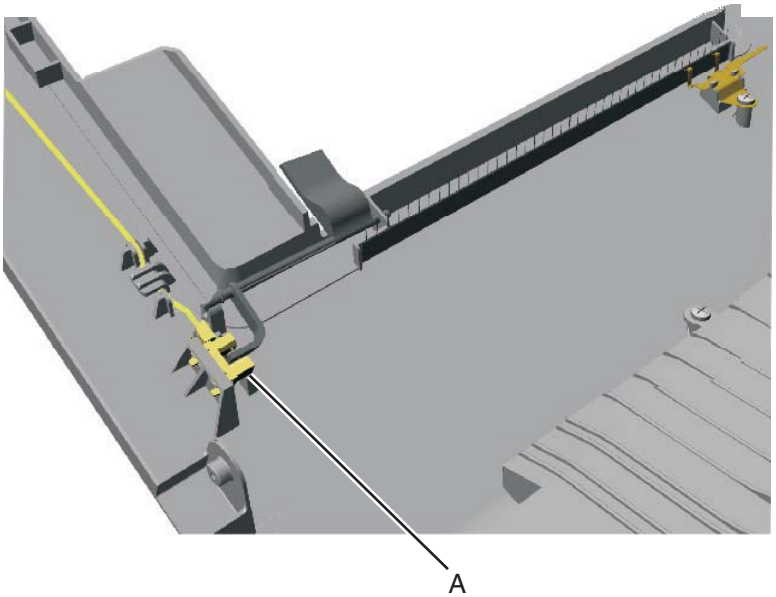
1. Remove the top access cover assembly. See **“Top access cover assembly removal” on page 4-54**.
2. Turn the top access cover over, and use a flatblade screwdriver to carefully remove the flag (A).



Bin full sensor removal

See **“Bin full sensor with cable” on page 7-3** for the part number.

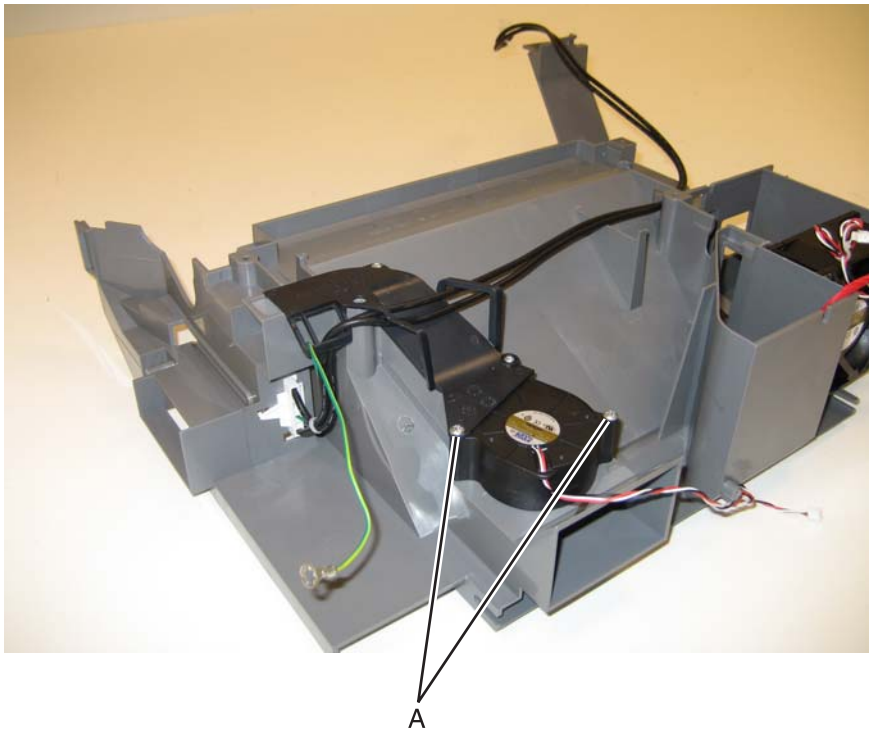
1. Remove the top access cover assembly. See **“Top access cover assembly removal” on page 4-54**.
2. Turn the top access cover over, and press the side of the bin full sensor (A) to *snap* it loose from the cover.



3. Remove the bin full sensor and cable.

Cartridge cooling fan removal

1. Remove the top cover. See **“Top cover assembly removal” on page 4-58**.
2. Turn the top cover over, and remove the two screws (A).
3. Remove the cartridge cooling fan.



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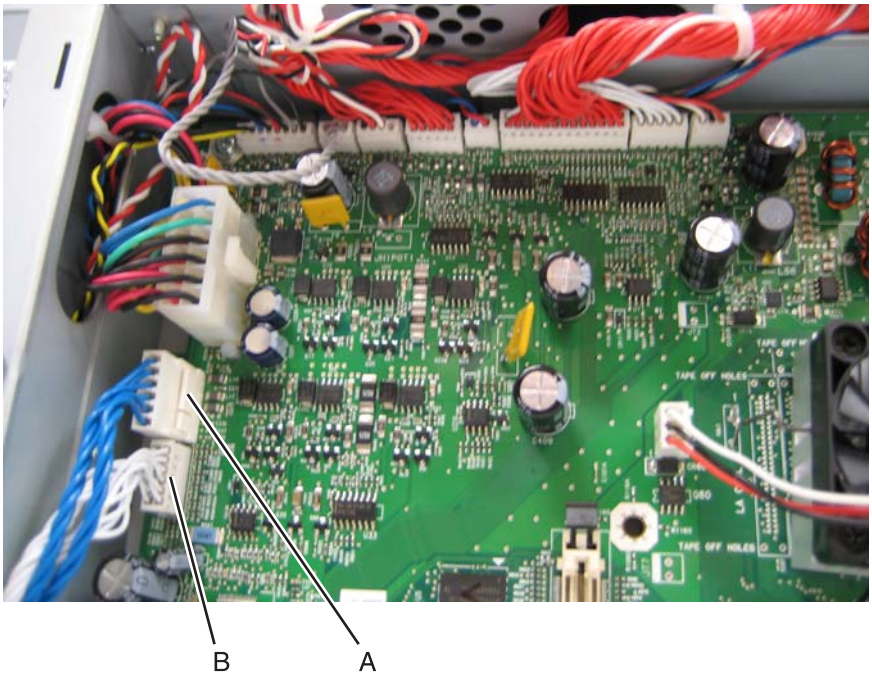
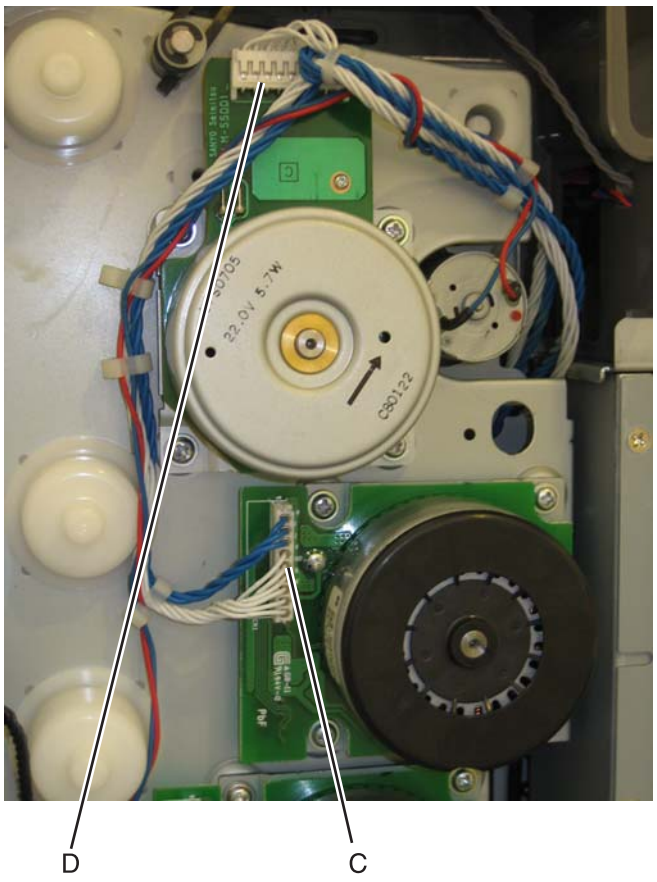
Cartridge motor 1/fuser cable removal

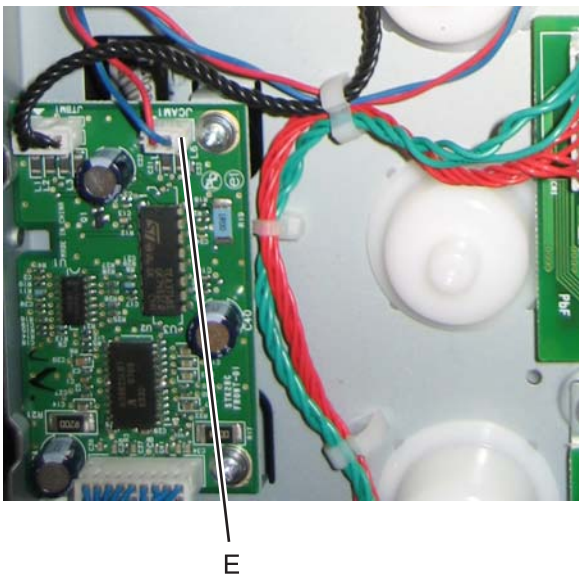
1. Remove the LVPS. See **“Low-voltage power supply (LVPS) removal” on page 4-119**.
2. Disconnect the connectors in JCARTP1 (A) and JCARTS1 (B) on the system board.



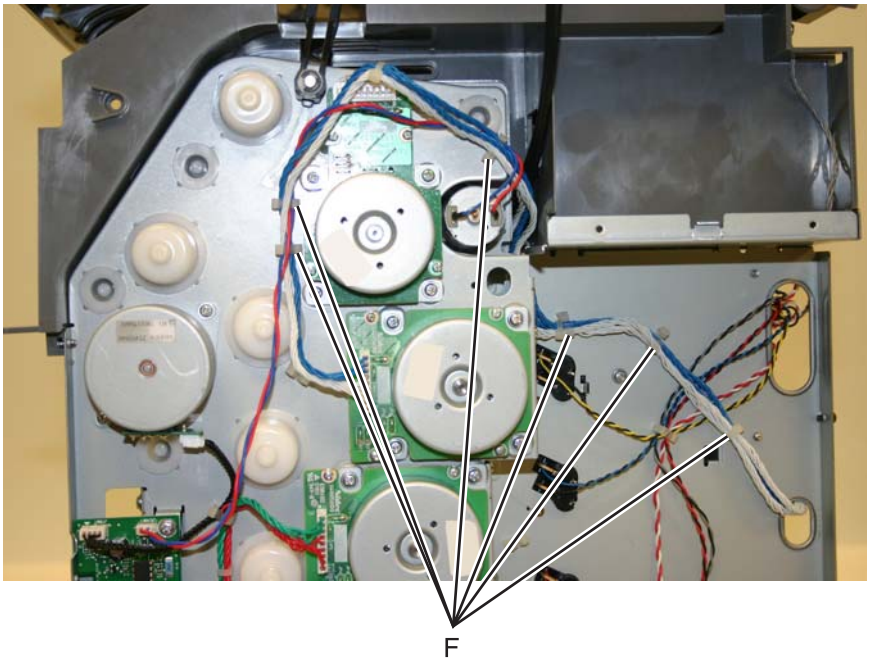
3. Disconnect the connectors from the cartridge motor 1 (C) and the fuser motor (D).



4. Disconnect the camshaft cable connector (E) from the motor card, and unwind the two cables.



5. Remove the cable from the six retainers (F).

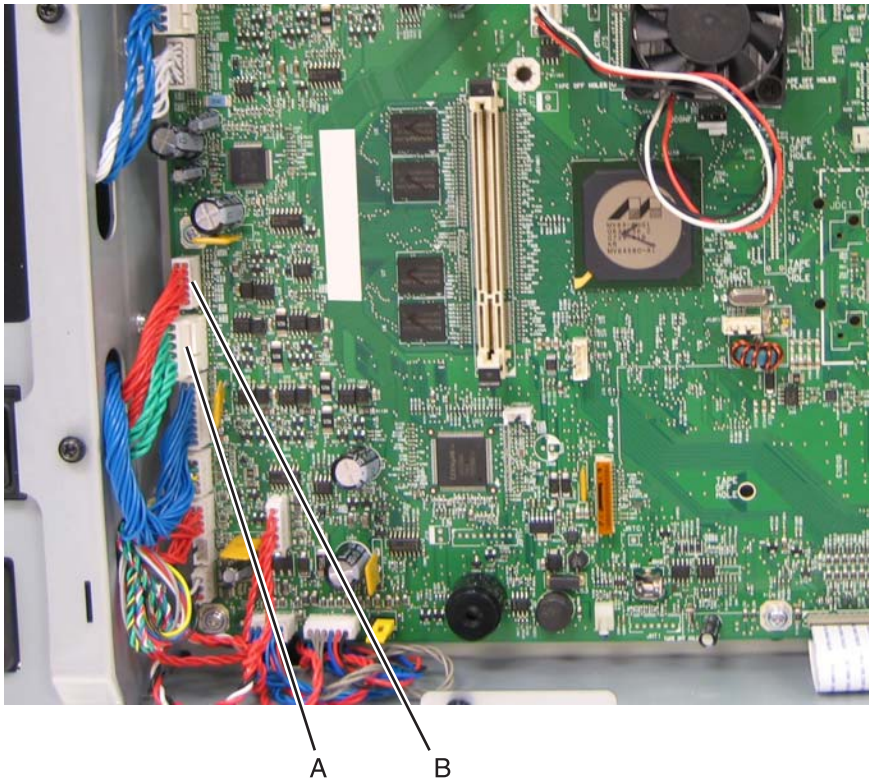


Installation notes:

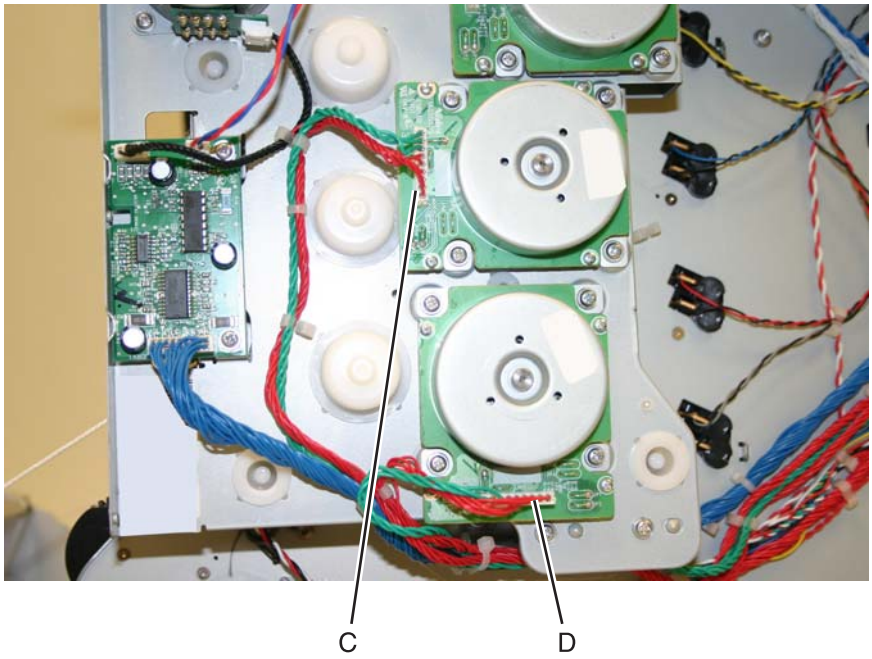
- Make sure you wrap the camshaft cable around the cartridge motor 1/fuser cable, as shown, to prevent the cables from interfering with the motors and damaging the cables.
- Note the routing of the cables and the cable retainers.

Cartridge motor 2/3 cable removal

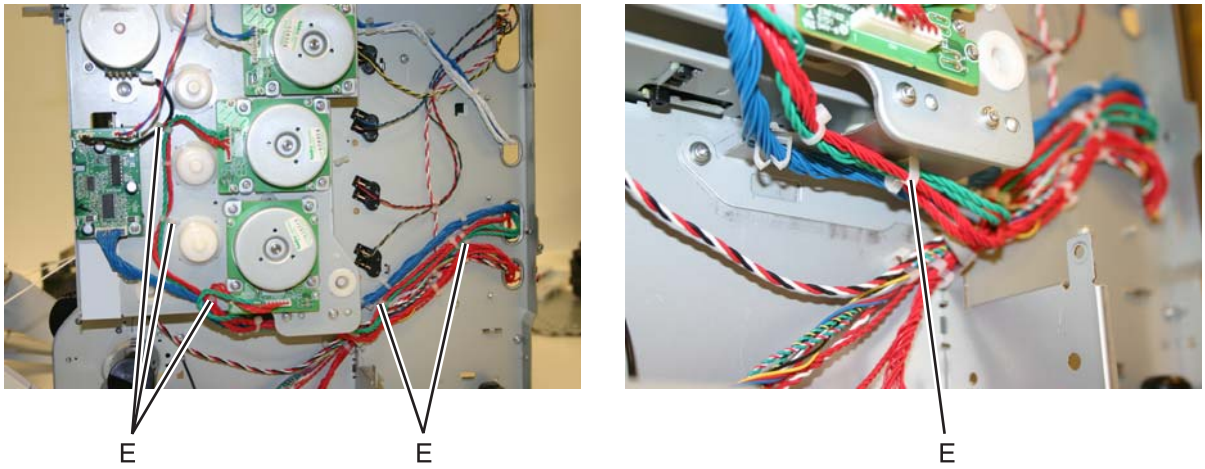
1. Remove the LVPS. See **“Low-voltage power supply (LVPS) removal” on page 4-119**.
2. Disconnect the connectors in JCARTP2 (A) and JCARTS2 (B) on the system board.



3. Disconnect the connectors from the cartridge motor 2 (C) and cartridge motor 3 (D).



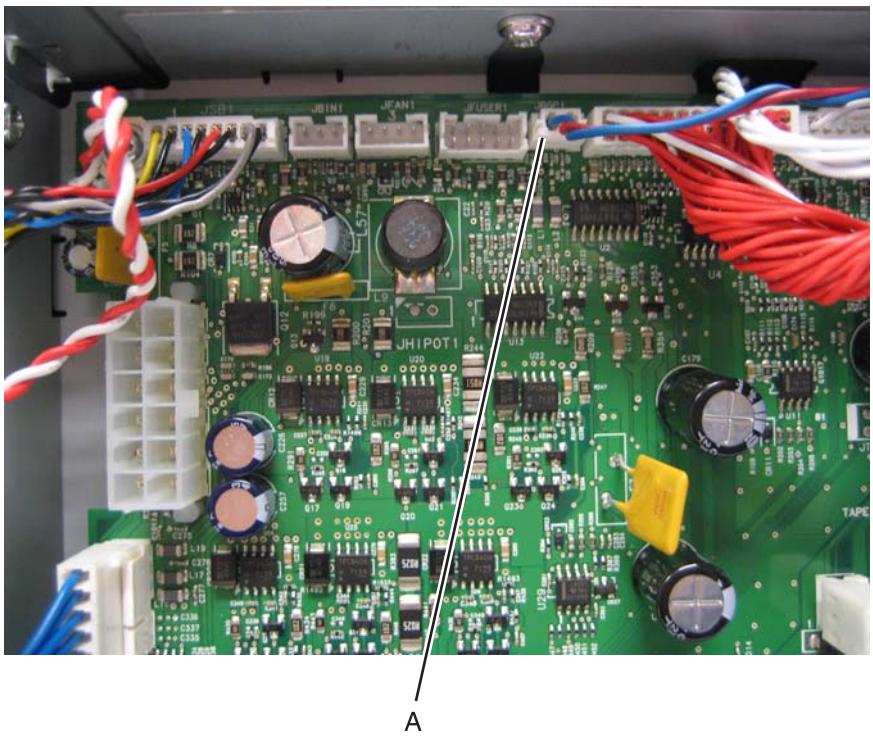
4. Remove the cable from the six retainers (E).



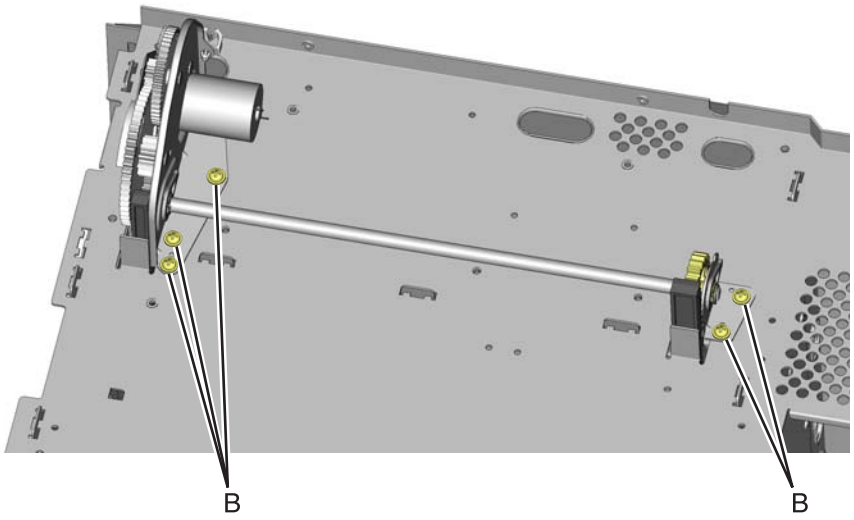
Installation note: Pay attention to the routing of the cables and the cable retainers.

Color on demand assembly removal

1. Remove the fuser. See **"Fuser removal" on page 4-110**.
2. Remove the print cartridges.
3. Remove the top cover assembly. See **"Top cover assembly removal" on page 4-58**.
4. Disconnect the connector at JBOR1 (A) on the system board.



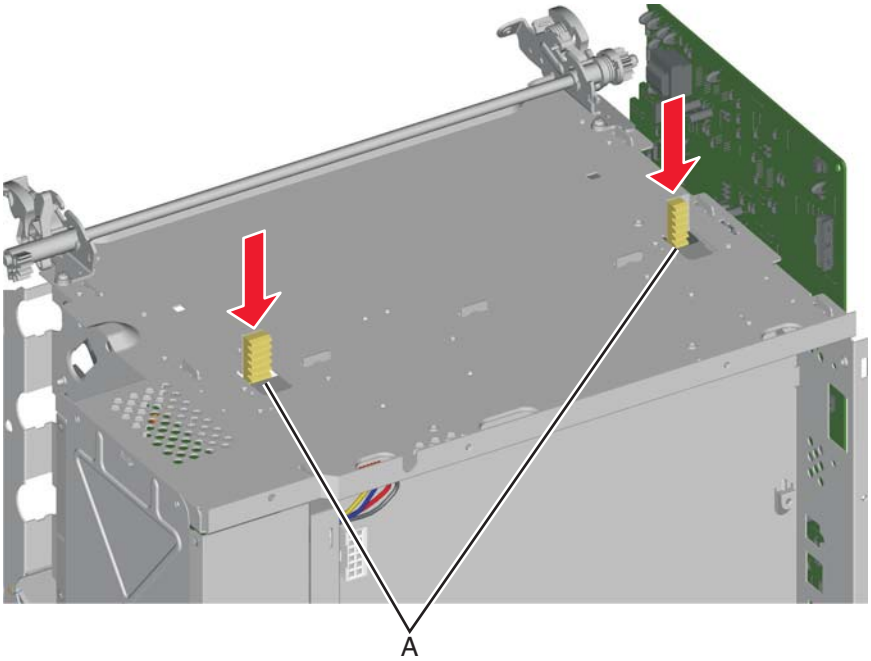
5. Remove the five screws (B).



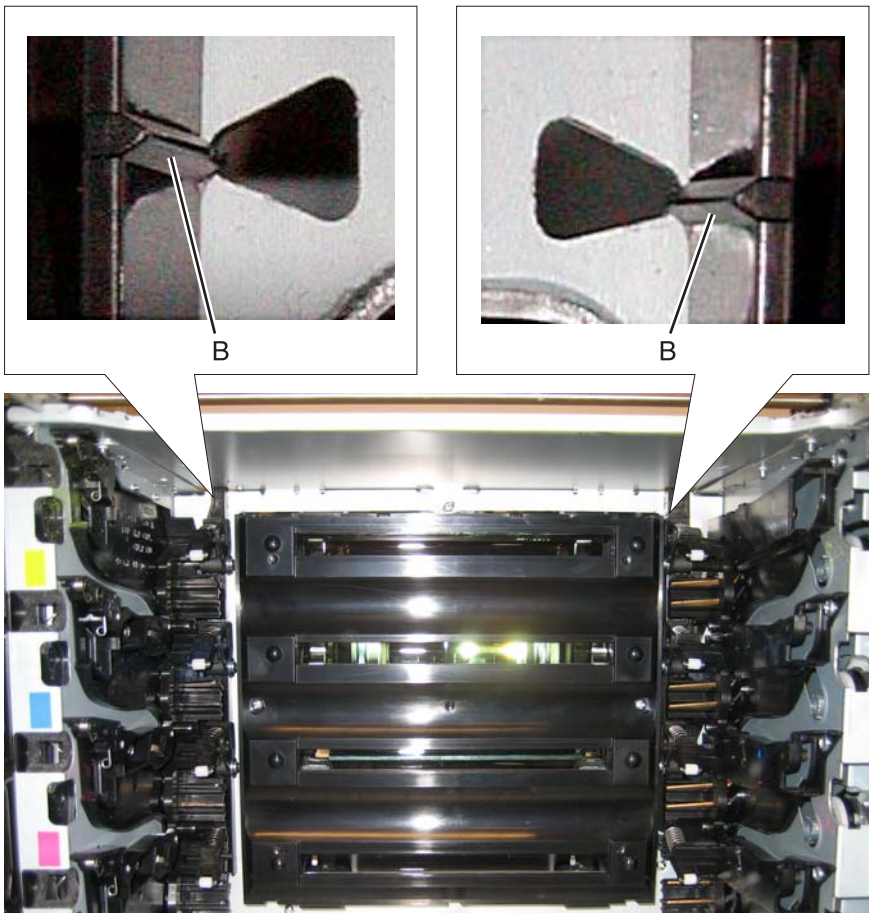
6. Remove the COD assembly.

Installation notes:

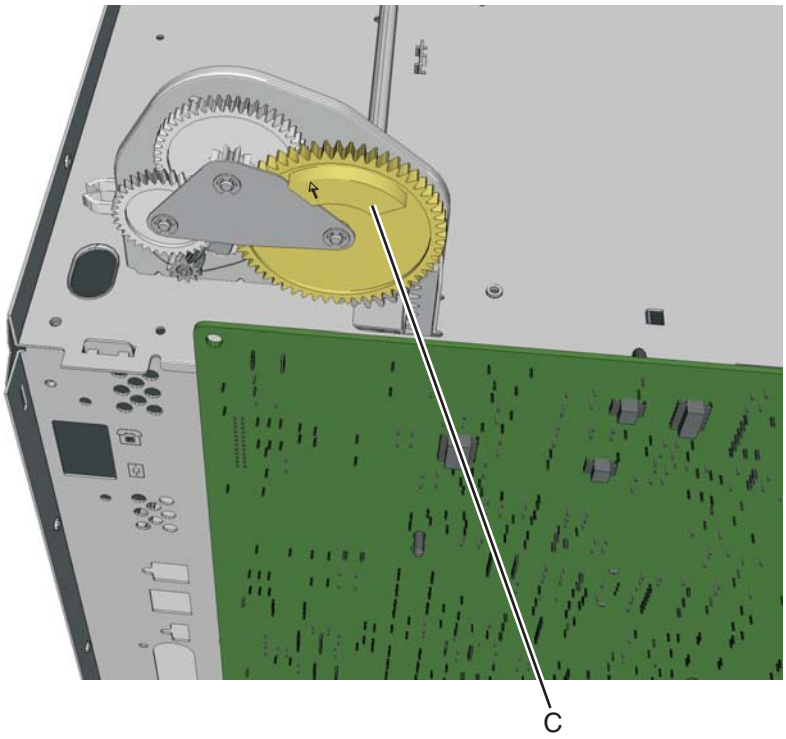
1. Push the actuators (A) all the way down.



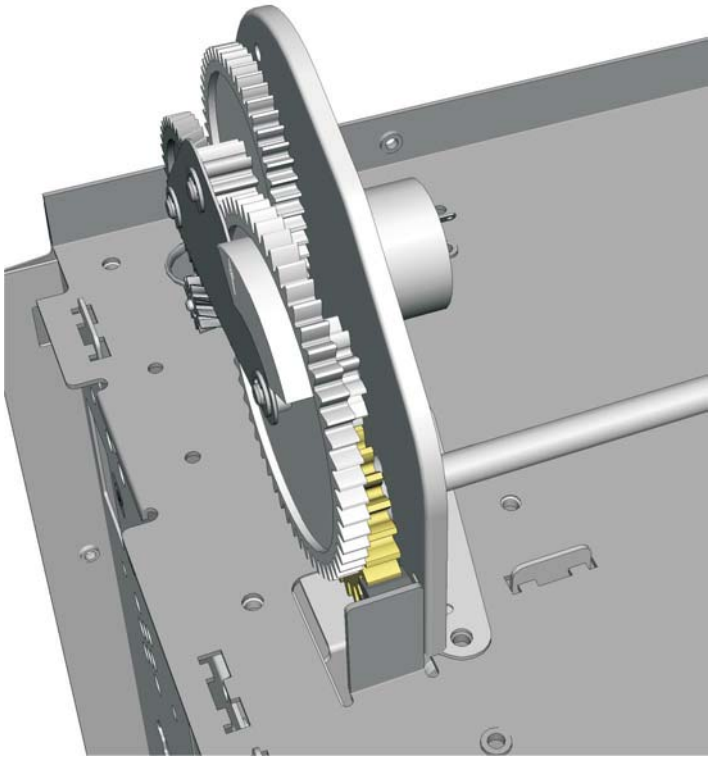
2. Turn the printer around, and verify the actuators are in the correct location by looking inside the front of the printer. The actuators (B) should be visible in the triangular holes in the frame, as shown.



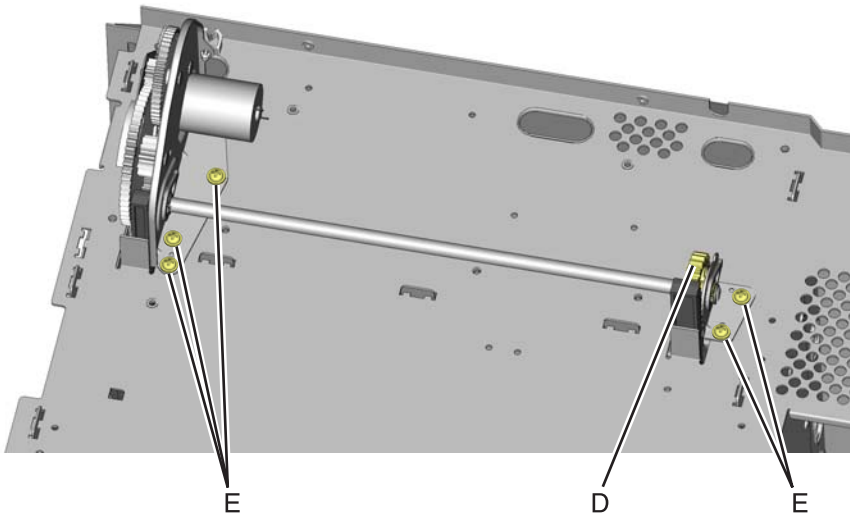
3. Rotate the large COD gear until the stop (C) on the gear is against the housing.



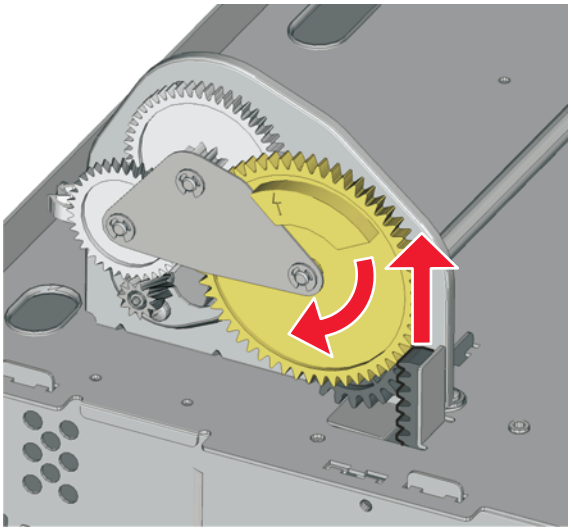
4. Engage the gears on the left side of the COD.

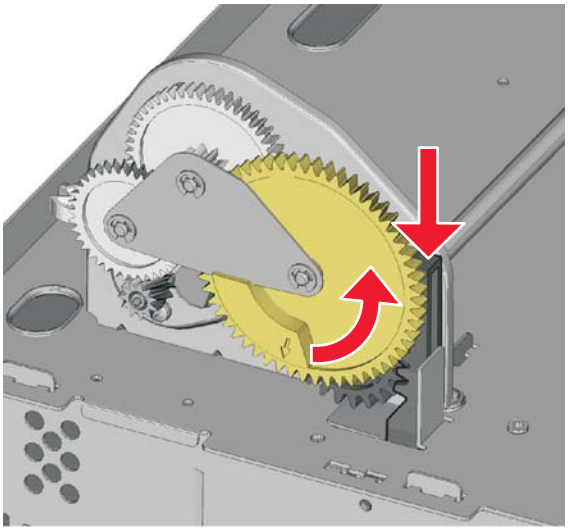


5. Engage the gears (D) on the right side of the COD.
6. Replace the five screws (E).



7. Verify the actuators can be seen by looking inside the printer at the triangular holes, as in step 2.
8. Check to make sure you can rotate the large COD gear from stop to stop.





9. Reconnect the cable connector to JBOR1 connector on the system board.
10. Reinstall the top cover assembly, the fuser, and the covers.

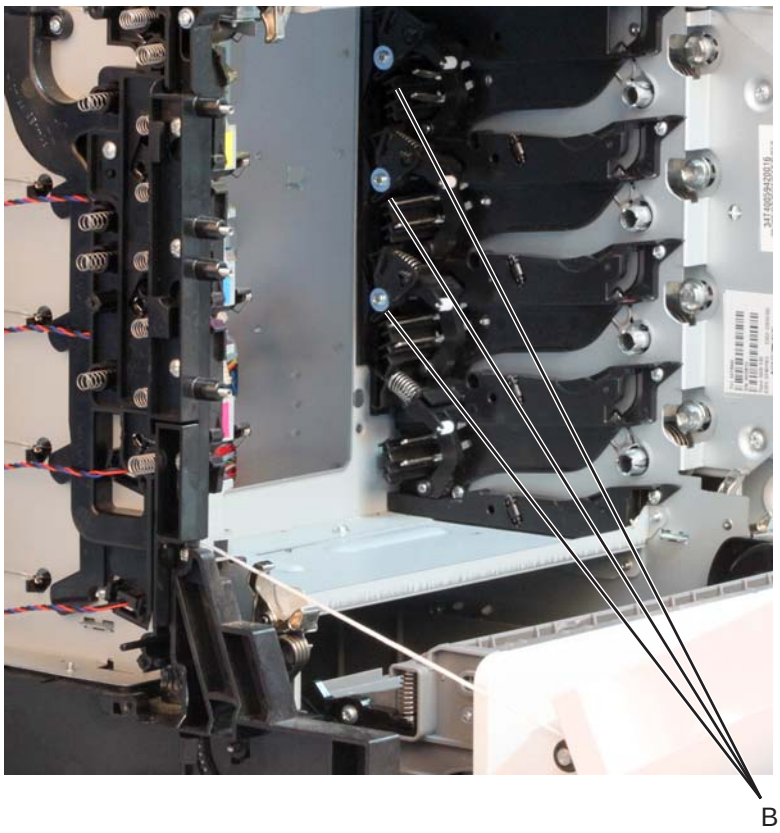
Contact springs kit removal

See **page 7-13** for the part number.

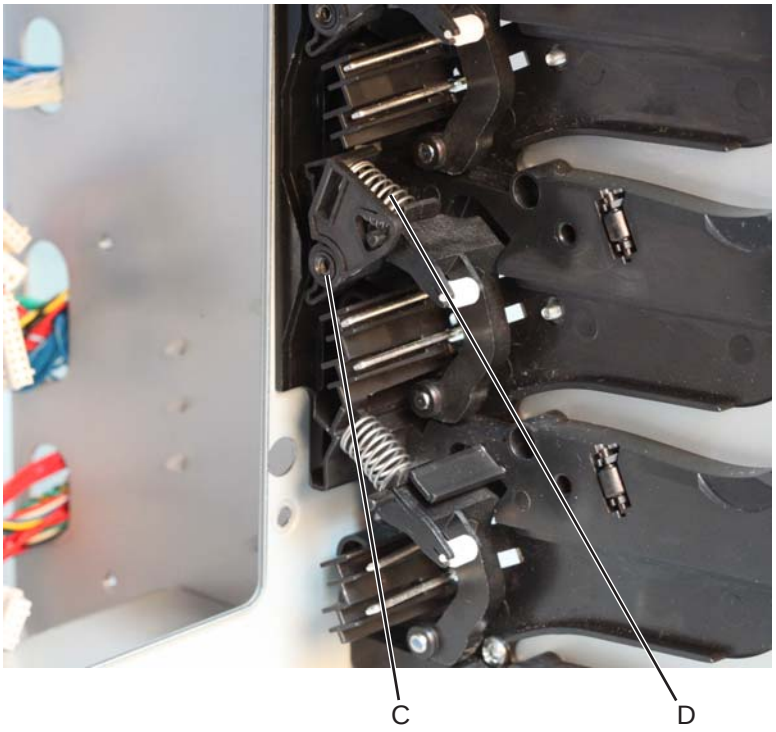
Toner cartridge contacts removal

1. Remove the LVPS. See **“Low-voltage power supply (LVPS) removal” on page 4-119**.
2. Remove the printhead. See **“Printhead removal, installation, and adjustment” on page 4-145**.
3. Remove contact spring cables from the cable restraints (A).
   Note: Pay attention to the routing of the cartridge contact cables, and the appropriate slots where each cartridge contact is installed.

4. Remove the three screws (B) securing the top three bell crank links.



5. Remove the bell crank link (C) together with its bell crank spring (D).



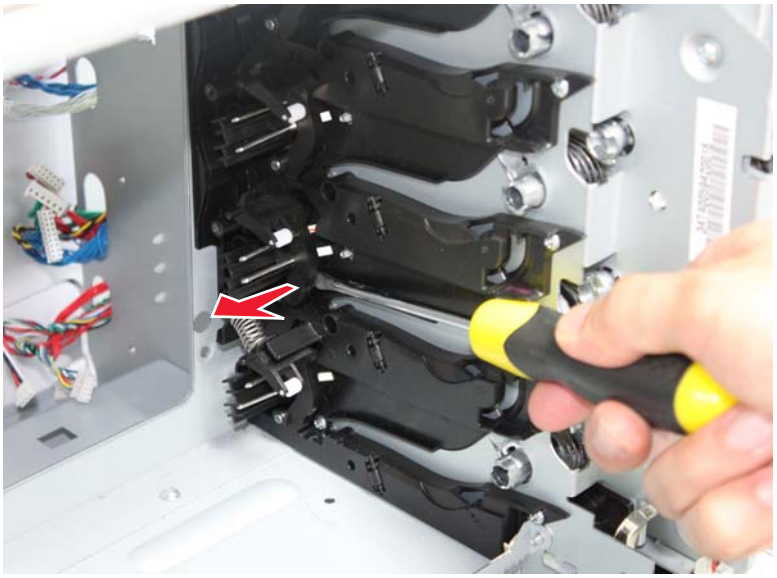
Installation notes:

a. When installing the bell crank link and spring back to the machine, guide the mounting hole on the bell crank link to the mounting pin on the cartridge guide (E), and guide one end of the spring onto the boss rest on the bell crank link and the other end onto the boss rest on the bell crank (F).

b. Make sure the locator pin on the bell crank rests on the locator hole of the bell crank link (G).

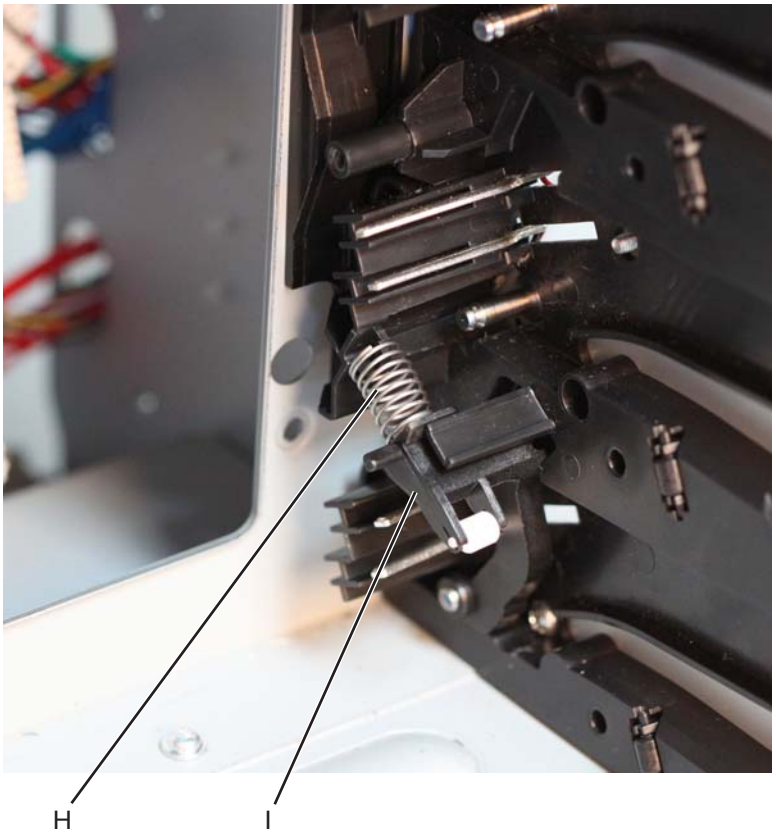
6. Use a prying tool to remove the bell crank.

Note: The bell crank must be replaced due to the damage that can occur to the retention features of this bell crank.



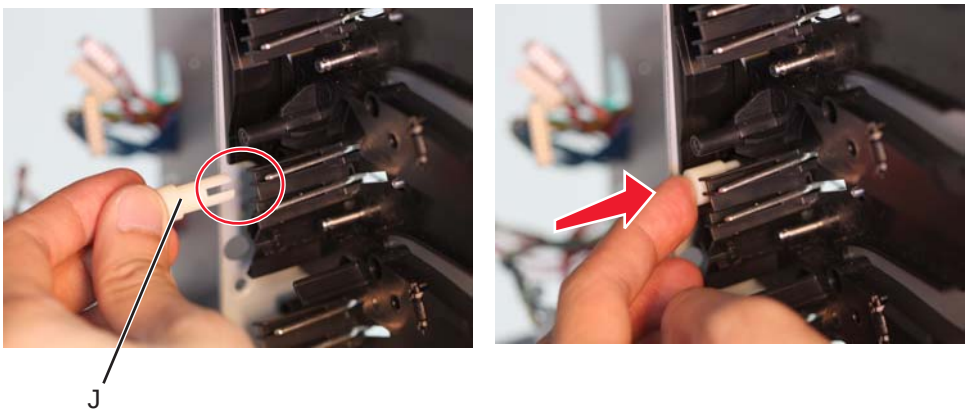
7. Perform steps 5 and 6 to the other bell crank links and bell cranks, except for the one found at the lower-most portion of the cartridge guide.

8. Remove the lower-most bell crank spring (H) and bell crank (I).



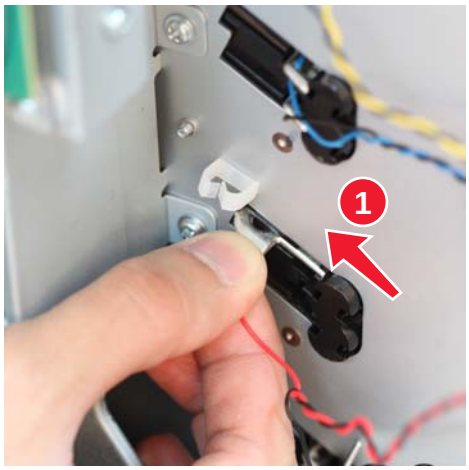
9. Using a spring compression tool (J), align its opening to the rib on the cartridge guide as shown, then push and hold the spring compression tool into the cartridge contact spring.

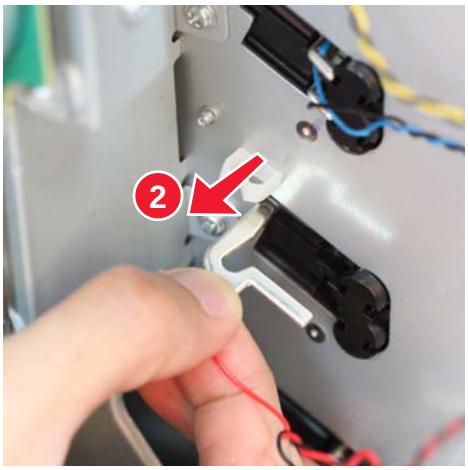
Note: Make sure to properly align the opening on the spring compression tool to the rib on the cartridge guide.



10. Remove the cartridge contacts from the right side of the machine, then release the spring compression tool.

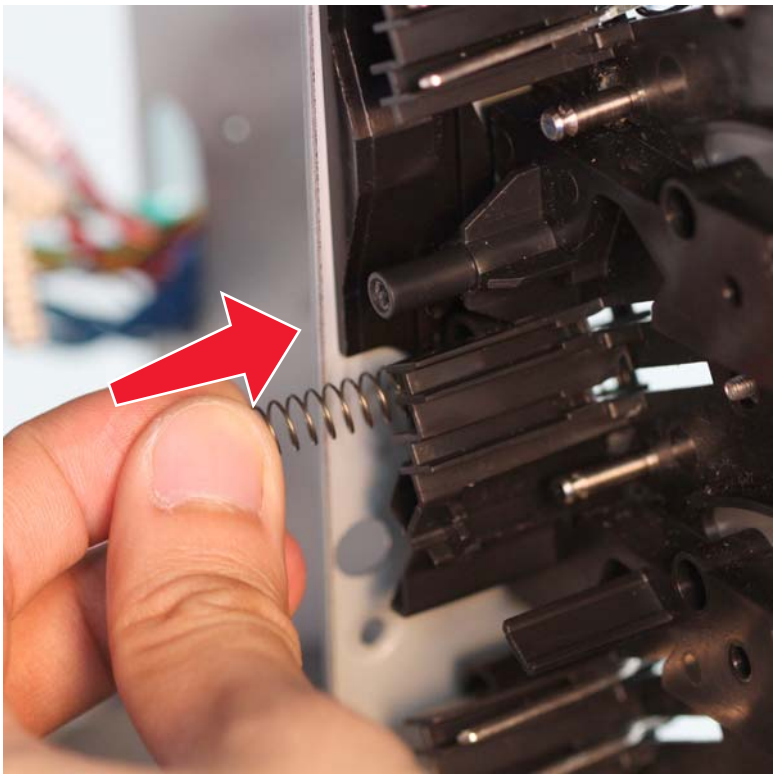
Note: Pay attention to the color coding of the cartridge contact cables, and the appropriate slots where each cartridge contact is installed.



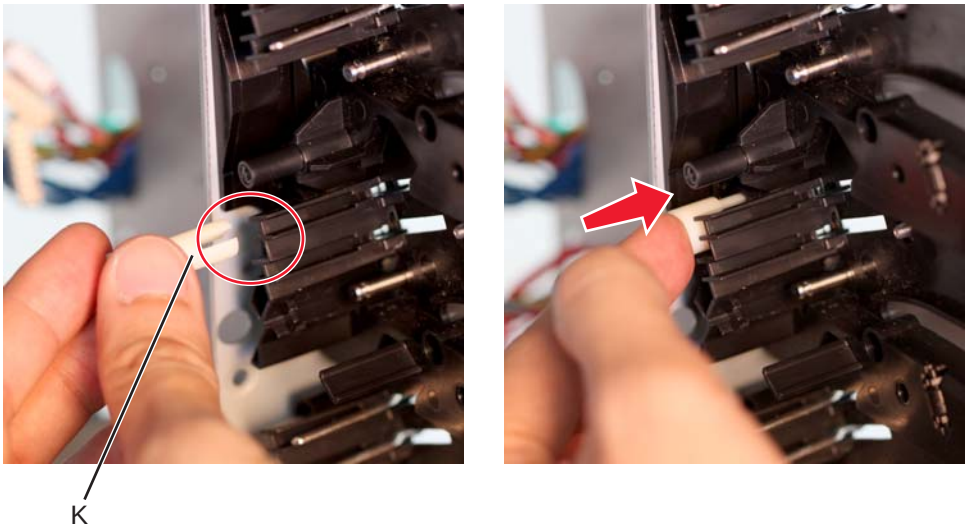


Installation notes:

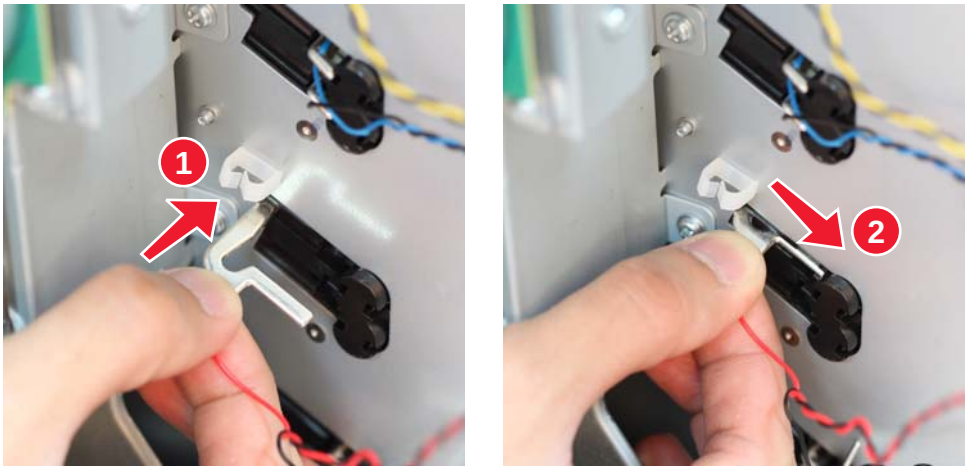
a. Insert the cartridge contact spring into the slot on the cartridge guide.



b. Position the spring compression tool (K) as shown below and align its opening to the rib on the cartridge guide, then push and hold the spring compression tool into the cartridge contact spring.
Note: Make sure to properly align the opening on the spring compression tool to the rib on the cartridge guide.



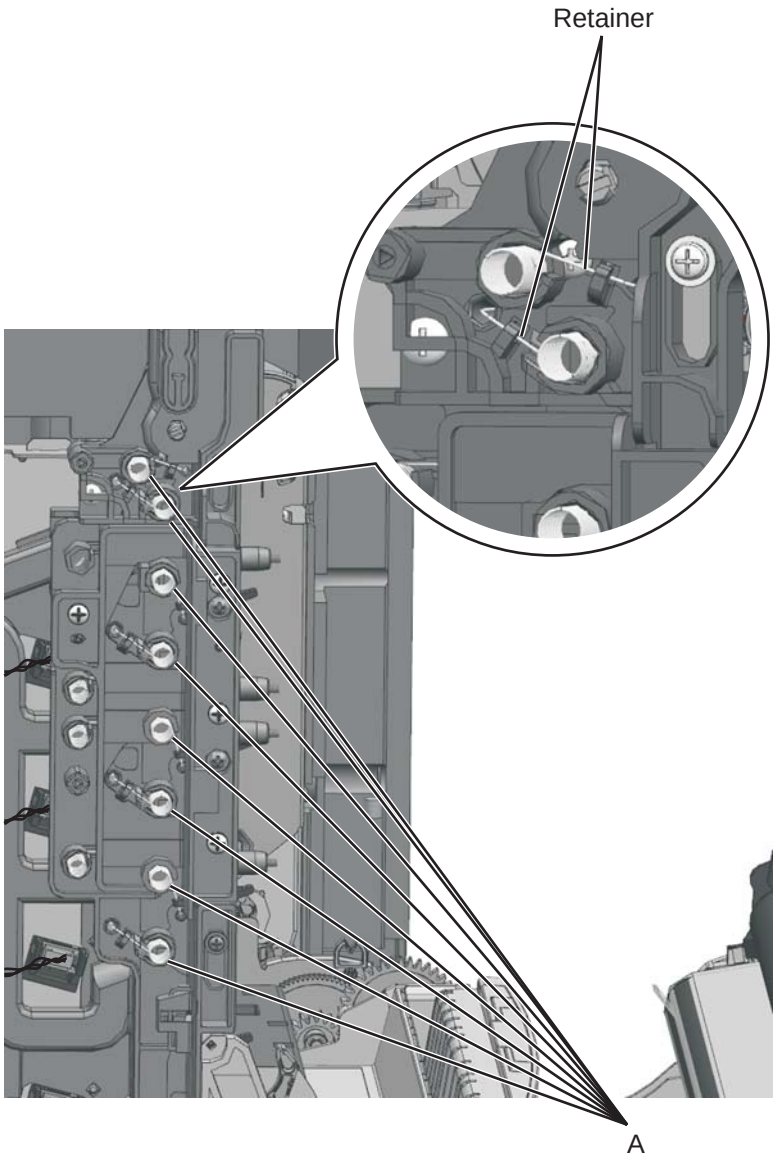
c. Insert the cartridge contact on the right side of the machine.



11. Perform steps 9 and10 to remove all the cartridge contacts.

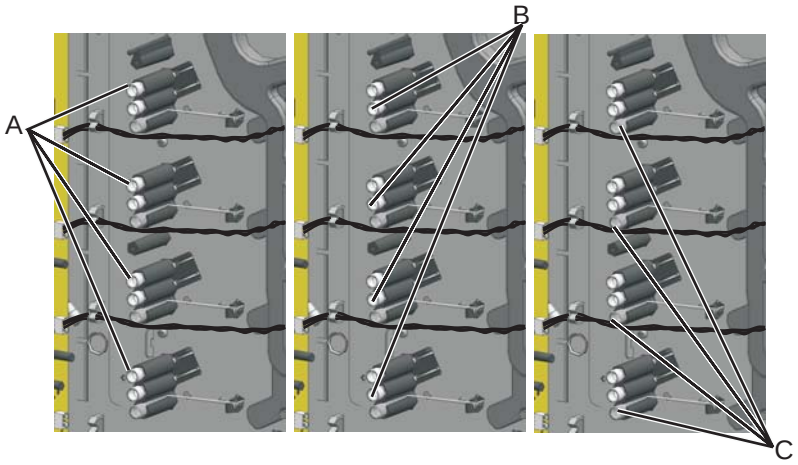
Charge roll contact spring removal

1. Remove the HVPS. See **"High-voltage power supply (HVPS) removal" on page 4-115**.
2. Remove the charge roll contact springs (A). Be sure to push the springs under the retainers that hold them in place.
   Installation note: Make sure the springs are behind the retainers when installing the new springs.

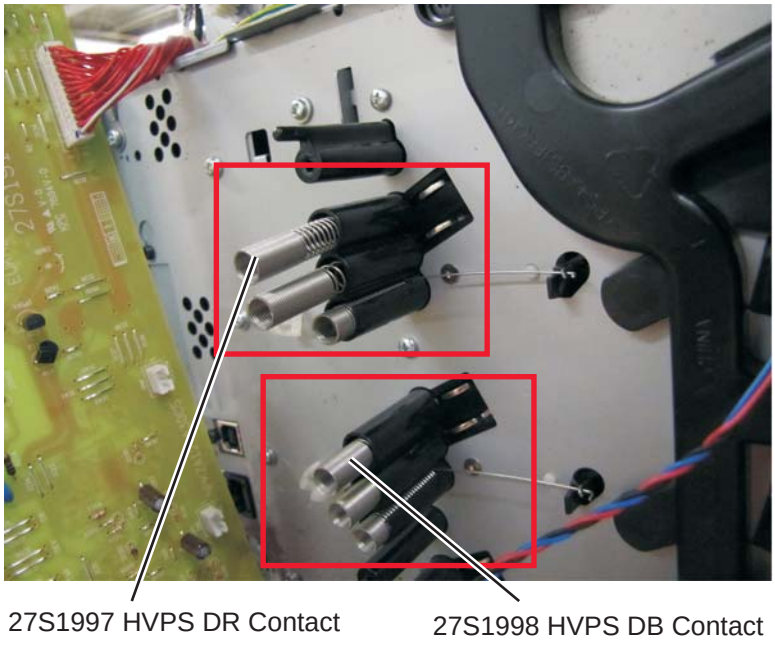


HVPS contact springs removal

1. Remove the HVPS. See **“High-voltage power supply (HVPS) removal” on page 4-115**.
2. Pull out the spring that will be replaced:
   - HVPS DB contact spring (A)
   - HVPS DR contact spring (B)
   - HVPS TAR contact spring (C)

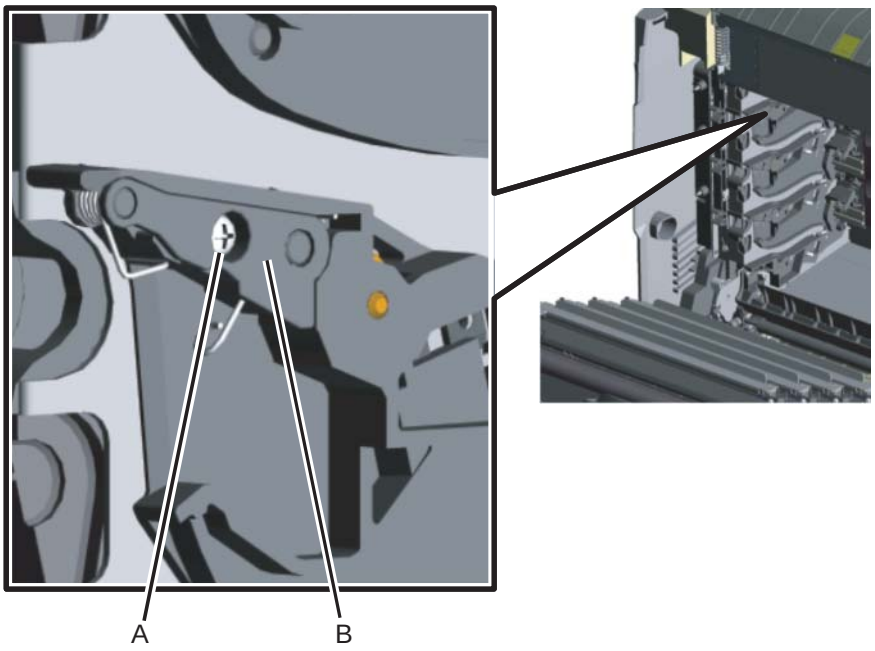


Installation note: Refer below for the location of the HVPS DR Contact spring and HVPS DB contact spring.

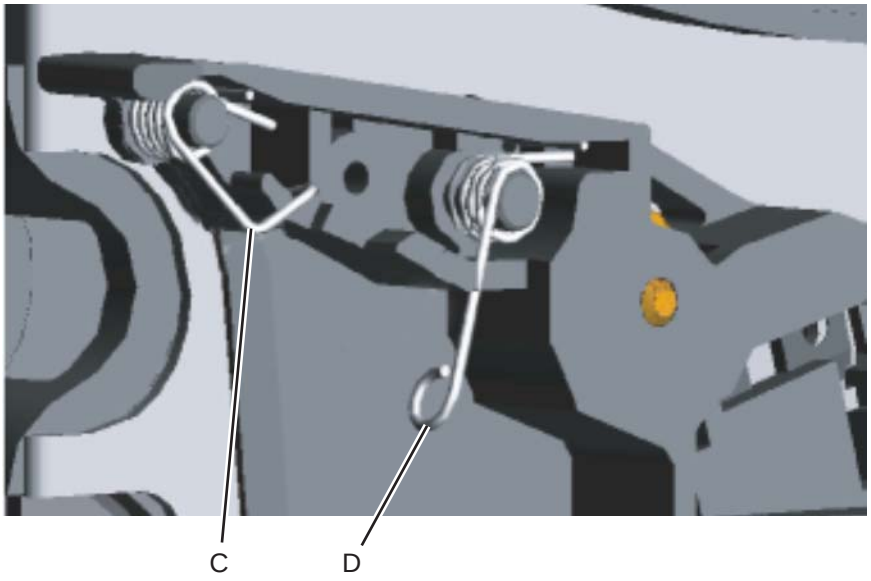


Torsion spring removal

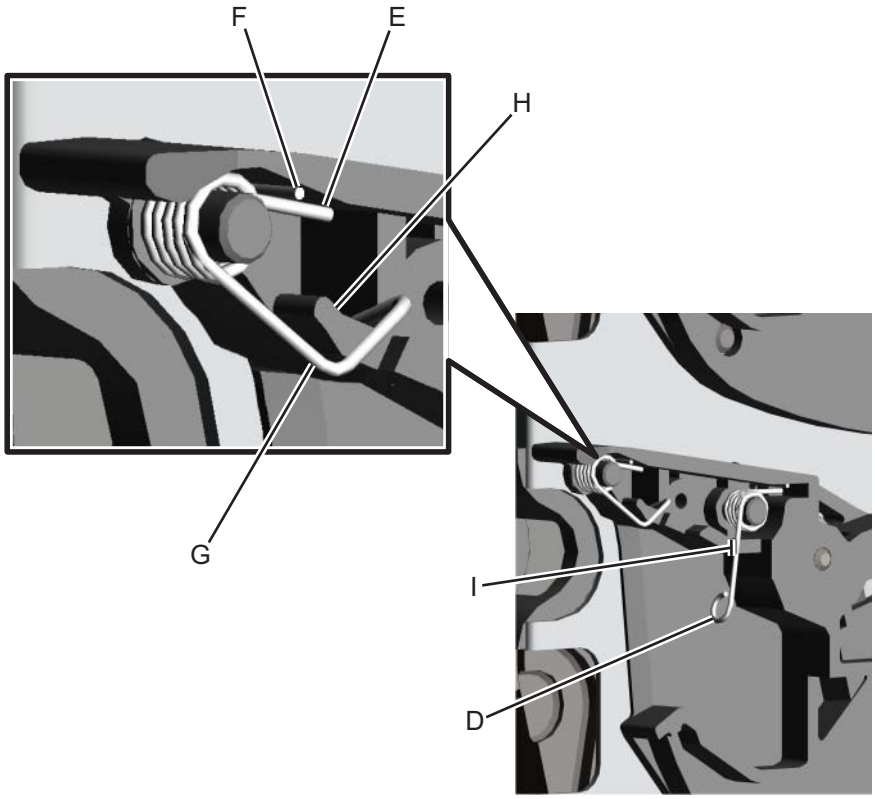
1. Open the front access door and remove all the toner cartridges.
2. Remove the screw (A) and the spring cap (B) of the appropriate contact spring.



3. Press the lower half (C, D) of the springs, and remove the springs.

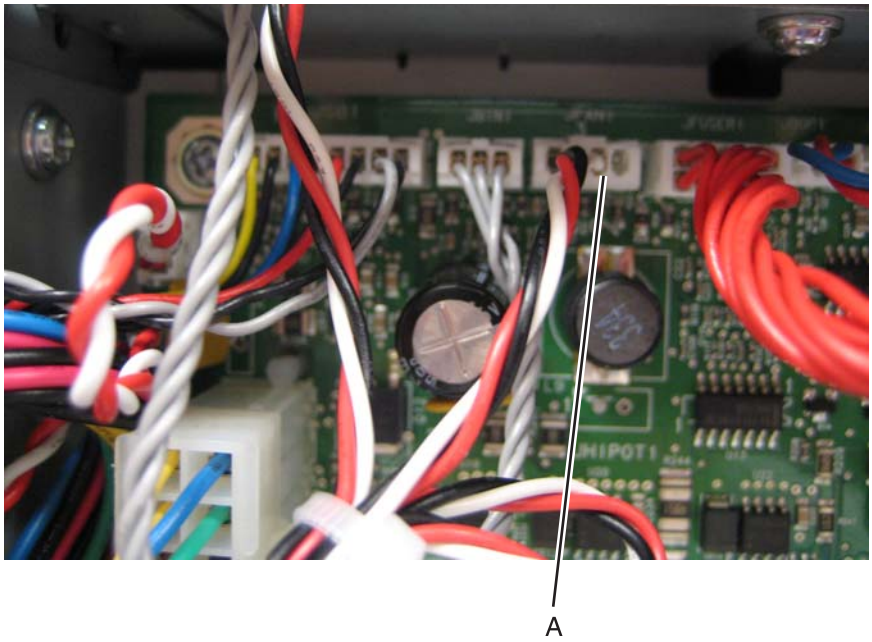


Installation notes: When installing, make sure the top half (E) of the spring is under the straight spring (F). This is typical for both types of springs. Also make sure the bottom half (D,G) of both springs are compressed and locked by the appropriate locking tabs (H, I).

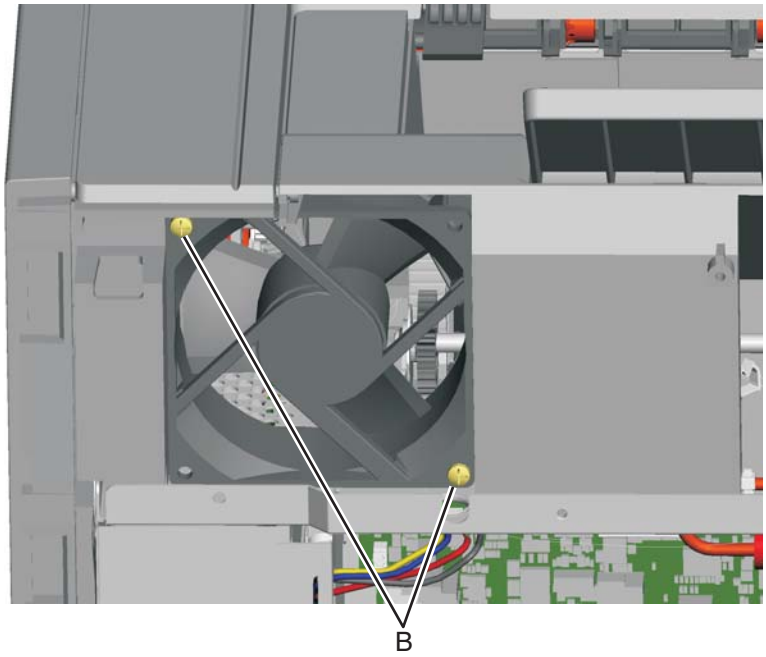


Cooling fan removal

1. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-50**.
2. Remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**.
3. Disconnect JFAN1 (A).



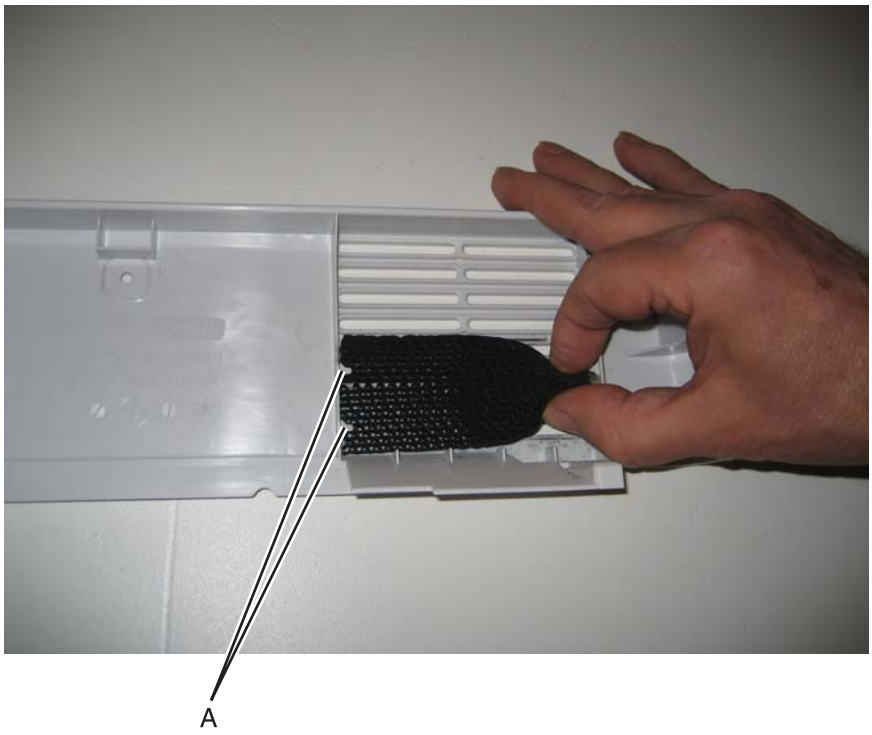
4. Remove the two screws (B).



5. Remove the cooling fan.

Cooling fan filter removal

1. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-50**.
2. Turn the cover over.
3. Squeeze the right side of the filter, and remove it from the tabs (A).



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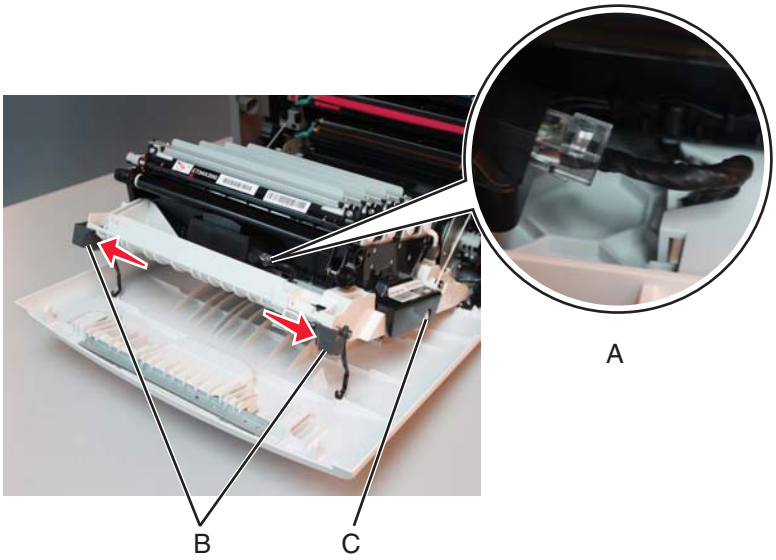
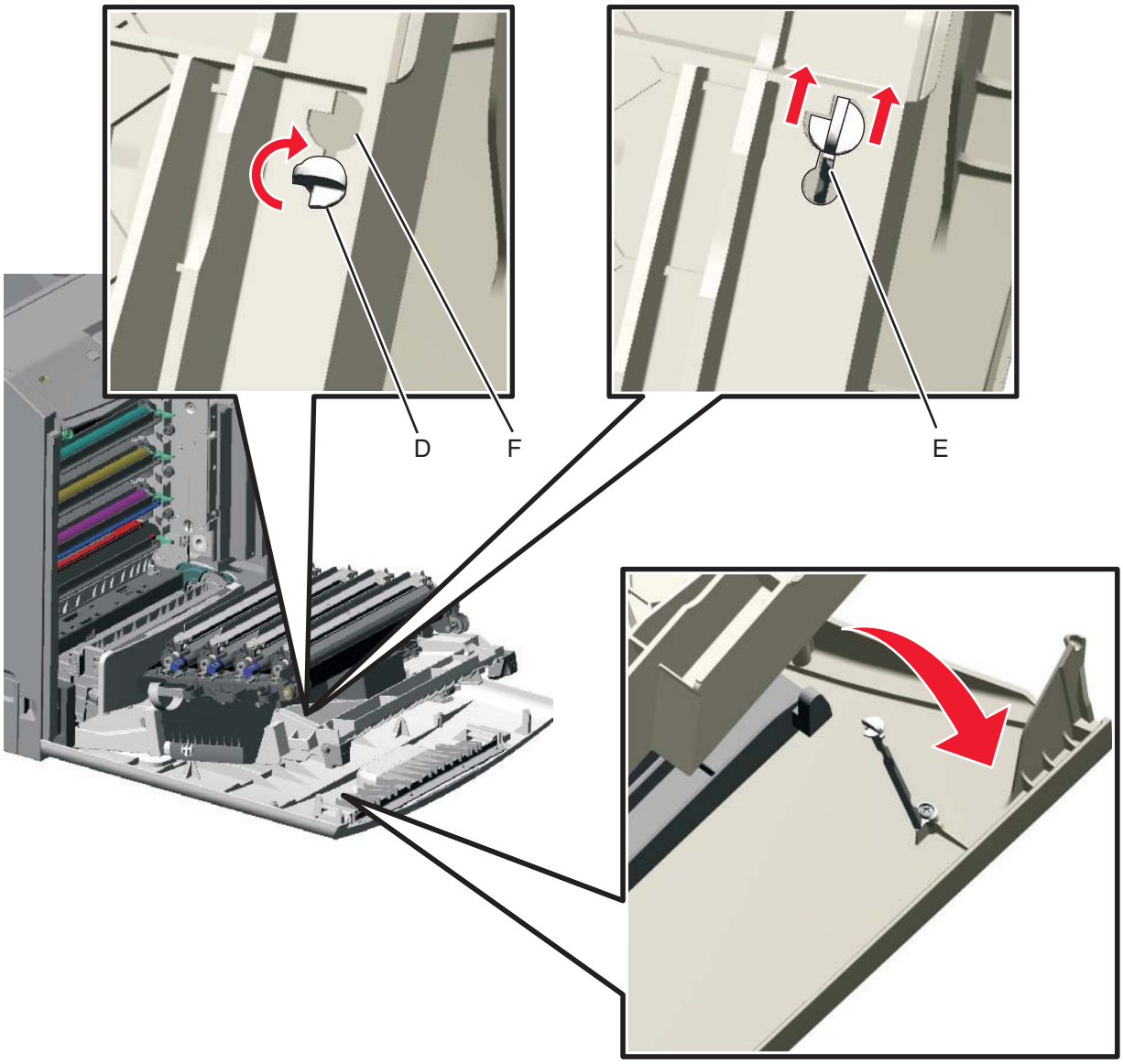
Duplex reference edge guide assembly removal

1. Remove the paper tray.
2. Disconnect the transfer module cable (A).
3. Press the two tabs (B) to release the front access door cover assembly.
4. Press the two tabs (C) on either side of the transfer module, and lift out the transfer module.
   Note: Leave the photoconductor units on the transport belt when removing.

   Warning: To avoid damaging the photoconductor drum, hold the photoconductor units by their handle and place the photoconductor units on a clean surface. Never expose the photoconductor units to light for a prolonged period of time. See **"Handing the photoconductor unit" on page 4-2** for additional information.

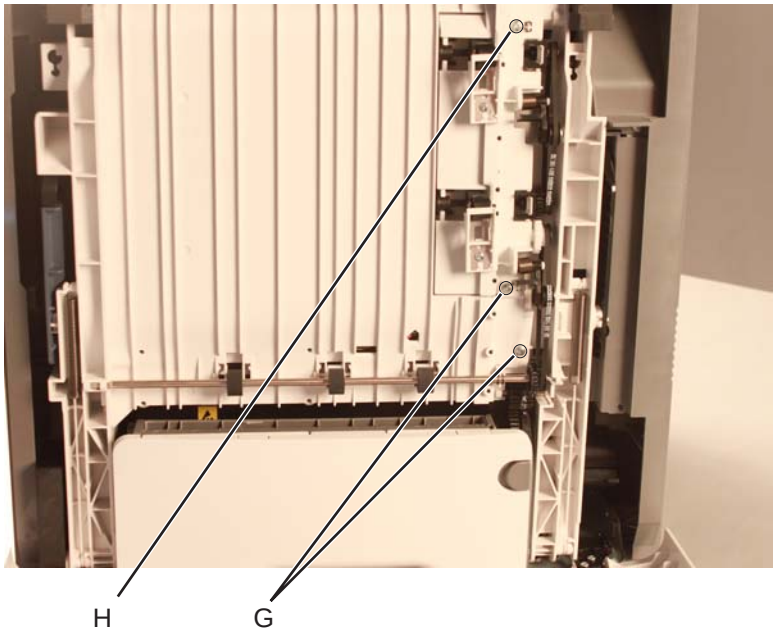


5. Looking down at the keyed end of the restraint (D), twist the end clockwise, slide the restraint upward through the slit (E), and slip the end of the restraint through the keyed hole (F). Repeat for the other side.

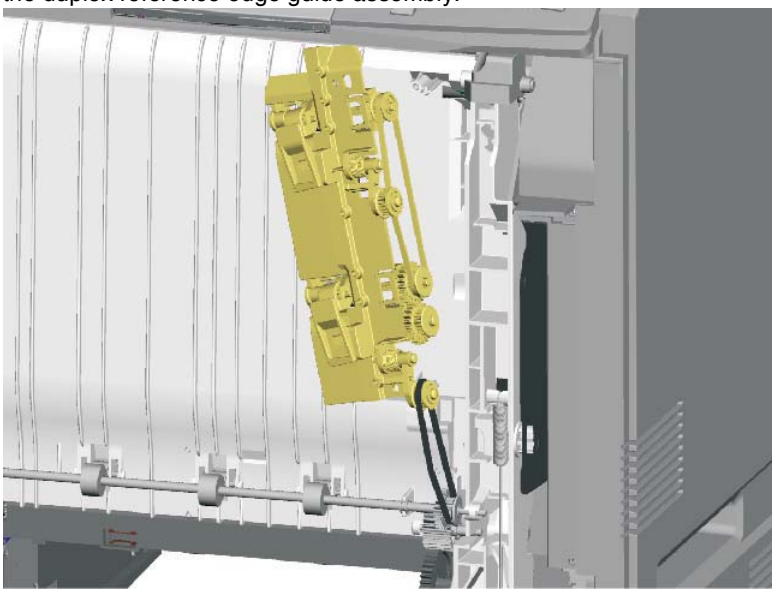


6. Close the front access door assembly.

7. Remove the two screws on the duplex aligner (G), and then remove the screw (H) securing the duplex reference edge guide assembly.



8. Remove the duplex reference edge guide assembly.



Electrophotographic (EP) drive assembly removal

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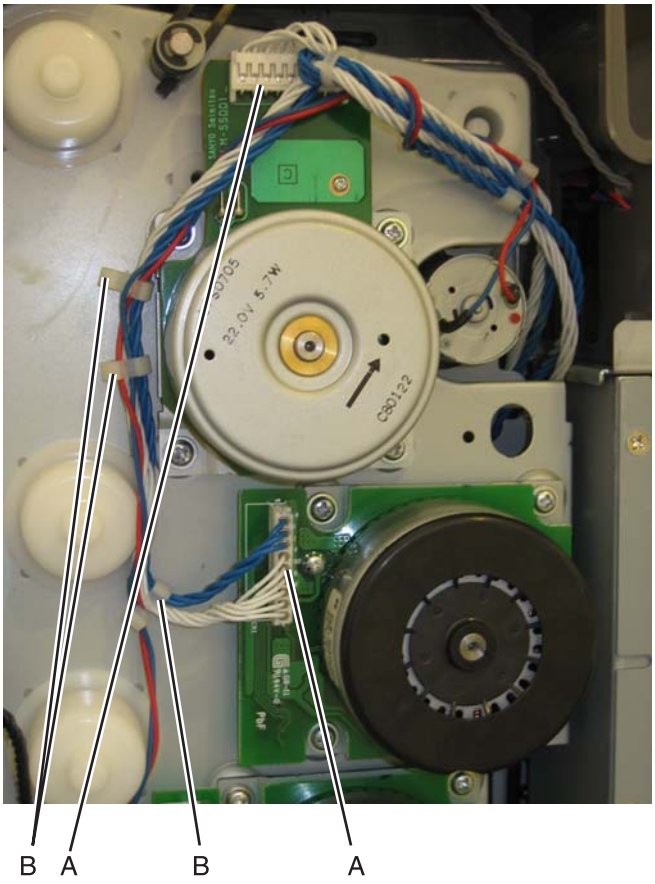
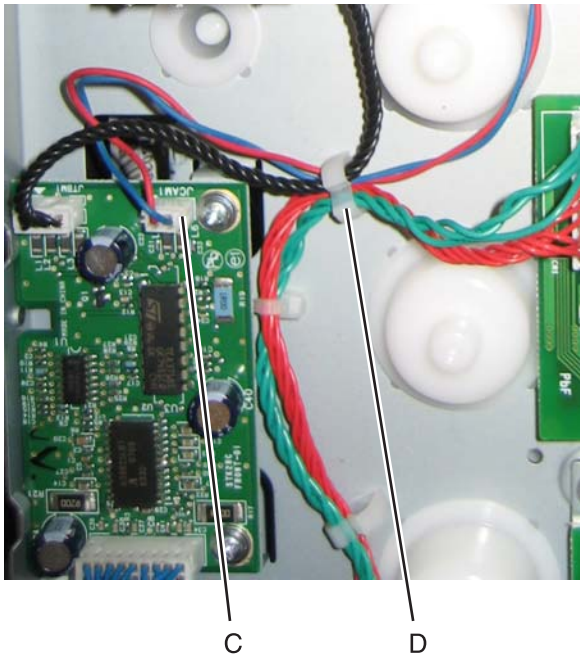
See **“EP drive assembly” on page 7-9** for the part number.

1. Remove the paper tray.
2. Remove the transport belt module and the developer units. See **“Transfer module removal” on page 4-171**.
3. Remove the cartridges.
4. Remove the low-voltage power supply (LVPS). See **“Low-voltage power supply (LVPS) removal” on page 4-119**.
5. Disconnect the cartridge 1/fuser motor cable (two connectors) (A), and remove the cables from the cable retainers (B).

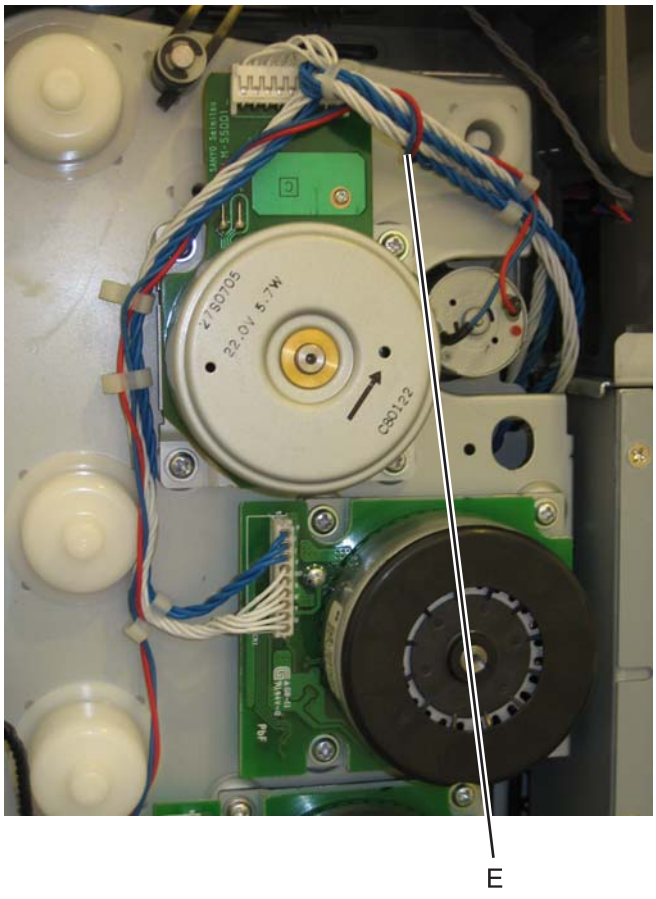


6. Disconnect the camshaft/transport cable connector (C), and remove the cable from the cable clamps (D).

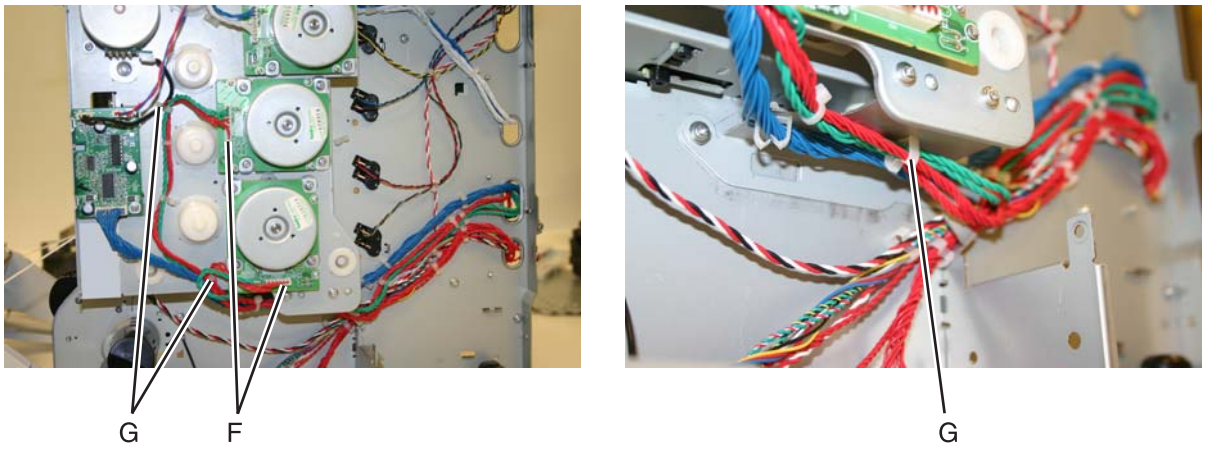


7. Unwind the camshaft/transport cable and the cartridge 1/fuser cables (E).

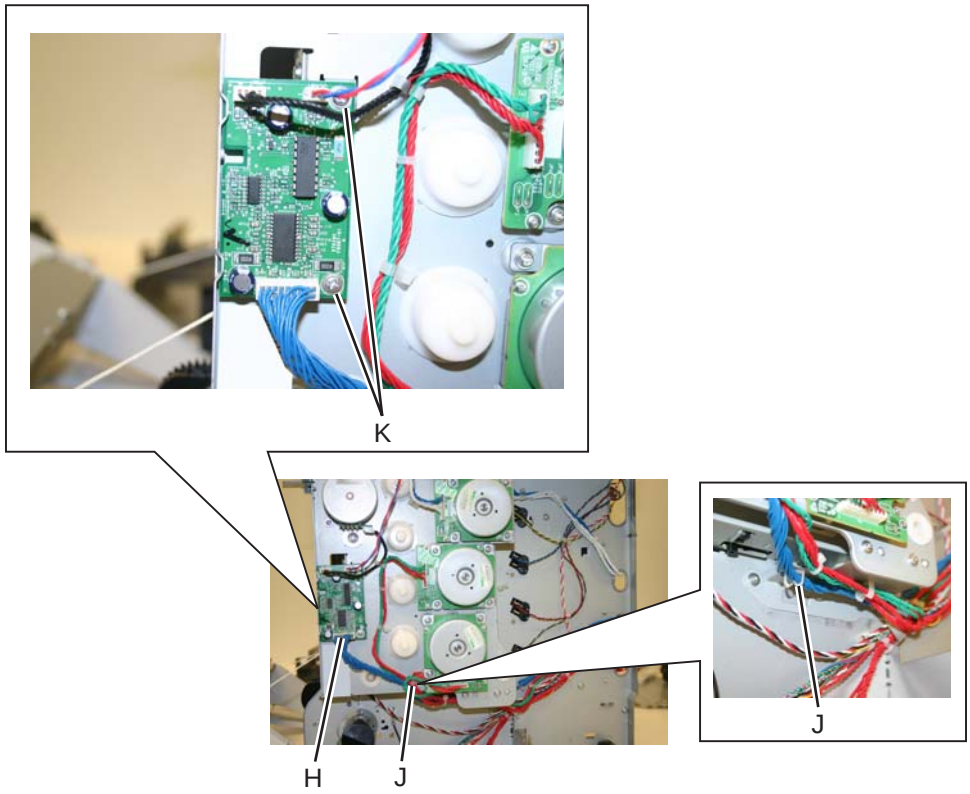
Note: Be sure to rewind the camshaft/transport cable around the other cables with about four twists to keep them from interfering with or being damaged by the motors.



8. Disconnect the cartridge 2/cartridge 3 motor cable (two connectors) (F), and remove the cable from the cable clamps (G).

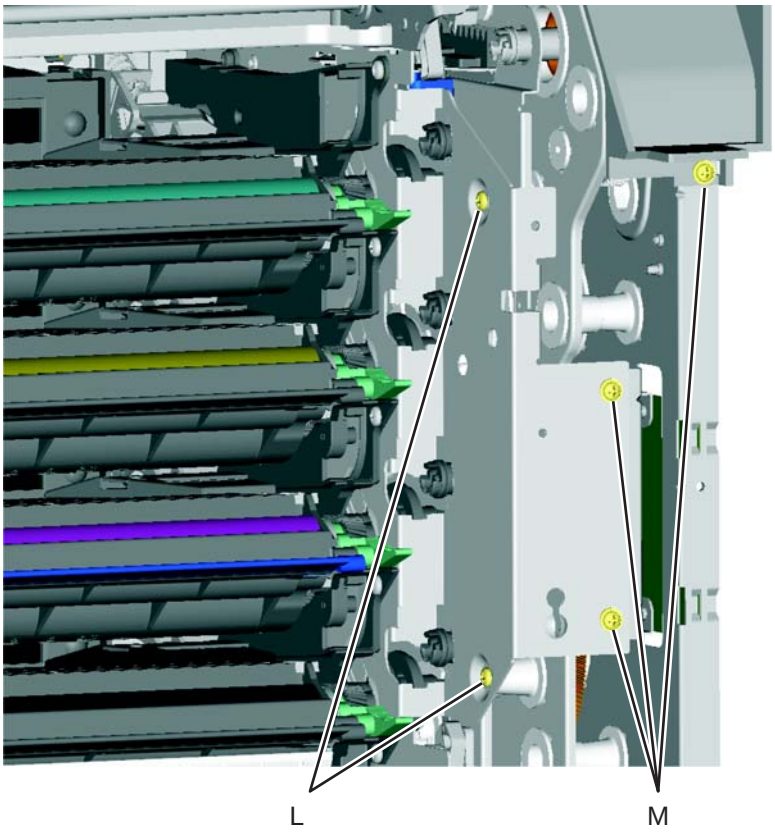


9. Disconnect the motor drive cable connector (H), and remove the cable from the cable clamps (J).
10. Remove the two screws (K) to remove the motor driver card assembly.

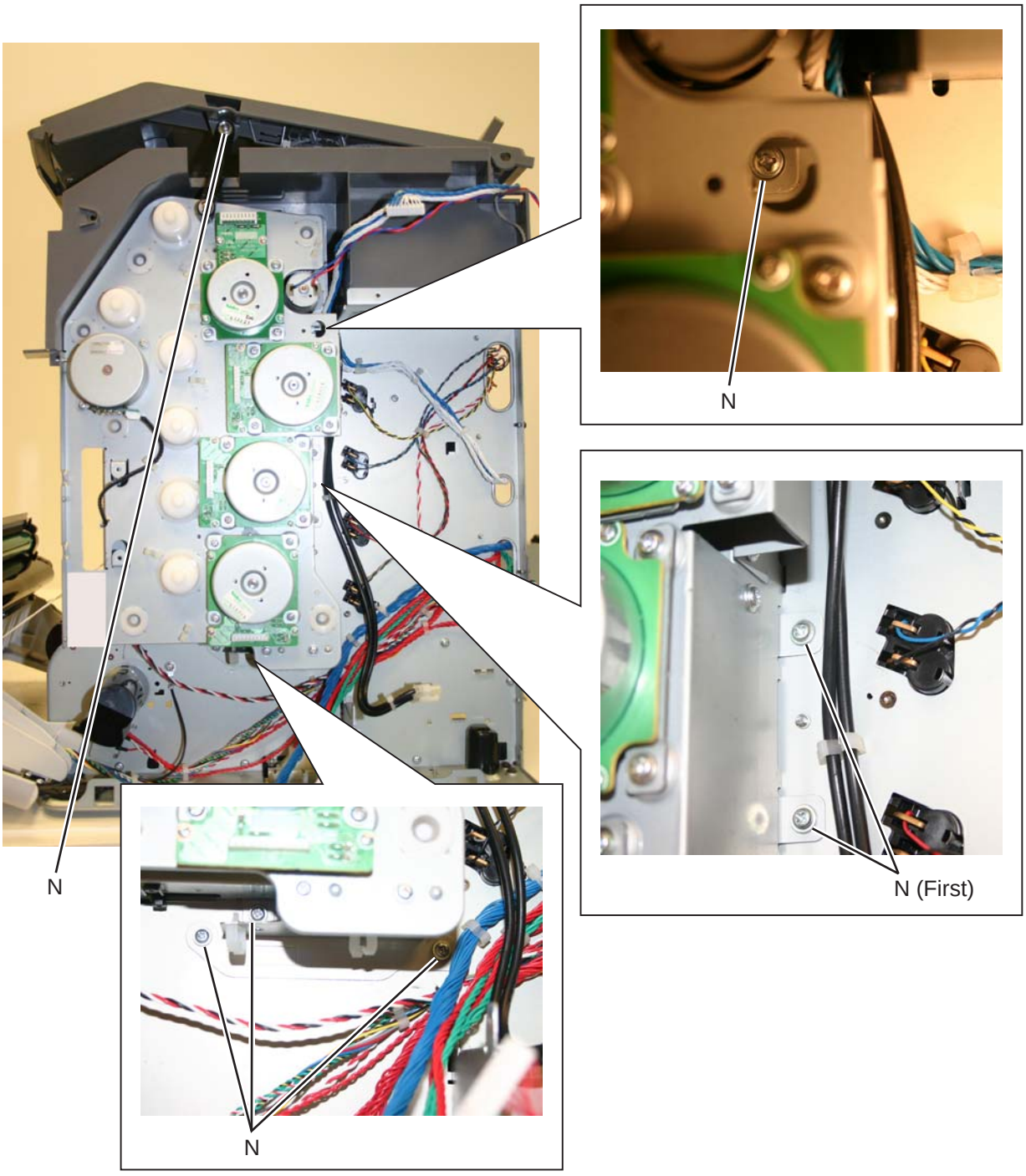


11. Remove the two screws (L) on the inside

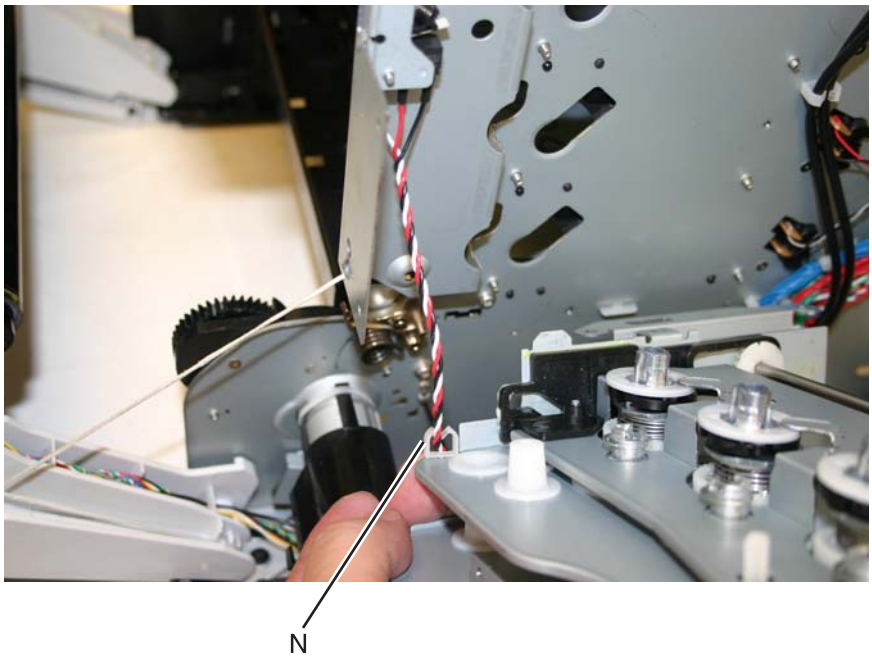
12. Remove the three screws (M) on the front.



13. Remove the seven screws (N) securing the EP drive.



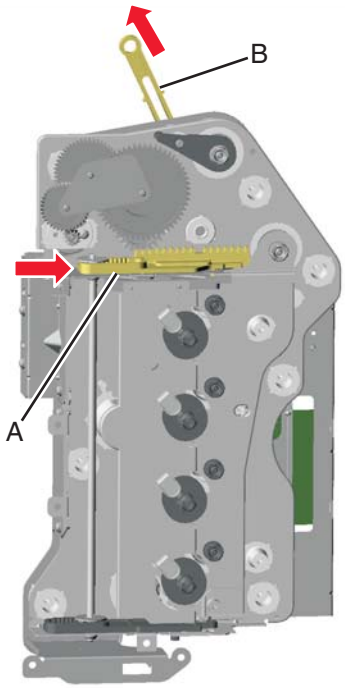
14. Remove the 5 V interlock switch cable from the restraint (N) on the backside of the EP drive.



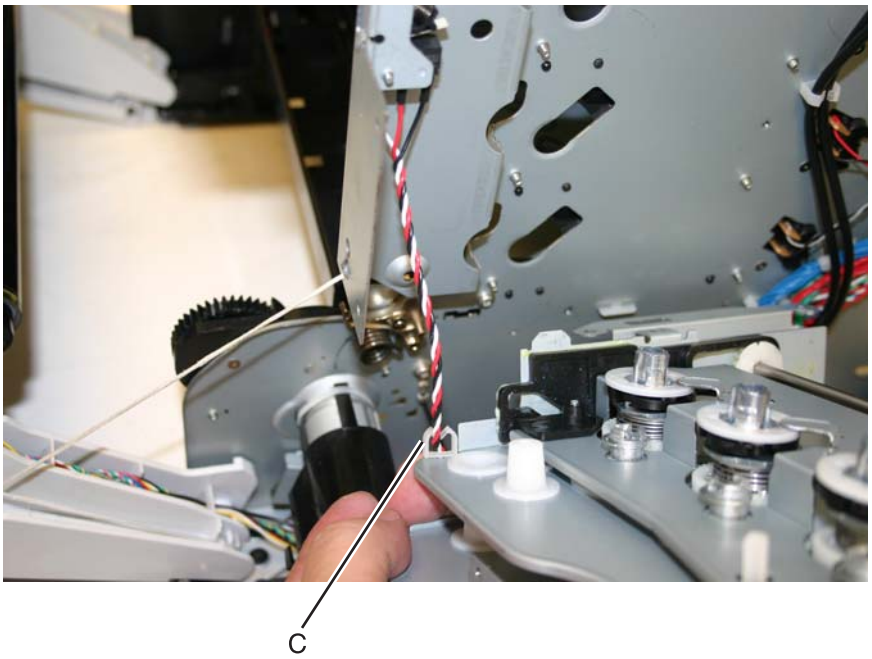
15. Remove the EP drive.

Installation notes:

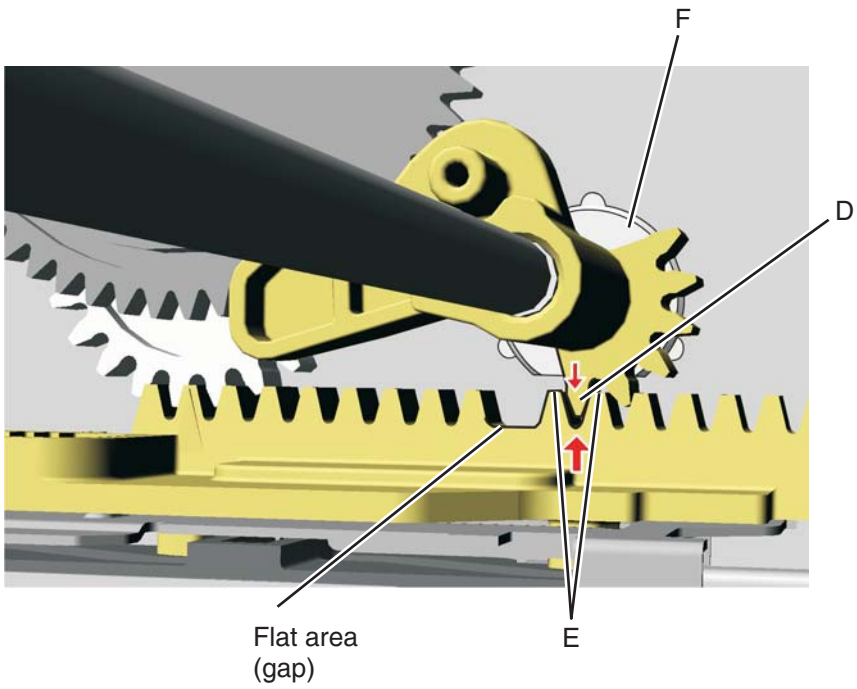
1. Push the actuator rack all the way to the right (A).
2. Pull the link all the way up (B).



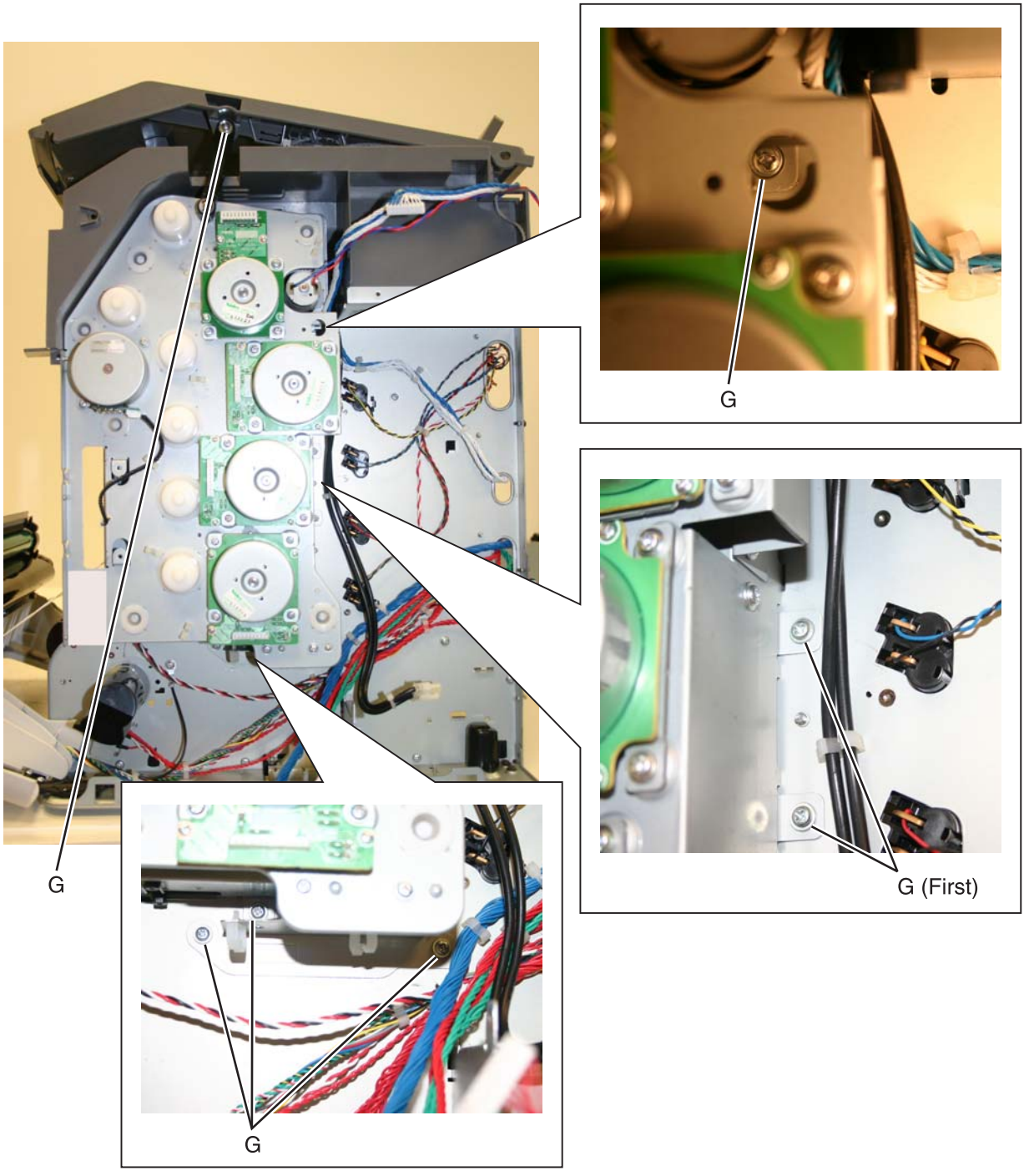
3. Fasten the 5 V interlock cable into the cable retainer (C) on the bottom of the EP drive.



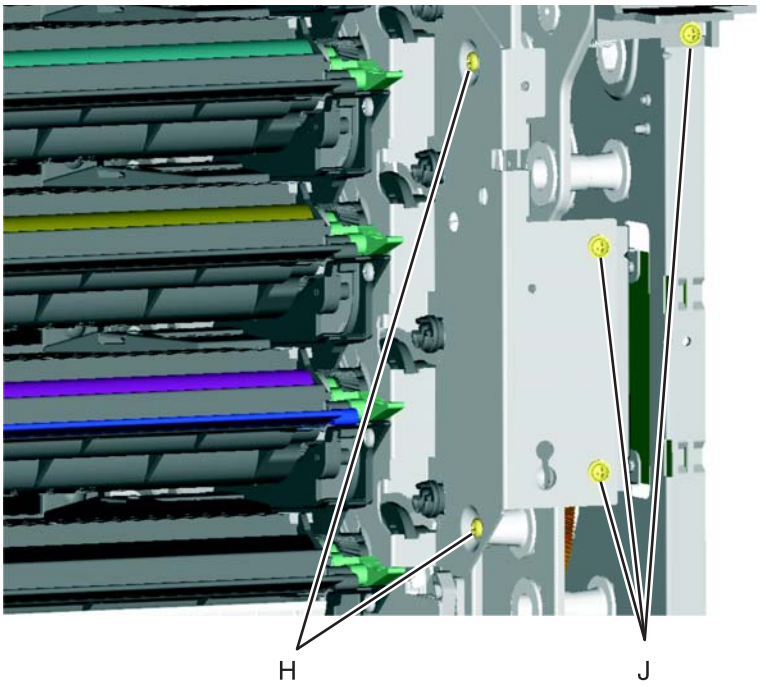
4. Align the gear so the first gear tooth (D) of the top cover camshaft meshes with the first two gear teeth (E) after the flat area in the EP drive actuator rack, and then seat the right side of the top cover camshaft into the boss (F) on the EP drive.



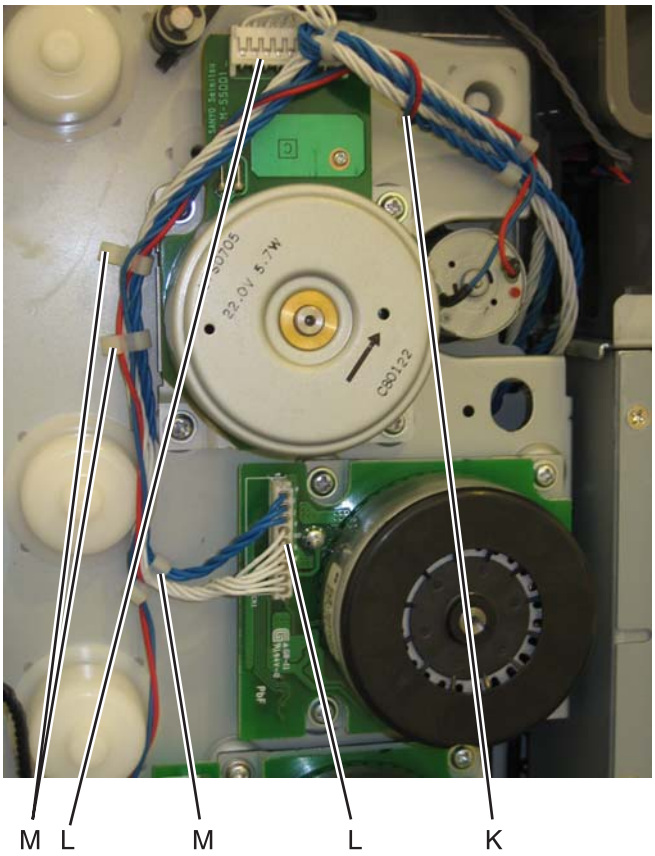
5. Hold the drive in place while replacing the first of the seven screws, then continue replacing the rest of the screws (G).



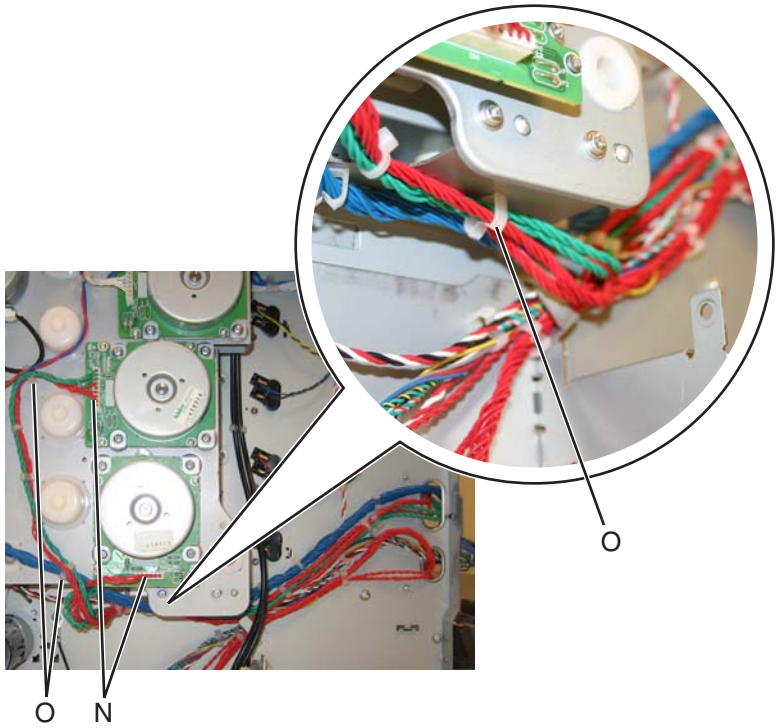
6. Replace the two screws (H) from the inside.
7. Replace the three screws (J) on front.



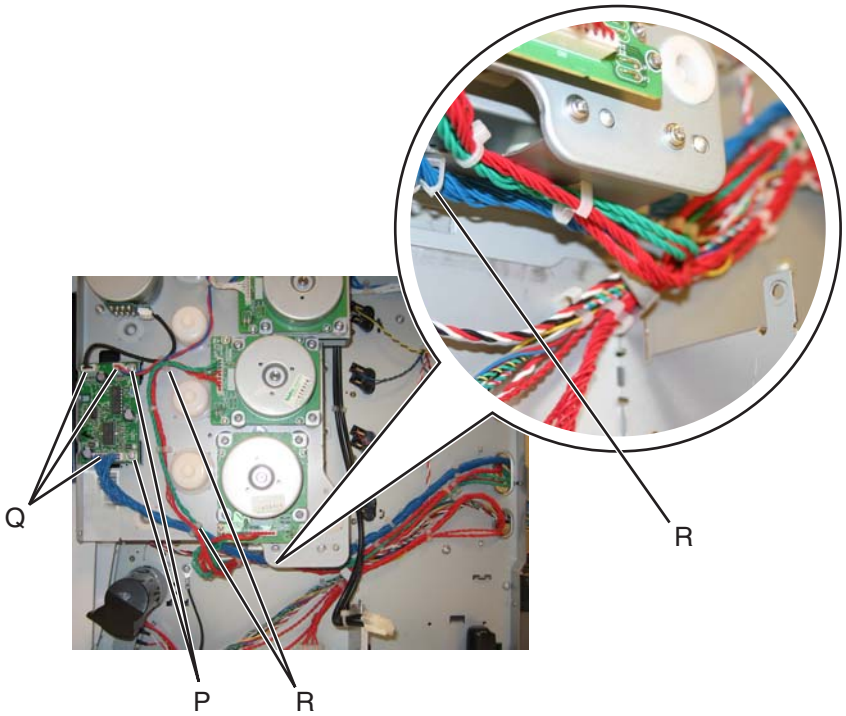
8. Wind the camshaft cable (K) around the cartridge 1/fuser cables about four times to make sure they do not interfere with or are damaged by the fuser motor.
9. Connect the cartridge 1/fuser motor cable (two connectors) (L), and place the cables in the cable retainers (M).



10. Connect the cartridge 2/cartridge 3 motor cable (two connectors) (N), and make sure the cable is in the cable clamps (O).



11. Hold the motor driver card in place and reinstall the two screws (P) to secure the motor driver card.
12. Connect the three connectors (Q), and secure the cables in the cable clamps (R).



13. Reinstall the low-voltage power supply (LVPS).
14. Replace the right and rear covers.
15. Replace the transport belt module and developer units.
16. Replace the cartridges and the fuser.
17. Replace the paper tray.

Front door assembly removal

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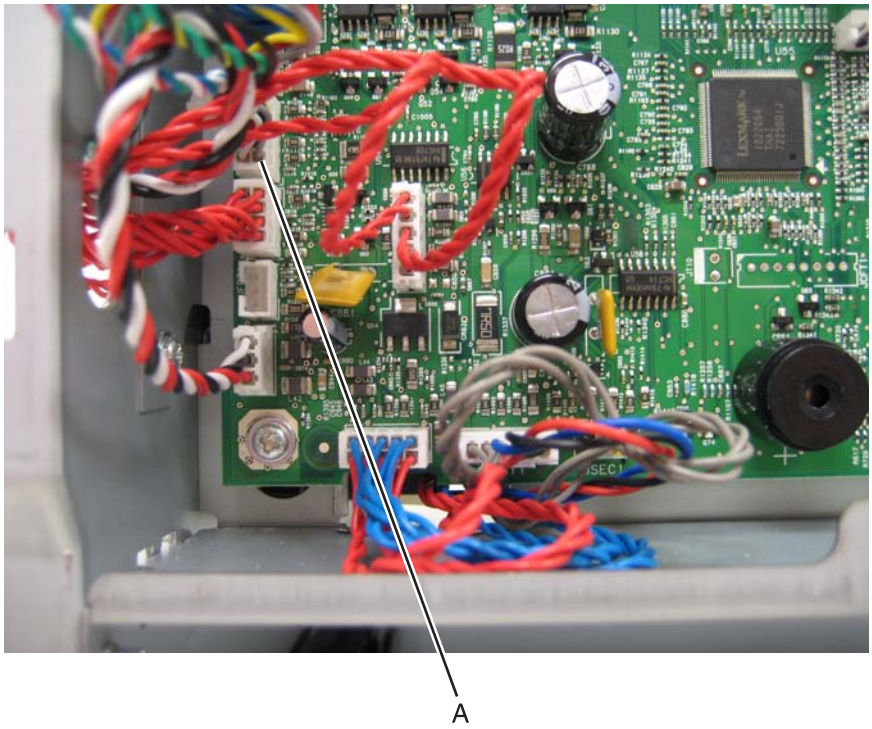
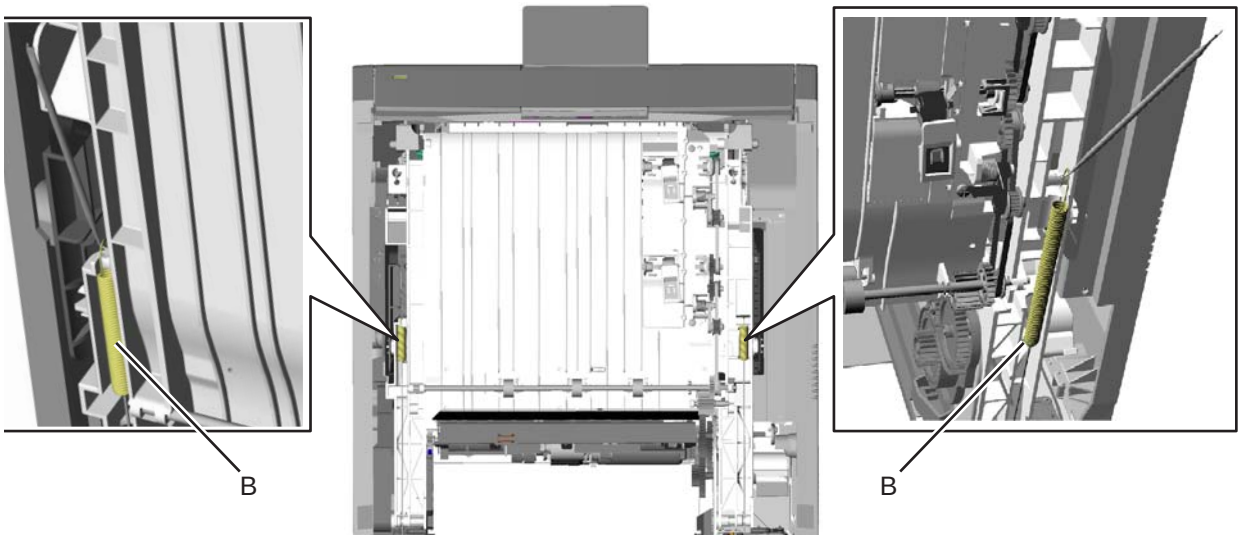
See the part number for the Front door assembly for the specific model you need on **page 7-7**.

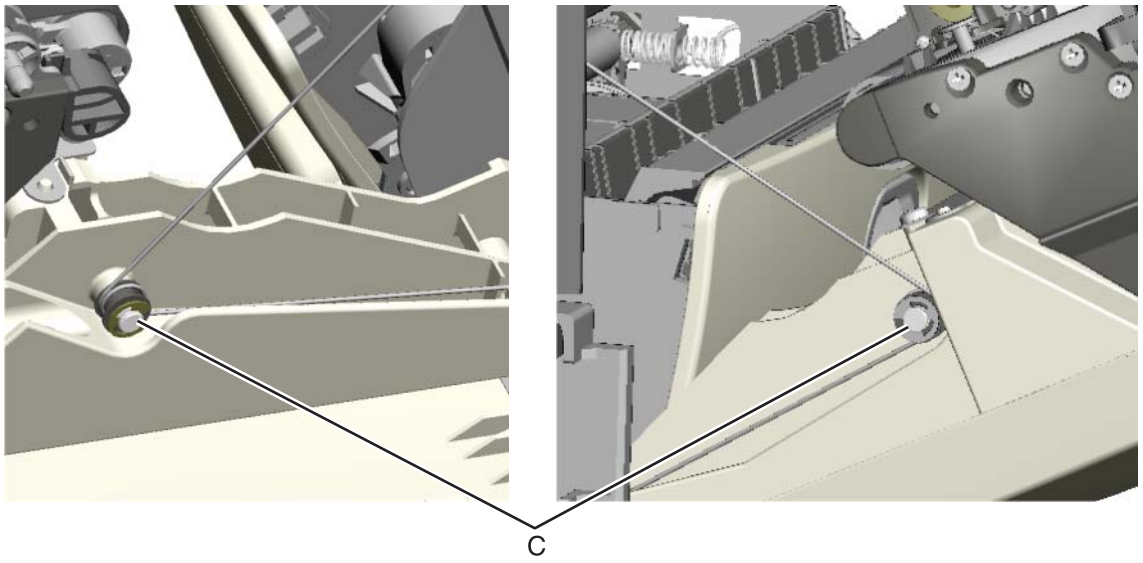
1. Remove the front access cover assembly. See **"Front access cover assembly removal" on page 4-29**.
2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**.
3. Remove the LVPS. See **"Low-voltage power supply (LVPS) removal" on page 4-119**.
4. Disconnect the JTPS1 cable (A) from the system board.



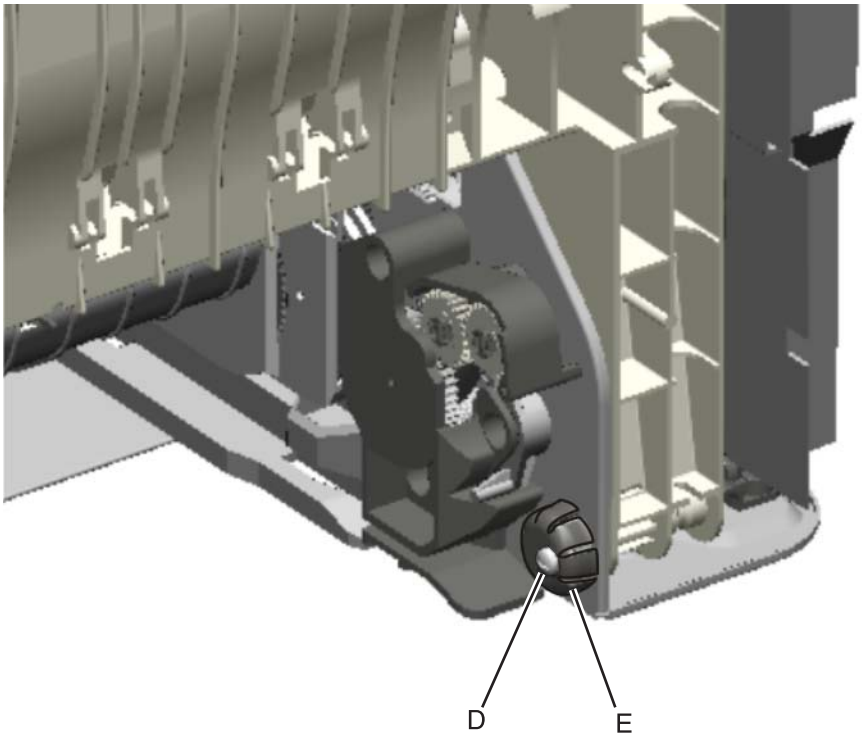
5. Release the left and right front door assembly cable springs (B) from the front door assembly.



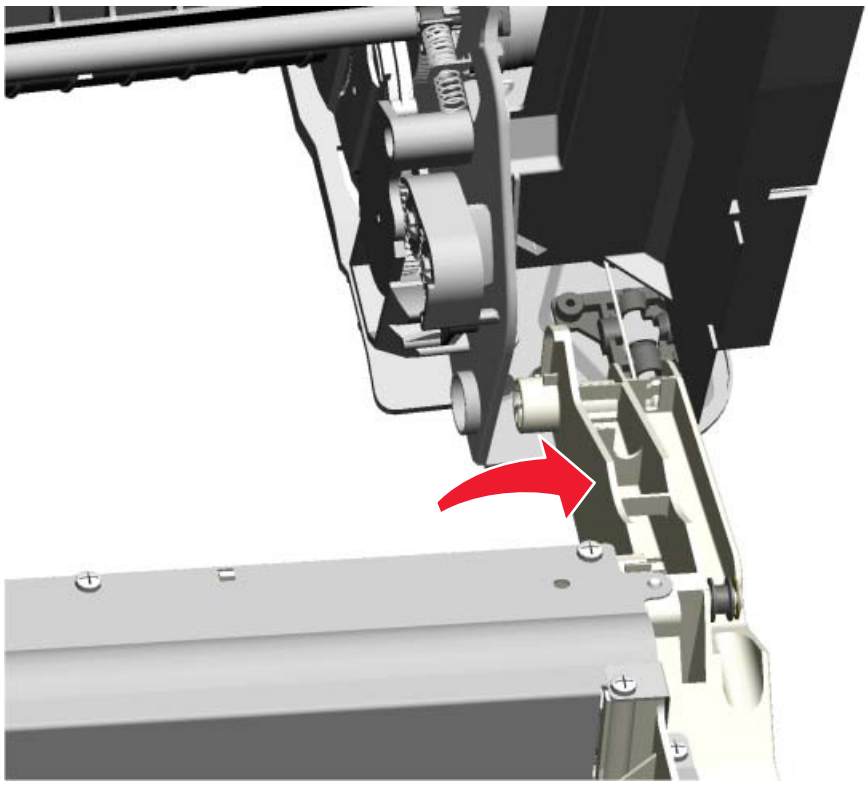
6. Open the front door assembly.
7. Unwrap and remove the cable from the left and right pulleys (C).



8. Close the front door assembly, and remove the mounting screw (D) and the cap (E).



9. Open the front door assembly, slide it to the right, and remove. You need to press firmly to slide the front door assembly to the right.

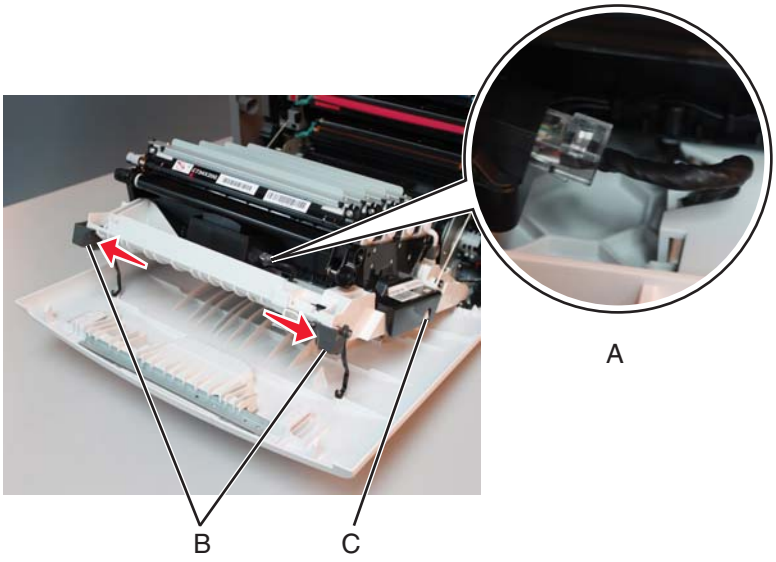


Installation note: See **“Front door assembly front cable (left) removal” on page 4-103** and **“The longer cable installs on the left side of the printer.” on page 4-106** for proper installation of the cable restraints.

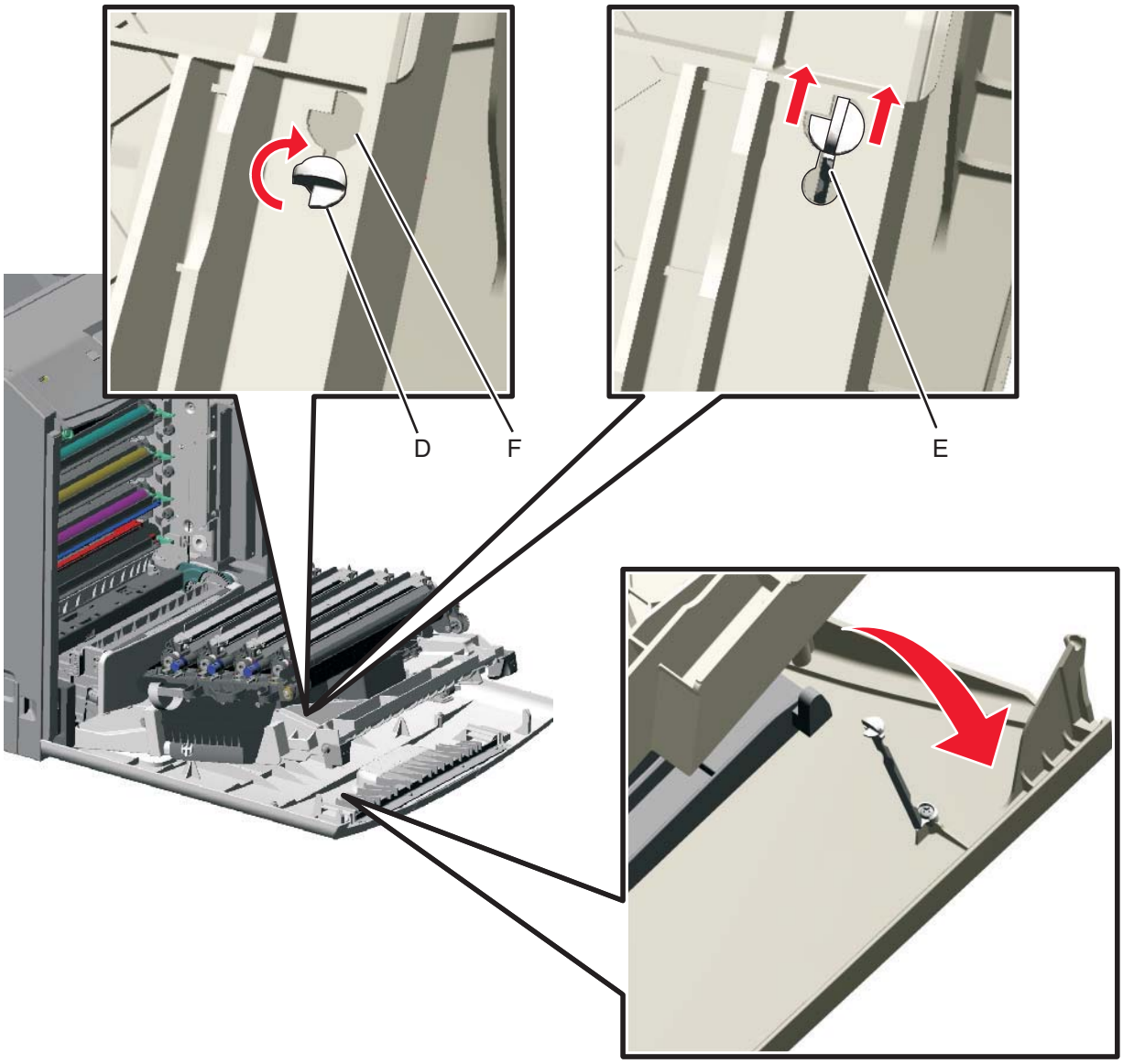
Front door assembly front cable (left) removal

1. Remove the paper tray.
2. Disconnect the transfer module cable (A).
3. Press the two tabs (B) to release the front access door cover assembly.
4. Press the two tabs (C) on either side of the transfer module, and lift out the transfer module.
   Note: Leave the photoconductor units on the transport belt when removing.

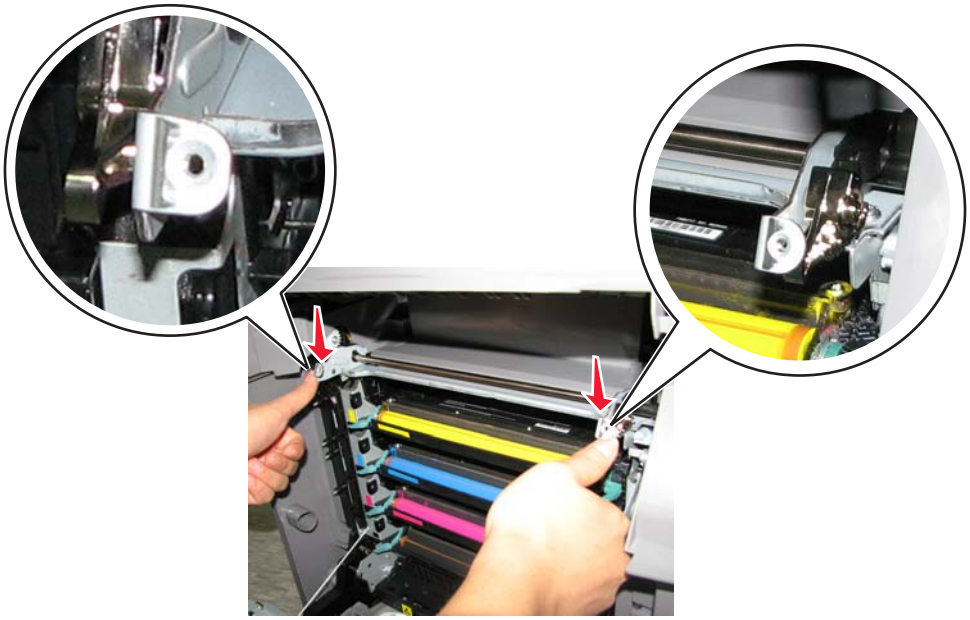
   Warning: To avoid damaging the photoconductor drum, hold the photoconductor units by their handle and place the photoconductor units on a clean surface. Never expose the photoconductor units to light for a prolonged period of time. See **"Handing the photoconductor unit" on page 4-2** for additional information.



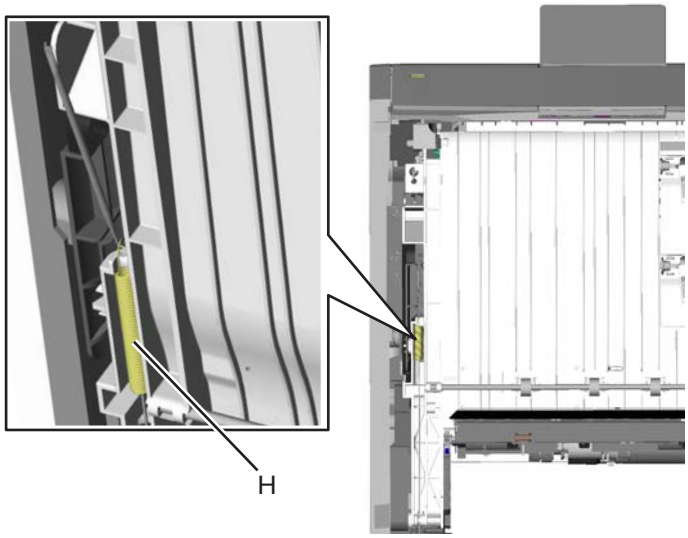
5. Looking down at the keyed end of the restraint (D), twist the end clockwise, slide the restraint upward through the slit (E), and slip the end of the restraint through the keyed hole (F). Repeat for the other side.



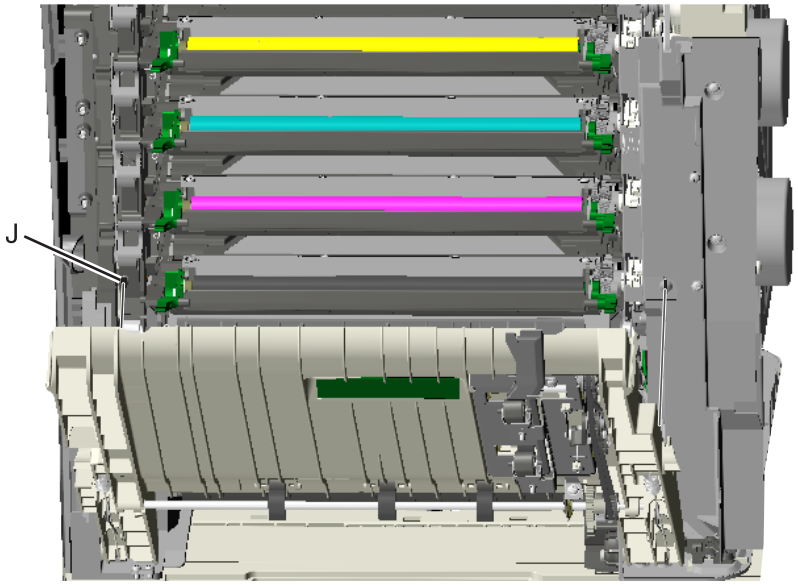
6. Remove the fuser. See **"Fuser removal" on page 4-110**.
7. Push down on both of the front door locking mechanism simultaneously to close the camshaft.



8. Close the front access door assembly.
9. Release the cable spring (H) from the front door assembly.
   Note: In order to access the springs, make sure the top access cover is closed.

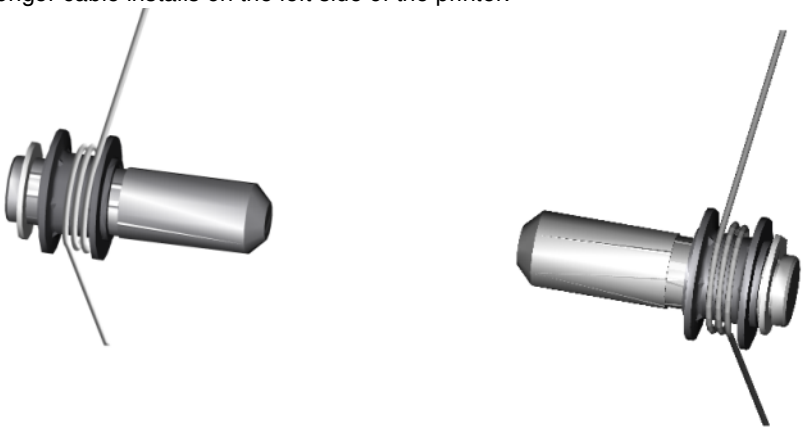


10. Remove the end of the cable (J) from the frame.

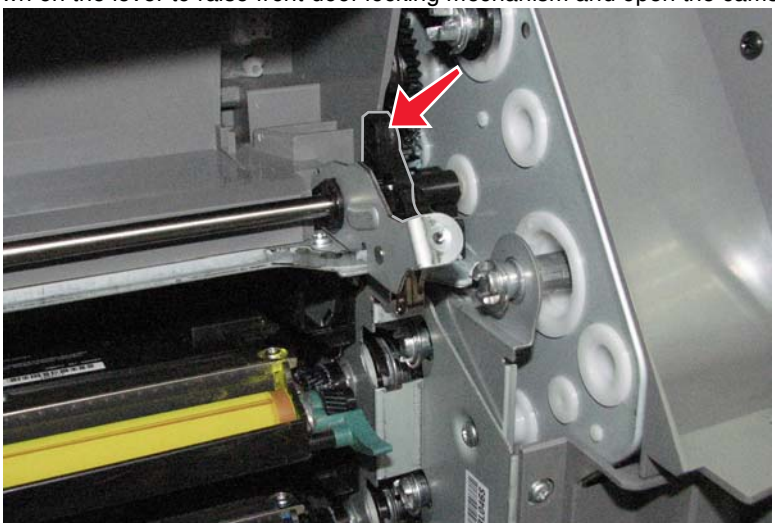


Installation notes:

- The longer cable installs on the left side of the printer.



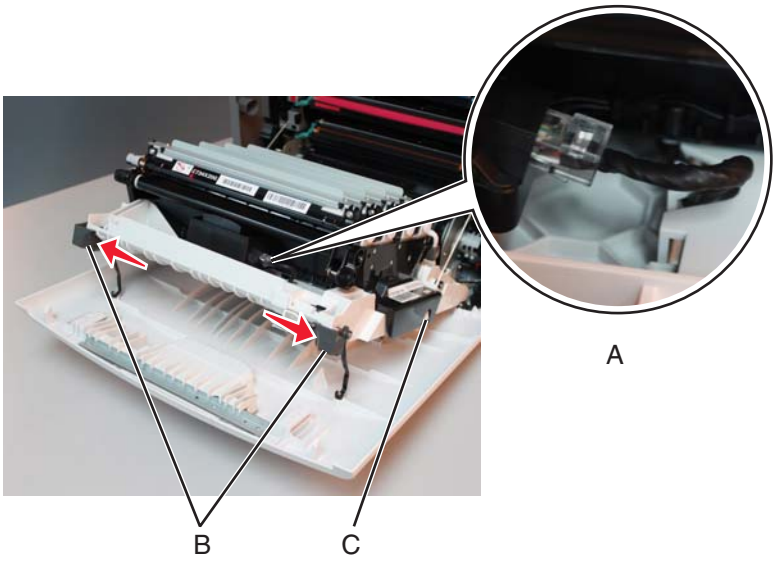
- Push down on the lever to raise front door locking mechanism and open the camshaft.



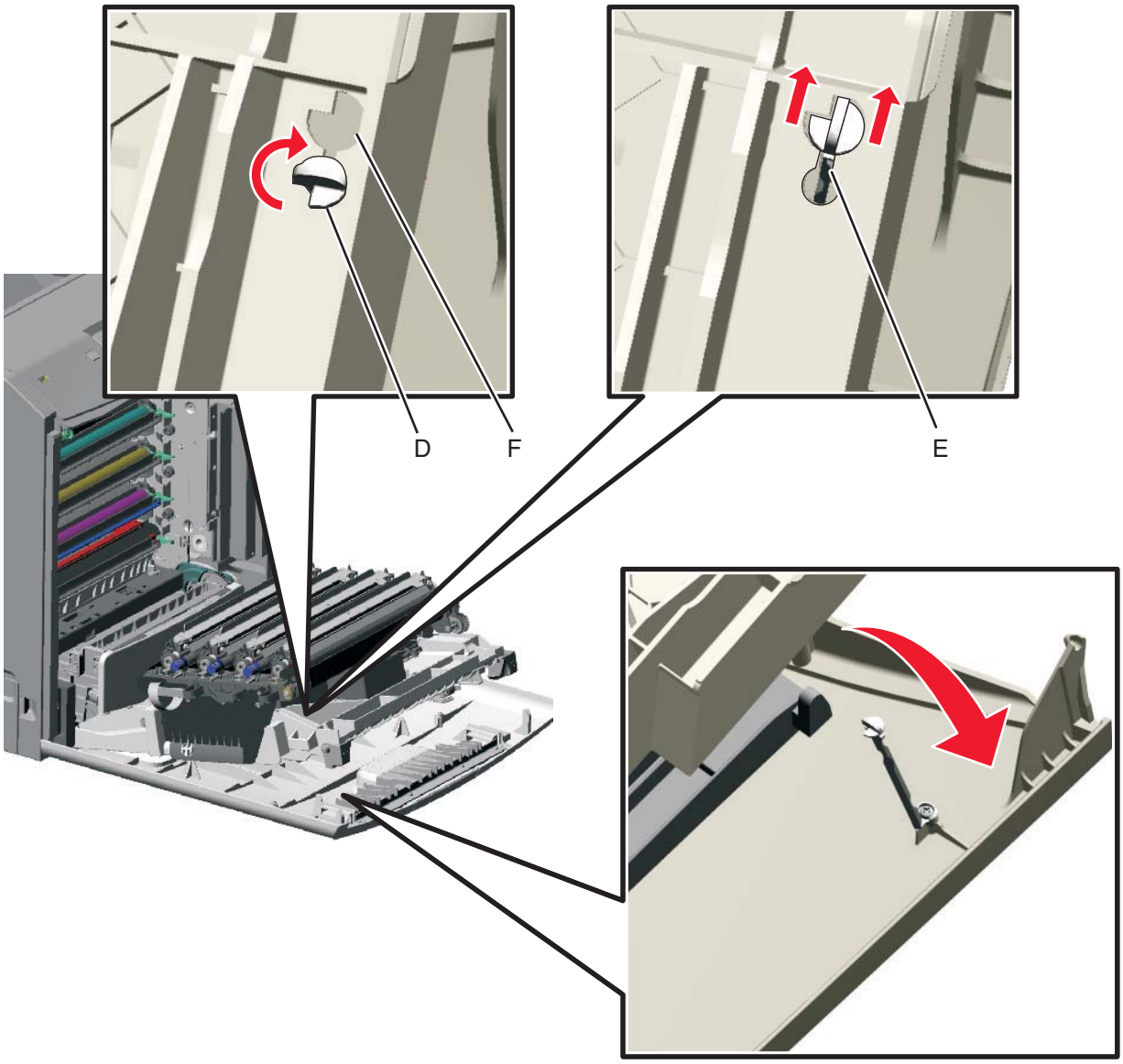
Front door assembly front cable (right) removal

1. Remove the paper tray.
2. Disconnect the transfer module cable (A).
3. Press the two tabs (B) to release the front access door cover assembly.
4. Press the two tabs (C) on either side of the transfer module, and lift out the transfer module.
   Note: Leave the photoconductor units on the transport belt when removing.

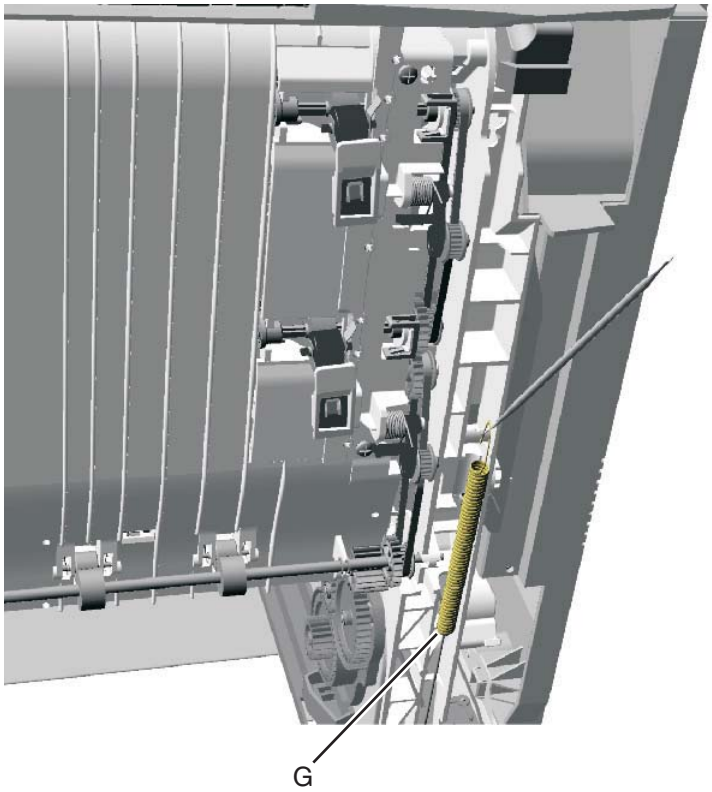
   Warning: To avoid damaging the photoconductor drum, hold the photoconductor units by their handle and place the photoconductor units on a clean surface. Never expose the photoconductor units to light for a prolonged period of time. See **"Handing the photoconductor unit" on page 4-2** for additional information.



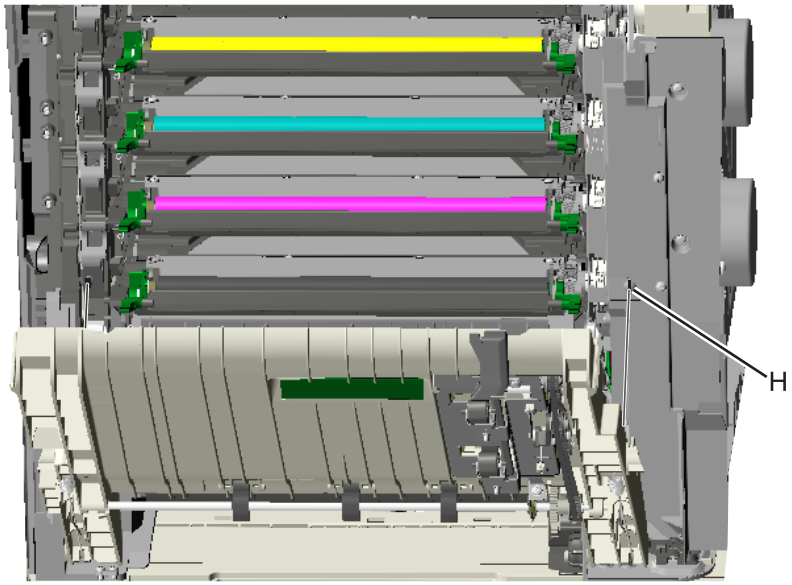
5. Looking down at the keyed end of the restraint (D), twist the end clockwise, slide the restraint upward through the slit (E), and slip the end of the restraint through the keyed hole (F). Repeat for the other side.



6. Remove the right cover. See **"Right cover removal" on page 4-51**.
7. Close the front access door assembly.
8. Release the spring (G) from the front door assembly.
   Note: In order to access the springs, make sure the top access cover is closed.



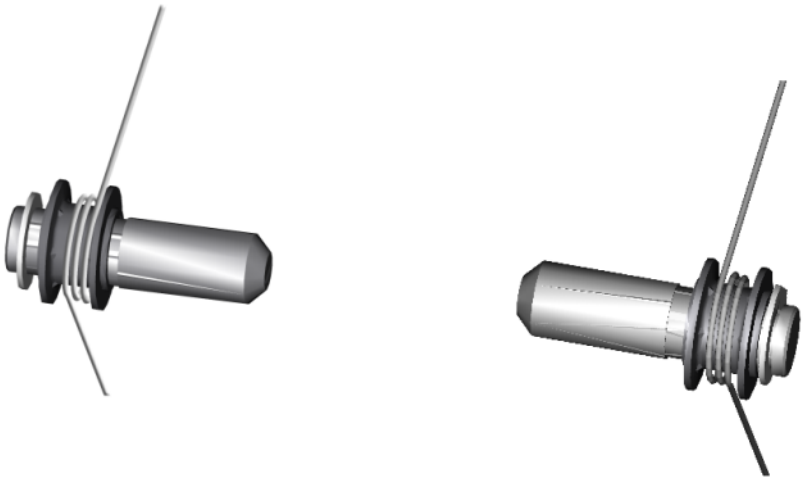
9. Remove the end of the cable (H) from the frame.



10. Remove the right restraint cable.

Installation note: The shorter restraint cable installs on the right side of the printer.

Note: The frame end needs to be wrapped to inside of post for two full turns



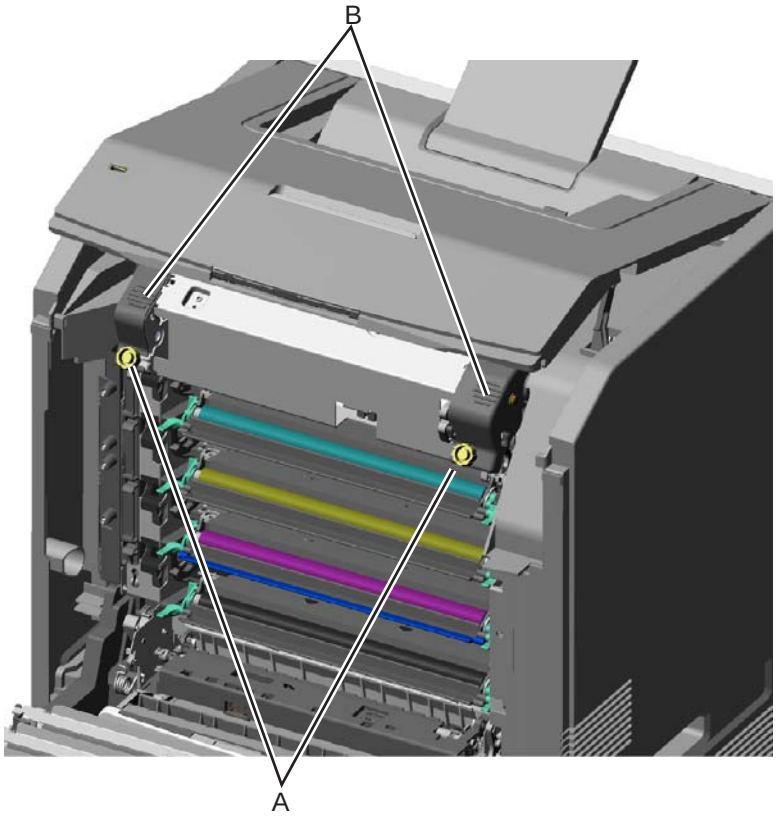
Fuser removal

See **“Fuser assembly, 115 V” on page 7-7**, **“Fuser assembly, 230 V” on page 7-7**, or **“Fuser assembly, 100 V” on page 7-7** for the part number.

	CAUTION The fuser can be extremely hot. Use care when handling to avoid burns.

1. Turn off the printer.
2. Open the front access door.
3. Open the top access door.
4. Rotate the fuser thumbscrews (A) counterclockwise until loosened.

5. Grasp the handles (B), slide the fuser out from the printer.



Installation note: If you install a new fuser, be sure to reset the fuser counter in the Configuration Menu, and run the Motor Calibration. To reset the counter and run the calibration:

1. Enter the Configuration Menu. (Turn off the printer, press and hold buttons **2** and **6**, turn on the printer, and release the buttons when the progress bar displays.)
2. Press OK for the Reset value.
   `Resetting Fuser Count Value` appears.
3. Select **Motor Calibration** from the CONFIG MENU.
   `Calibrating` displays, and the printer prints several blank pages and then returns to the CONFIG MENU.
4. Select **Exit Config Menu**.

Fuser AC cable removal

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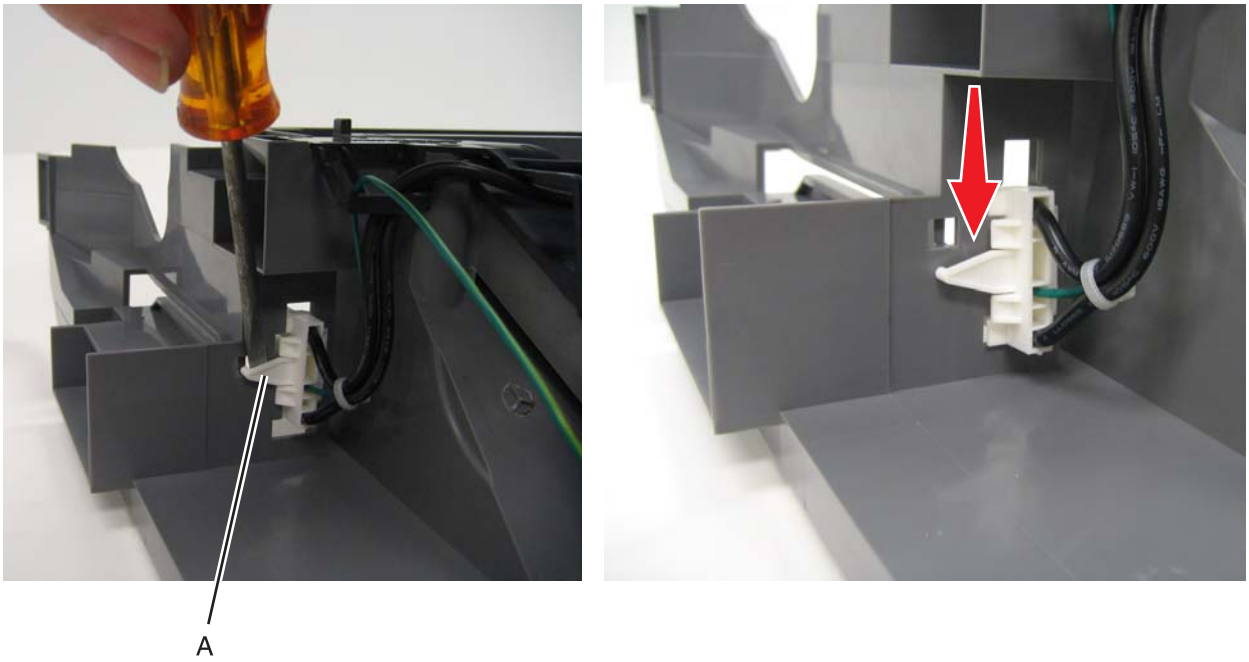
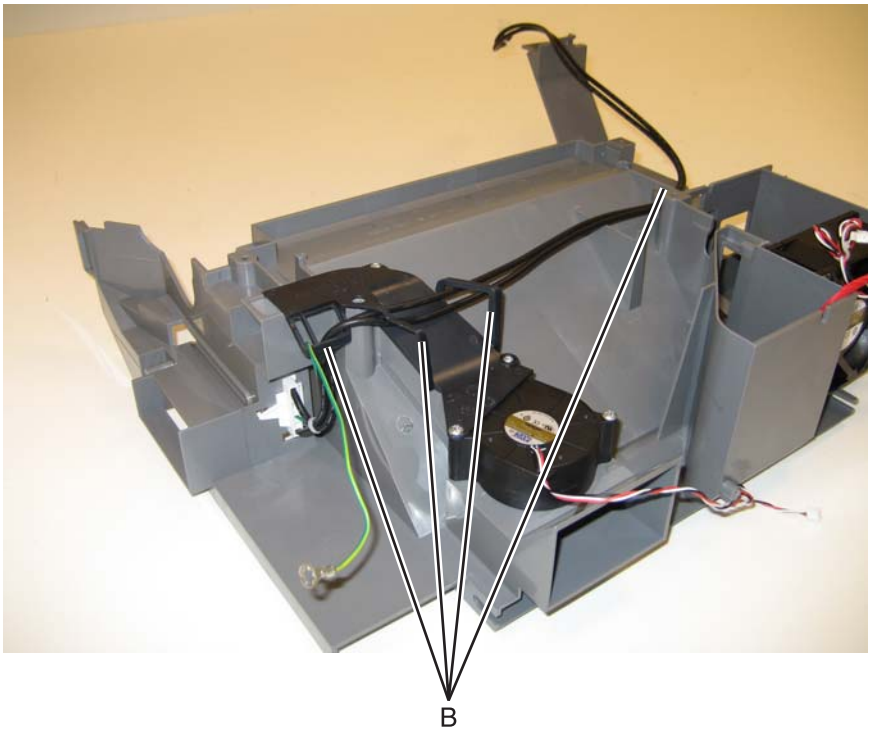
Note: The LVPS to fuser AC cable is black.

1. Remove the top cover assembly. See **"Top cover assembly removal" on page 4-58**.
2. Turn the top cover assembly over.
3. Lift the locking latch (A) on the connector, slide the connector down, and remove the connector from the keyed hole.



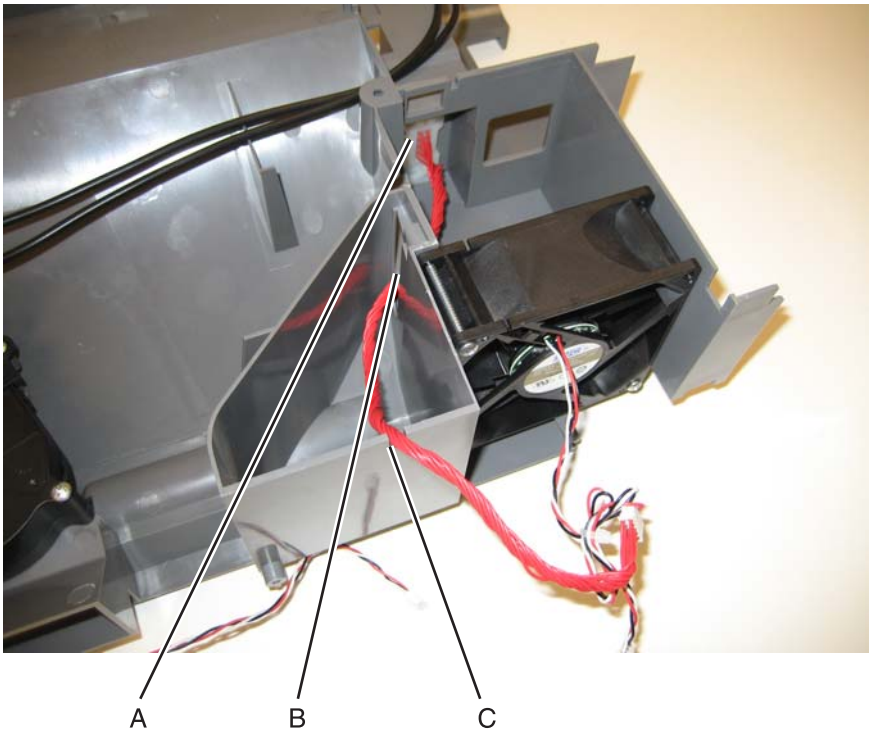
4. Remove the cable from the cable openings (B).
   Note: Observe the routing of the cable for reinstallation.



Fuser DC cable removal

Note: The fuser to system board autoconnect cable is red.

1. Remove the top cover assembly. See **"Top cover assembly removal" on page 4-58**.
2. Turn the top cover assembly over.
3. Remove the connector (A) from the top cover assembly.
   Warning: You will damage the old connector in the process. Be careful not to damage the top cover assembly.
4. Pull the cable through the hole (B) in the top cover assembly, and the notch (C).



Hard drive assembly removal

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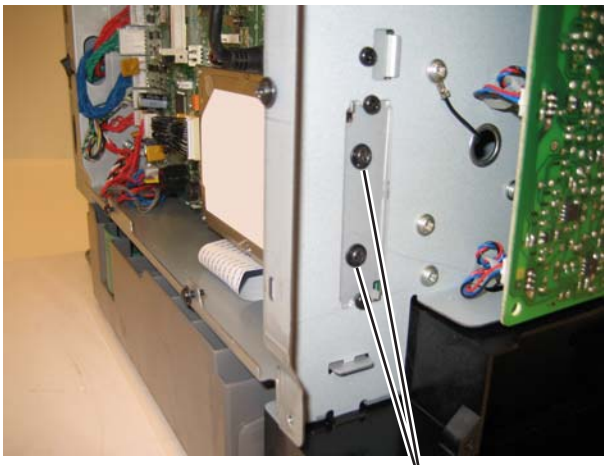
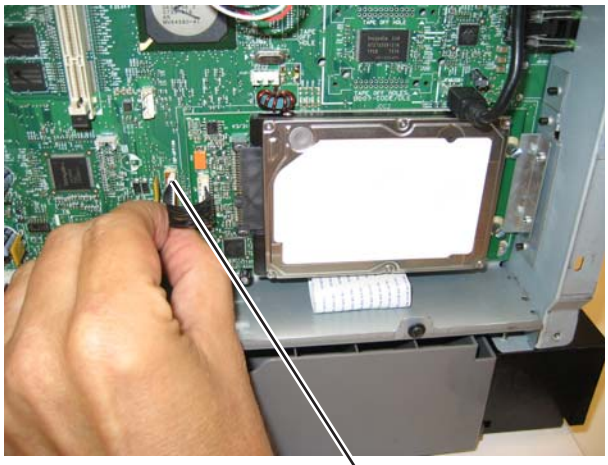
Warning: This part might contain customer confidential information. See **"Data Security Notice" on page 4-1** for more details. After removing this part, return it to your next level of support so any data can be removed. If the customer requests to keep the part, they must sign a confirmation of memory device retention form.

1. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**.
2. Remove the two screws (A), and squeeze the connector to disconnect the hard disk from the system board (B).

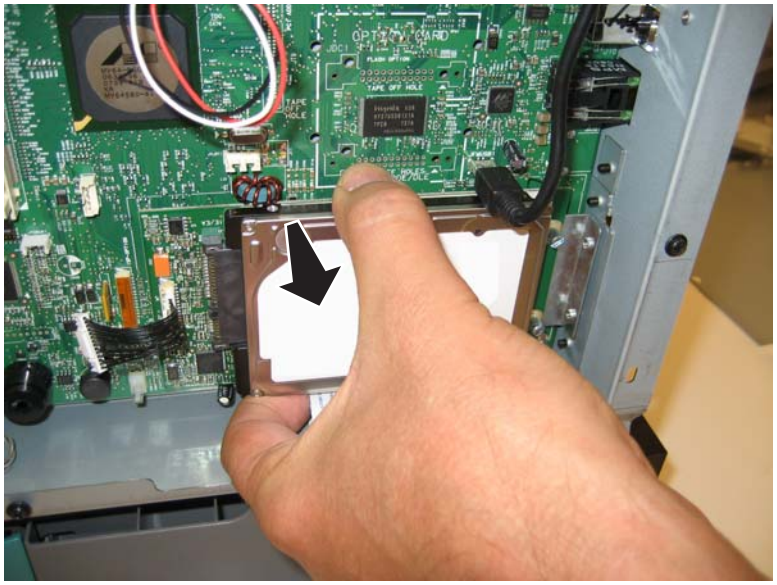


A



B

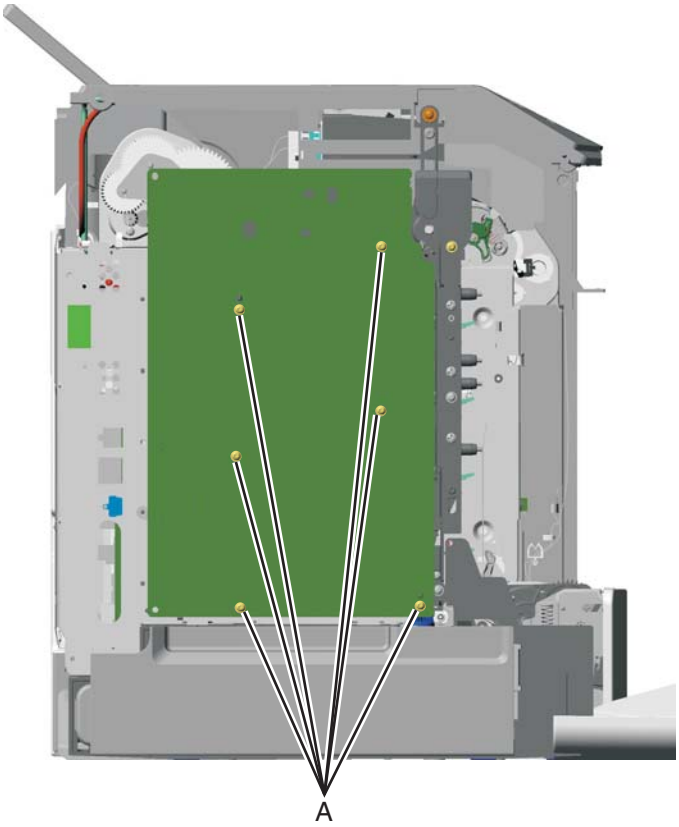
3. Pull the hard disk straight out to *pop* the hard drive standoffs free of the system board.



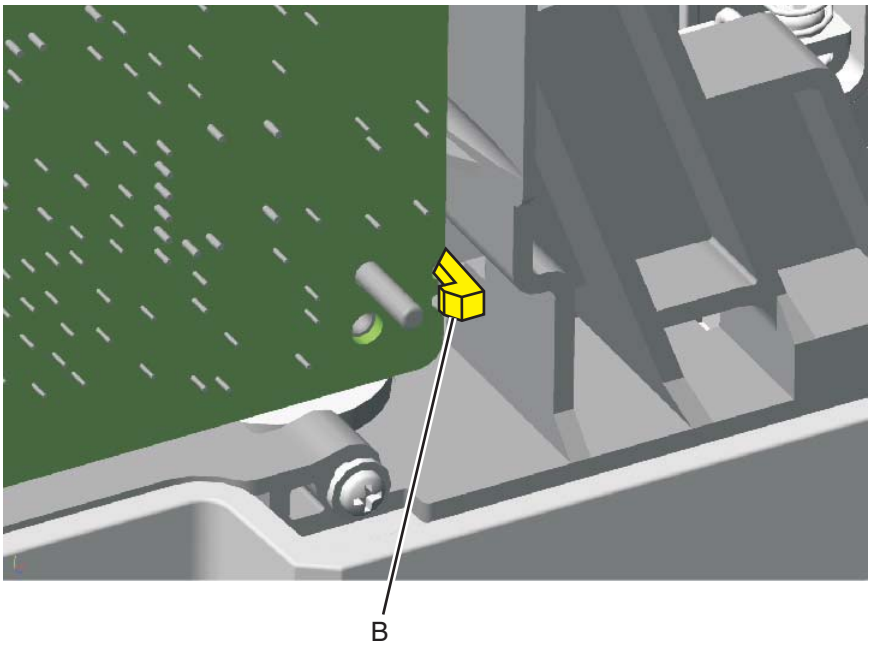
High-voltage power supply (HVPS) removal

See **“High-voltage power supply” on page 7-13** for the part number.

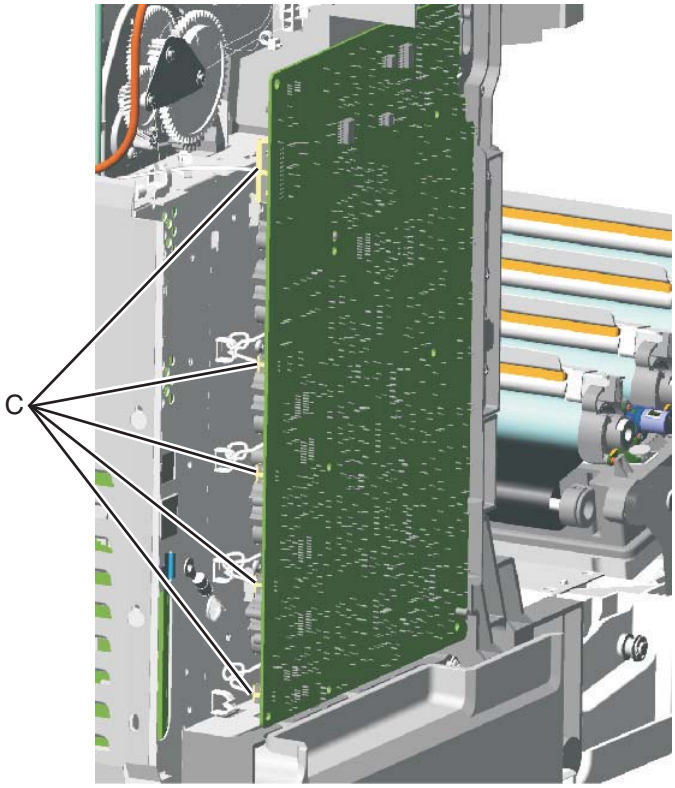
1. Remove the left cover. See **“Left cover removal” on page 4-31**.
2. Remove the six mounting screws (A).



3. Release the locking tab (B) from the front, lower corner of the HVPS.

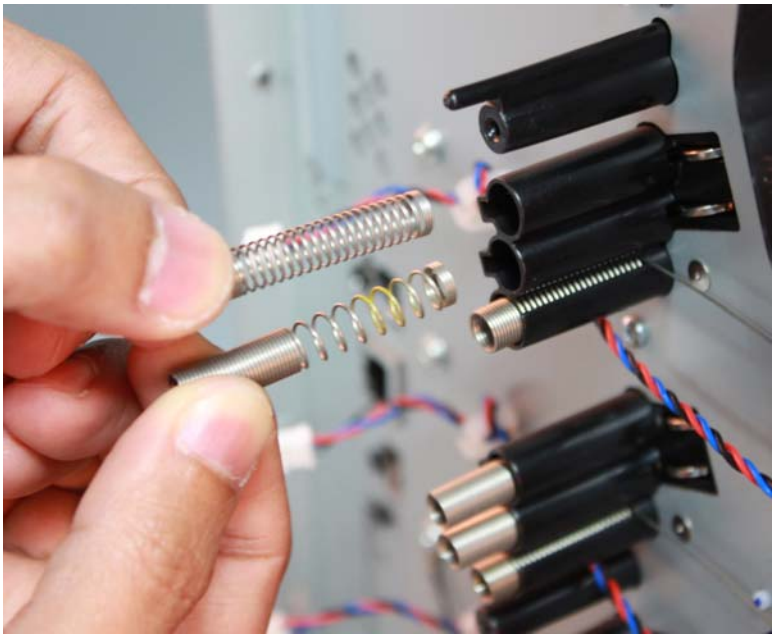


4. Disconnect the five connectors (C) from the HVPS.



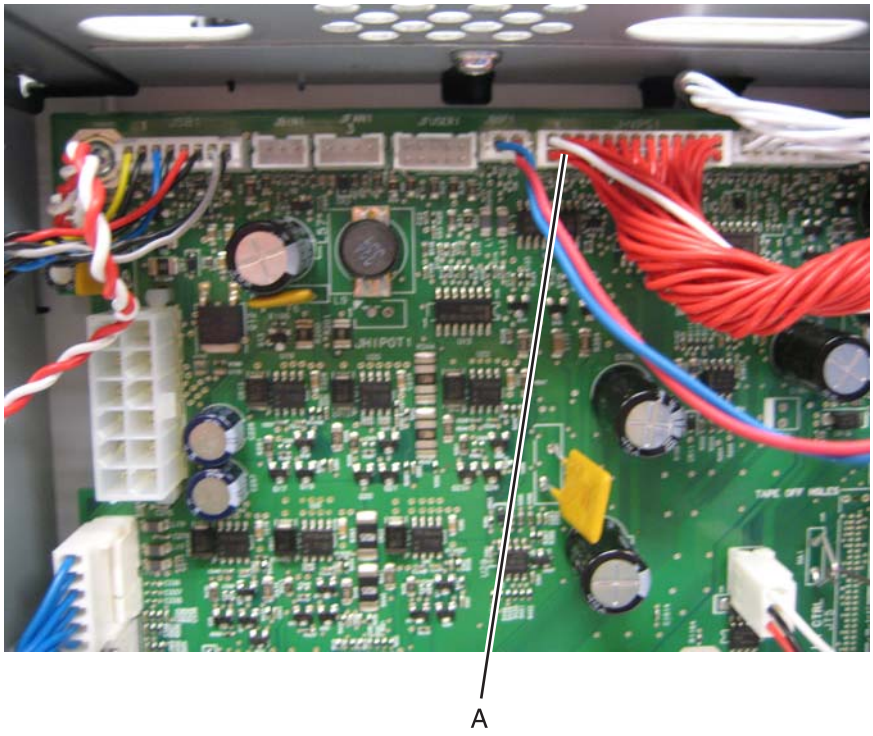
Installation notes:

- Make sure to replace the spring when replacing the HVPS.
- There are two types of spring forces on the cartridge contacts. Make sure to put the springs in their appropriate slots and are oriented properly.

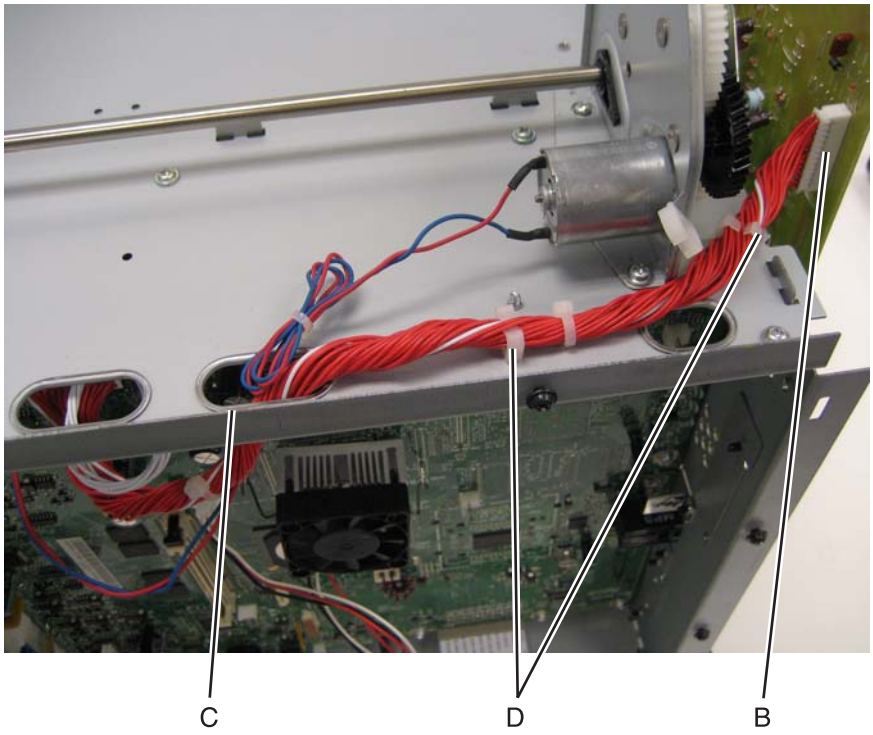


High-voltage power supply (HVPS) cable removal

1. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-50**.
2. Disconnect the cable connector at JHVPS1 on the system board.



3. Disconnect the cable connector (B) from the HVPS.
4. Remove the cable from the hole through the frame (C), and from the two cable restraints (D).



Left bell crank assembly removal

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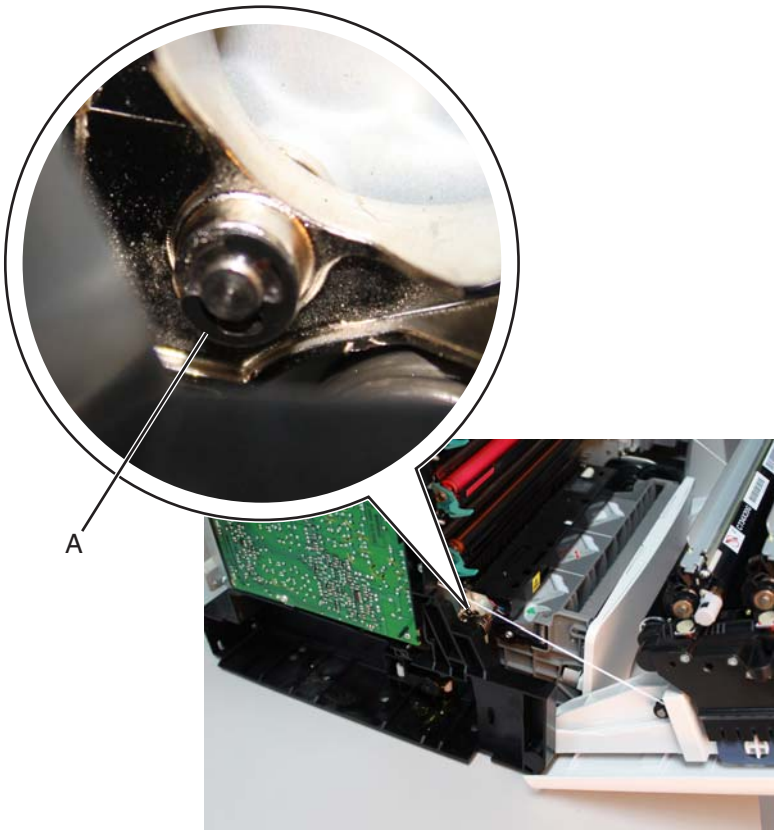
See **“Left bellcrank assembly, with spring” on page 7-7** for the part number.

1. Remove the left cover. See **“Left cover removal” on page 4-31**.
2. Remove the C-clip (A).

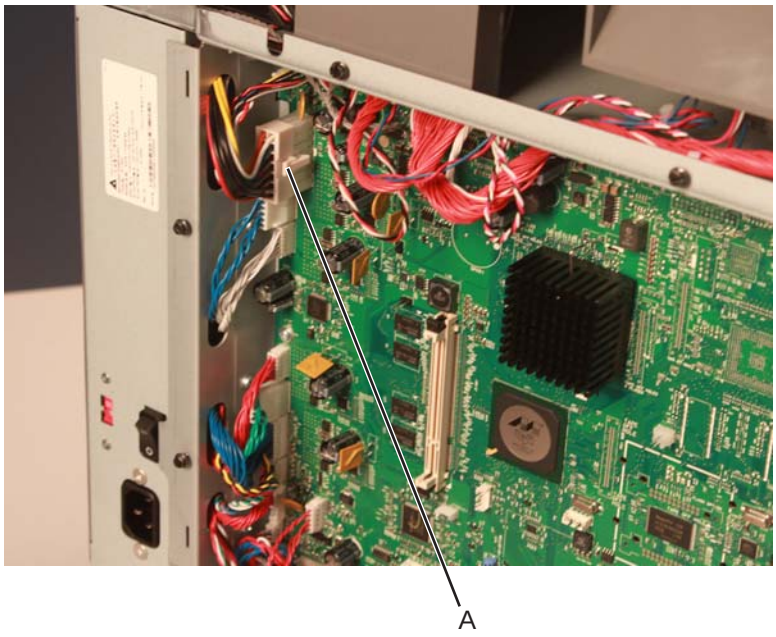


3. Remove the left bell crank assembly.

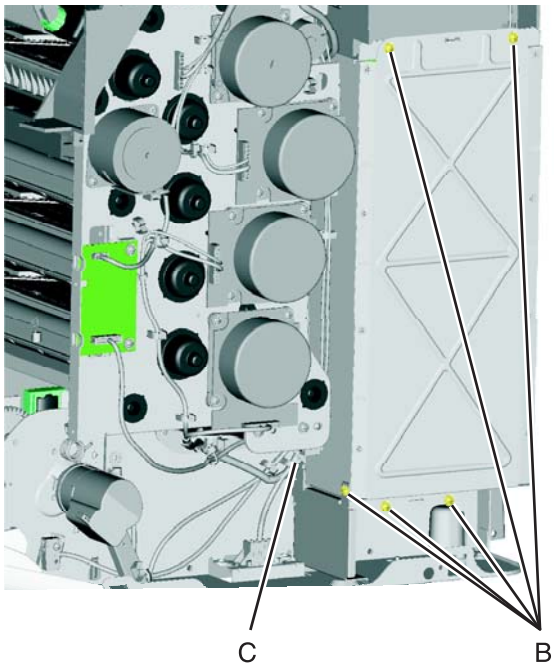
Low-voltage power supply (LVPS) removal

See **“Low-voltage power supply” on page 7-9** for the part number.

1. Remove the right cover. See **“Right cover removal” on page 4-51**.
2. Remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**.
3. Disconnect the connector at JLVPS1 connector (A) on the system board.



4. Remove the five LVPS mounting screws (B).
5. Disconnect the AC fuser cable (C) from the LVPS.



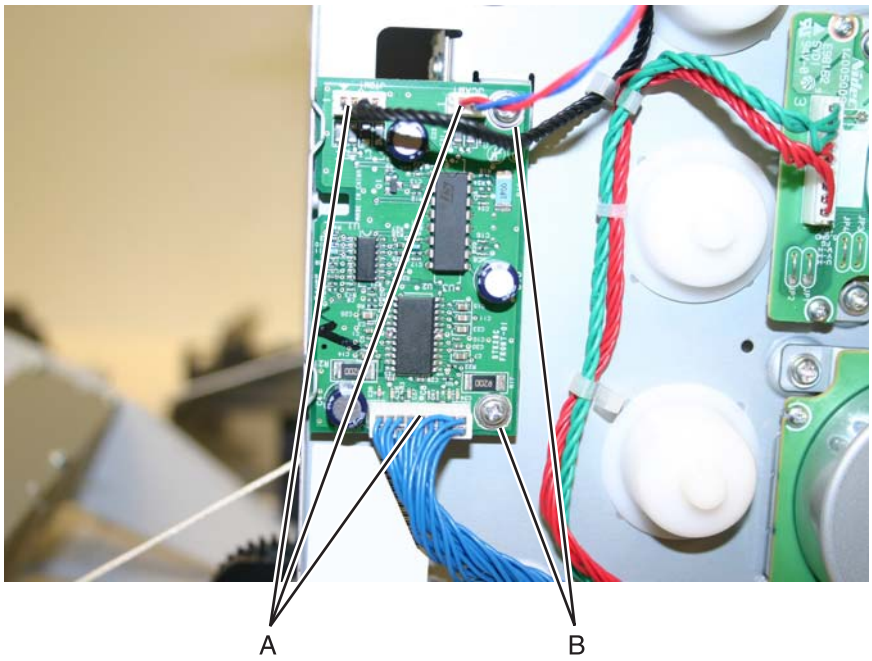
Installation note:

- When installing the new LVPS, make sure the voltage switch (A) is set for the proper value (115 V or 230 V), depending on the country.
  Note: Not all LVPS FRUs have a switch. Others are switched automatically.

- Install the LVPS, and make sure the AC fuser cable is in the cable guides, and not behind the LVPS.
- Reconnect the AC fuser cable to the LVPS.
- Replace the five LVPS mounting screws.
- Reconnect the cable in connector JLVPS1 on the system board.

Motor driver card removal

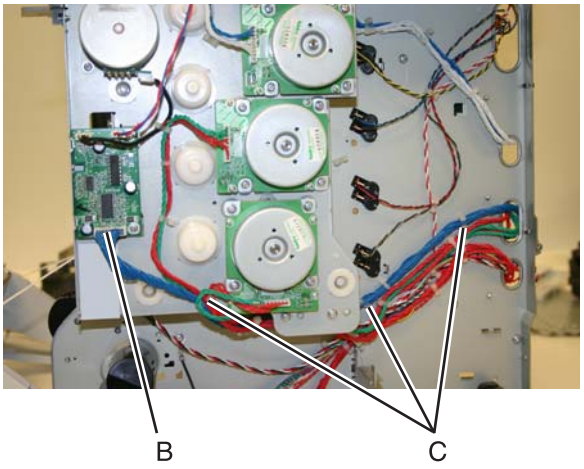
1. Remove the right cover. See **“Right cover removal” on page 4-51**.
2. Disconnect the three cables (A).
3. Remove the two screws (B), and remove the motor driver card.

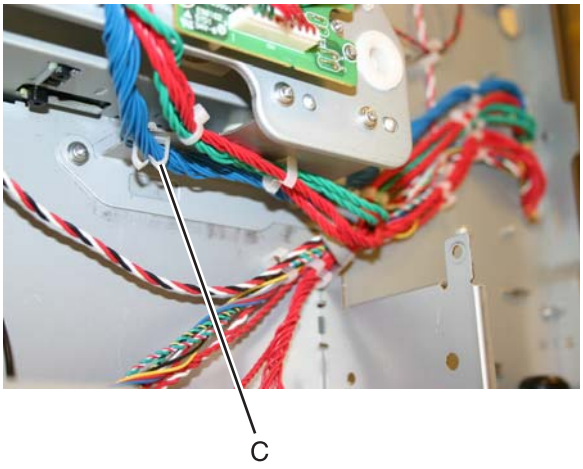


Motor driver cable removal

1. Remove the LVPS. See **"Low-voltage power supply (LVPS) removal" on page 4-119**.
2. Disconnect the connector in JDVR1 (A) on the system board.

3. Disconnect the connector on the motor driver card (B).
4. Remove the cable from the cable from the four cable retainers (C).



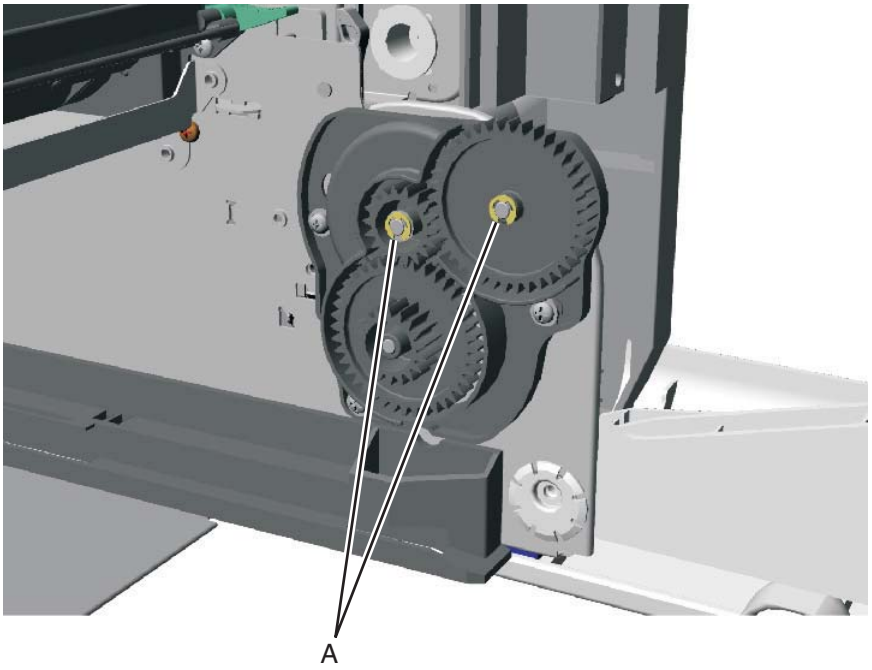


Installation note: Pay attention to the routing of the cable and the cable retainers.

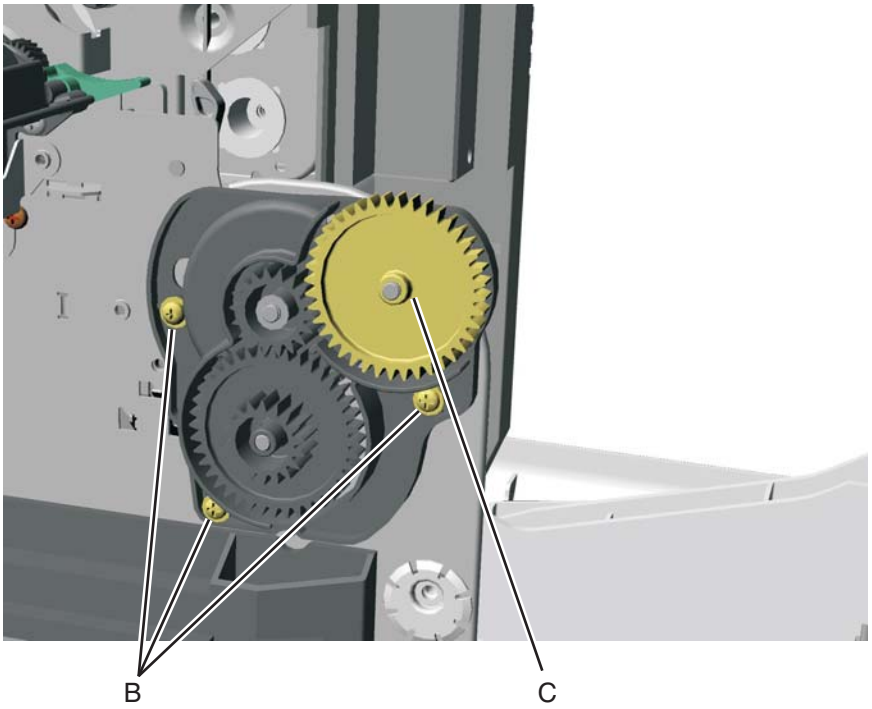
Multipurpose feeder (MPF)/duplex gear and housing removal

See the multipurpose feeder/duplex gear and housing kit for the part number.

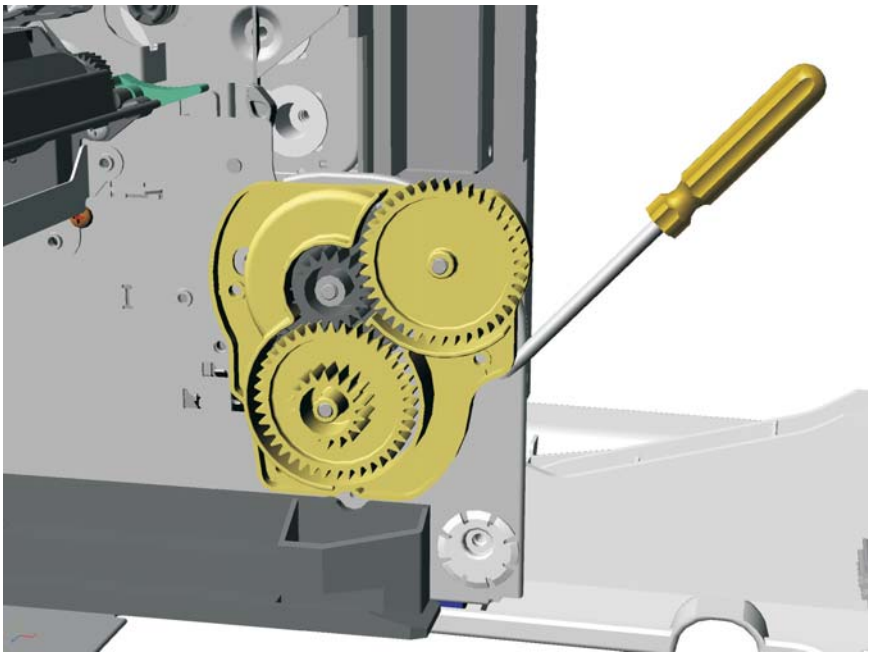
1. Remove the paper pick mechanism assembly. See **“Paper pick mechanism assembly removal” on page 4-137**.
2. Remove the two E-clips (A) from the gears.



3. Remove the three screws (B).
4. Slide the front gear (C) off.



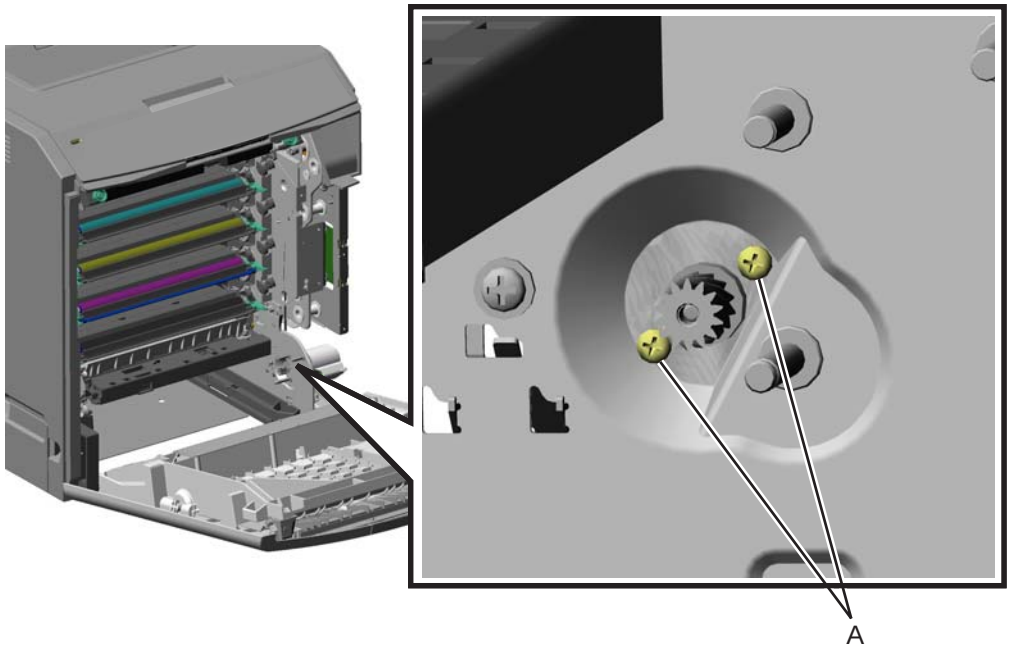
5. Slide a flathead screwdriver up and under the front cover.
6. Slide the remaining two gears and housings off.



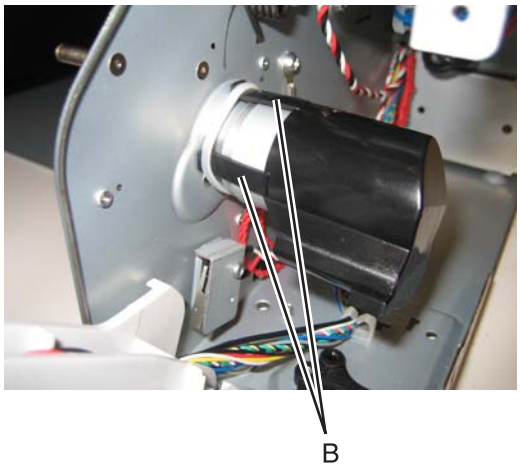
Multipurpose feeder (MPF)/duplex motor assembly removal

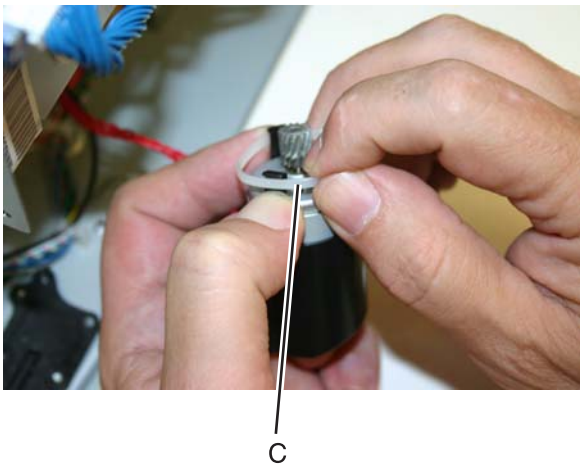
See **"MP feeder/duplex drive parts packet" on page 7-7** for the part number.

1. Remove the low-voltage power supply (LVPS). See **"Low-voltage power supply (LVPS) removal" on page 4-119**.
2. Remove the multipurpose feeder/duplex gear and housing. See **"Multipurpose feeder (MPF)/duplex gear and housing removal" on page 4-123**.
3. Remove the two multipurpose feeder/duplex motor mounting screws (A).



4. Remove the multipurpose/duplex motor from the printer.
5. Push in the prongs (B) of the housing to remove the cable tie (C).

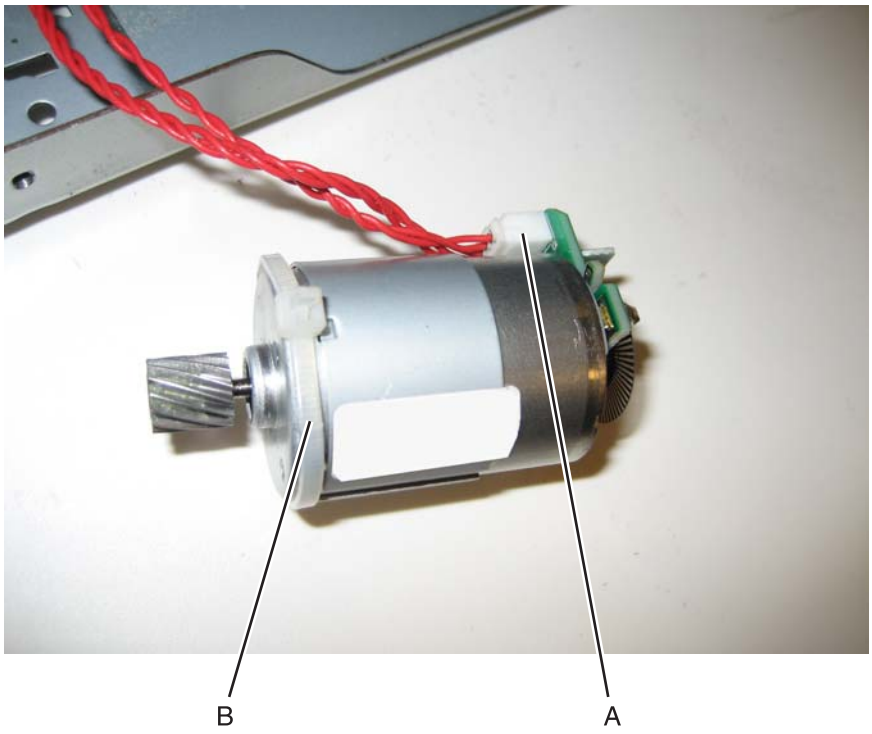




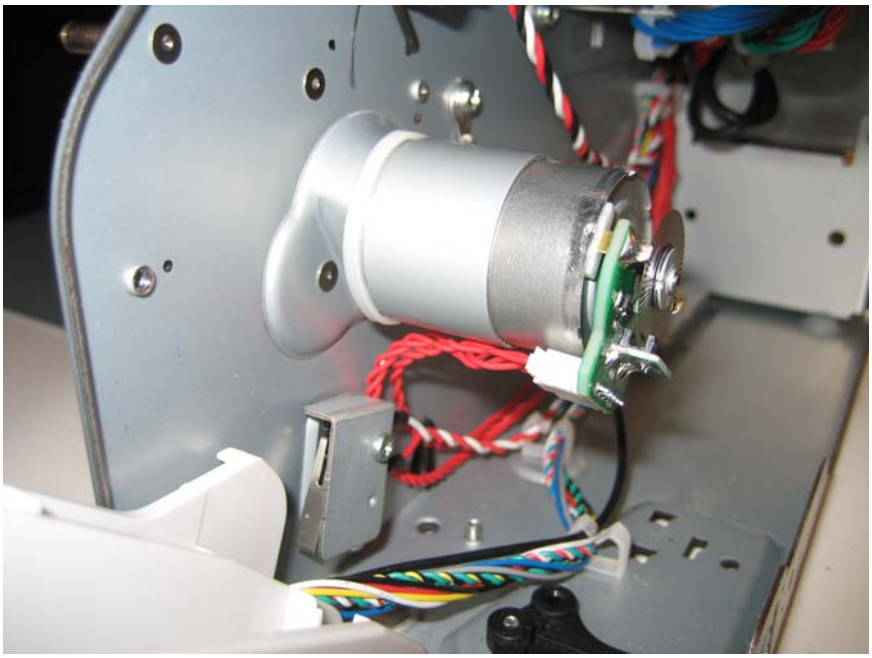
6. Slide the motor out of the housing.
7. Disconnect the connector (D) from the motor.

Installation notes:

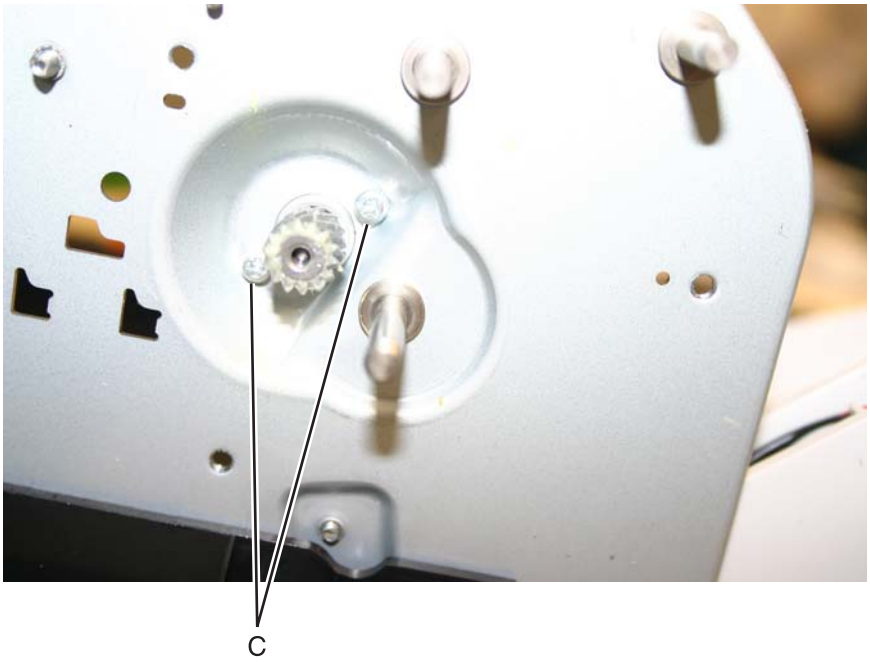
1. Connect the cable (A) at the motor.
2. Slide the cable tie (B) onto the motor.



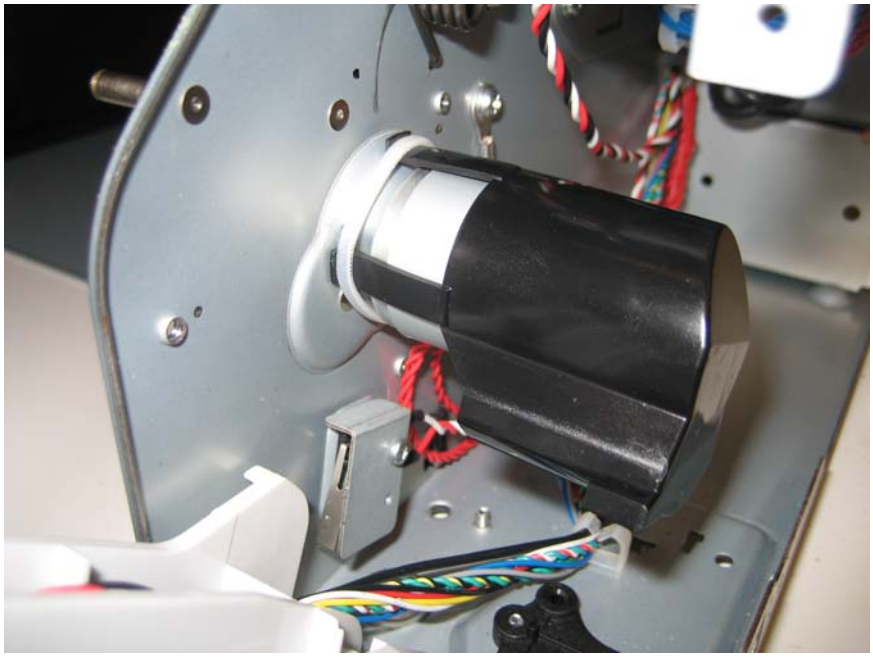
3. Insert the motor into the frame.



4. Replace the screws (C).



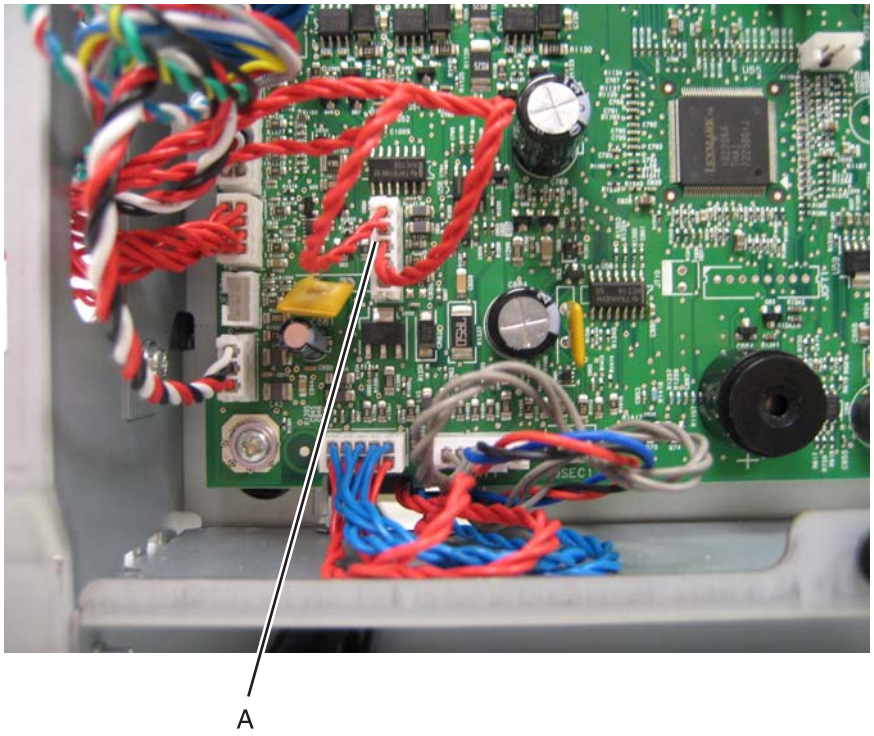
5. Slide the housing onto the motor, making sure the four tabs of the housing slide under the cable tie.



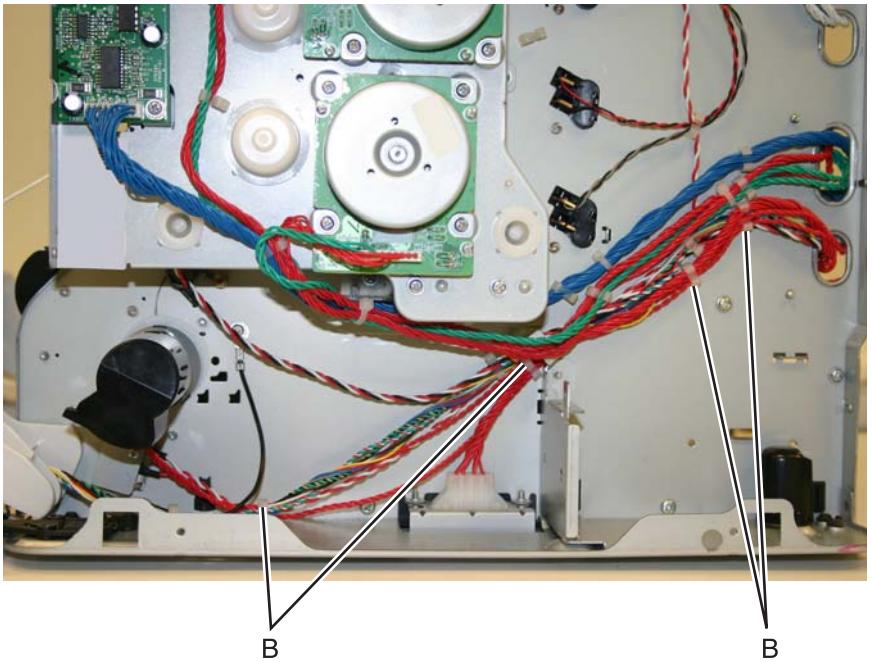
6. Replace the multipurpose feeder/duplex gear and housing assembly.

Multipurpose feeder (MPF)/duplex motor cable removal

1. Remove the multipurpose feeder/duplex motor. See **“Multipurpose feeder (MPF)/duplex motor assembly removal” on page 4-125**.
2. Disconnect the connector from JDX1 (A) on the system board.

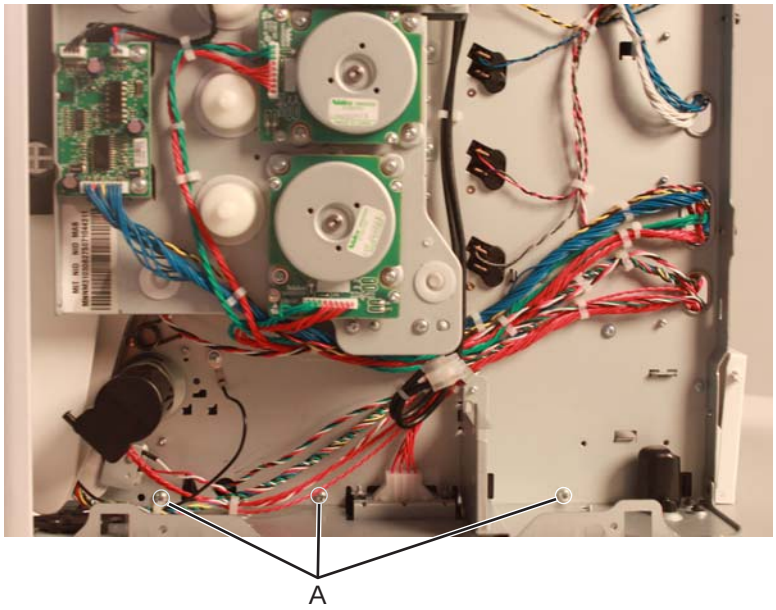


3. Remove the cable from the cable retainers (B).

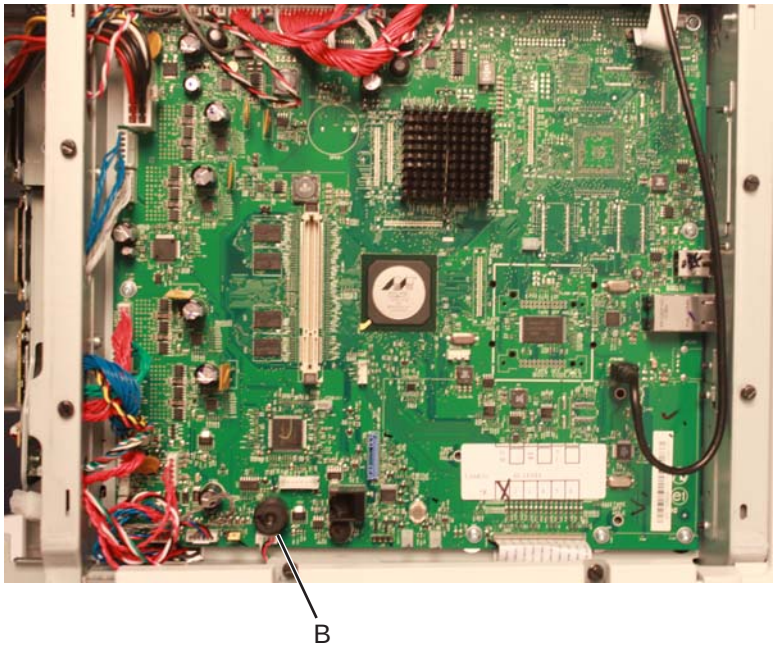


Multipurpose feeder (MPF) paper present sensor

1. Remove the right cover. See **“Right cover removal” on page 4-51**.
2. Remove the standard 550-sheet input tray.
3. Remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**.
4. Remove the Low-voltage power supply (LVPS). See **“Low-voltage power supply (LVPS) removal” on page 4-119**.
5. Remove the three screws (A) securing the tray rail that contains the paper present sensor.

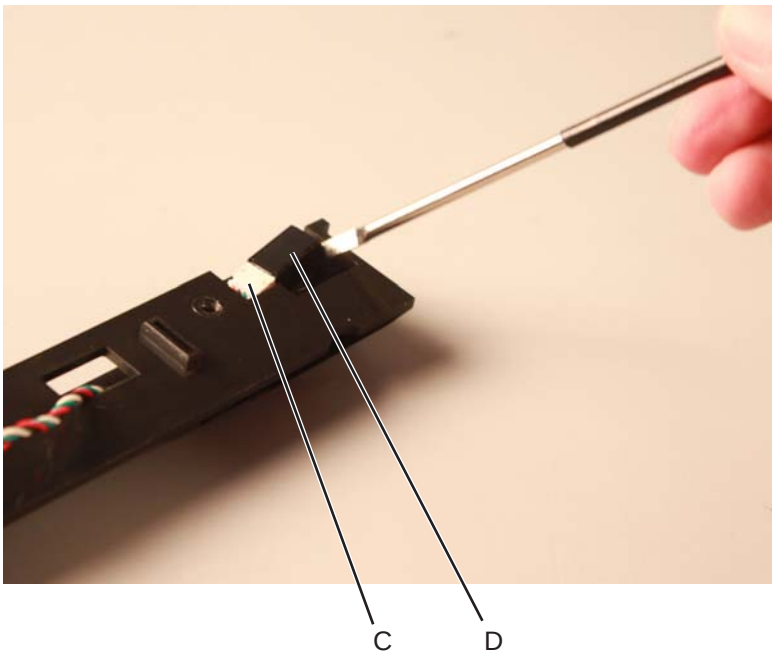


6. Remove the JMPFPP1 connector (B) from the system board, then remove the cable.
   Installation note: Pay attention to the routing of the cable.



7. Remove the MPF paper sensor bracket from the machine.

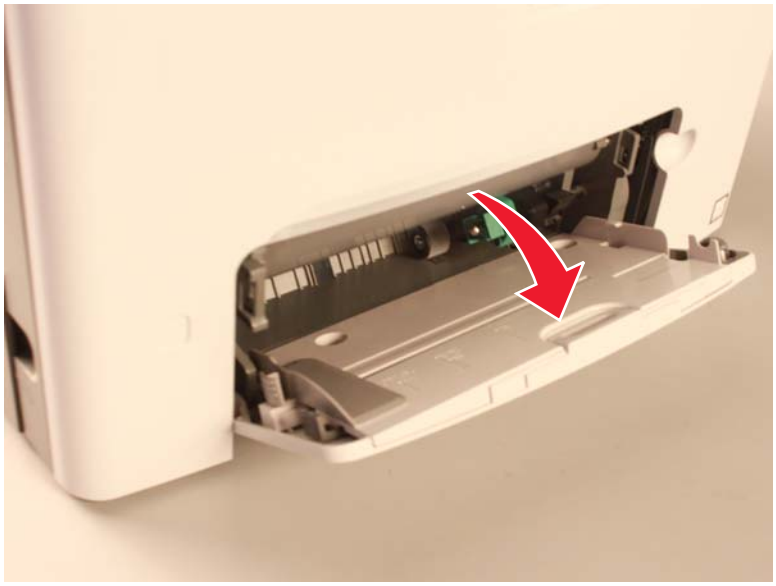
8. Pry the sensor off the bracket, then disconnect the sensor (C) from the cable (D).



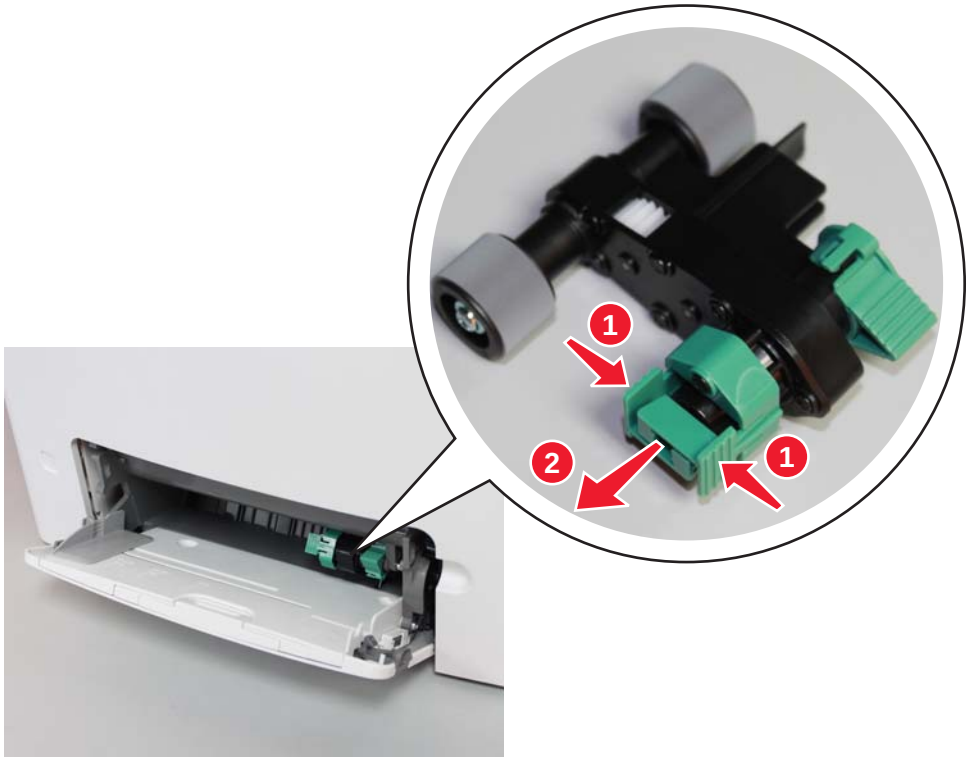
9. Remove the cable from the bracket.
Installation note: Pay attention to the routing of the cable.

MPF pick removal

1. Open the MPF door.

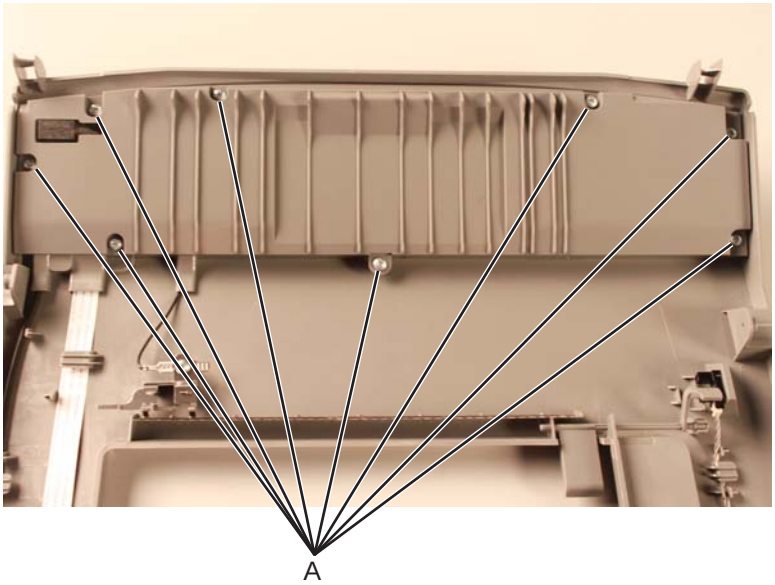


2. Press the latch on the MPF pick then pull to the left to remove.

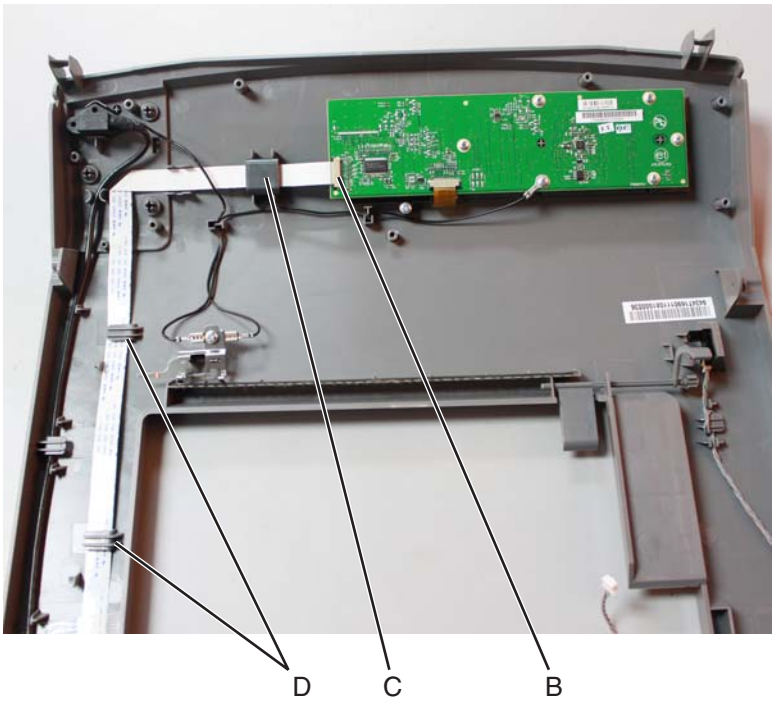


Operator panel cable removal

1. Remove the top access cover assembly. See **"Top access cover assembly removal" on page 4-54**.
2. Turn the top access cover assembly over.
3. Remove the eight screws (A), and remove the position guide cover.



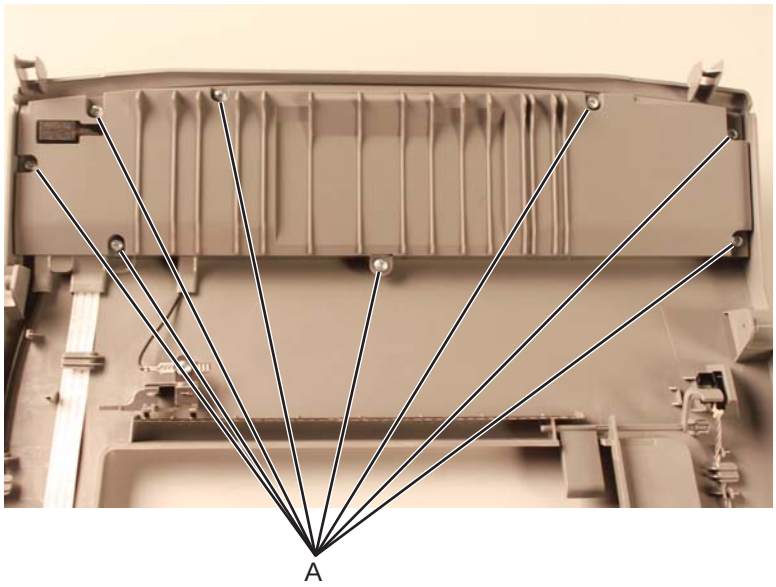
4. Pull open the operator panel connector (B) and disconnect the operator panel cable from the operator panel card.
5. Remove the operator panel cable from the toroid (C) and the two cable retainers (D).



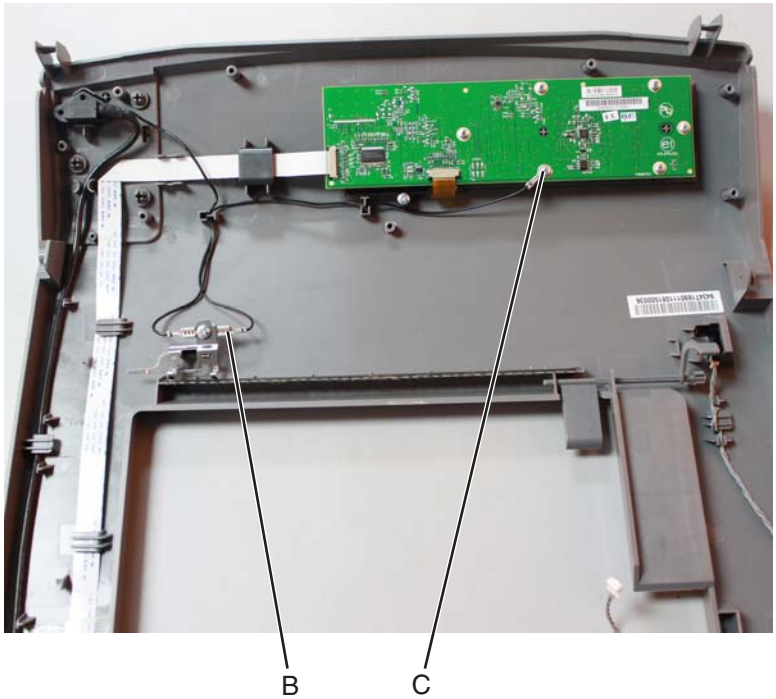
Installation note: Make sure the contact pins on the cable are facing up when reconnecting the operator panel cable to the connector.

Operator panel ground cable removal

1. Remove the top access cover assembly. See **“Top access cover assembly removal” on page 4-54**.
2. Turn the top access cover assembly over.
3. Remove the eight screws (A) securing the position guide cover.



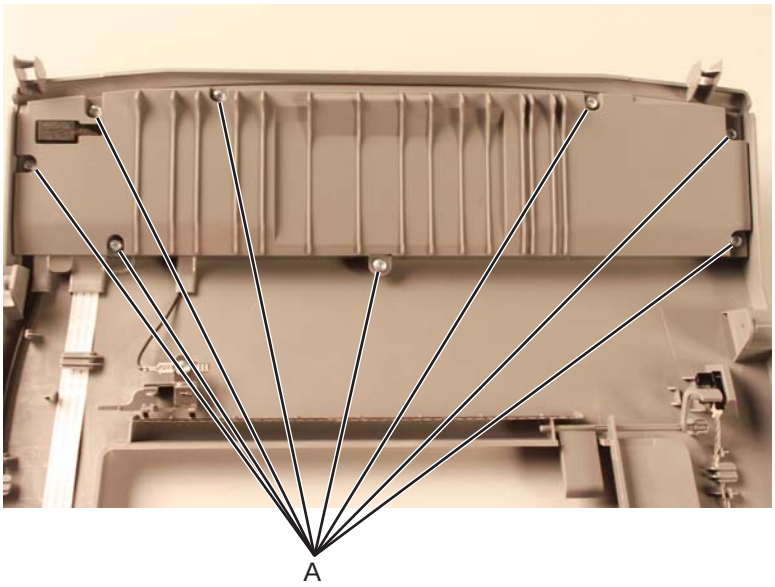
4. Disconnect the operator panel ground cable from the operator panel ground pin (B).
5. Remove the screw (C) securing the operator panel ground cable to the operator panel card.



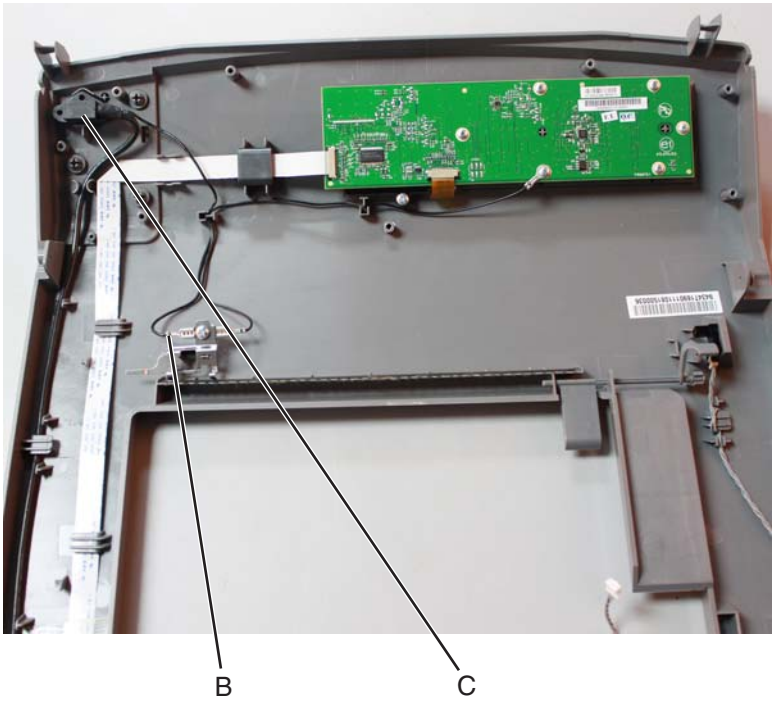
6. Remove the operator panel ground cable from its retainers.
   Installation note: Pay attention to the routing of the ground cable.

Operator panel USB connector cable removal

1. Remove the top access cover assembly. See **"Top access cover assembly removal" on page 4-54**.
2. Turn the top access cover assembly over.
3. Remove the eight screws (A) securing the position guide cover.



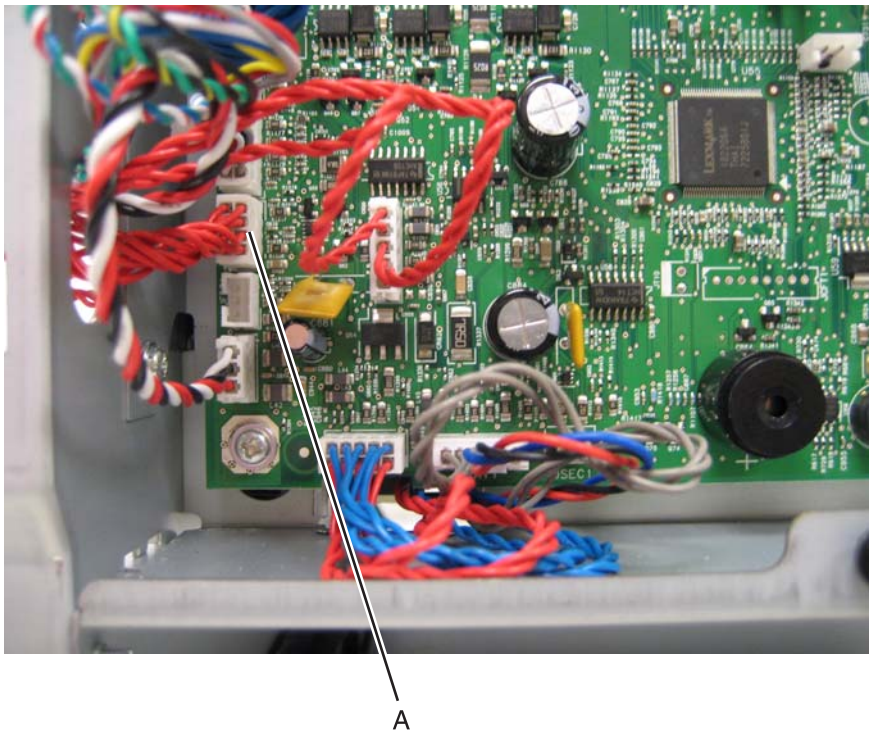
4. Disconnect the USB ground cable (B) and detach the USB cable connector (C) from the USB slot.



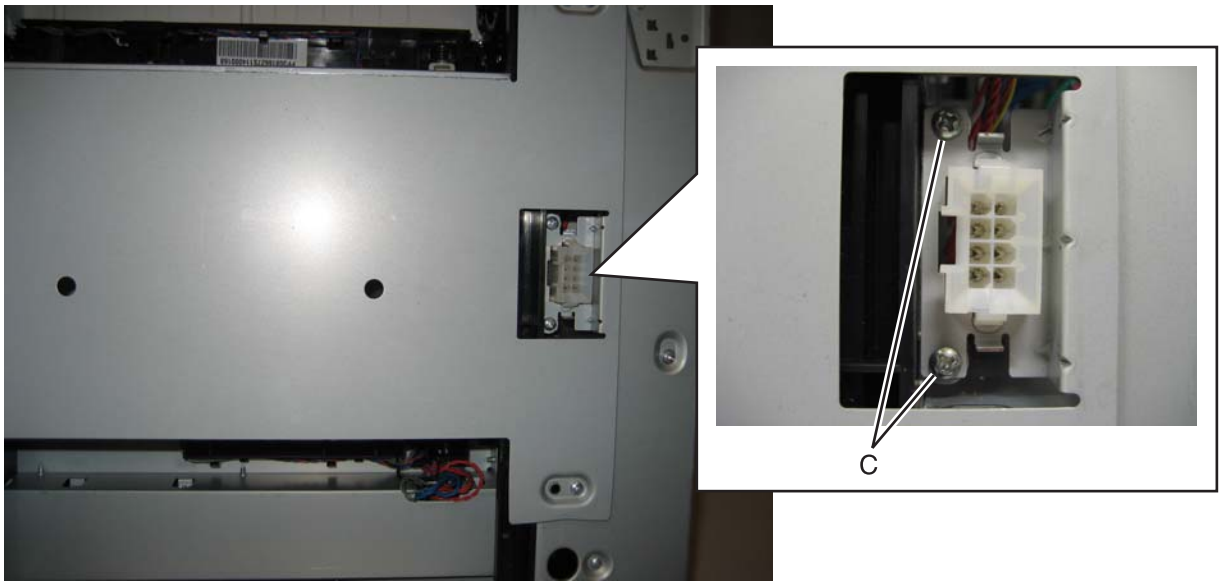
5. Remove the USB cable and ground cable from its retainers.
   Installation note: Make sure to observe the routing of the USB cable.

Option cable removal

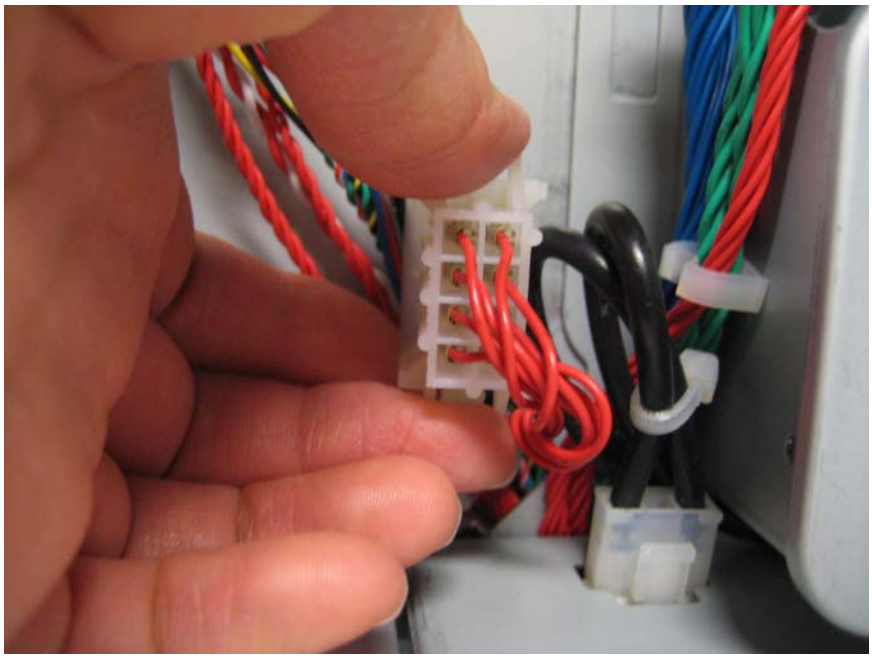
1. Remove the LVPS. See **“Low-voltage power supply (LVPS) removal” on page 4-119**.
2. Disconnect the cable connector at JOPT1 (A) on the system board.



3. Replace the rear frame cover to protect the system board.
4. Position the printer on its back.
5. Remove the two screws (B).



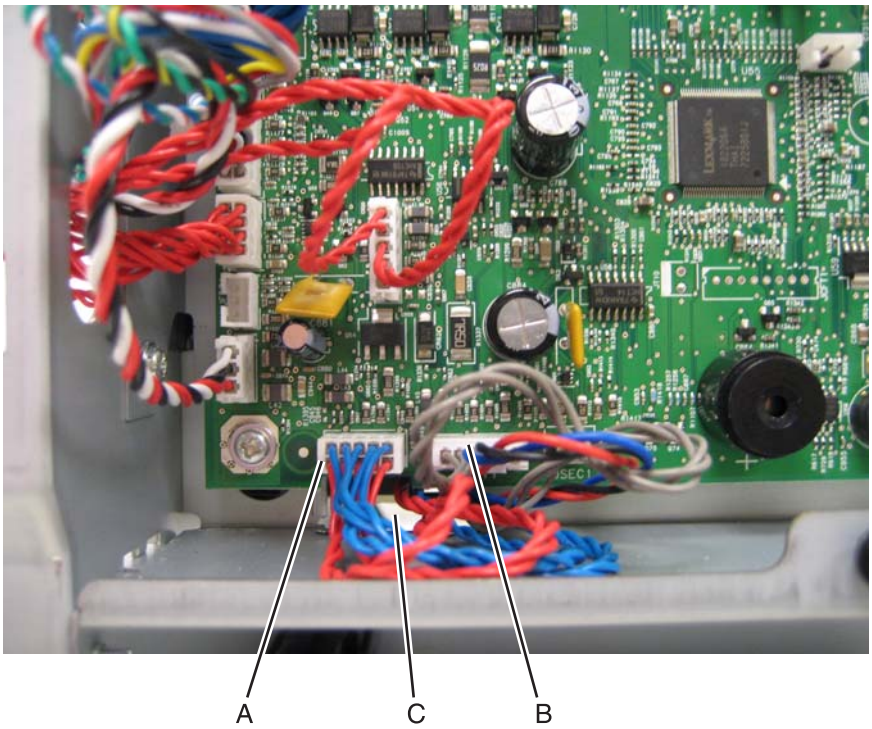
6. Press the tabs together to remove the option cable connector.
   Note: Be sure to note the cable routing for reinstallation.



Paper pick mechanism assembly removal

See **“Paper pick assembly” on page 7-7** for the part number.

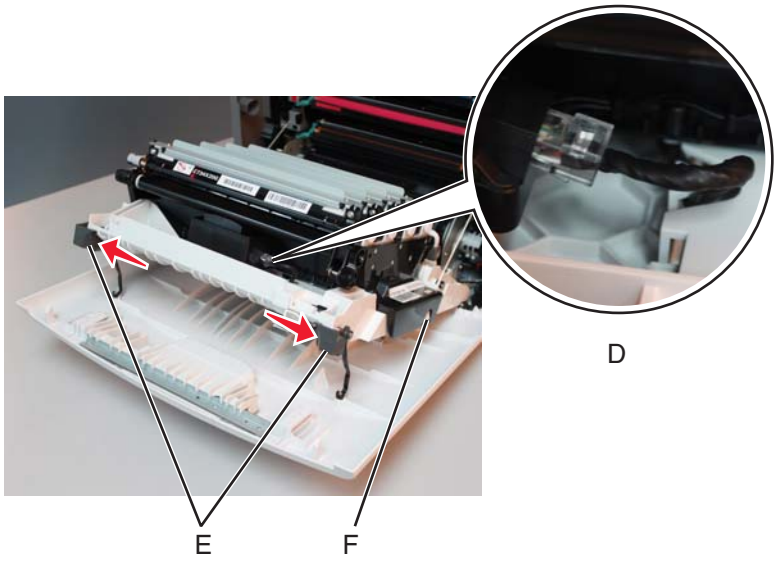
1. Remove the paper tray.
2. Remove the waste toner assembly. See **“Waste toner assembly removal” on page 4-176**.
3. Remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**.
4. Disconnect the connector in JFDPCK1 (A) and JTRAY1 (B) on the system board.
5. Push the cables through the hole in the frame (C).



6. Open the front access cover.

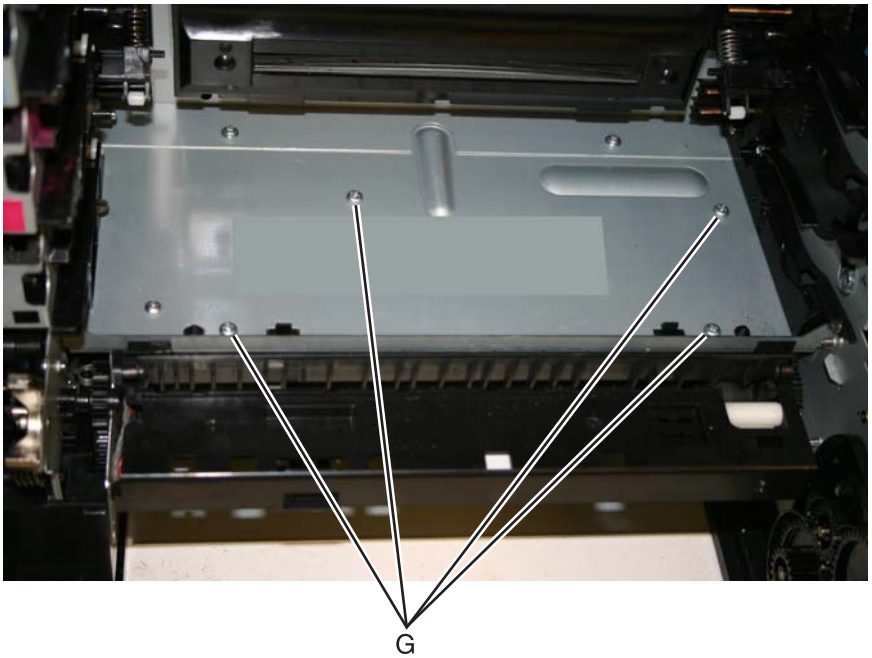
7. Remove the transfer module with the photoconductor units attached.
   a. Disconnect the transfer module cable (D).
   b. Press the two tabs (E) to release the front access cover assembly, and lower the front access door cover.
   c. Press the two tabs (F) on either side of the transfer module, and lift out the transfer module.
      Note: Leave the photoconductor units on the transport belt when removing.

   Warning: To avoid damaging the photoconductor drum, place the transfer module with the photoconductor units on a clean surface. Never expose the photoconductor units to light for a prolonged period of time. Place a clean, dry cloth over the transfer module and photoconductor units until they are required.

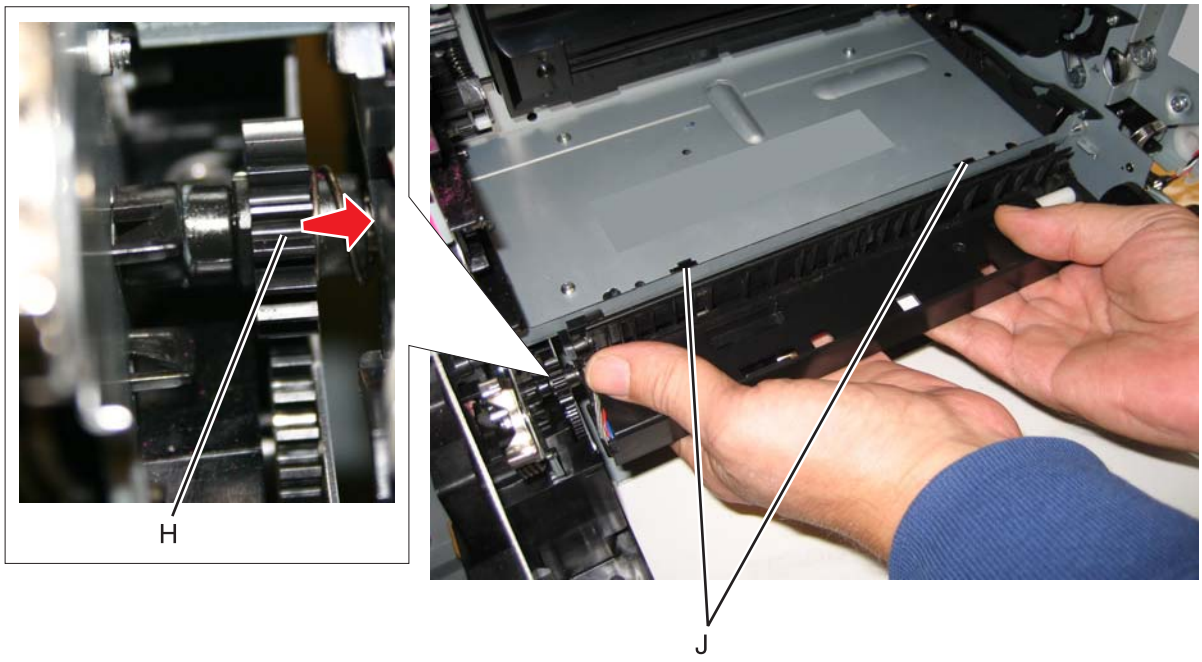


8. Remove the toner cartridges.
   Warning: Do not touch the developer rolls.

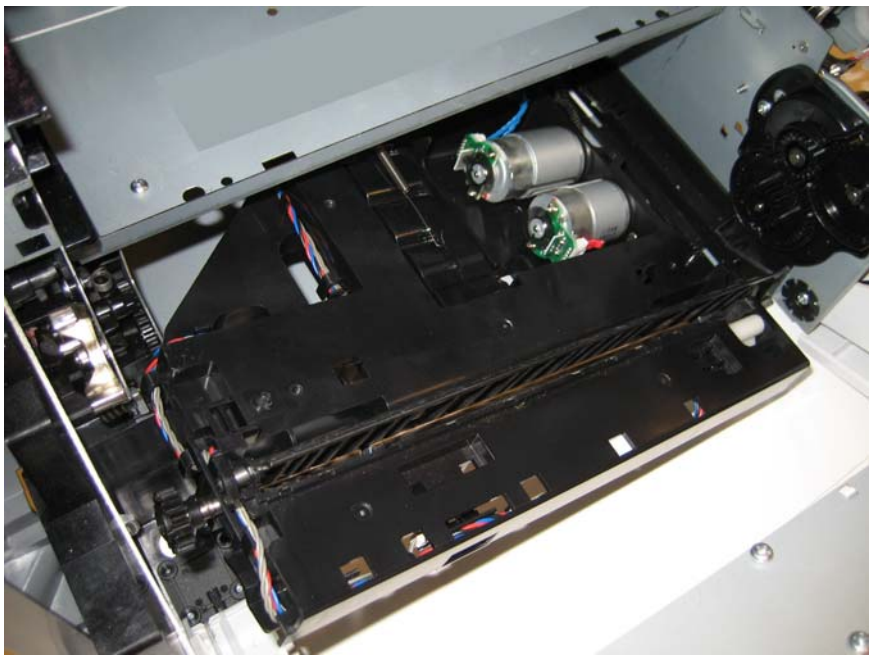
9. Remove the four screws (G) from the bottom pan.



10. With one hand, disengage the gear (H), then grasp the paper pick assembly, and pull forward and downward to disengage the assembly until the front (J) and rear locking tabs release (not visible).



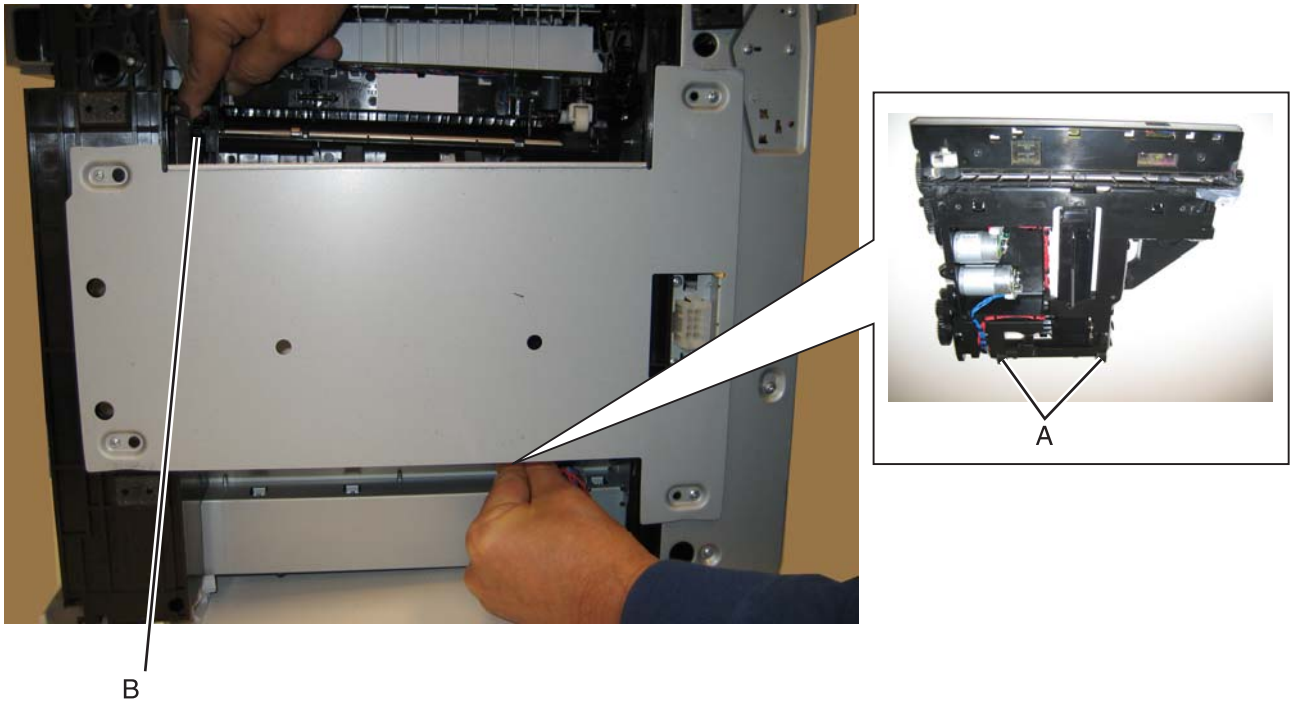
11. Lower the paper pick mechanism, and remove through the front of the printer.
Note: Make sure the JTRAY1 and JTRAY2 connectors do not bind when passing through the frame access hole.



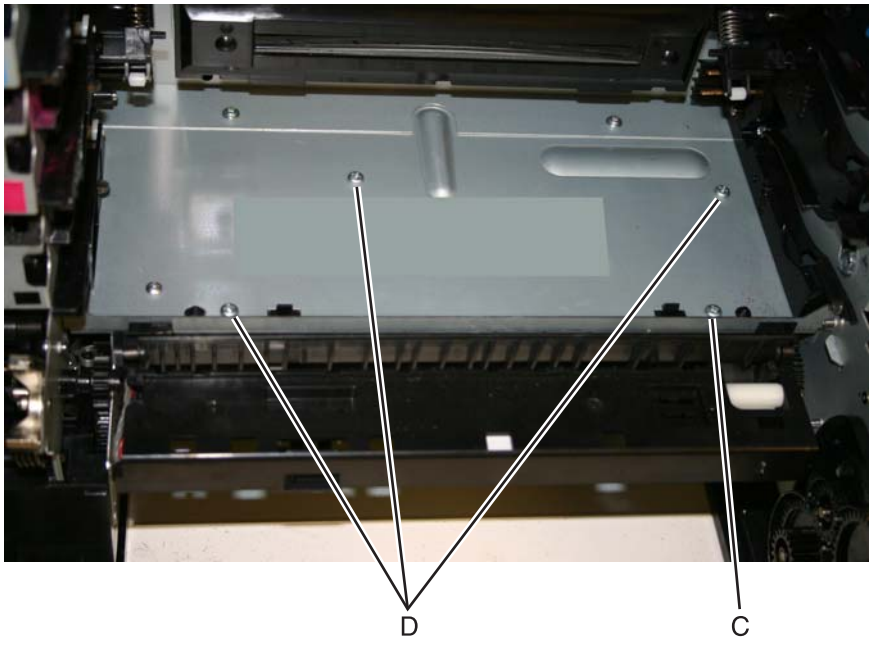
Installation notes:

1. Remove the waste toner assembly. See **"Waste toner assembly removal" on page 4-176**.
2. Replace the rear frame cover to protect the system board.
3. Turn the printer on its back.
4. Slide the paper pick assembly toward the back of the printer, and down to engage the tabs (A).

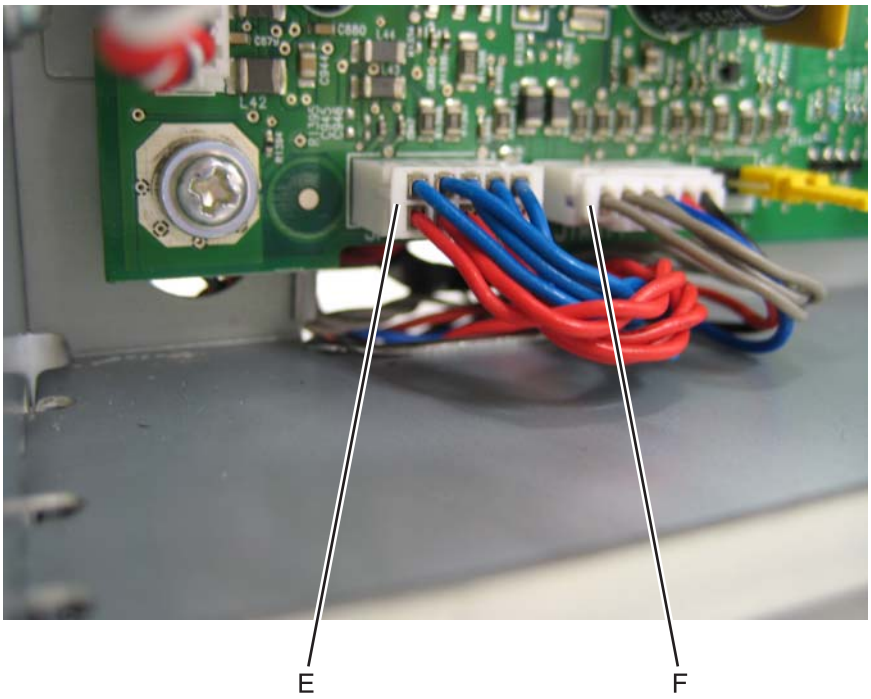
5. Engage the gear (B).



6. Reach into the printer, and replace the front right screw (C) to secure the paper pick assembly.
7. Set the printer upright.
8. Secure the remaining three screws (D).



9. Remove the rear frame cover.
10. Route the cables through the hole in the frame, and connect them to JFDPCK1 (E) and JTRAY1 (F).



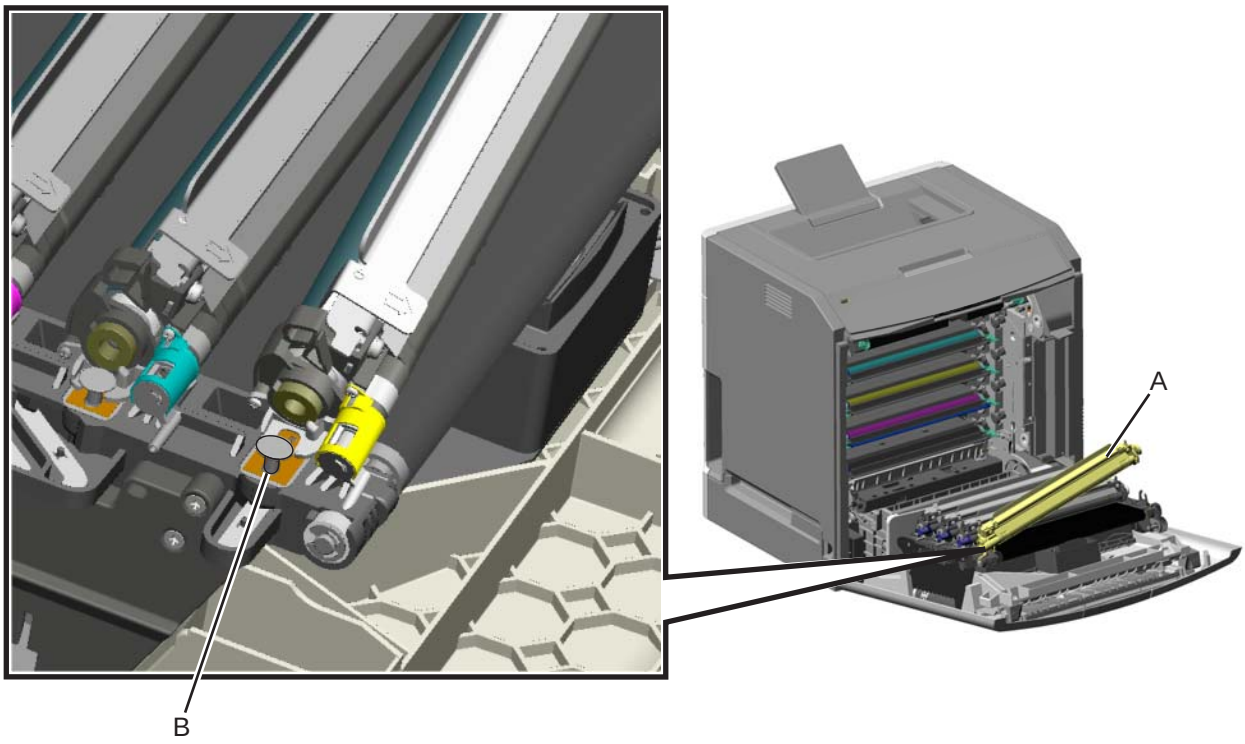
11. Replace the rear frame cover.
12. Replace the waste toner assembly.
13. Replace the toner cartridges.
14. Replace the transfer module with the photoconductor units.
15. Close the front access cover.
16. Replace the paper tray.

Photoconductor unit removal

Not a FRU

Warning: To avoid damaging the photoconductor drum, hold the photoconductor units by their handle and place the photoconductor units on a clean surface. See **"Handing the photoconductor unit" on page 4-2** for additional information.

1. Open the front access door.
2. Lift the right end handle (A) of the photoconductor unit, releasing from the mount.
3. Lift the unit up and away from the left side of printer, ensuring the left end of the photoconductor is released from the holding pin (B).



Installation note: If a new photoconductor unit is installed, reset the life count value in the printer memory.

- If a message appears on the operator panel:
  1. When `84 <color> PC Unit Life Warning` or `84 Replace <color> PC Unit` appears, select **Supply Replaced**, and then press ↺.
     `Replace Supply` displays.
  2. Select **Cyan PC Unit**, **Magenta PC Unit**, **Yellow PC Unit**, or **Black PC Unit** based on the photoconductor unit that was just replaced, and then press ↺.
     `<color> PC Unit Replaced` displays.
  3. Select **Yes**, and then press ↺ to clear the message.
- If no message appears:
  1. Press **Menu** ( ).
  2. Select **Supplies Menu**, and press ↺.
  3. Press ↺ to select **Replace Supply**.
  4. Select **Cyan PC Unit**, **Magenta PC Unit**, **Yellow PC Unit**, or **Black PC Unit** based on the photoconductor unit that was just replaced, and then press ↺.
     `<color> PC Unit Replaced` displays.
     Press ↺ to select **Yes**.

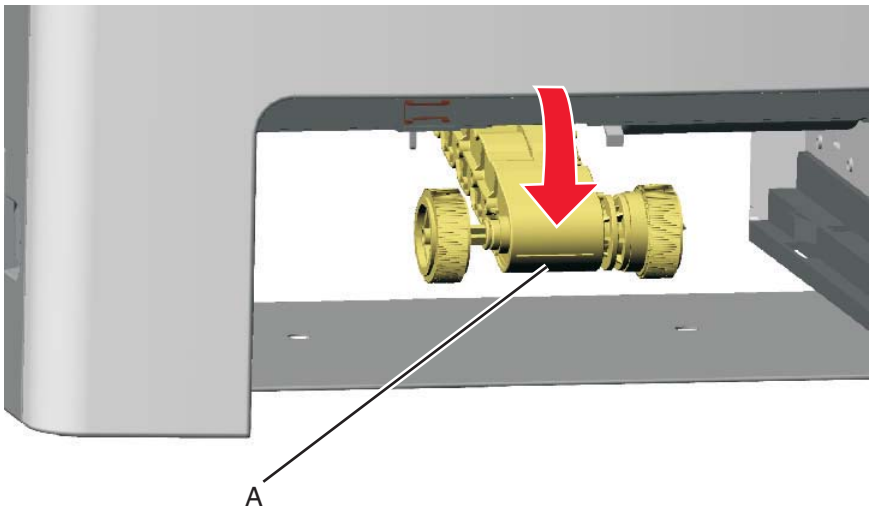
Pick arm roll removal and replacement

See **“Pick arm roll” on page 7-7** for the part number.

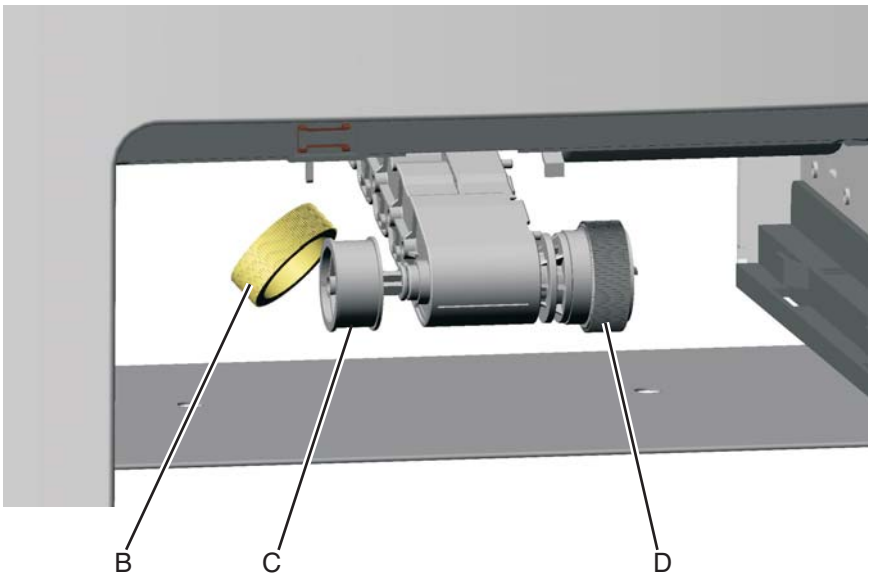
The auto compensator pick roll tires are located in the base printer. There are also tires in all input options. If you have additional input options, and you are having problems with media picking, replace these tires also. Always replace the pick arm rolls in pairs. The rolls come in a package of two.

Warning: Remove only the rubber tires and not the pick tire assembly to avoid losing small parts.

1. Remove the paper tray.
2. Pull the paper pick arm (A) down.

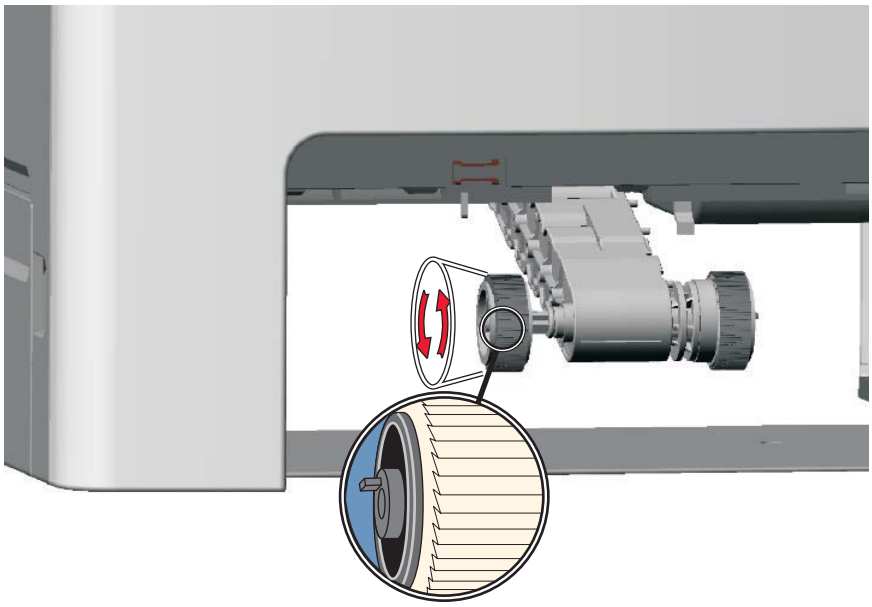


3. Remove the pick arm roll (B) from the pick arm roll assembly (C). Repeat for the other pick arm roll (D).



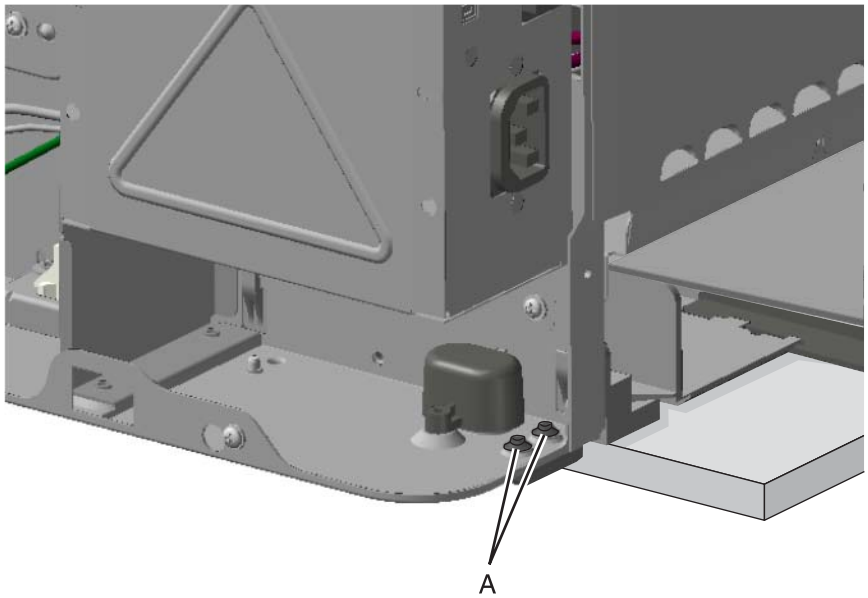
Installation notes: Install the new rubber tires with the surface texture turning in the direction as shown.

Note: Feel the rubber surface to verify it turns properly in the direction shown.



Printer pad removal

1. Slide the corner of the printer containing the damaged pad over the corner of the table.
2. Remove the side cover that corresponds to the damaged pad so you can see if the pad fully seats in the installation holes.
3. Pull the pad tabs (A) from the bottom of the printer.



Installation note: Verify that the pad fully seats in the installation holes.

Printhead removal, installation, and adjustment

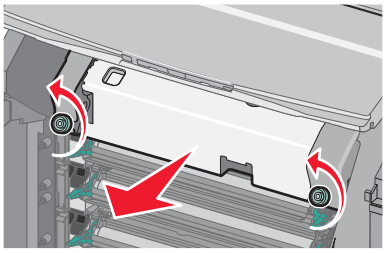
See **“Printhead assembly” on page 7-11** for the part number.

Service tip—Testing the new printhead

See **“Printhead verification” on page 3-39** for quick way to verify that the existing printhead is failing before installing the new printhead. If the new printhead also fails, the existing printhead is probably working properly, so the system board is probably the failing component.

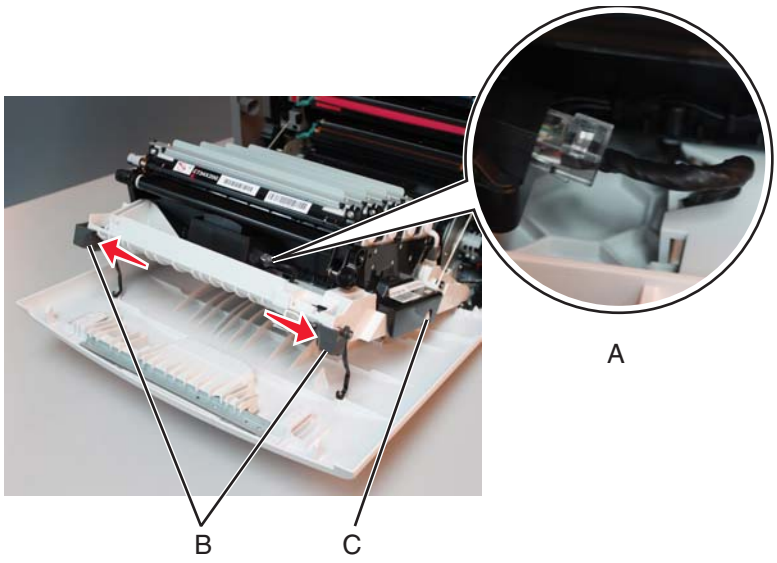
Printhead removal

1. Turn the printer off.
2. Disconnect the power cord from the electrical outlet and from the printer.
3. Remove the paper tray.
4. Open the front access door.
5. Open the top access door.
6. Remove the fuser.

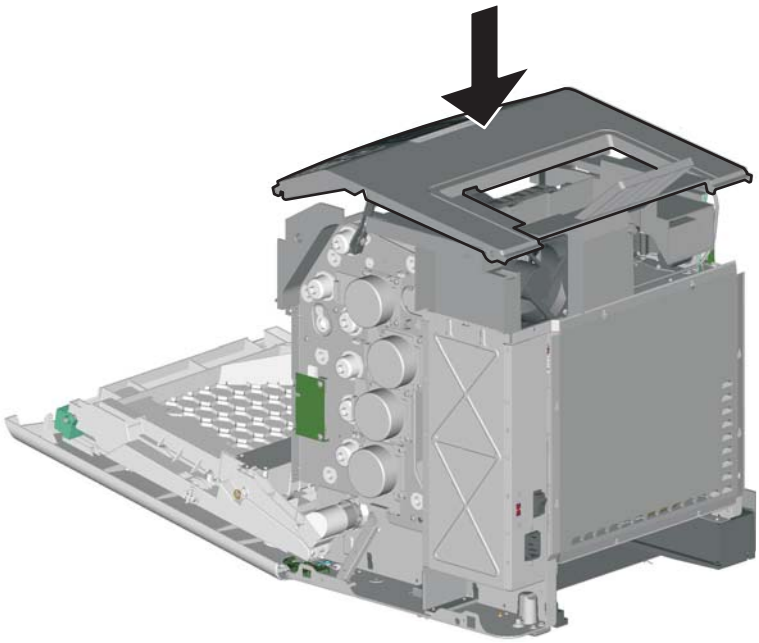


7. Remove the transfer module and photoconductor units.
   a. Disconnect the transfer module cable (A).
   b. Press the two tabs (B) to release the front access cover assembly.
   c. Press the two tabs (C) on either side of the transfer module, and lift out the transfer module.
   Note: Leave the photoconductor units on the transport belt when removing.

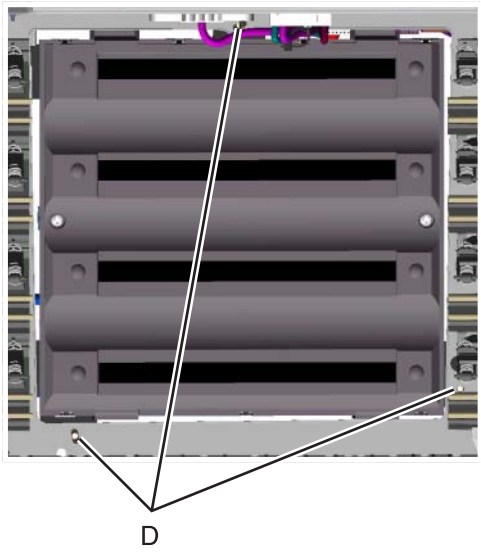
Warning: To avoid damaging the photoconductor drum, place the transfer module with the photoconductor units on a clean surface. Never expose the photoconductor units to light for a prolonged period of time. Place a clean, dry cloth over the transfer module and photoconductor units until they are required.



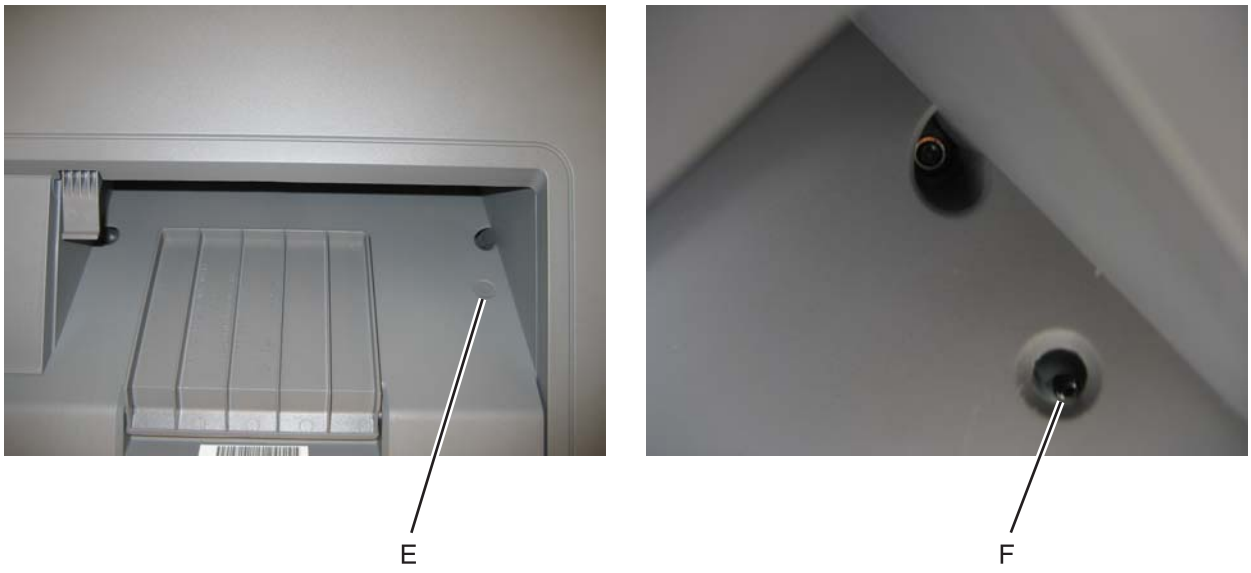
8. Remove all of the toner cartridges.
9. Remove the right cover and the right side cover (attached). See **"Right cover removal" on page 4-51**.
10. Remove the LVPS. See **"Low-voltage power supply (LVPS) removal" on page 4-119**.
11. Remove the system board support shield. See **"System board support shield removal" on page 4-160**.
12. Push the top access cover down until it *clicks* into place.



13. Remove the three printhead mounting screws (D).



14. Remove the printhead alignment screw cover (E).
15. While still holding the printhead in place, loosen the printhead alignment screw (F) until the printhead comes out.
    Warning: Secure the printhead when loosening the printhead alignment screw. Failure to do this allows the printhead to fall out of the printer, potentially damaging the printhead.

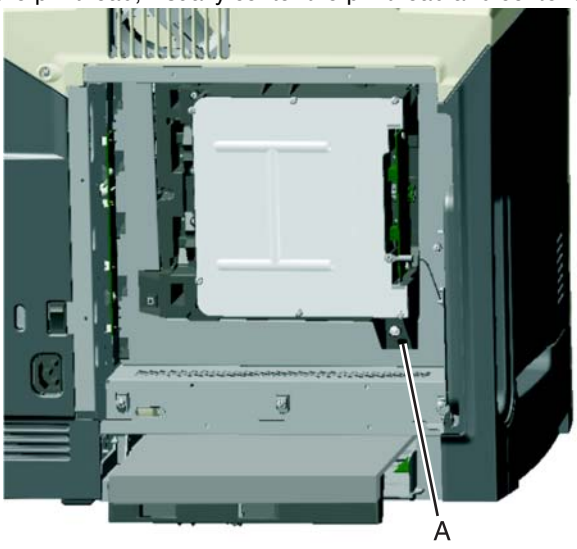


Install the printhead and replace parts

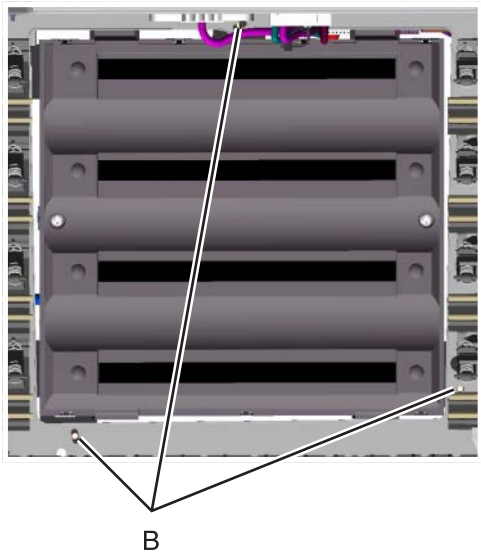
Warning:

- When reinstalling the printhead, it is important to keep in mind that the printhead mounting screws should be **initially tightened just enough to hold the printhead in the printer**. The printer parts are installed with the printhead mounting screws loose so you can print the pages that will be used to align the black plane to the printer frame. This also allows the black skew adjustment to be adjusted with the printhead alignment screw.
- Once the black skew is aligned, the mounting screws will be fully tightened, and the next steps of alignment can be completed.

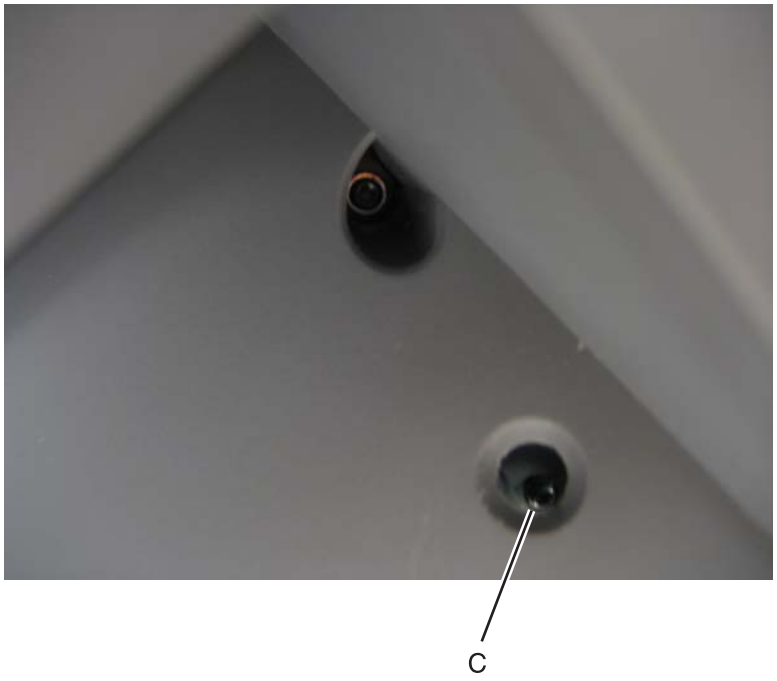
1. When installing the printhead, visually center the printhead and center the hole in the frame (A).



2. Loosely attach the three printhead mounting screws (B).
   Warning: Do not fully tighten the printhead mounting screws until skew has been adjusted.

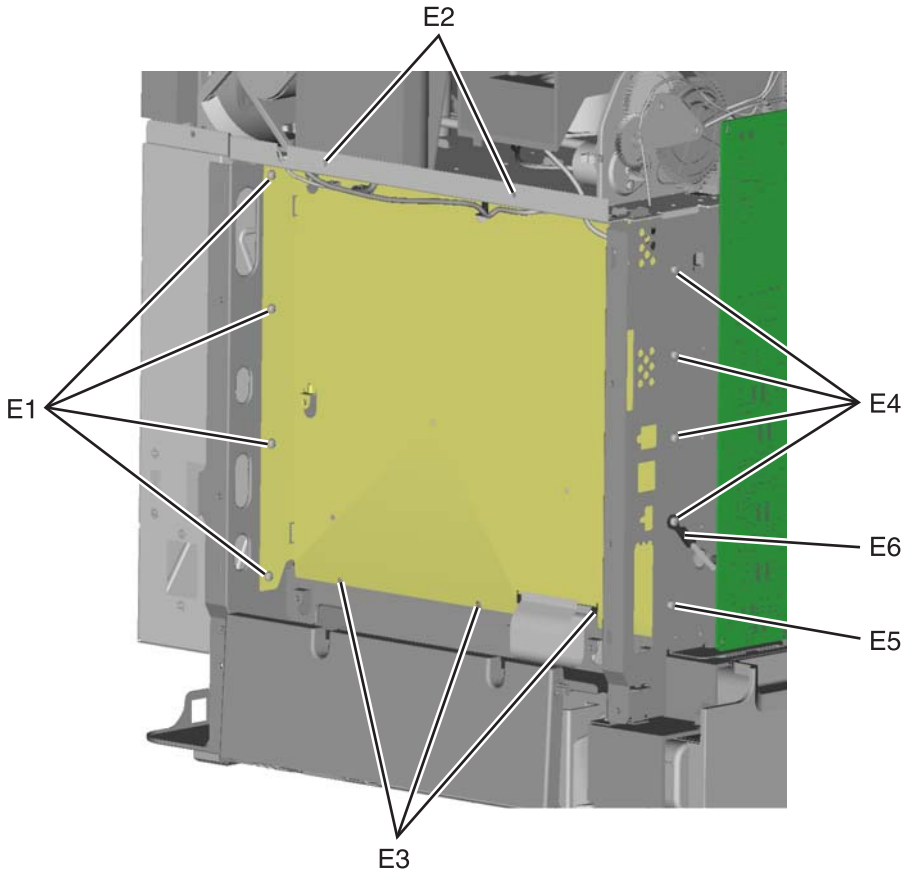


3. Lightly tighten the alignment screw (C).

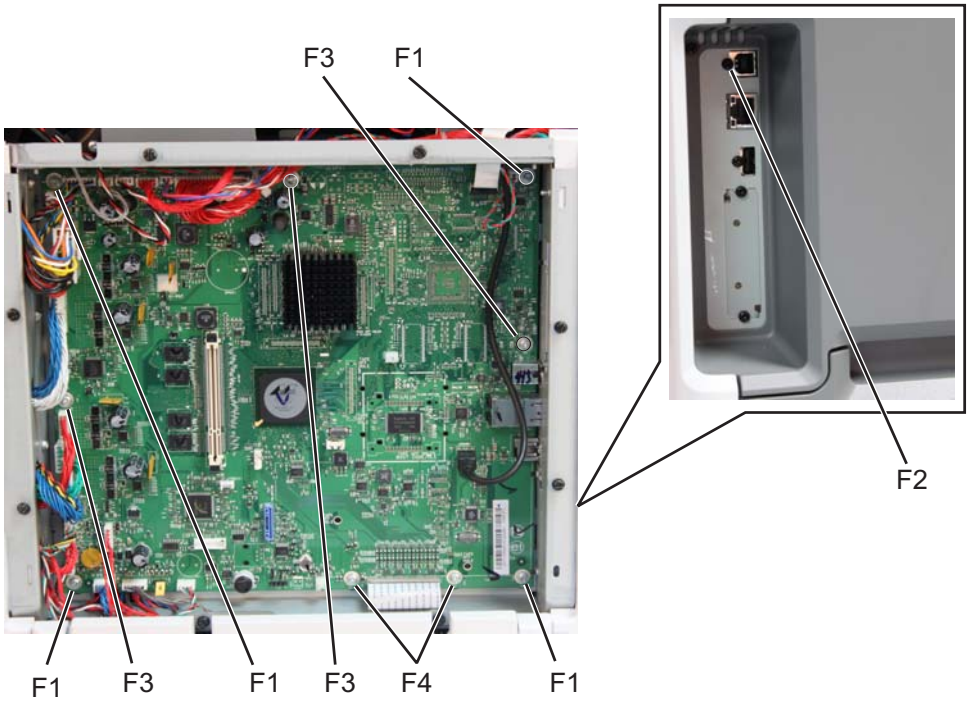


4. Feed the ground cable through the hole in bottom leftside frame.

5. Replace the system board support shield screws (E):
   a. Loosely attach the two mounting screws (E2)
   b. Set the system board support shield in place.
      Check that the ribbon mirror motor cable (white) and the printhead cable (bottom) do not rub against the edges of the frame.
   c. Replace the remaining system board support shield screws in the following order:
      - Replace the four screws (E1) from the inner right side of the support shield.
      - Tighten the two mounting screws (E2) to the top of the support shield.
      - Replace the three screws (E3) from the bottom of the support shield, and two screws from the top.
      - Replace the five mounting screws (E4, E5) to the outer left side of the printer.
      - Reattach the printhead ground cable (E6) to the fourth screw from the top.



6. Replace the system board.
   a. Place the system board in position.
      Check that the mirror motor cable and the printhead cable do not rub against the edges of the frame.
   b. Replace the nine screws (F) in the system board in the following order:
      - Loosely attach the four corners (F1) in a clockwise order, beginning with the left top corner.
      - Replace the USB connector screw (F2).
      - Loosely attach the left center side, top center, and right center side (F3).
      - Tighten the top left corner and top right corner.
      - Replace the two screws on the center bottom (F4).
      - Tighten the bottom left and bottom right corners (F1).

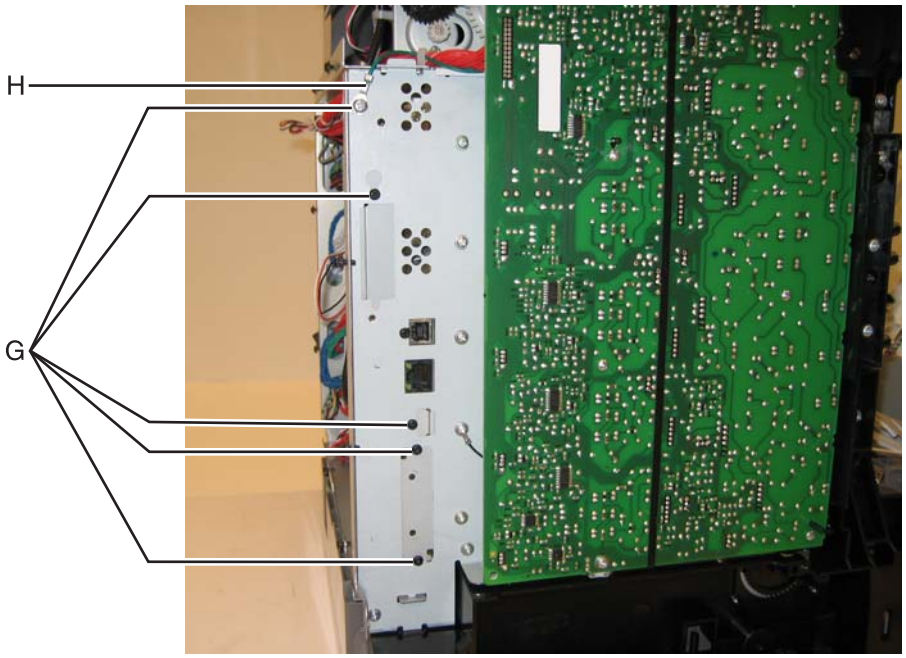


   c. Route the cables through the access holes on the right side of the printer.

d. Replace all the screws (G) from the left side of the printer, including:

- Ethernet port connector (1 screws)
- Modem shield (1 screws)
- Hard disk shield (2 screws)
- Ground screw (1 screw)

Note: Be sure to attach the ground wire (H) to the ground screw.



e. Reconnect all the cables to the system board. Use the diagram below as a guideline.

Warning: Be careful in reconnecting the printhead ribbon cable (J). It can be damaged and should be handled carefully. A flat ribbon cable can easily be damaged and should be connected gently by hand.

f. Install the hard disk if appropriate.

7. Replace the LVPS.

a. Install the LVPS, and make sure the cable is in the cable guides, and not behind the LVPS.

b. Reconnect the cable to the LVPS.

c. Replace the five LVPS mounting screws.

   d. Reconnect the cable in connector JLVPS1 on the system board.
8. Replace the right cover.
   a. Slide the right cover up until it locks into position.
      Be sure the tab in the top access cover engages the slot in the right cover.
   b. Replace the screw at the bottom of the rear frame cover.
   c. Replace the two screws securing the right cover at the bottom.
   d. Replace the metal screw at the bottom on the inside front cover
   e. Replace the plastic screw at the top on the inside of the front cover.
9. Replace the left cover, the rear left cover, and the paper tray dust cover.
   a. Place the paper tray dust cover into position.
   b. Slide the cover down until it locks into place.
      Be sure the post in the top access cover engages the hole in the left cover, and that the post in the paper tray dust cover engages the hole in the left cover properly.
   c. Replace the taptite screw on the rear frame cover.
   d. Replace the three screws on the left cover.
10. Replace the rear frame cover.
   a. Replace the rear frame cover.
   b. Tighten the eight screws.
11. Replace the rear upper cover (two screws).
12. Reinstall the transfer module with the photoconductor units still attached.
13. Reconnect the transfer module cable.
14. Replace the toner cartridges.
15. Reinstall the fuser.
16. Close the top access door.
17. Close the front access door.
18. Replace the paper tray.

Align the printhead

Note: The printhead mounting screws should be initially tightened **just enough to hold the printhead in the printer**.

There is one printhead that houses the four color planes. The black plane is aligned to the printer, and the color planes are internally aligned to black. Electrical alignment is done to fine tune the alignment of the color planes to the black plane after the printhead is installed, and black skew is adjusted using the alignment screw.

1. Plug the electrical cord into the printer.
2. Plug the electrical cord into the outlet.
3. Align the printhead skew for black. Go through steps 13 to 18 on **page 4-10** for printhead alignment skew for black on the C746 model, or go through steps 13 to 18 on **page 4-19** for printhead alignment skew for black on the C748 model
4. Perform top margin alignment for black. Go to **page 4-13** for top margin alignment for black on the C746 model, or go to **page 4-23** for top margin alignment for black on the C748 model.
5. Perform bottom margin alignment for black. Go to **page 4-13** for bottom margin alignment for black on the C746 model, or go to **page 4-23** for bottom margin alignment for black on the C748 model.
6. Perform left margin alignment for black. Go to **page 4-14** for left margin alignment for black on the C746 model, or go to **page 4-24** for left margin alignment for black on the C748 model.
7. Perform right margin alignment for black. Go to **page 4-14** for right margin alignment for black on the C746 model, or go to **page 4-24** for right margin alignment for black on the C748 model.
8. Perform alignment for cyan, yellow, and magenta. Go to **page 4-14** for cyan, yellow, and magenta alignment on the C746 model, or go to **page 4-24** for cyan, yellow, and magenta alignment on the C748 model.

Right bell crank assembly removal

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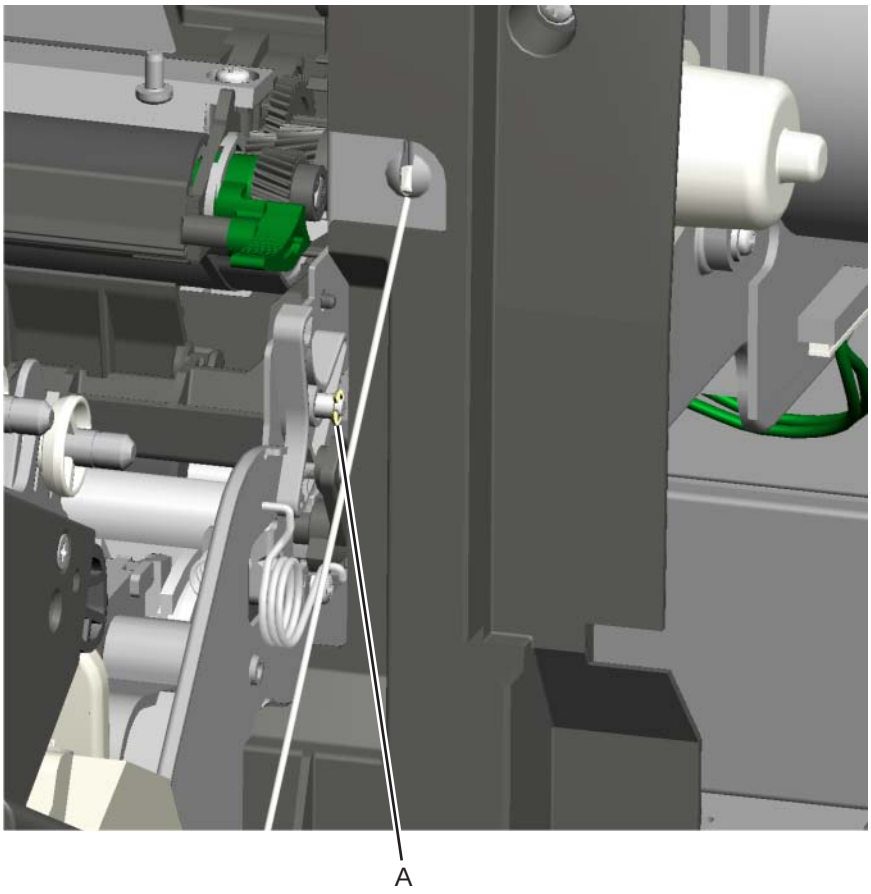
See **“Right bellcrank assembly, with spring” on page 7-7** for the part number.

1. Remove the right cover. See **“Right cover removal” on page 4-51**.
2. Remove the C-clip (A).

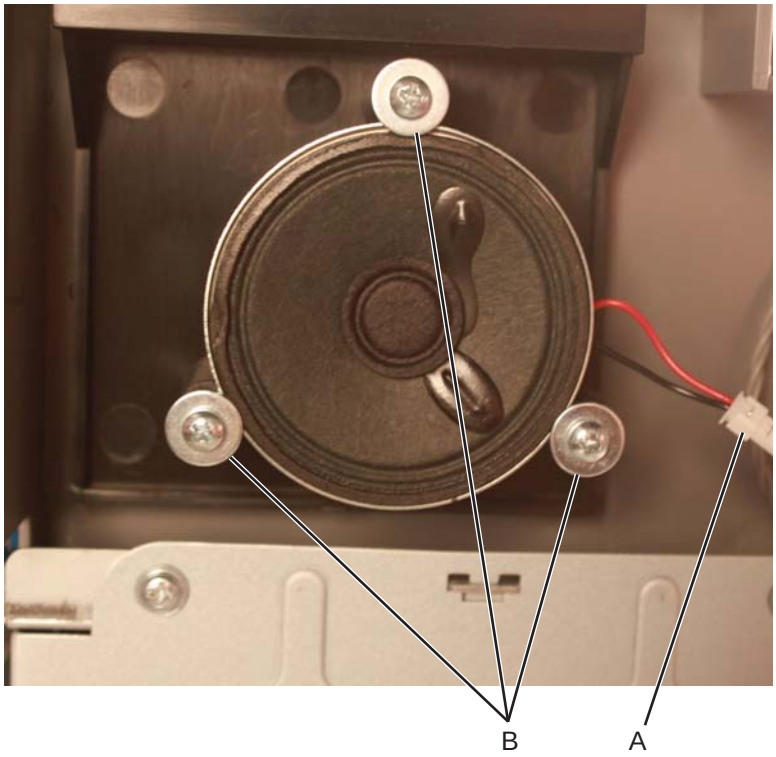


3. Remove the right bell crank assembly.

Speaker removal

See **“Speaker” on page 7-5** for the part number.

1. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-50**.
2. Remove the right cover. See **“Right cover removal” on page 4-51**.
3. Disconnect the speaker connector (A).
4. Loosen the three screws (B), then remove the speaker.



System board removal

Warning: See the system board part number for the model you need on **page 7-11**. This part might contain customer confidential information. See **“Data Security Notice” on page 4-1** for more details. After removing this part, return it to your next level of support so any data can be removed. If the customer requests to keep the part, they must sign a confirmation of memory device retention form.

	CAUTION This product contains a lithium battery. THERE IS A RISK OF EXPLOSION IF THE BATTERY IS REPLACED BY AN INCORRECT TYPE. Discard used batteries according to the battery manufacturer’s instructions and local regulations.

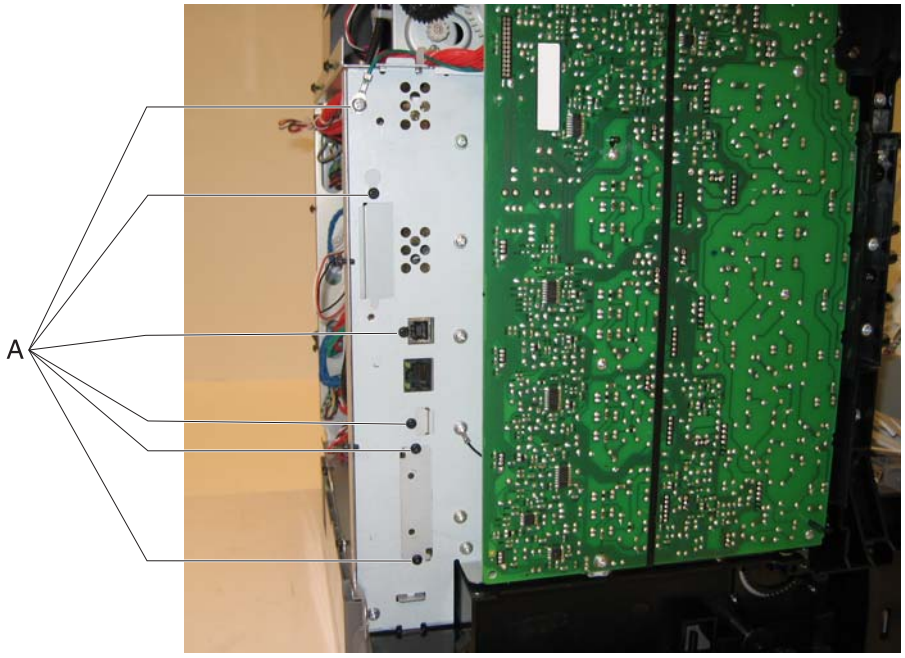
Warning: When replacing any one of the following components:

- **Operator panel assembly**
- **System board**
- **Top access cover assembly**

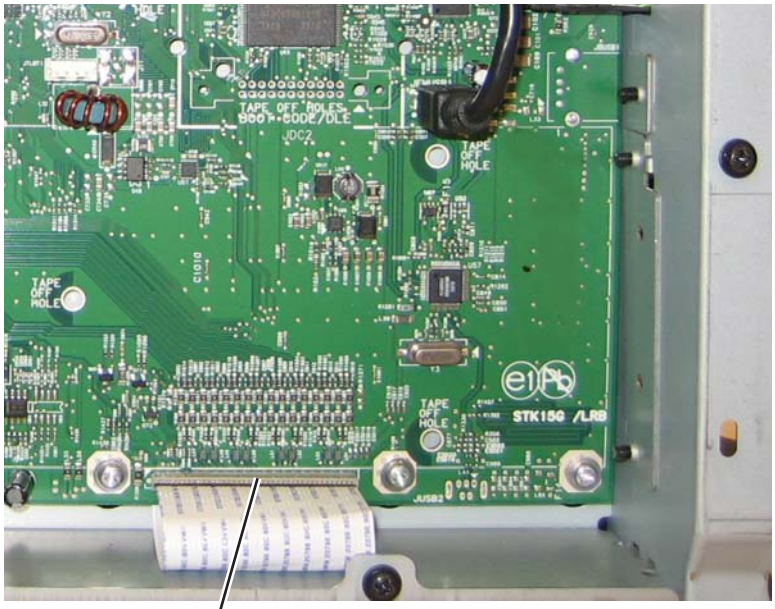
Only replace one component at a time. Replace the required component, and perform a POR before replacing a second component listed above. If this procedure is not followed, the printer will be rendered inoperable.

Warning: Be careful not to damage the printhead cable when removing the system board.

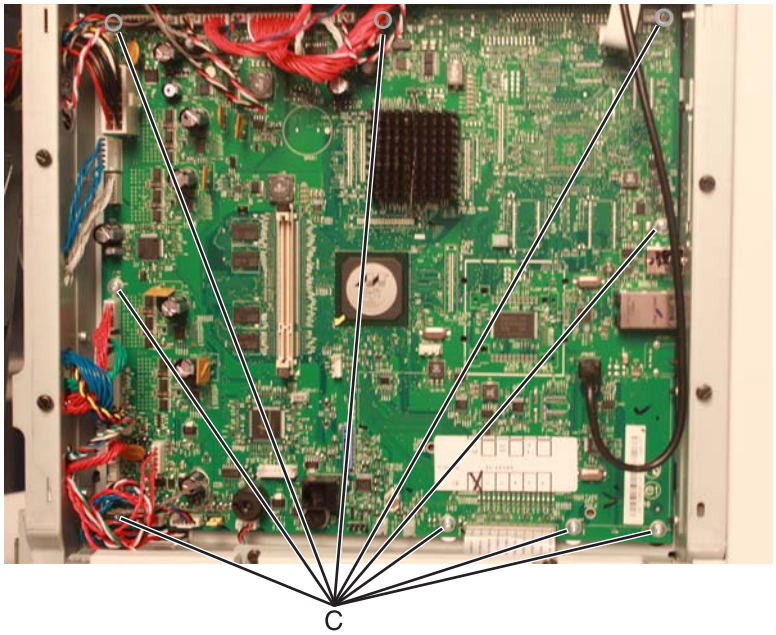
1. Remove the left cover and the rear left cover. See **"Left cover removal" on page 4-31**.
2. Remove the rear frame cover. See **"Rear frame cover removal" on page 4-47**.
3. Remove the hard disk if one is installed. See **"Hard drive assembly removal" on page 4-114**.
4. Remove all the screws (A) from the left side of the printer so you can remove the system board, including:
   - USB port connector (1 screw)
   - Ethernet port connector (1 screws)
   - Modem shield (1 screws)
   - Hard disk shield (2 screws)
   - Ground screw (1 screw)



5. Disconnect all the cables from the system board.
   Warning: Do not use tools to remove the printhead ribbon cable (B). A flat ribbon cable can be damaged and should be removed gently by hand.



6. Remove the nine screws (C) from the system board.

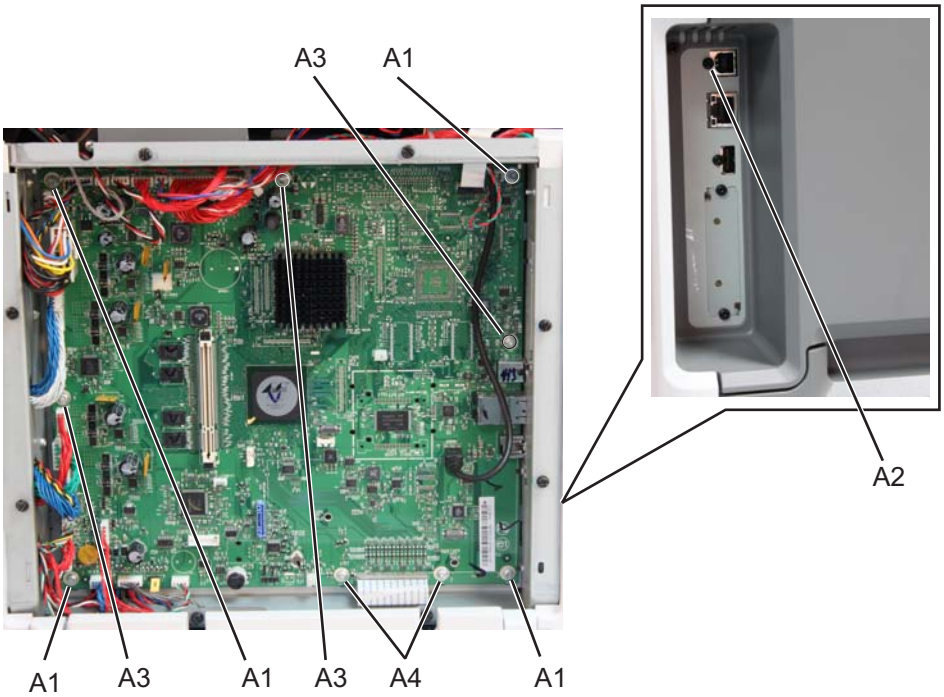


7. Remove the system board.

Installation notes:

1. Place the system board in position.
   Note: Check that the mirror motor cable and the printhead cable do not rub against the edges of the frame.

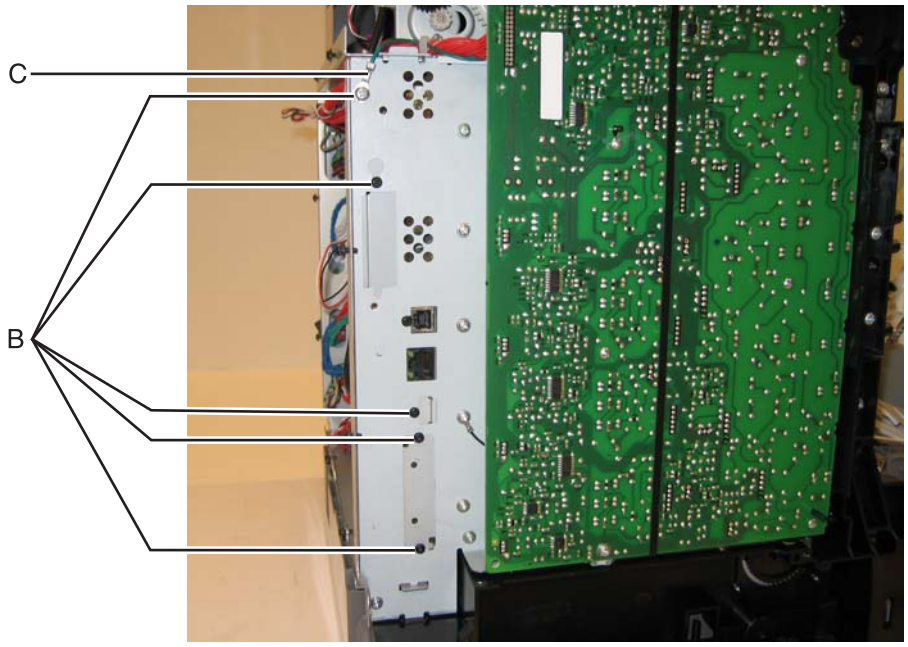
2. Replace the nine screws (A) in the system board in the following order:
   - Loosely attach the four corners (A1) in a clockwise order, beginning with the left top corner.
   - Replace the USB connector screw (A2).
   - Replace the top center, right center side, and left center side (A3).
   - Tighten the top left corner and top right corner.
   - Replace the two screws on the center bottom (A4).
   - Tighten the bottom right and bottom left corners (A1).



3. Route the cables through the access holes on the right side of the printer.

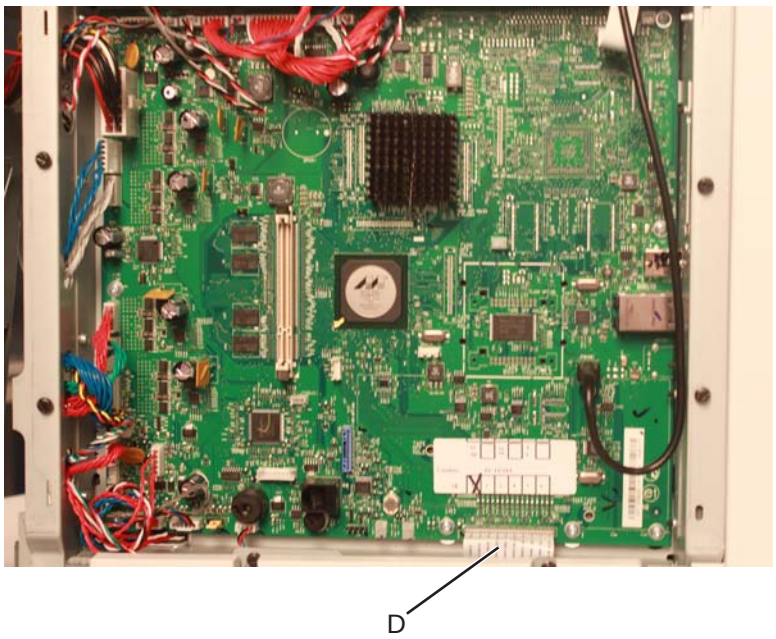
4. Replace all the screws (B) from the left side of the printer, including:
   - Ethernet port connector (1 screws)
   - Modem shield (1 screws)
   - Hard disk shield (2 screws)
   - Ground screw (1 screw)

   Note: Be sure to attach the ground wire (C) to the ground screw.



5. Reconnect all the cables to the system board. Use the diagram below as a guideline.

   Warning: Be careful reconnecting the printhead ribbon cable (D). It can be damaged and should be handled carefully. A flat ribbon cable can easily be damaged and should be connected gently by hand.



6. Install the hard disk if appropriate.
7. Replace the rear frame cover and the left cover.

System board support shield removal

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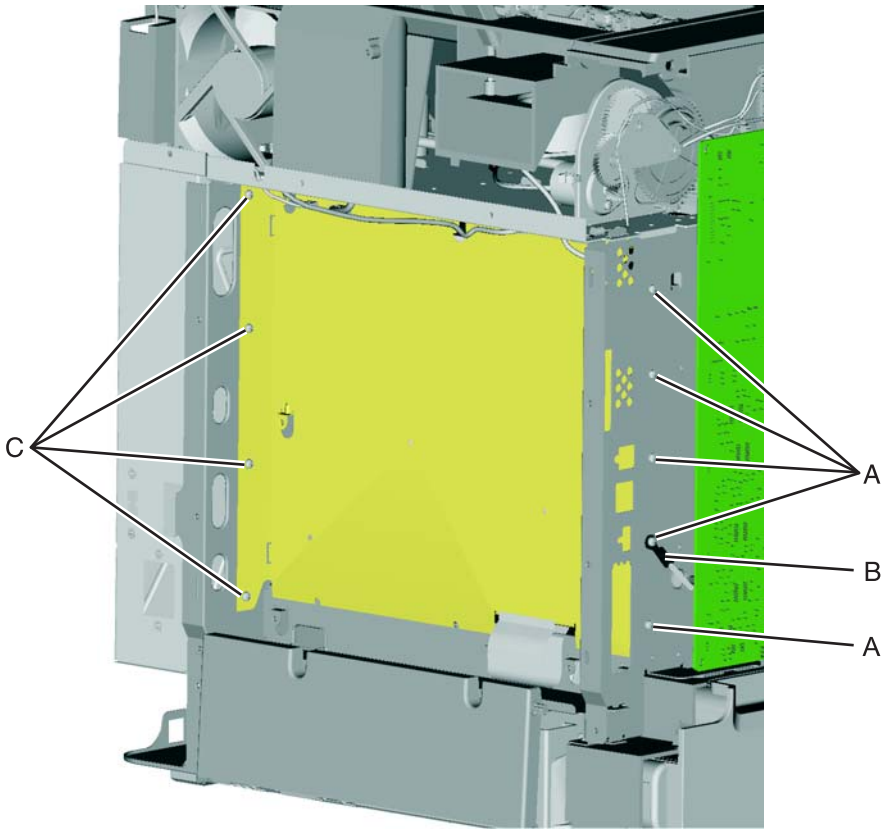
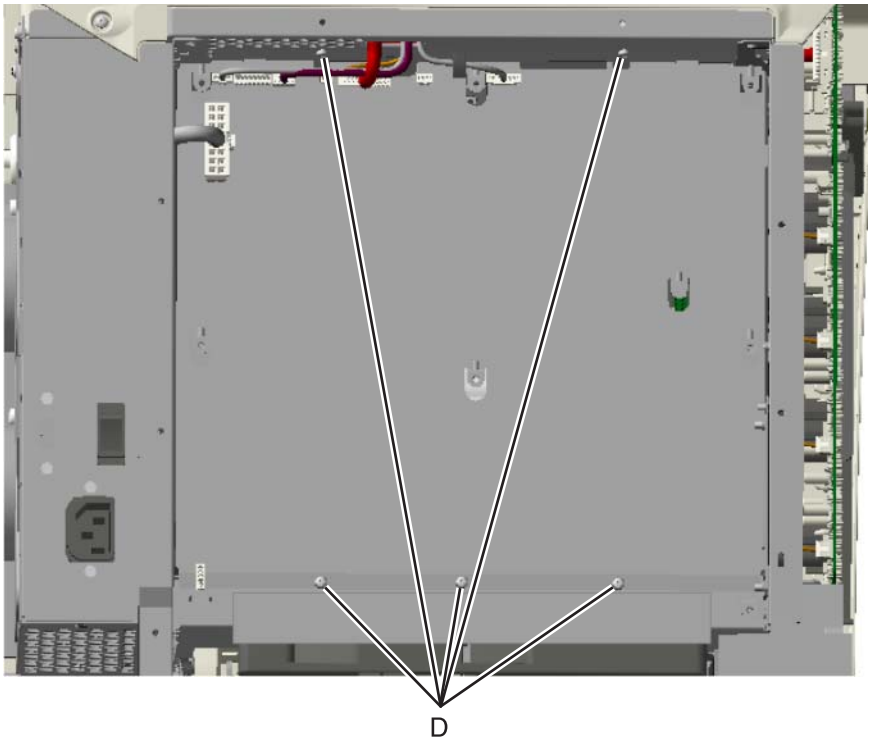
See **“System board support shield” on page 7-11** for the part number.

1. Remove the system board. See **“System board removal” on page 4-155**.
2. Remove the right cover. See **“Right cover removal” on page 4-51**.
3. Pull the cables through the access holes on the right side of the printer.
4. Remove the five mounting screws (A) from the outer left side of the printer.
   Note: Make a note of the attachment of the printhead ground cable (B) to the fourth screw from the top for later installation.
5. Remove the four screws (C) from the inner right side of the support shield.



6. Remove the five mounting screws (D) from the top and bottom of the support shield.
   Note: Only the ribbon and mirror motor cables come through the access holes in the system board support shield.



7. Lower and remove the support shield. Be careful not to damage the ribbon cable that routes through the bottom frame of the printer.

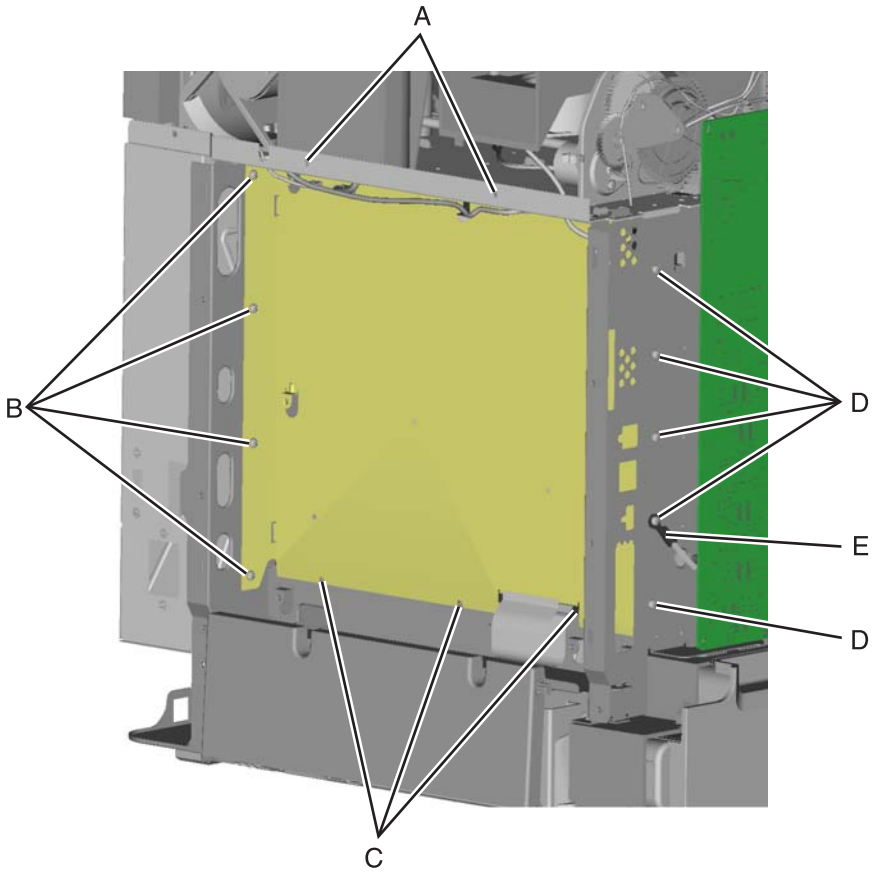
Installation notes:

1. Loosely attach the two mounting screws (A).
2. Set the system board support shield in place.
   Note: Check that the ribbon mirror motor cable (white) and the printhead cable (bottom) do not rub against the edges of the frame.

3. Replace the remaining system board support shield screws in the following order:

- Replace the four screws (B) from the inner right side of the support shield.
- Tighten the two mounting screws (A) to the top of the support shield.
- Replace the three screws (C) from the bottom of the support shield, and two screws from the top.
- Replace the five mounting screws (D) to the outer left side of the printer.

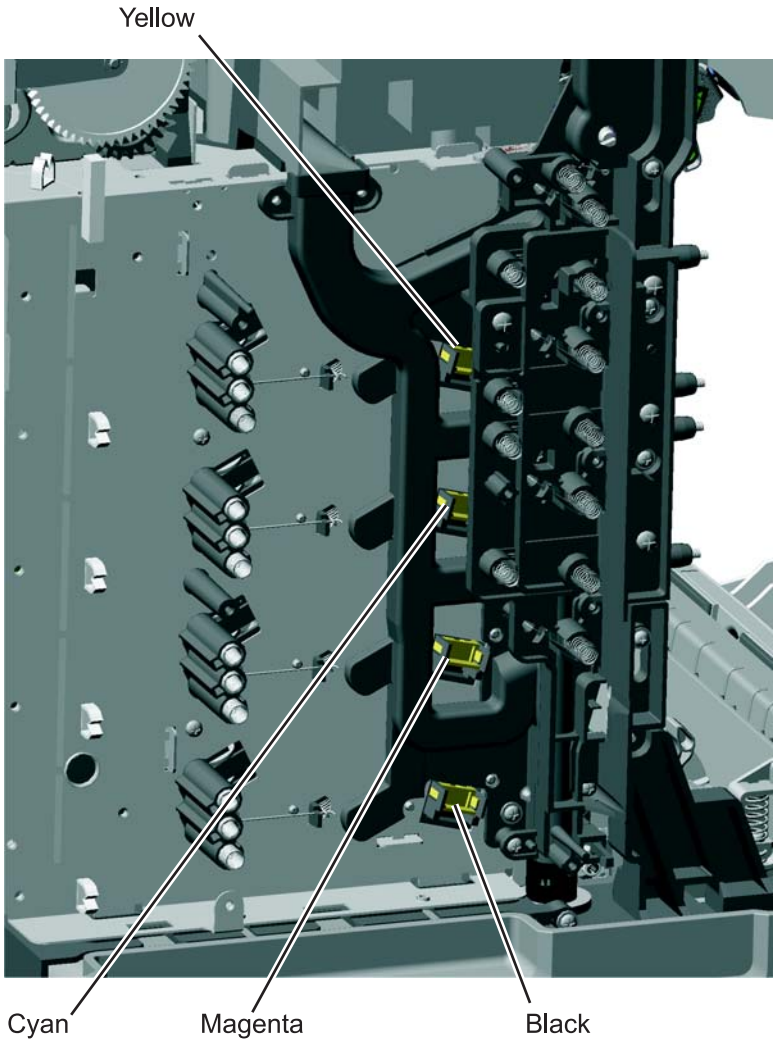
  Note: Be sure to connect the printhead ground cable (E) to the fourth screw from the top.



Toner level sensor removal

See **“Toner level sensor” on page 7-13** for the part number.

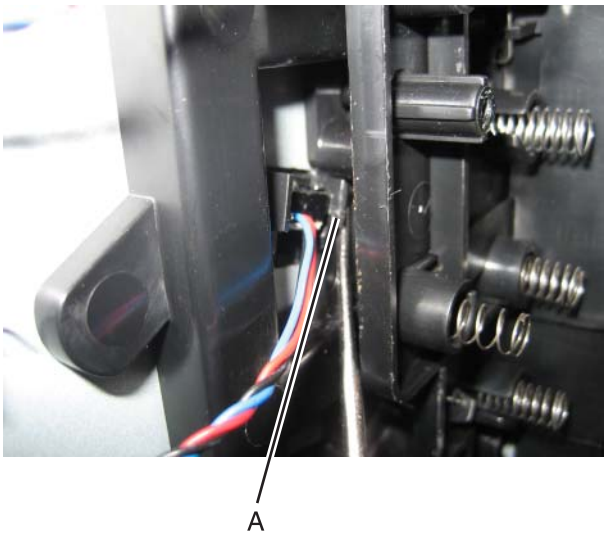
Note the locations of the toner sensors.

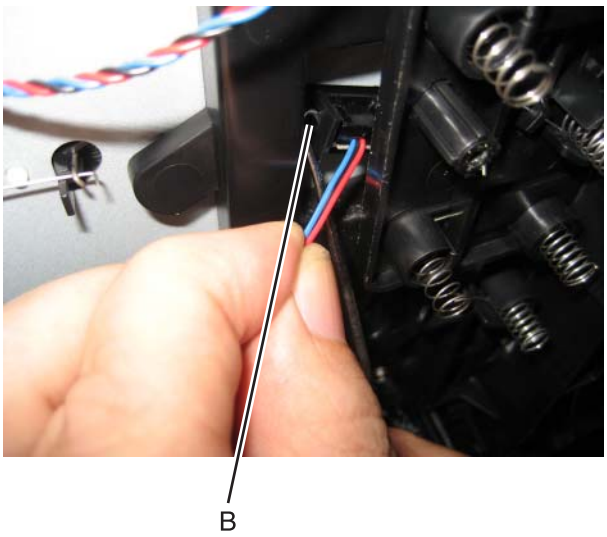


1. Remove the HVPS. See **“High-voltage power supply (HVPS) removal” on page 4-115**.
2. **For the upper two sensors:** These sensors are more difficult to reach because the toner is difficult to reach:

It is difficult to press both locking tabs at the same time. Using a spring hook, press the locking tab (A), and disengage the sensor on that side. Press the other locking tab (B), and remove the sensor.

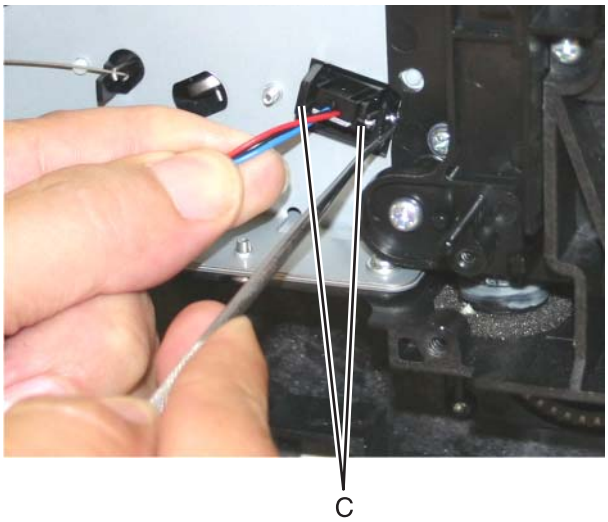
Note: Use a slight pressure on the cable to keep the first locking tab from relatching, while you disconnect the second locking tab.

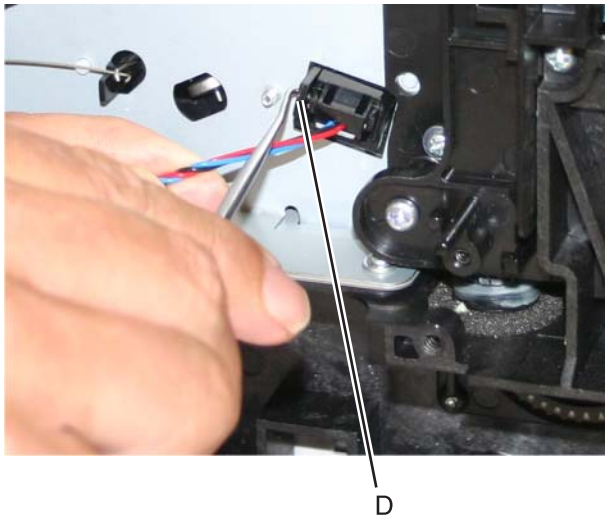




For the lower two sensors:

Using a spring hook, press the locking tab (C), and disengage the sensor on that side. Press the other locking tab (D), and remove the sensor.

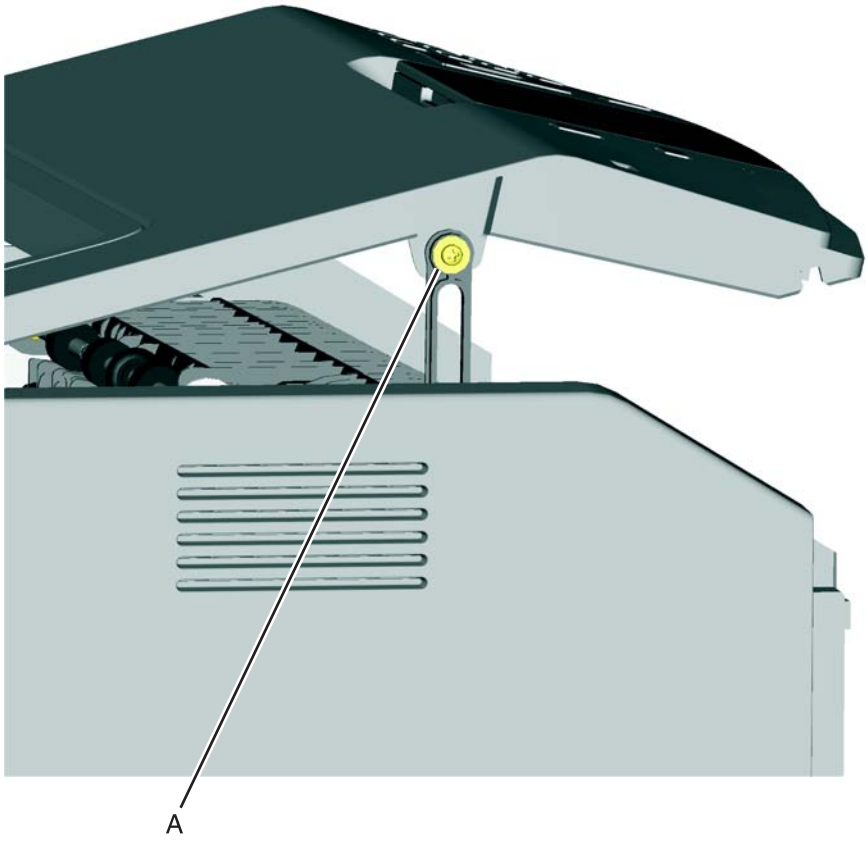




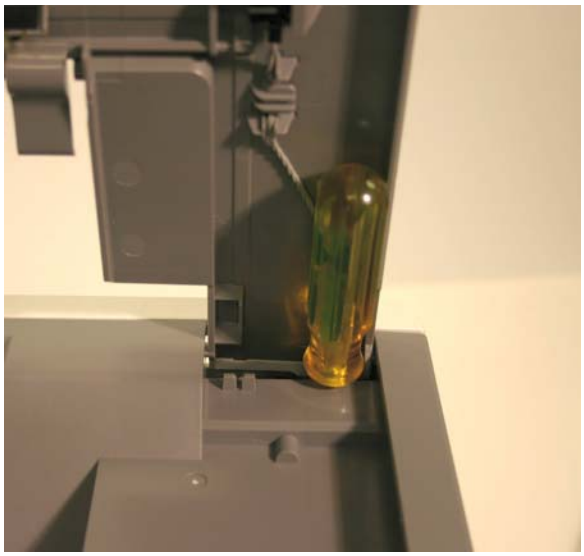
Top cover camshaft assembly removal

See **“Top cover camshaft assembly” on page 7-14** for the part number.

1. Open the front cover access door cover.
2. Open the top access cover.
3. Remove the two screws (A) from the links on either side, and disengage the links.



4. Rotate the top access cover back, and place a screwdriver in the cable hole in the frame to hold the cover in place.



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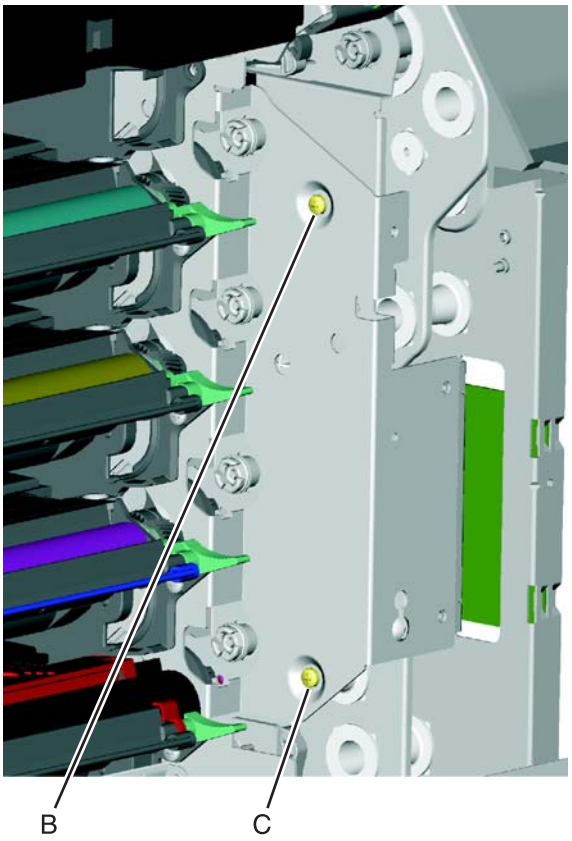
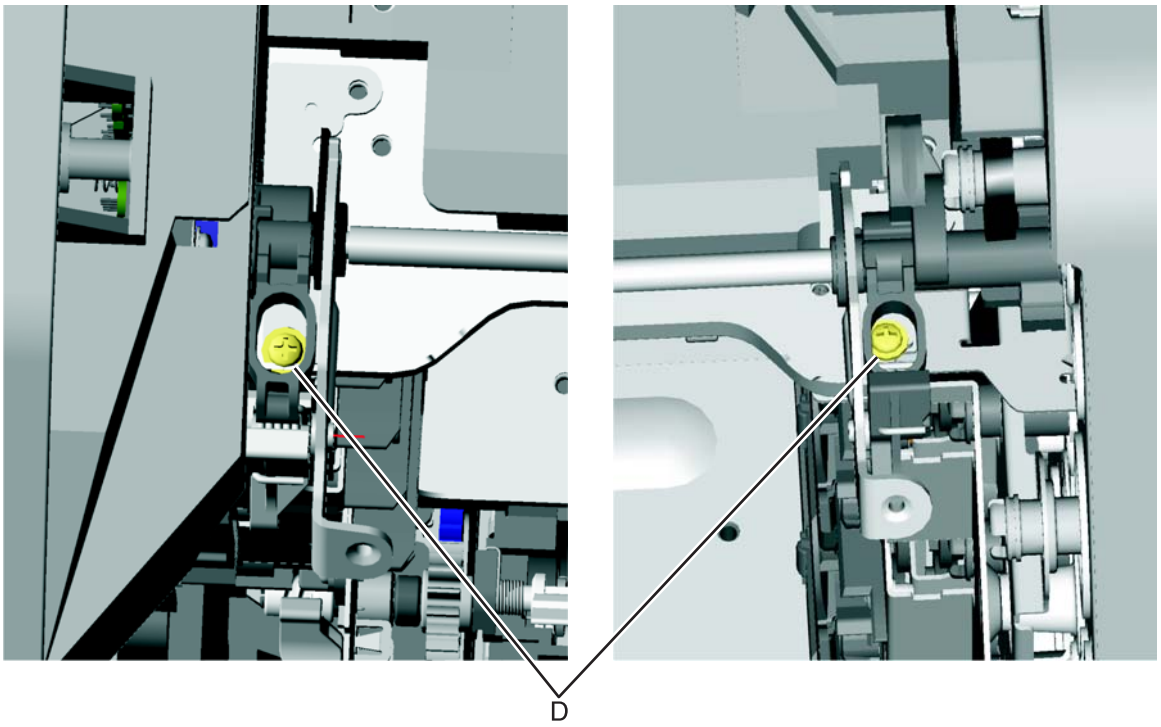
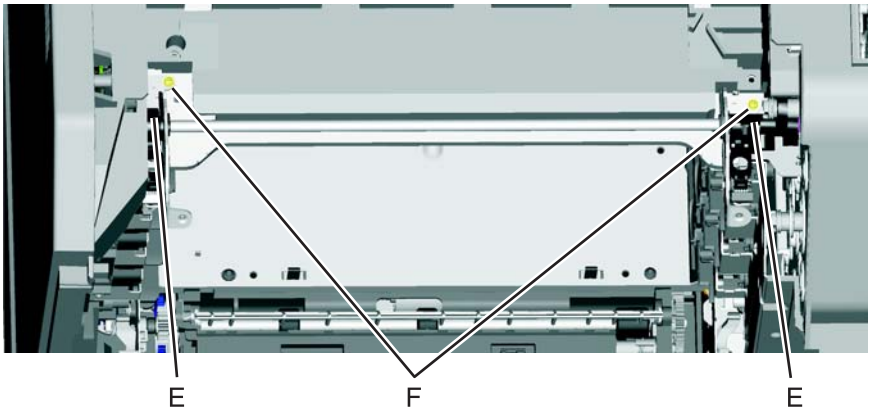
5. Remove the fuser. See **“Fuser removal” on page 4-110**.
6. Remove the top screw (B), and loosen the other screw (C). This will allow you to flex the EP drive.



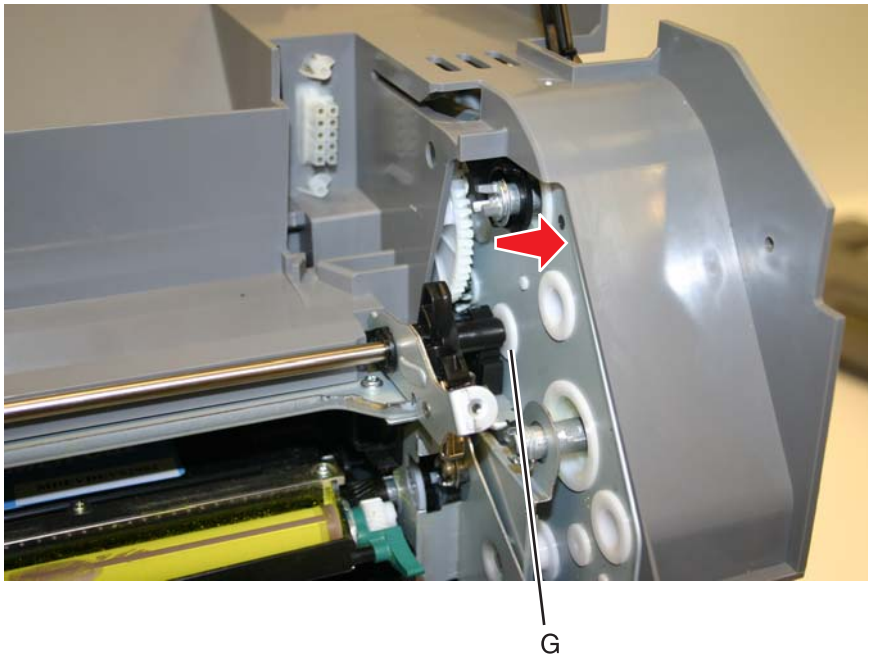
7. Remove the two screws (D).



8. Rotate the camshaft up using the camshaft actuator handles (E) so you can access the other two screws (F), and remove them.

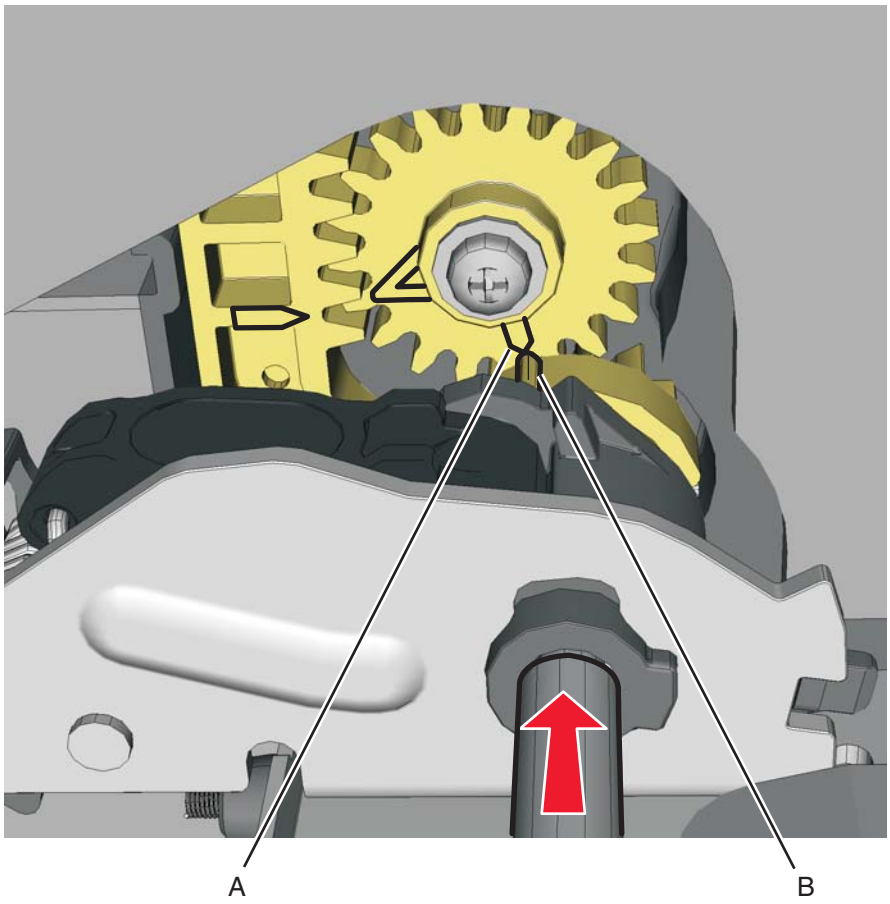


9. Flex the EP drive assembly to remove the right side of the camshaft from the boss (G), and lift to remove the camshaft.



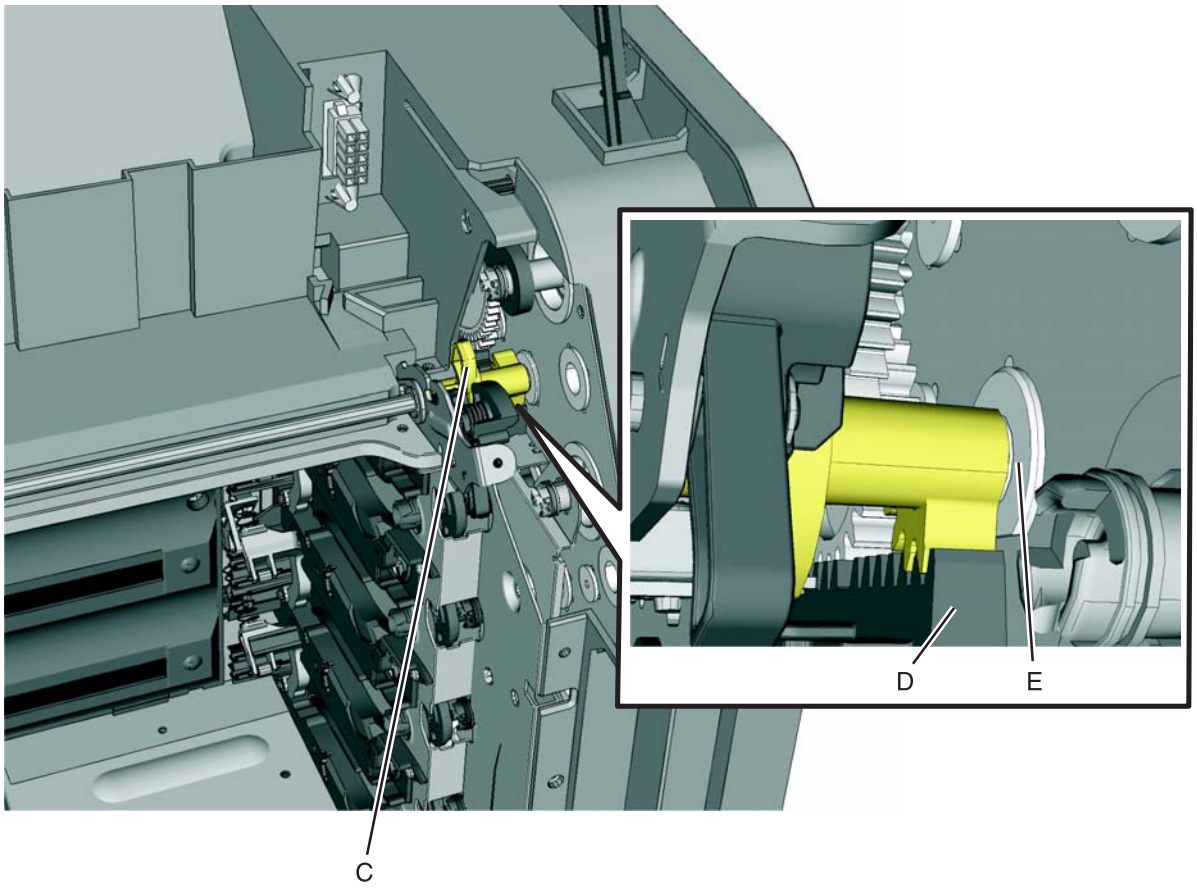
Installation notes:

1. On the left side, align the mark on the idler gear (A) with the mark on the camshaft gear (B), and slide the camshaft into place, meshing the gears on the left side.

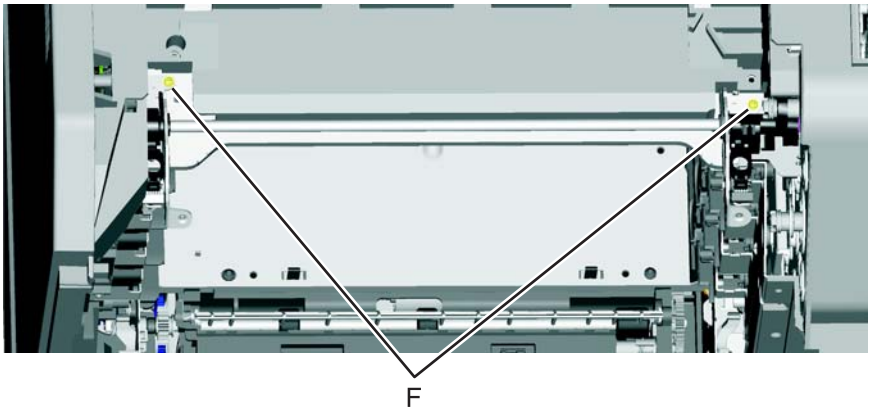


2. Rotate the camshaft up using the camshaft actuator handle (C), and make sure the gears on the right side mesh so the first gear tooth of the camshaft aligns with the first two gear teeth of the EP drive actuator rack (D).
   Note: Make sure the actuator rack on the EP drive is all the way back.

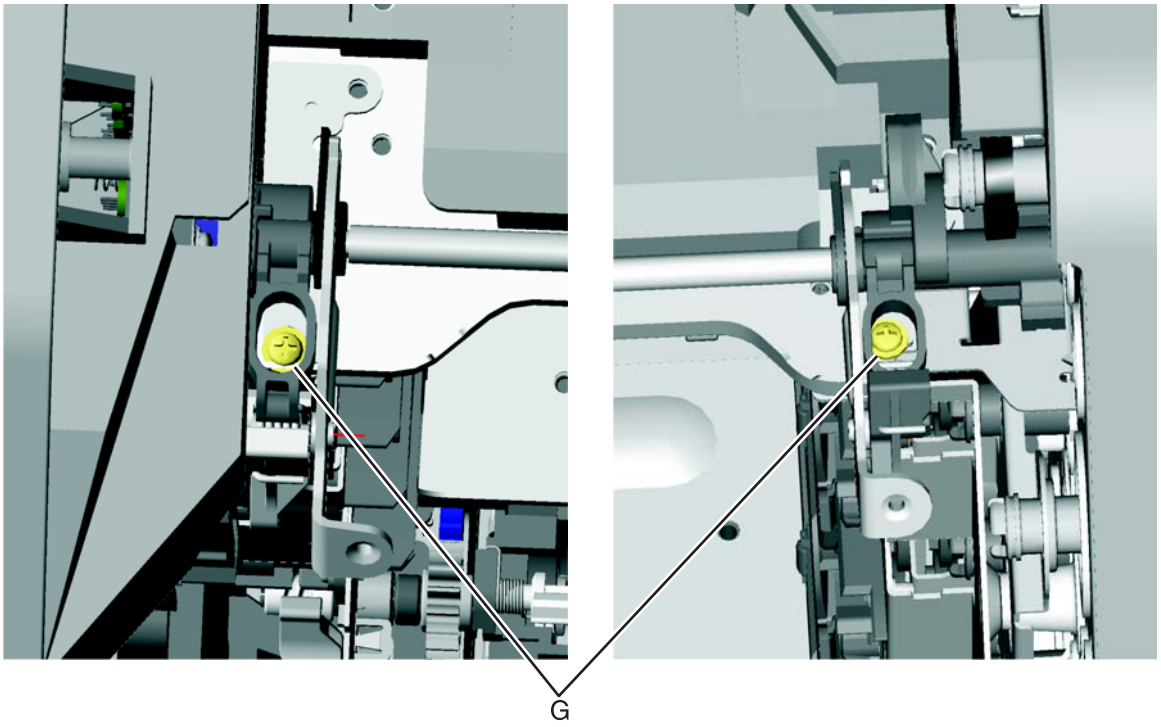
3. Flex the EP drive on the right to seat the end of the shaft into the boss (E) on the EP drive.



4. Make sure the left and right camshaft brackets are fully seated, and replace the two screws (F).



5. Rotate the camshaft using the camshaft actuator handle, and replace the two screws (G).



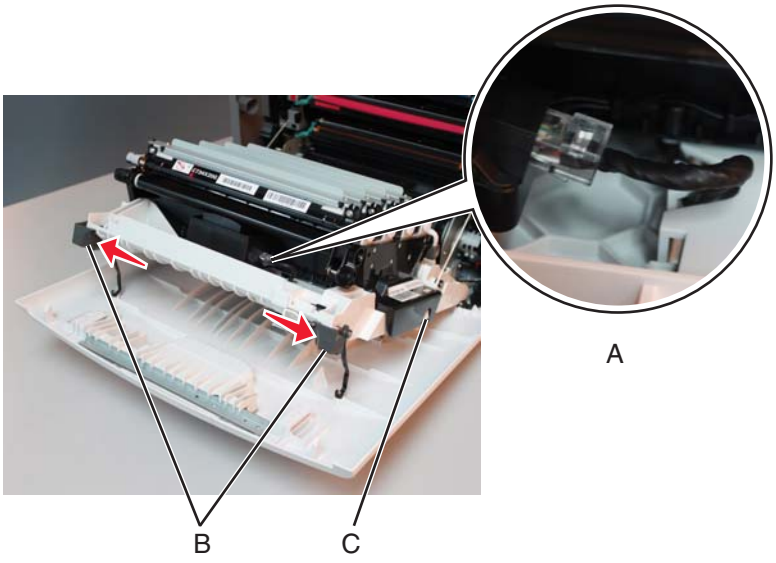
6. Replace the screw in the EP drive that allowed you to flex the EP drive, and tighten the other screw (see step 6 of the removal).
7. Replace the top access cover assembly.
8. Replace the fuser, the cartridges, and close the covers.

Transfer module removal

See **"Transfer module" on page 7-7** for the part number.

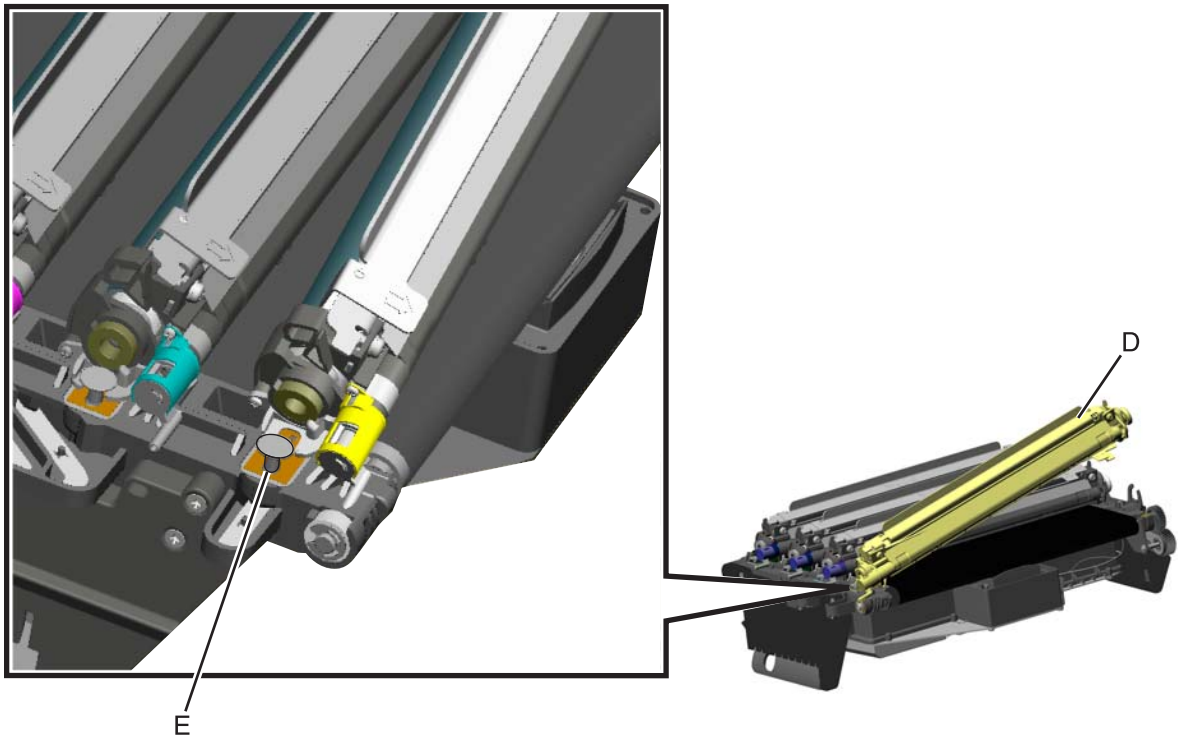
1. Disconnect the transfer module cable (A).
2. Press the two tabs (B) to release the front access cover assembly.
3. Press the two tabs (C) on either side of the transfer module, and lift out the transfer module.
   Note: Leave the photoconductor units on the transport belt when removing.

   Warning: To avoid damaging the photoconductor drum, place the transfer module with the photoconductor units on a clean surface. Never expose the photoconductor units to light for a prolonged period of time. Place a clean, dry cloth over the transfer module and photoconductor units until they are required.



Note: If you are removing the transfer module to access another part, leave the photoconductor units attached, and you are done. If you need to replace the transport belt, continue with the next step to remove the separate photoconductor units.

4. Remove the photoconductor units. Lift the right end handle (D) of the photoconductor unit, releasing from the mount.
5. Lift the unit up and away from the left side of printer, ensuring the left end of the photoconductor is released from the holding pin (E).



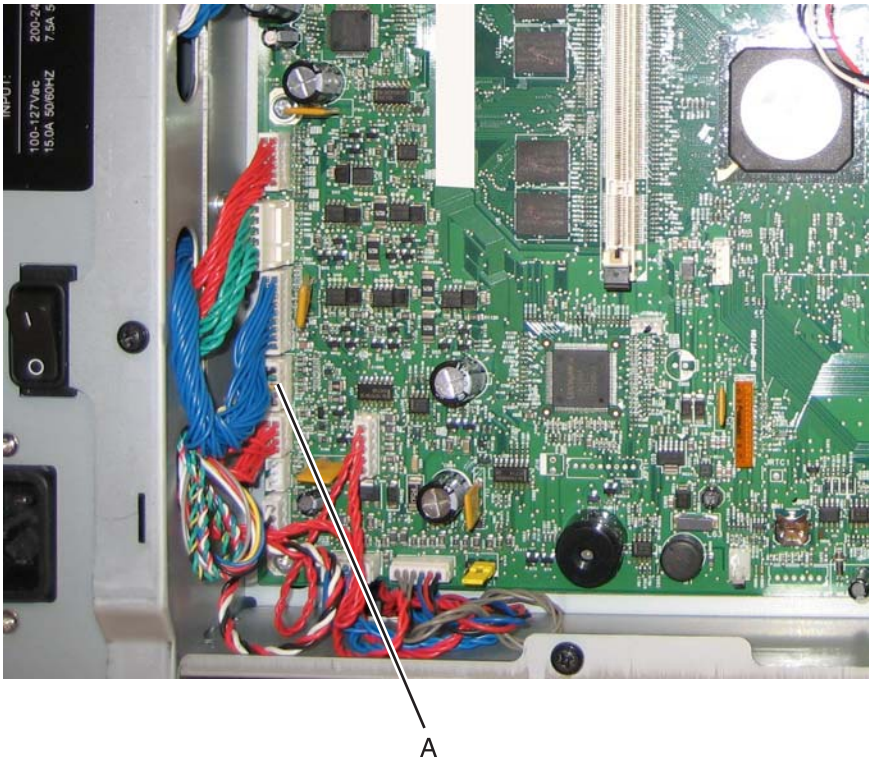
Installation note:

- Place the photoconductor units on the new transport belt, and reinstall.
- Perform the Color Alignment in the Configuration Menu:
  1. Enter Config Menu (turn off the printer, press and hold buttons **3** and **6**, turn the printer on, and release the buttons when the clock graphic displays).
  2. Select **Color Alignment** from the Configuration Menu.
  3. Select **Print Alignment Page**.
  4. Select **Set A**.
  5. Consulting the printed page, follow the instructions on the operator panel to choose the best appearing line numbered 0 through 20 for line A.
  6. Continue selecting the best lines for the sets through **Set L**.
  7. Select **Back** (⮌) to return to the Configuration main menu, and select **Exit Config Menu.**

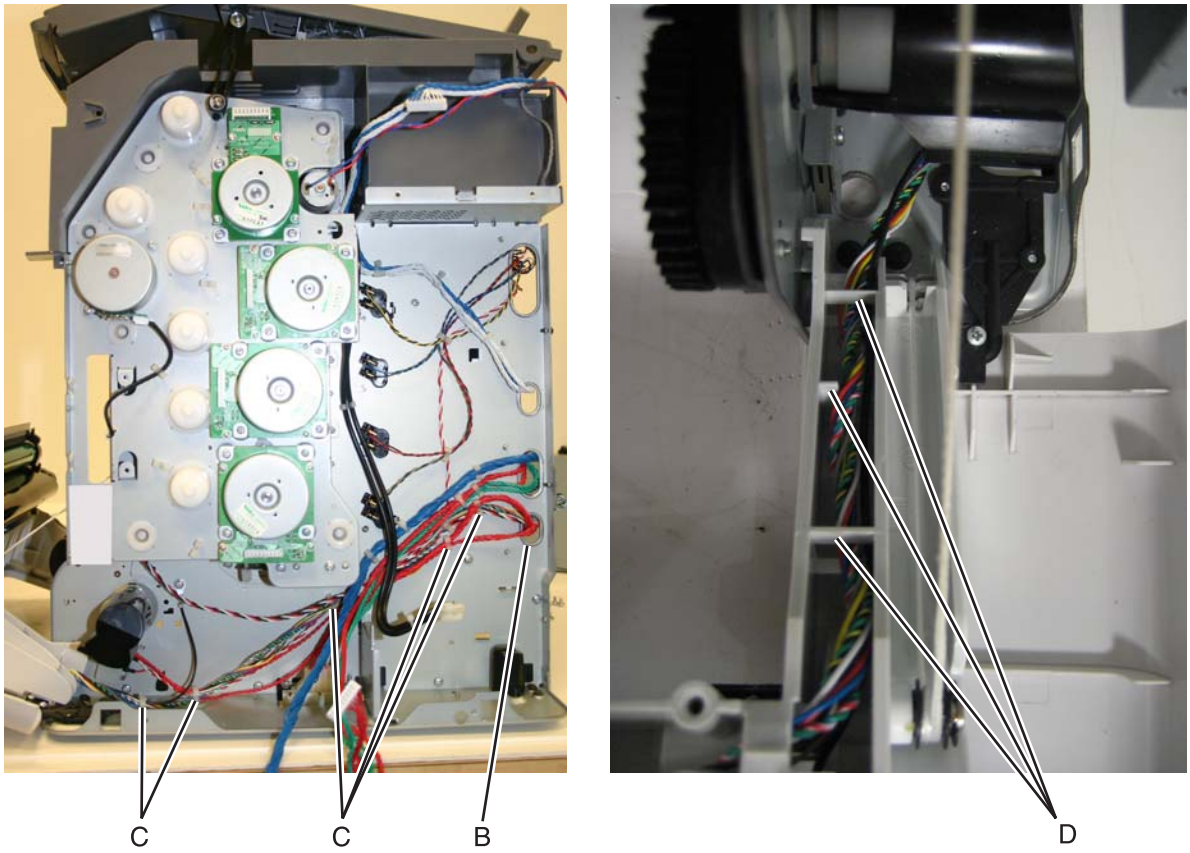
Transport cable removal

1. Remove the LVPS. See **"Low-voltage power supply (LVPS) removal" on page 4-119**.
2. Remove the transport belt assembly. Leave the photoconductor units in place. See **"Transfer module removal" on page 4-171**.
3. Disconnect the transport cable from the system board at JTPS1 connector (A).

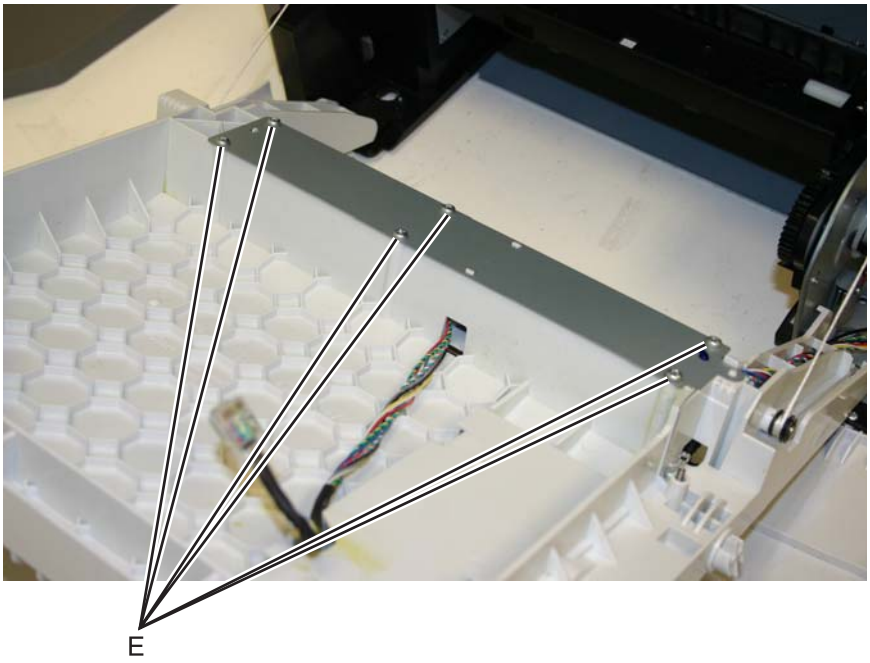
   Note: The cable connector on the system board end of the cable is smaller than the connector on the front access door, and it may be easier to get that end through the openings.



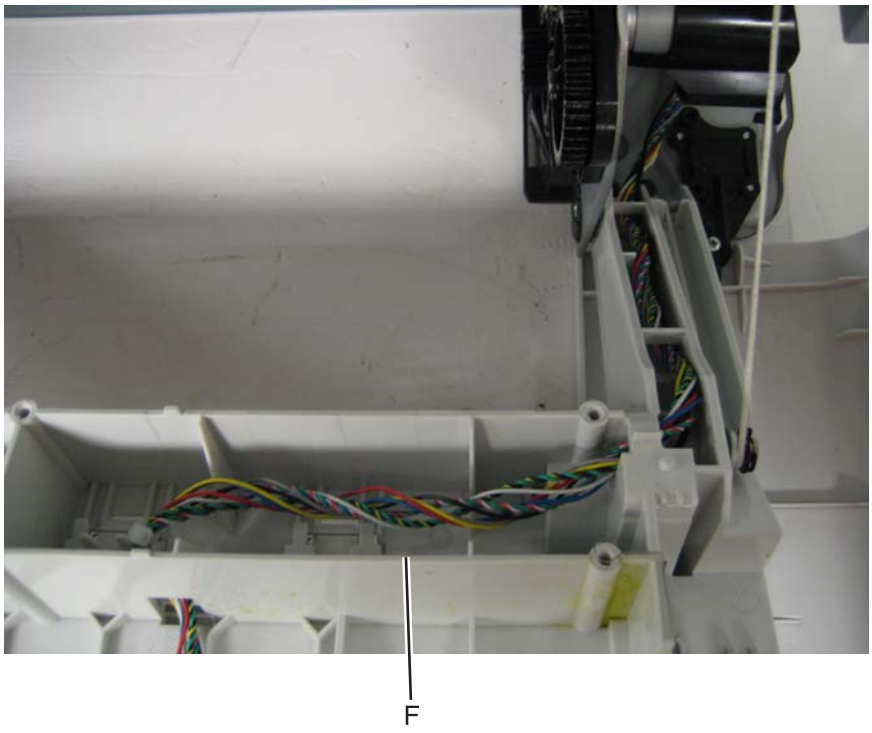
4. Extract the cable through the opening in the frame to the right side of the printer (B).
5. Remove the cable from the five cable restraints (C).
6. Remove the cable from the three openings in the cable channel (D) on the right side of the front access door.



7. Remove the six screws (E) from the cable shield.

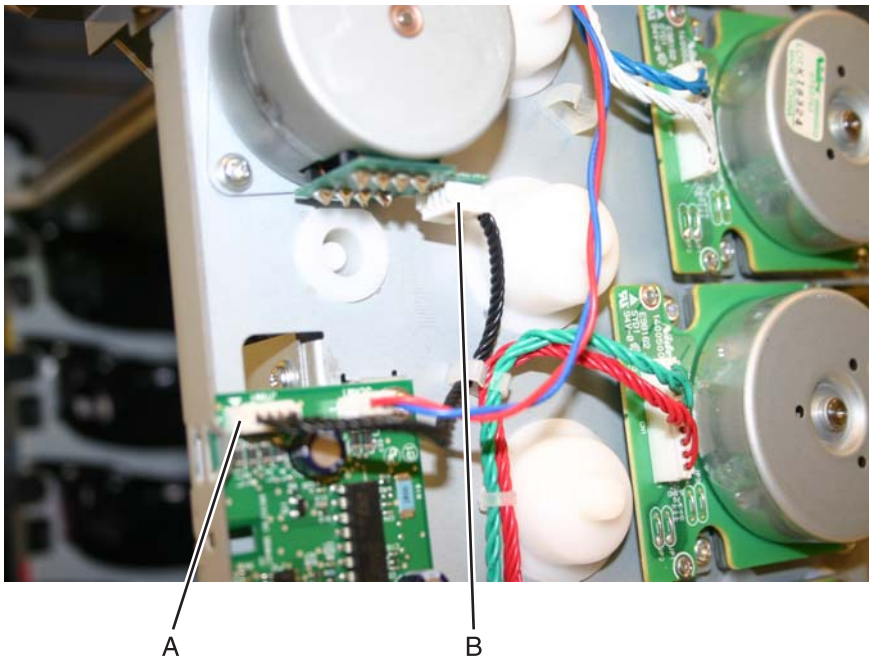


8. Remove the cable through the cable channel (F).



Transport motor cable removal

1. Remove the right cover. See **“Right cover removal” on page 4-51**.
2. Disconnect the cable from the transport motor drive (A).
3. Disconnect the cable from the transport motor (B).

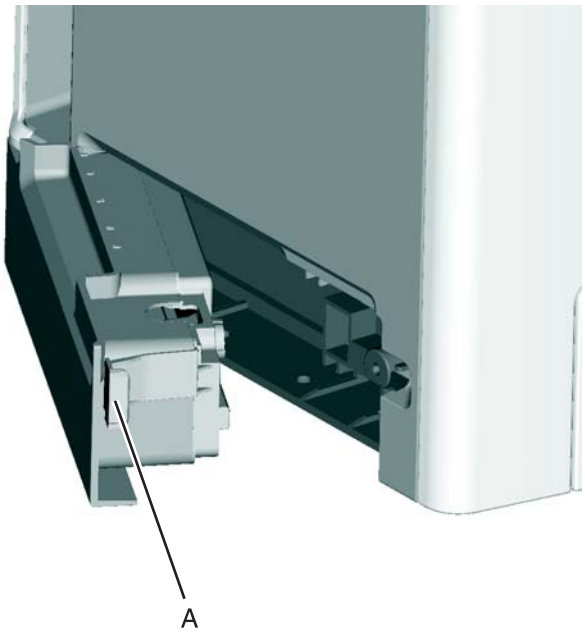


4. Remove the cable.

Waste toner assembly removal

Not a FRU.

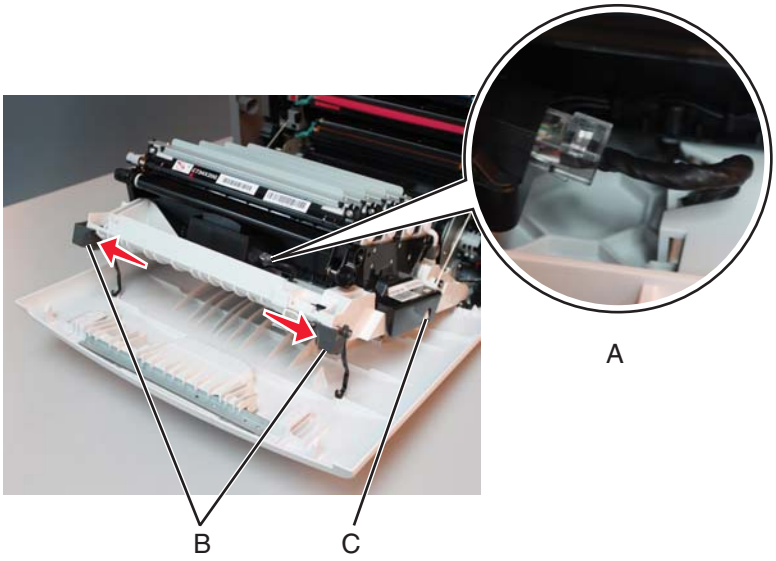
1. Press the waste toner release latch (A).
2. Swing the front of the waste toner assembly away from the printer, and remove.



Waste toner HV contact assembly removal

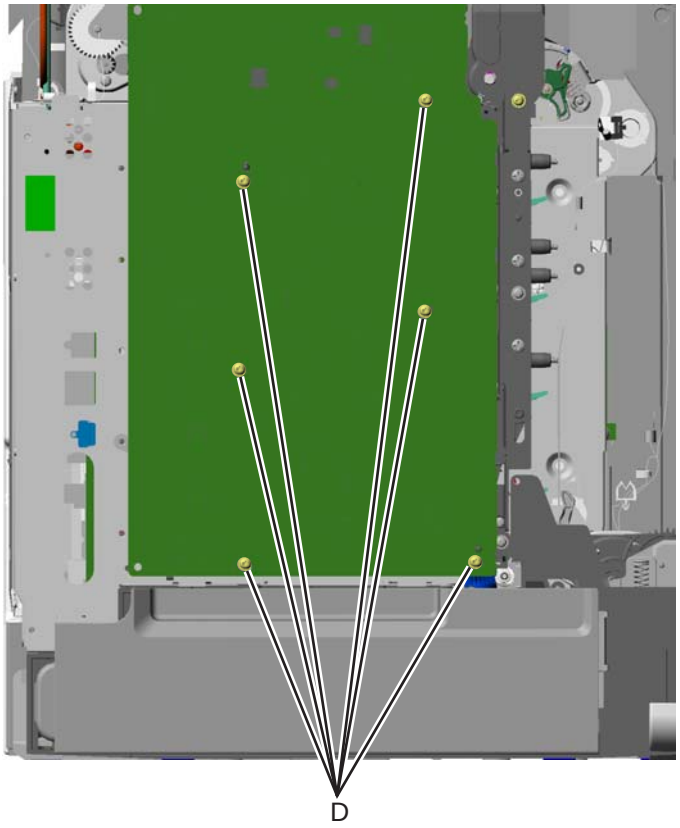
1. Disconnect the transfer module cable (A).
2. Press the two tabs (B) to release the front access cover assembly.
3. Press the two tabs (C) on either side of the transfer module, and lift out the transfer module.
   Note: Leave the photoconductor units on the transport belt when removing.

   Warning: To avoid damaging the photoconductor drum, place the transfer module with the photoconductor units on a clean surface. Never expose the photoconductor units to light for a prolonged period of time. Place a clean, dry cloth over the transfer module and photoconductor units until they are required.

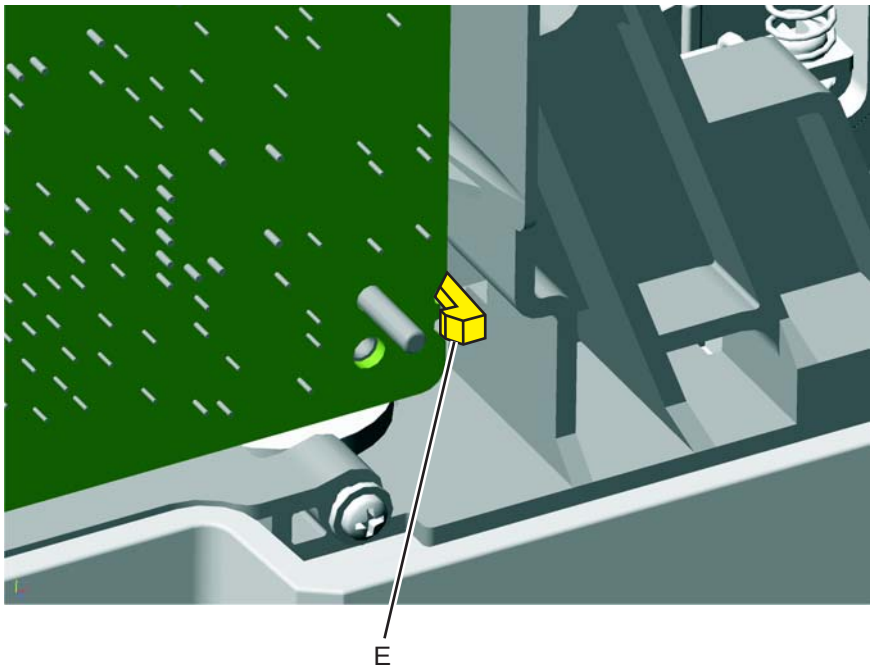


4. Remove the left cover. See **"Left cover removal" on page 4-31**.

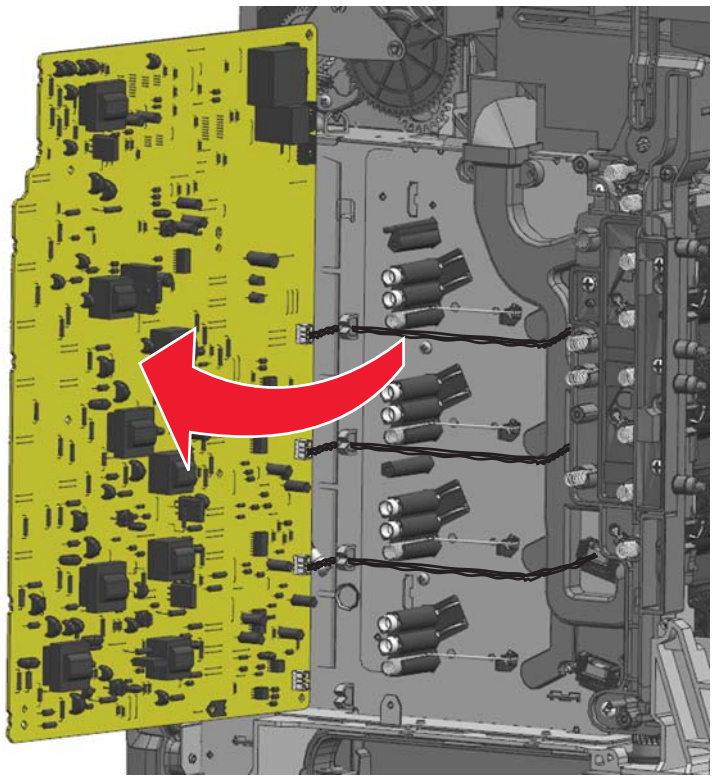
5. Remove the six mounting screws (D) holding the HVPS in place.



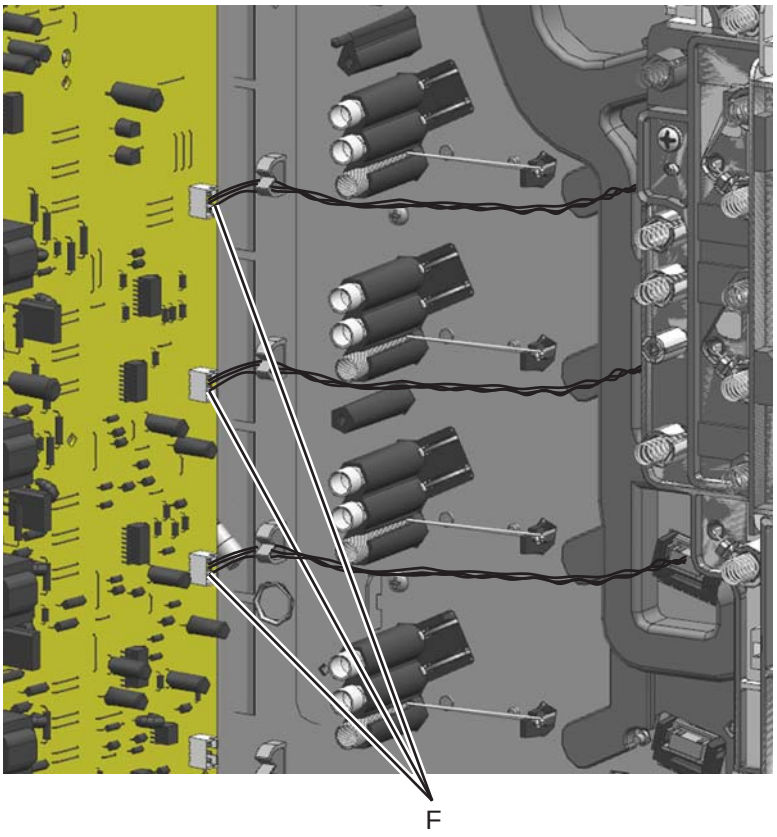
6. Release the locking tab (E) from the front, lower corner of the HVPS.



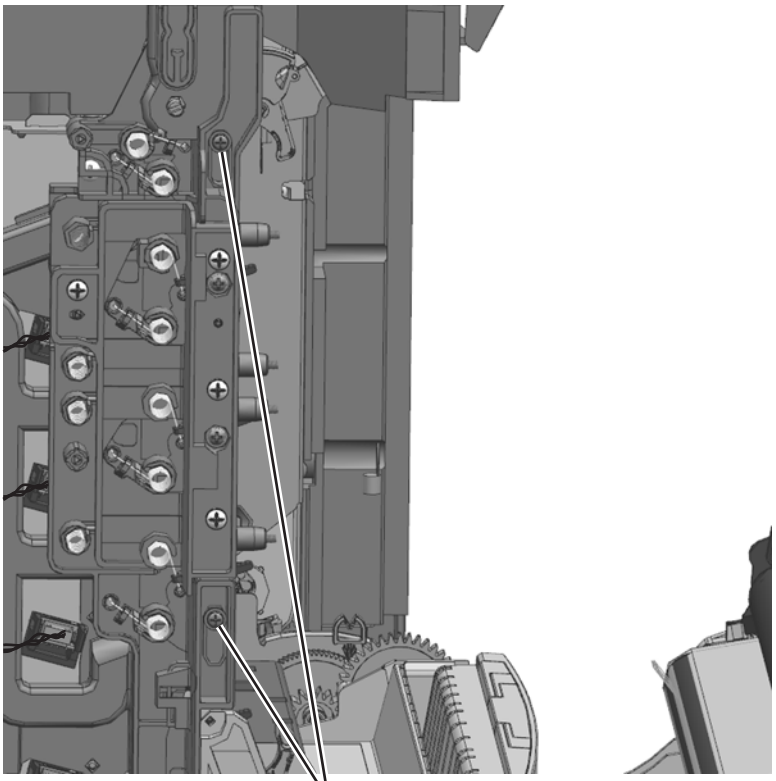
7. Lay the board to the left.



8. Disconnect the three top toner level sensor cables (F) from the HVPS.

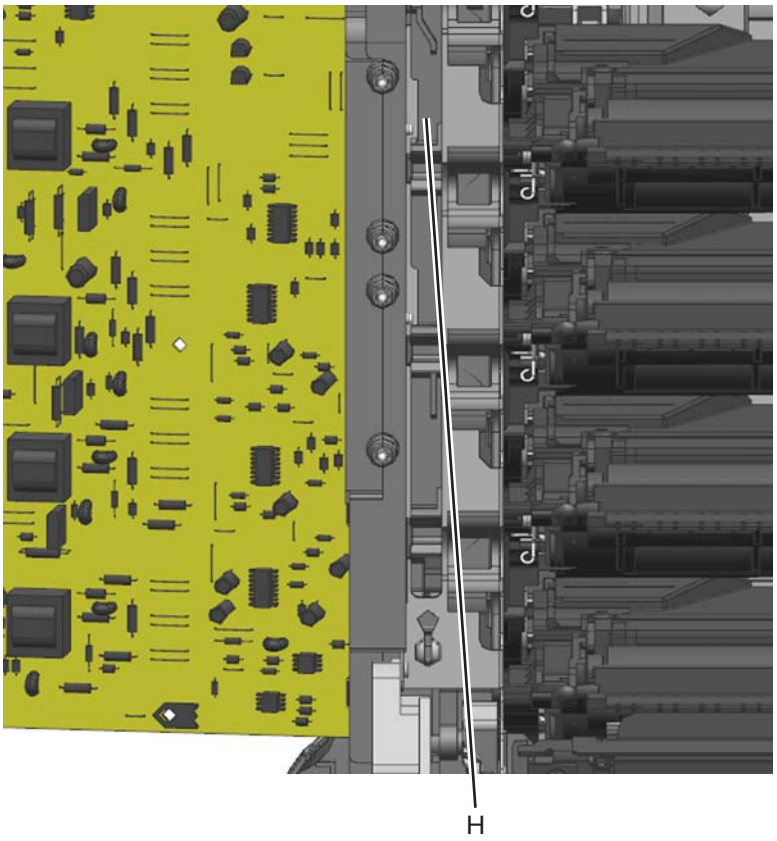


9. Remove the two screws (G).

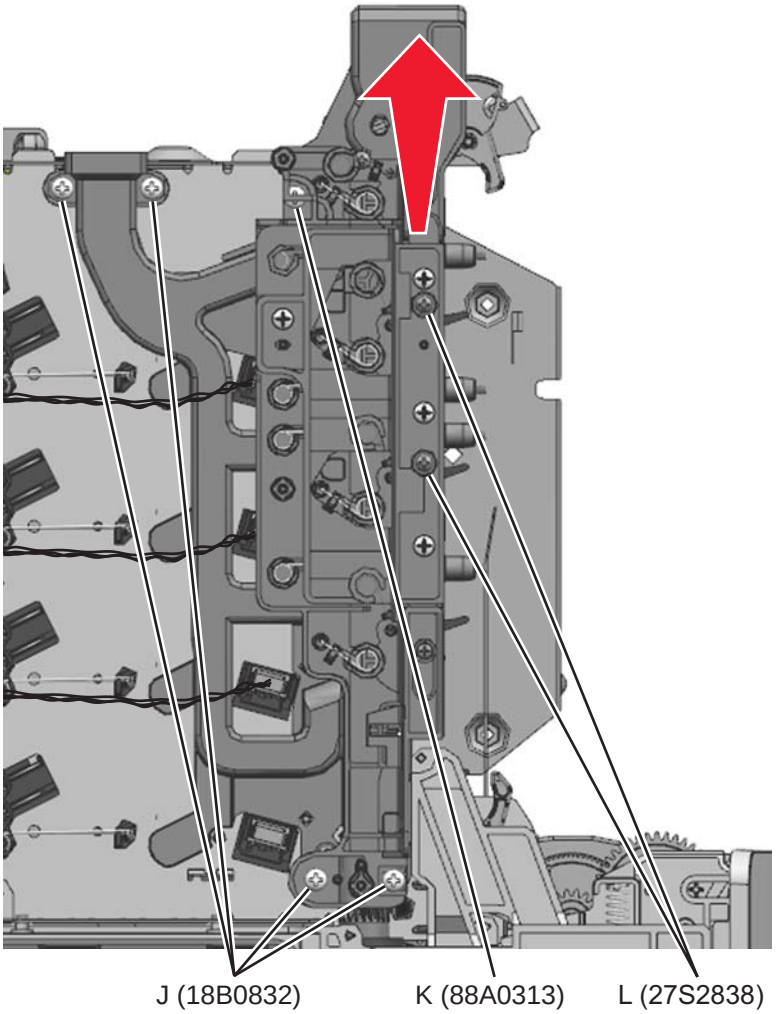


G (18B1236)

10. Remove the cleaner shutter actuator (H) from the waste toner HV contact assembly.



11. Remove the four screws (J), the two screws (K), and the screw (L). Tilt the Waste toner HV contact assembly forward and up to remove it.



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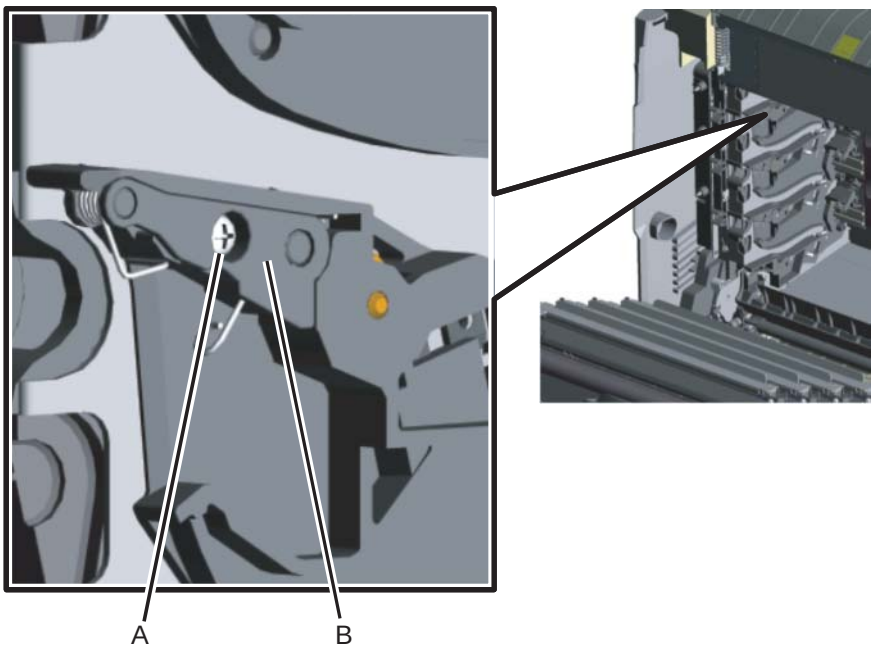
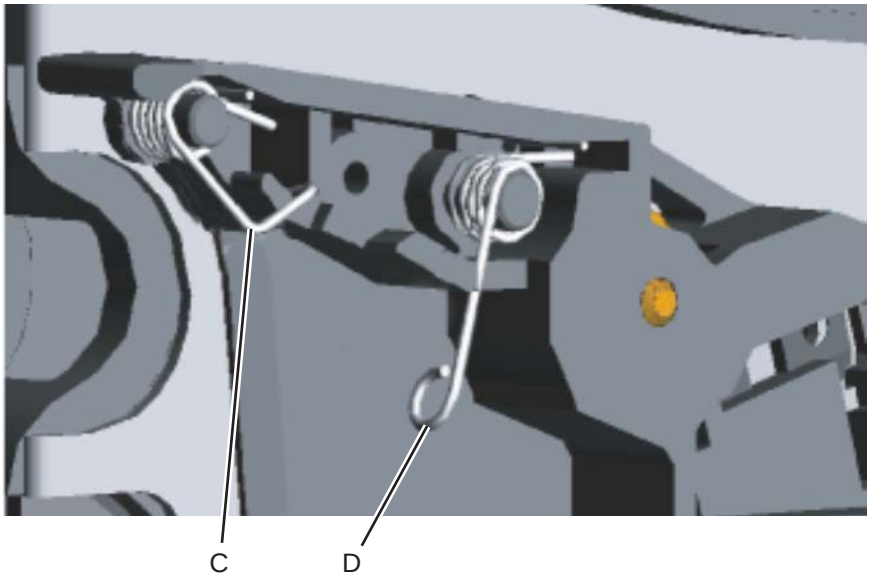
Installation note: Do the following procedures when re-installing the waste tone HV contact assembly:

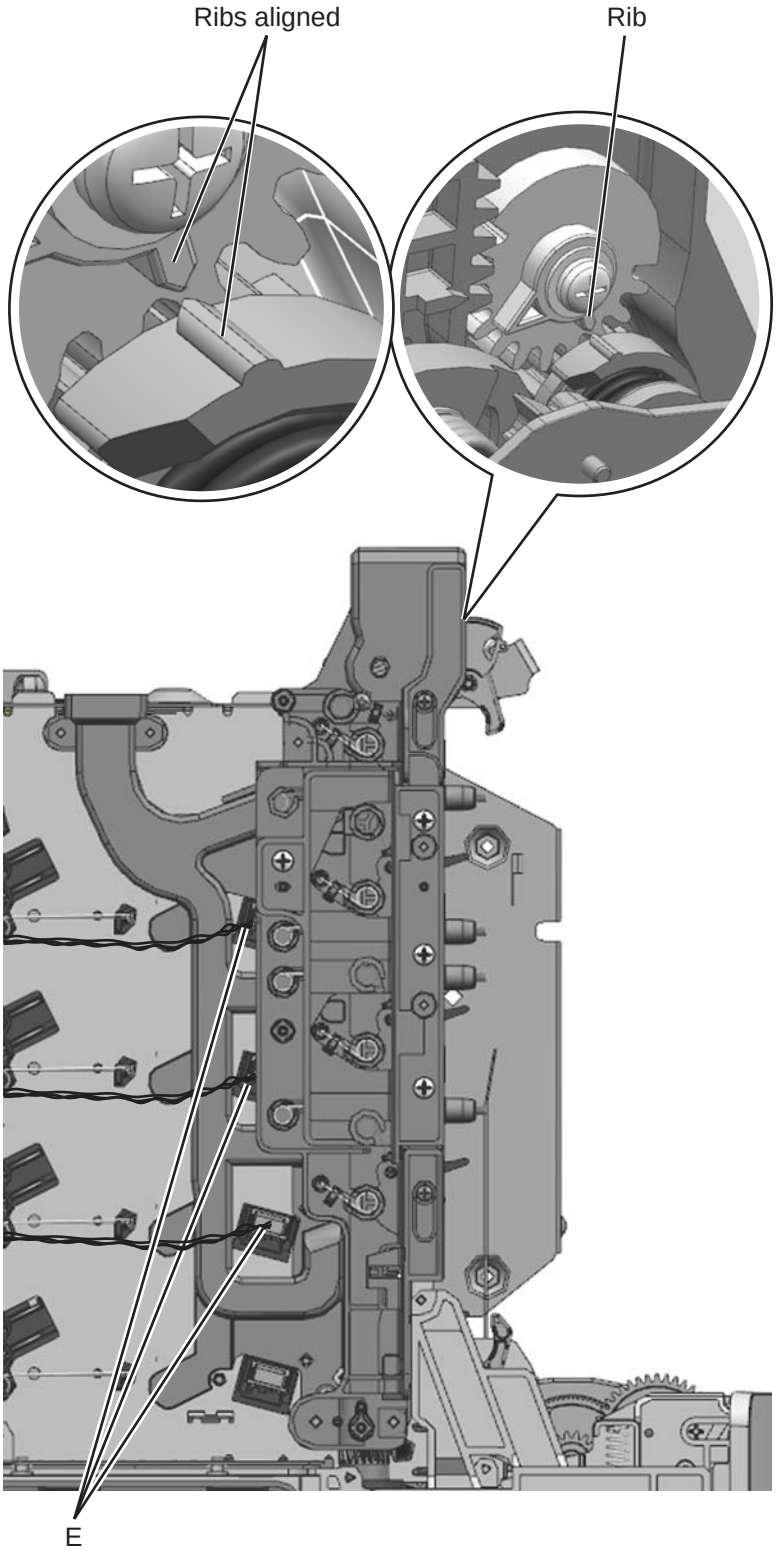
1. Remove the fuser.
2. Remove all four toner cartridges
3. Remove the four sets of torsion springs. Remove the screw (A) and the spring cap (B) of the appropriate contact spring.



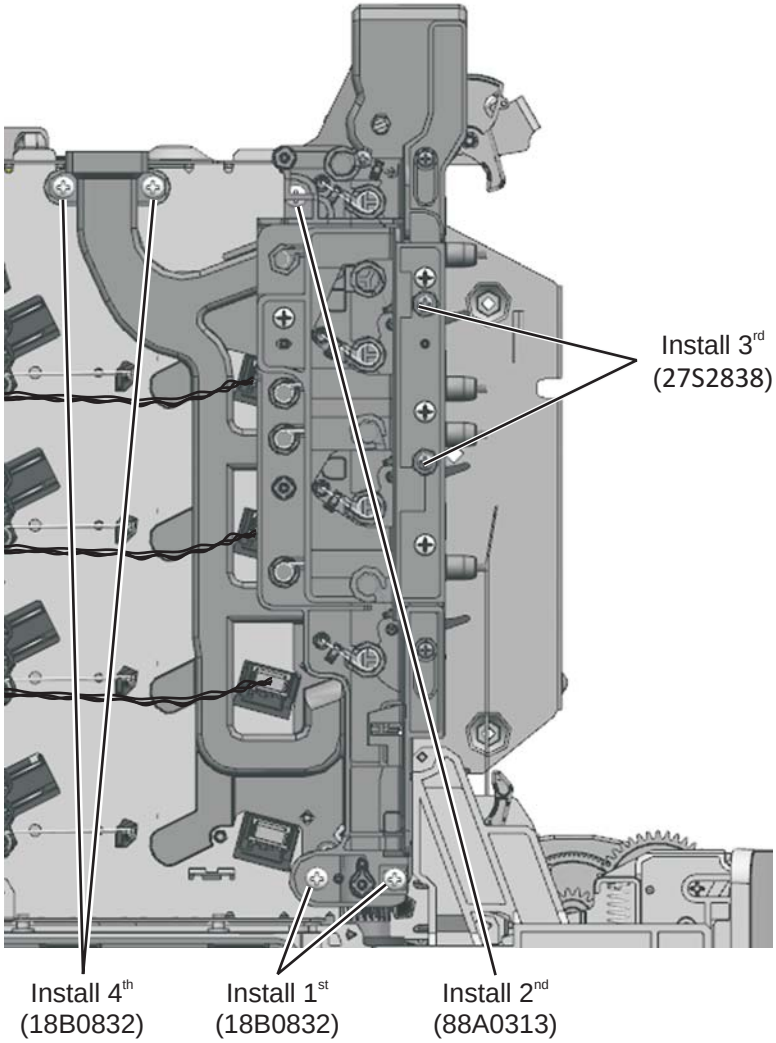
4. Press the lower half (C,D) of the springs, and remove the springs.



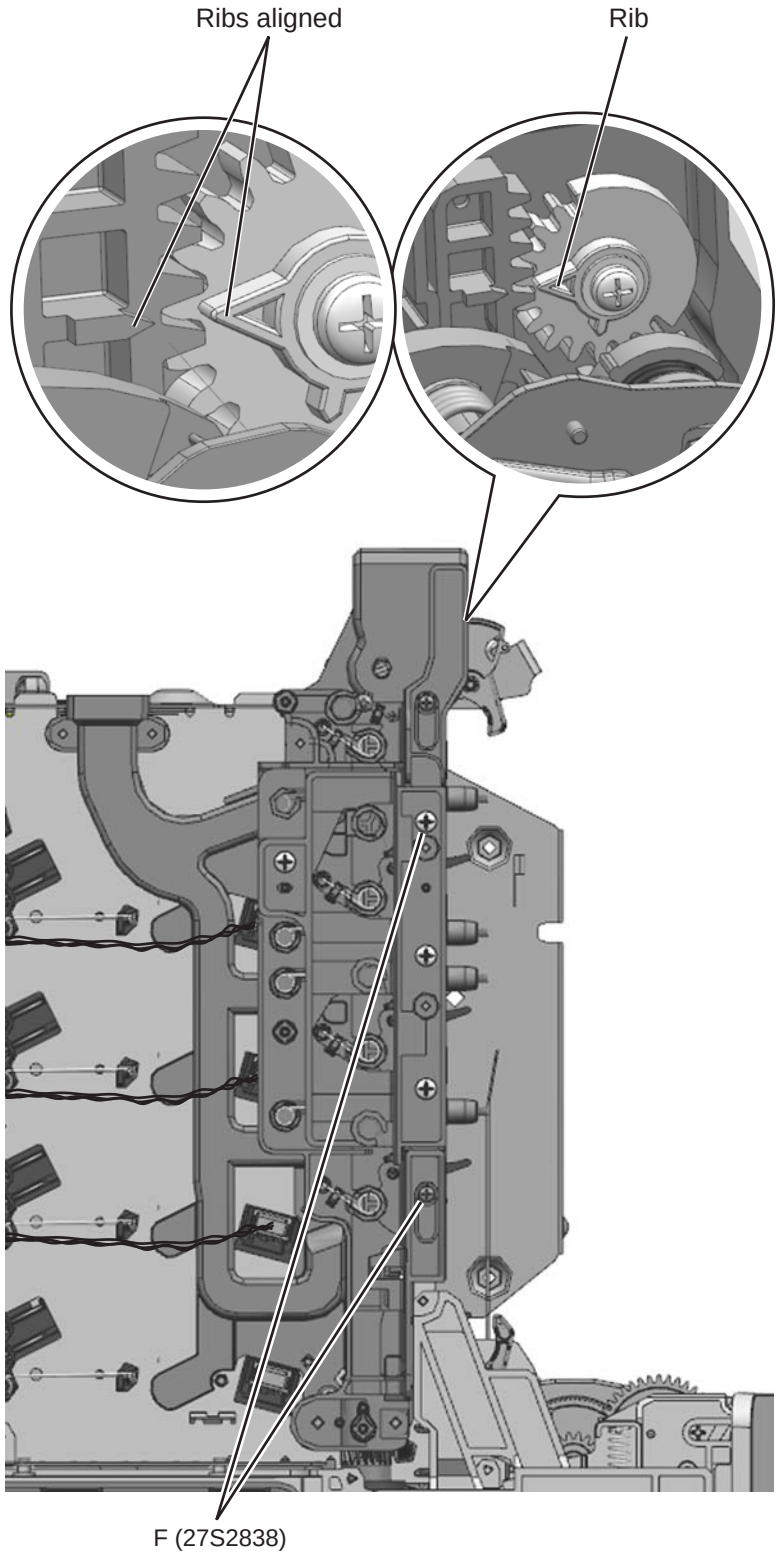
5. Install the waste toner HV contact assembly into place. Route the toner level sensor cables (E) through the holes in the waste toner HV contact assembly while positioning the assembly. Make sure the aligner shaft worm gear is aligned as shown.



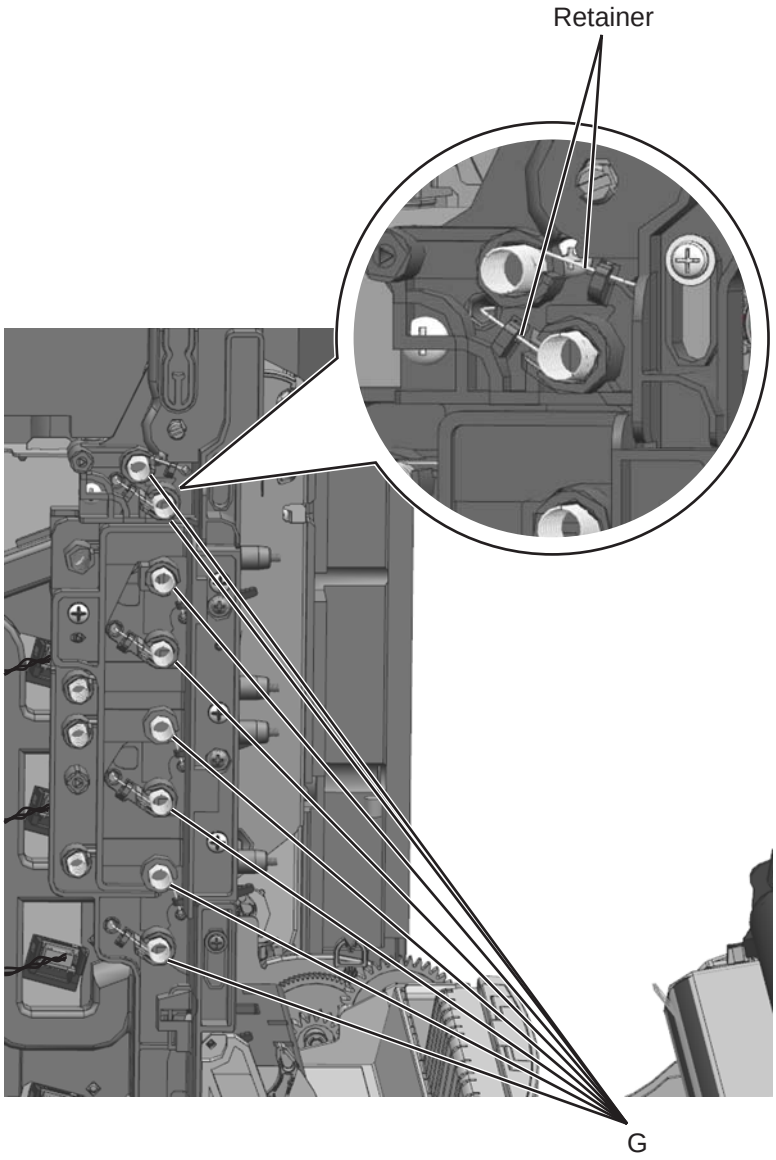
6. Install the seven screws in the order shown below.



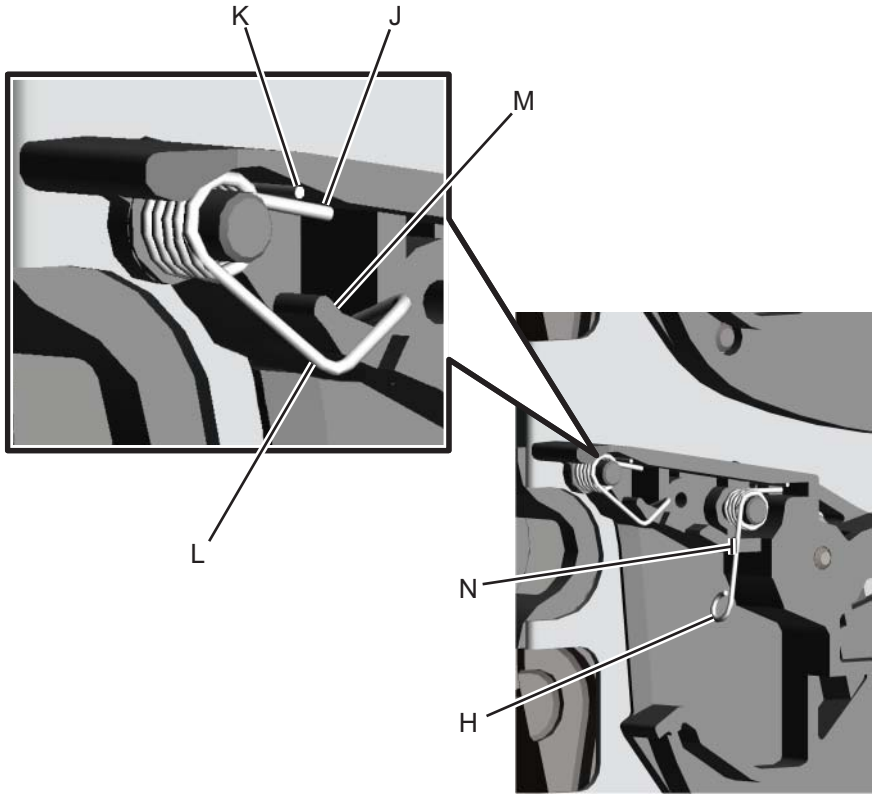
7. Use two screws (F) to attach the cleaner shutter actuator to the Waste toner HV contact assembly. Make sure the gear aligns as shown.



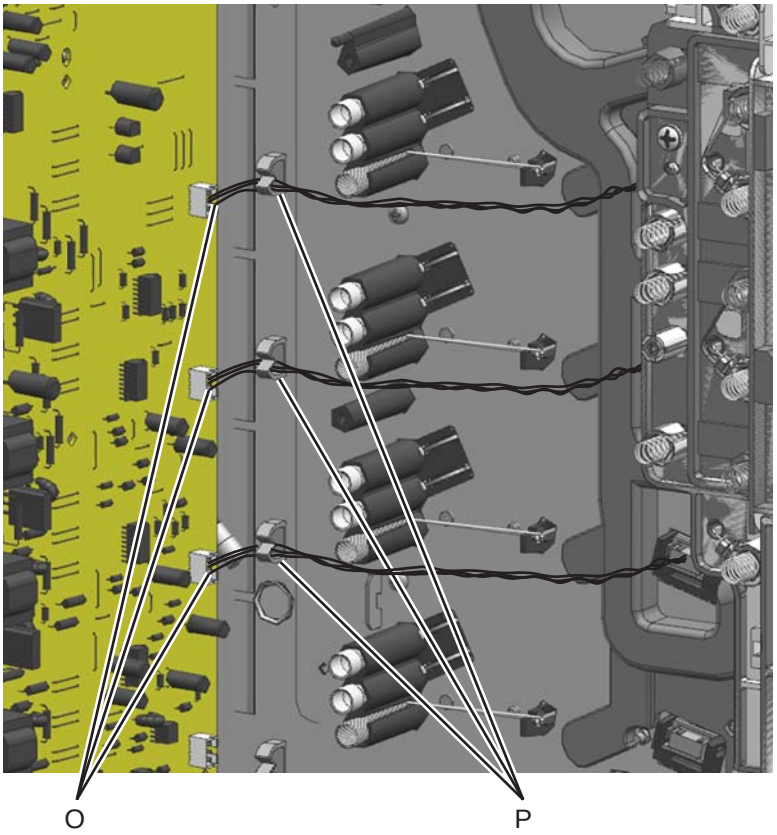
8. Attach the eight springs (G) to the Waste toner HV contact assembly as shown. Make sure the springs are behind the retainers.



9. Install the contact springs. When installing each contact spring, make sure the top half (H) of the spring is under the straight spring (J). This is typical for both types of springs. Also make sure that the bottom half (K,L) of both springs are compressed and locked by the appropriate locking tabs (M,N).



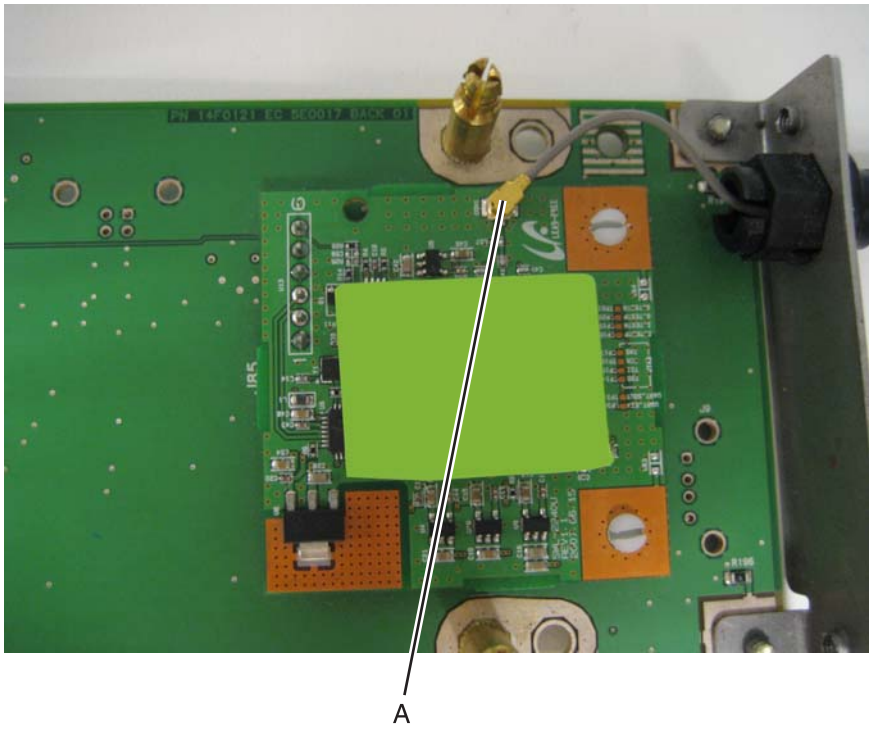
10. Connect the three top toner level sensor cables to the HVPS, making sure the cables (O) are attached properly to the retainers (P).



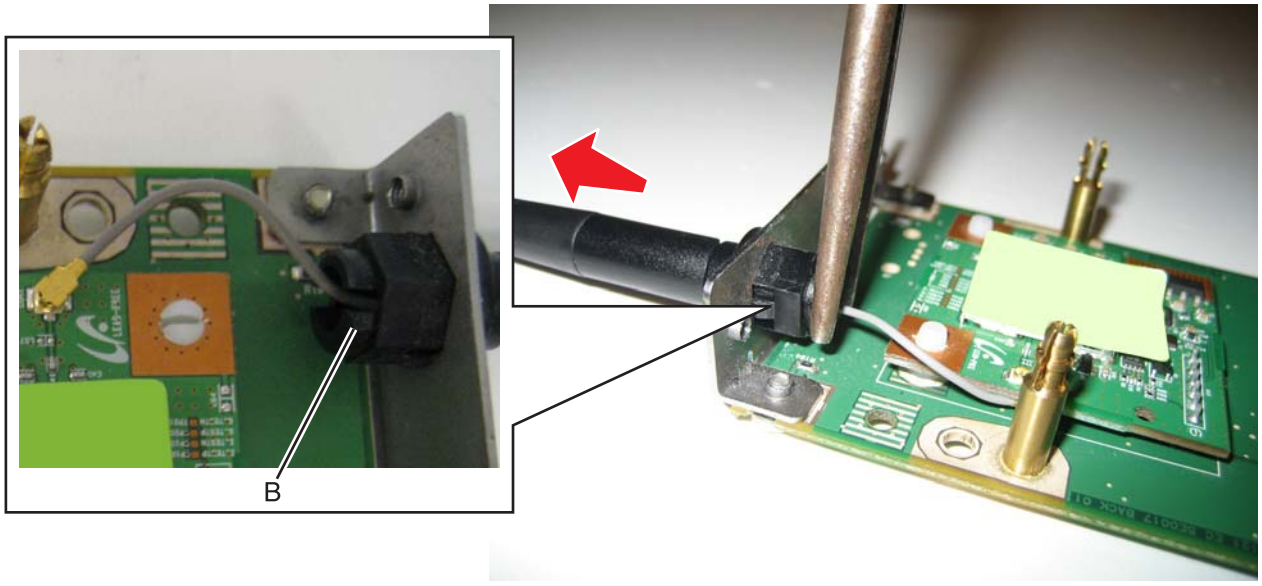
11. Reassemble the rest of the printer.

Wireless network antenna removal

1. Remove the wireless network card. see **“Wireless network card removal” on page 4-191**.
2. Disconnect the wireless network antenna cable (A) from the wireless network card.



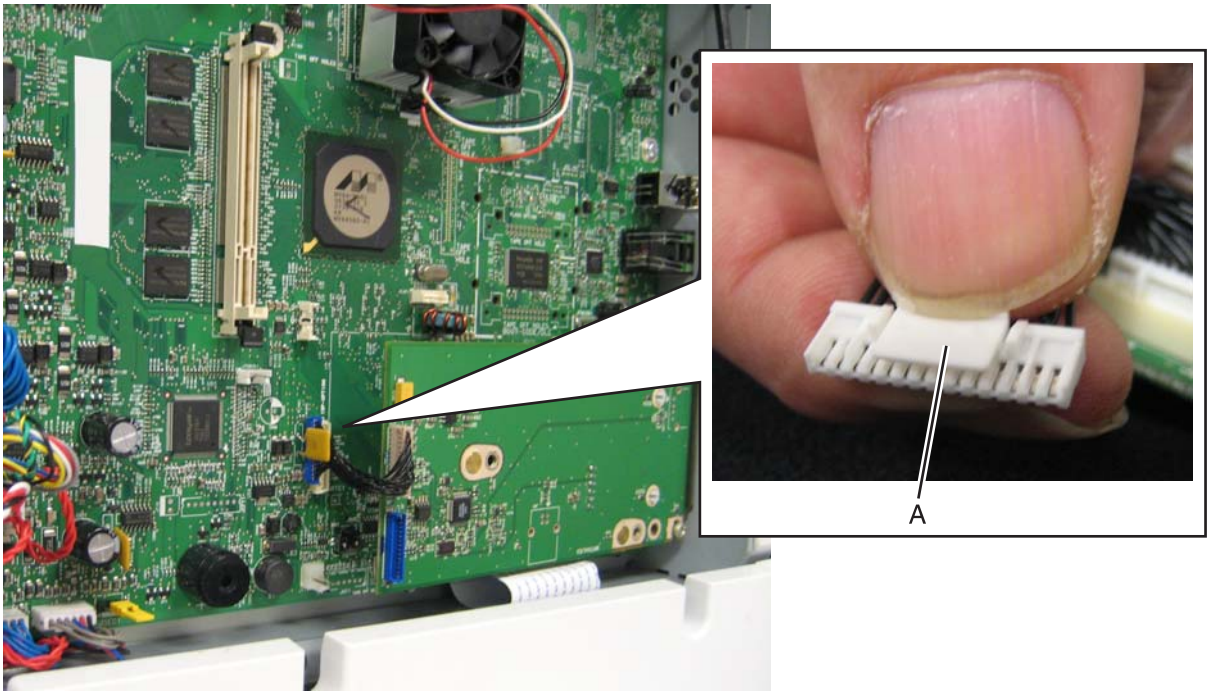
3. With pliers, squeeze the inner tabs (B), and pull the antenna out.



4. Pull the cable through, and remove the antenna with the cable.

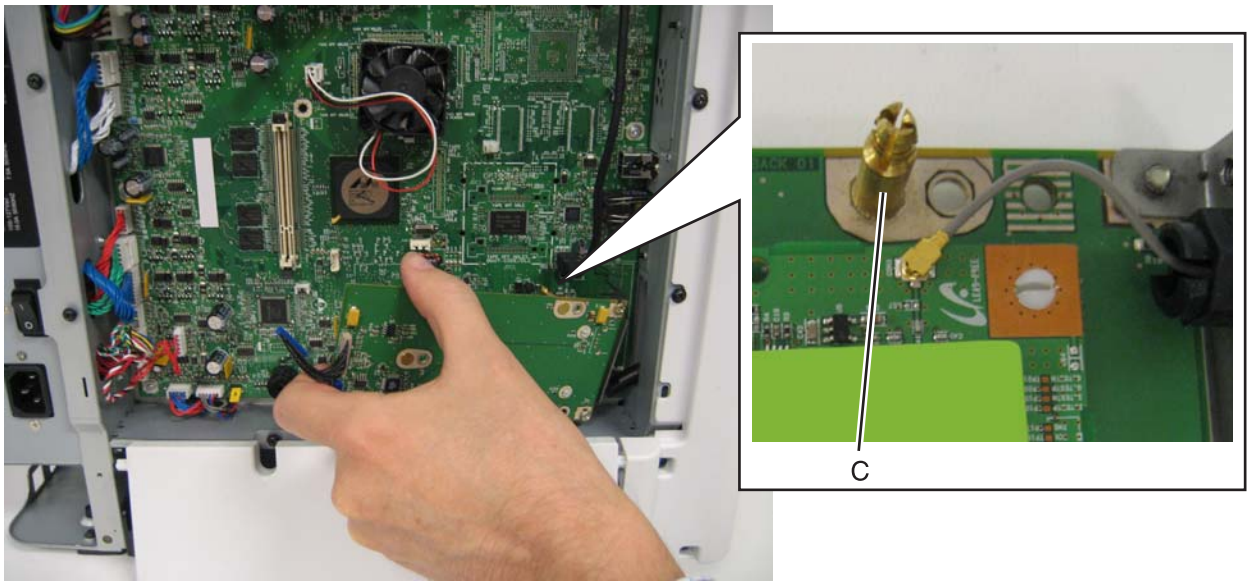
Wireless network card removal

1. Remove the rear frame cover. See **“Rear frame cover removal” on page 4-47**.
2. Disconnect the wireless cable from the system board at J5 (A), by squeezing the tabs at either end together.



3. Remove the two screws (B) that secure the card into place.

4. *Pop* the posts (C) on the card from the sockets (holes) in the system board.



Note: If you are removing the wireless network card to access another part, leave the antenna attached to the card, and you are done. If you need to replace the wireless network card FRU, continue with the next step to remove the separate wireless network antenna FRU.

5. Remove the wireless network antenna. See **"Wireless network antenna removal" on page 4-190**.

Option removals

HCIT media tray assembly removal

Note: When removing the high-capacity input tray (HCIT) media tray assembly, it is not necessary to remove it from the base machine and the caster base.

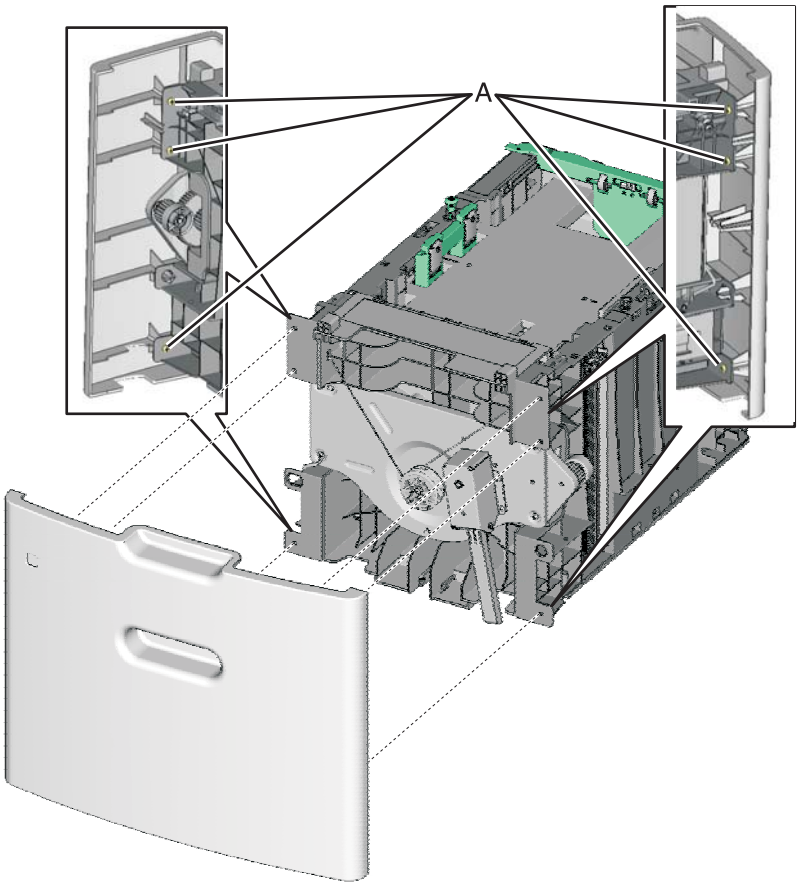
1. Open the HCIT media tray assembly (A) until it reaches a stop.
2. Press the latches (B) on the left and right side of the HCIT tray slides.

3. Slide the HCIT media tray assembly out of the drawer.

HCIT front tray cover removal

Note: When removing the high-capacity input tray (HCIT) front tray cover, it is not necessary to remove the HCIT media tray assembly from the base machine and the caster base.

1. Remove the HCIT media tray assembly. See **"HCIT media tray assembly removal" on page 4-193**.
2. Remove the six screws (A) securing the HCIT front tray cover to the media tray assembly.
3. Remove the HCIT front tray cover.



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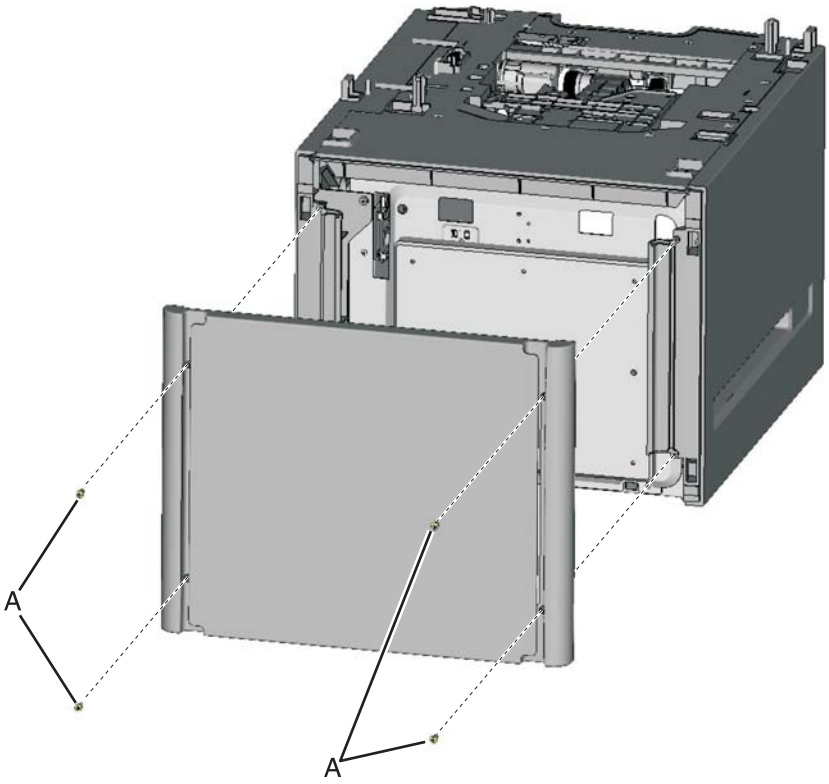
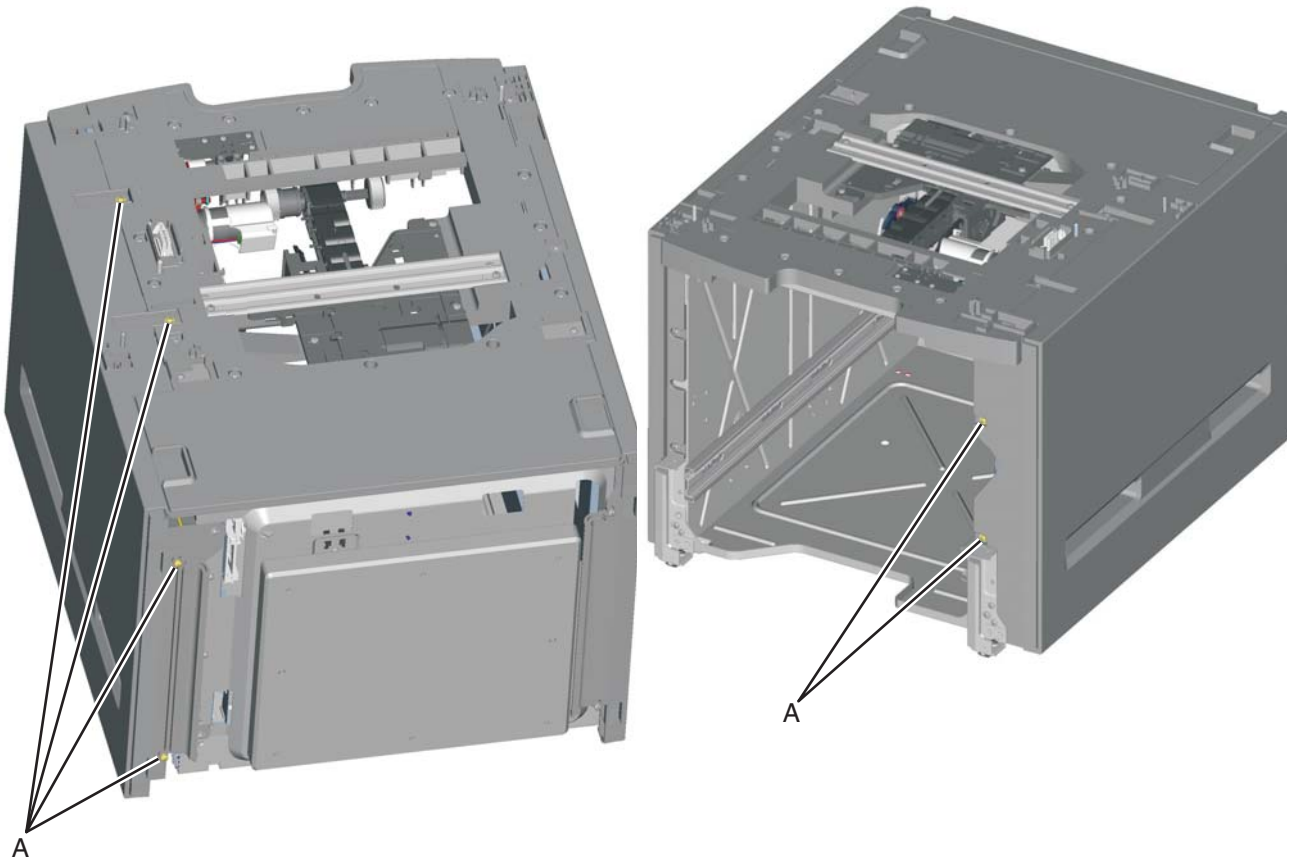
HCIT rear cover removal

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

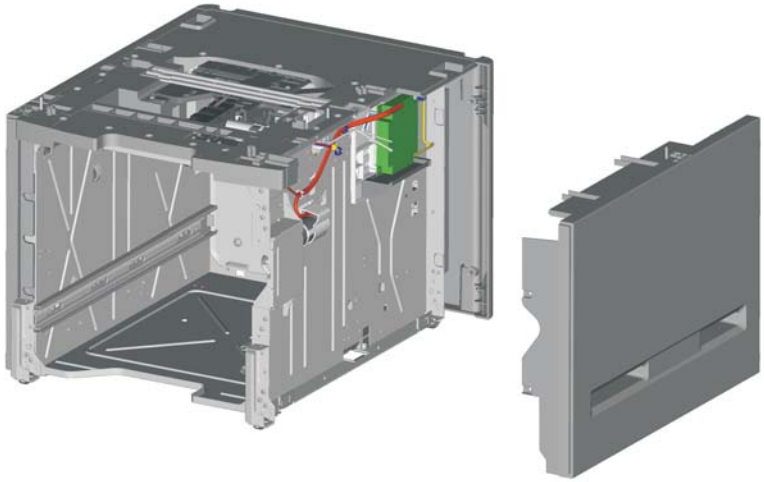


HCIT right cover removal

1. Carefully remove the printer or multifunction printer from the high-capacity input tray (HCIT) and remove the HCIT from the caster base.
2. Remove the HCIT media tray assembly. See **"HCIT media tray assembly removal" on page 4-193**.
3. Remove the HCIT rear cover. See **"HCIT rear cover removal" on page 4-195**.
4. Remove the six screws (A) securing the HCIT right cover to the drawer.

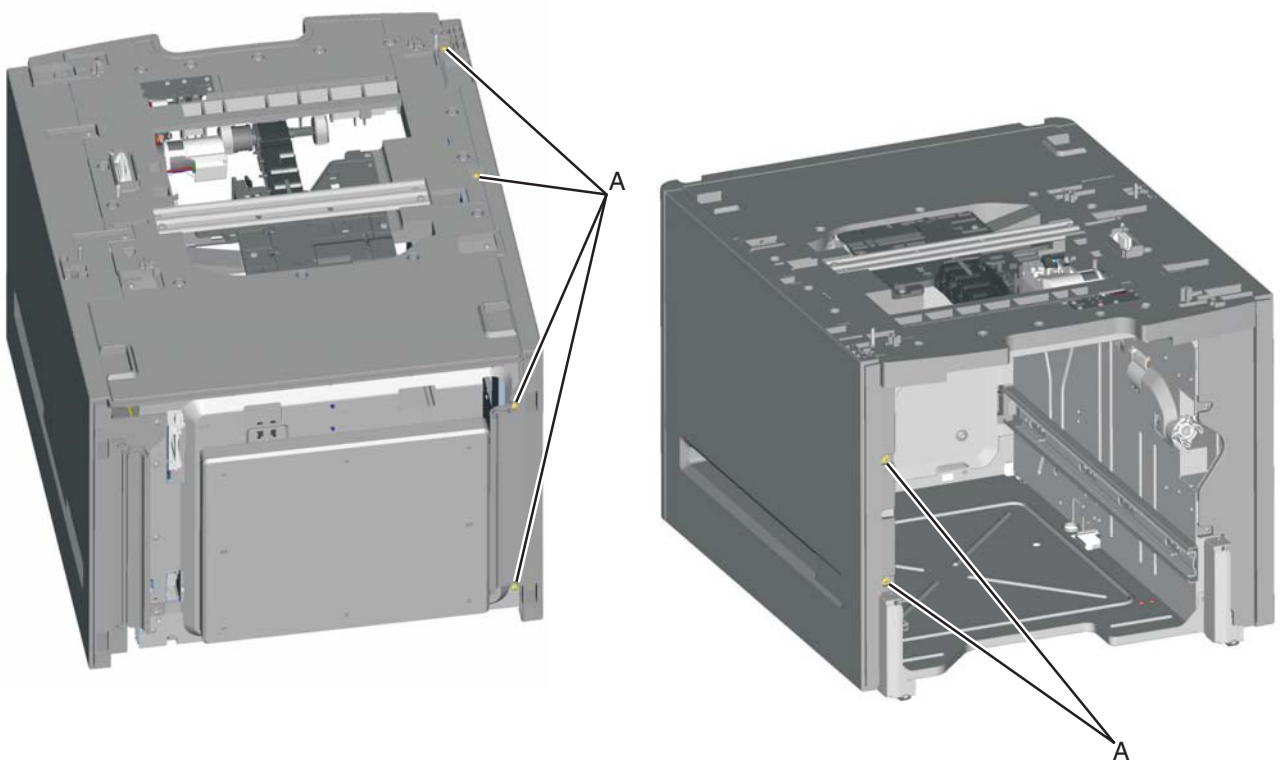


5. Remove the HCIT right cover.

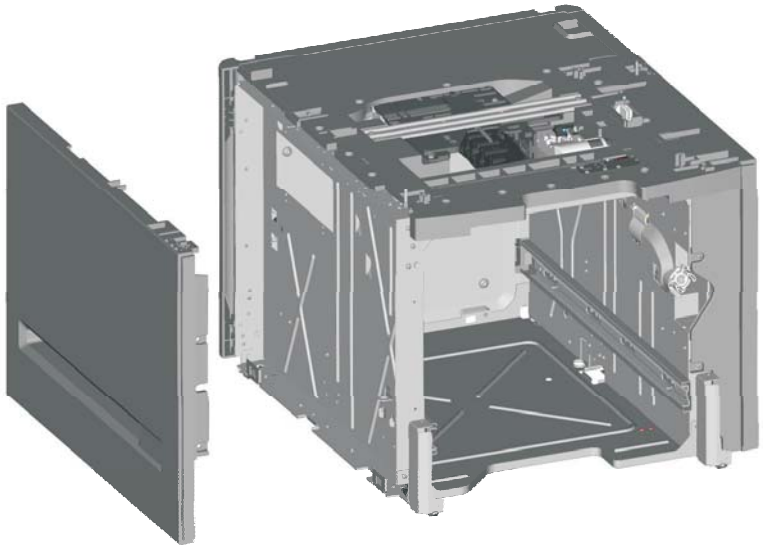


HCIT left cover removal

1. Carefully remove the printer or multifunction printer from the high-capacity input tray (HCIT), and remove the HCIT from the caster base.
2. Remove the HCIT media tray assembly. See **“HCIT media tray assembly removal” on page 4-193**.
3. Remove the HCIT rear cover. See **“HCIT rear cover removal” on page 4-195**.
4. Remove the six screws (A) securing the HCIT left cover to the drawer.

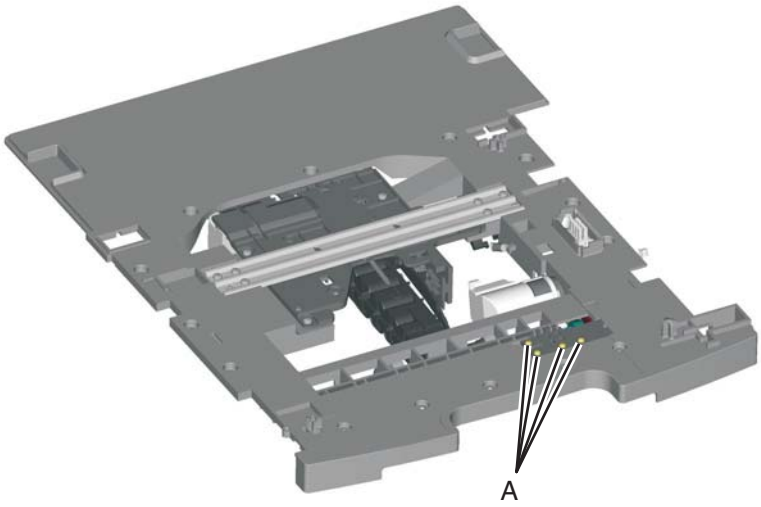


5. Remove the HCIT left cover.

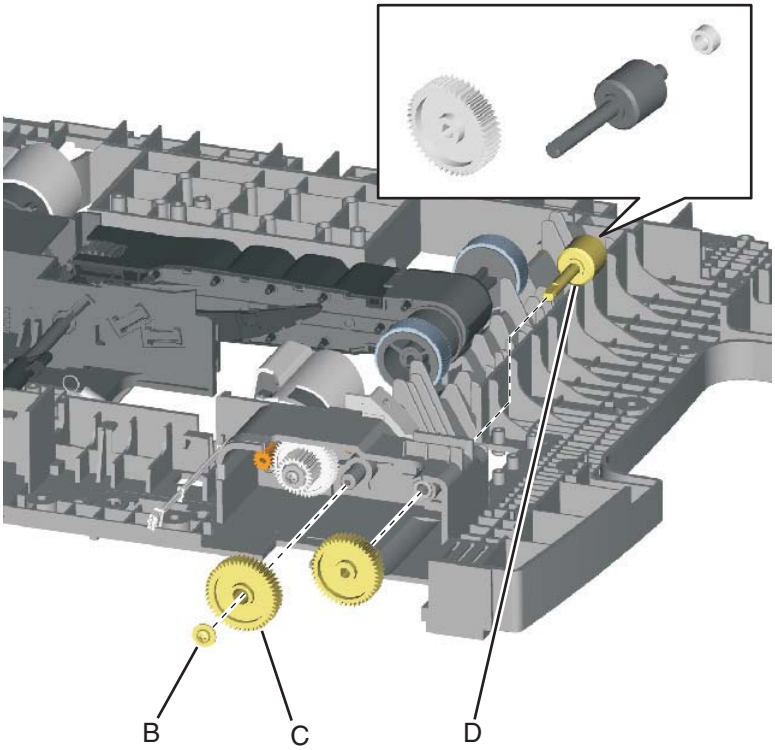


Feed with bushing roller removal

1. Remove the high-capacity input tray (HCIT) top plate assembly. See **"Top plate assembly removal" on page 4-206**.
2. Remove the four screws (A) securing the pass thru sensor bracket to the top plate assembly.
   Note: The bushing may come off when removing the pass thru sensor bracket.

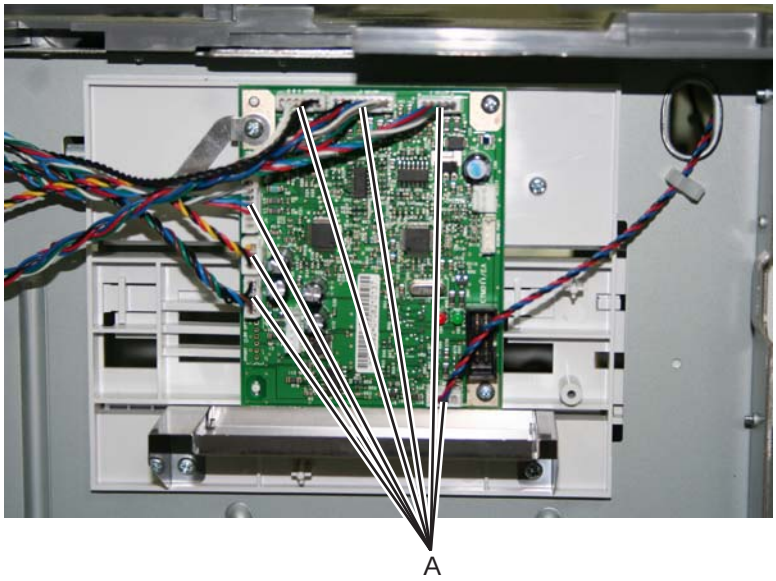


3. Remove the screw (B) securing the 46T gear (C) to the top plate assembly.
4. Remove the 46T gear.
5. *Snap* loose the feed roller (D), and remove.

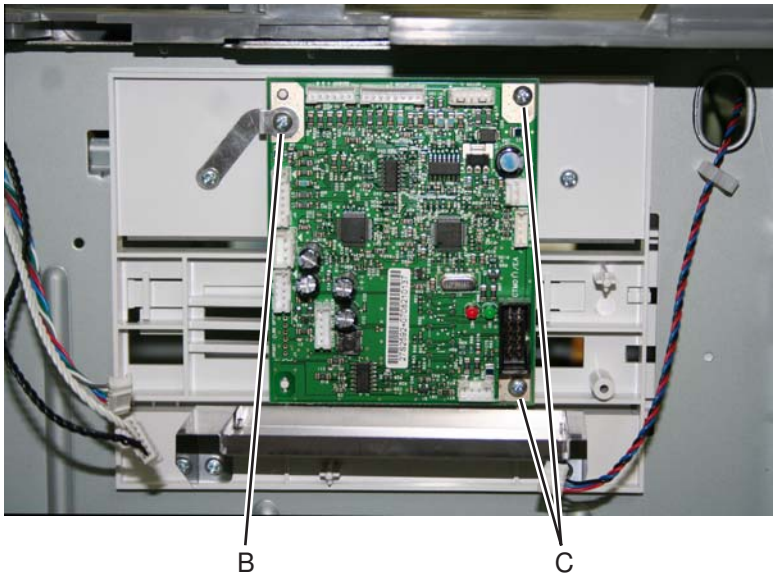


HCIT controller board assembly removal

1. Remove the HCIT right cover. See **"HCIT right cover removal" on page 4-196**.
2. Disconnect the seven connectors (A) from the HCIT controller board.



3. Remove the ground screw (B) from the HCIT controller board.
4. Remove the two screws (C) securing the HCIT controller board to the card mount option.

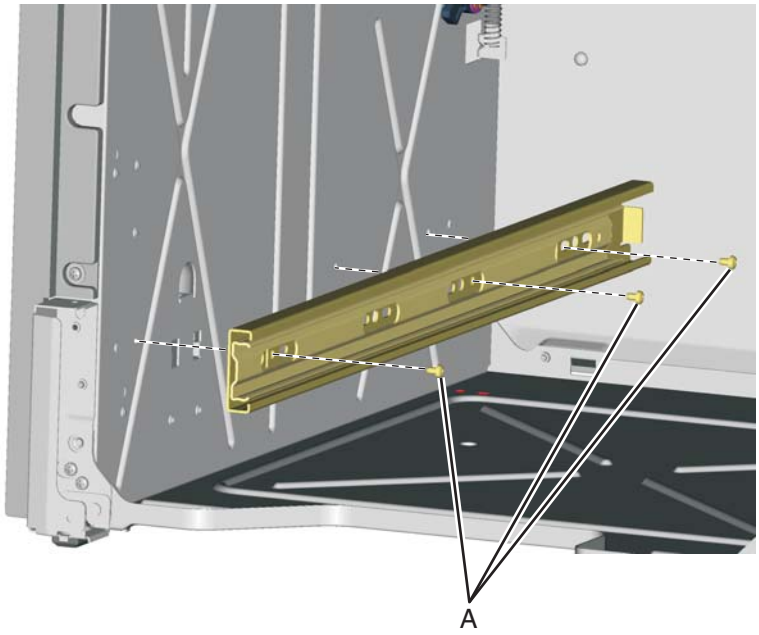


5. Remove the HCIT controller board.

HCIT drawer slide assembly removal

The left and right drawer slide assemblies are the same, and only one is in a package. The instructions below are for removing the left slide, but removing the right slide is similar.

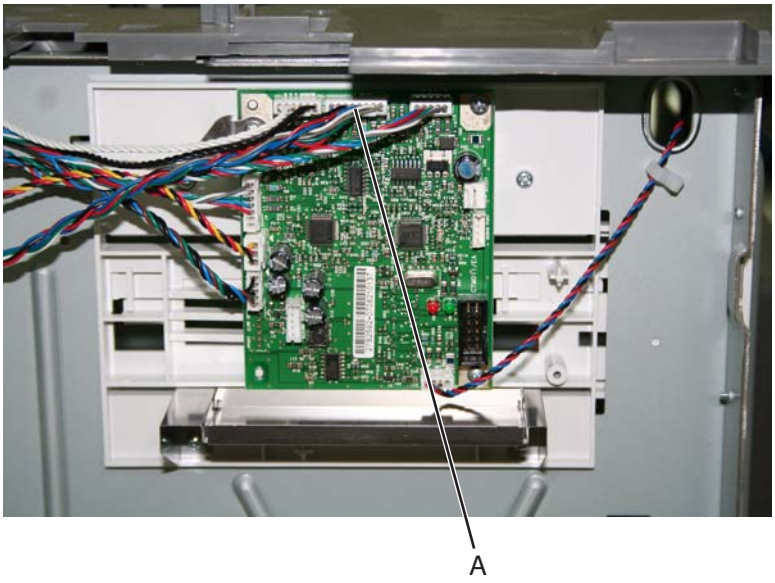
1. Remove the HCIT media tray assembly. See **"HCIT media tray assembly removal" on page 4-193**.
2. Remove the three screws (A) securing the HCIT drawer slide to the side frame.



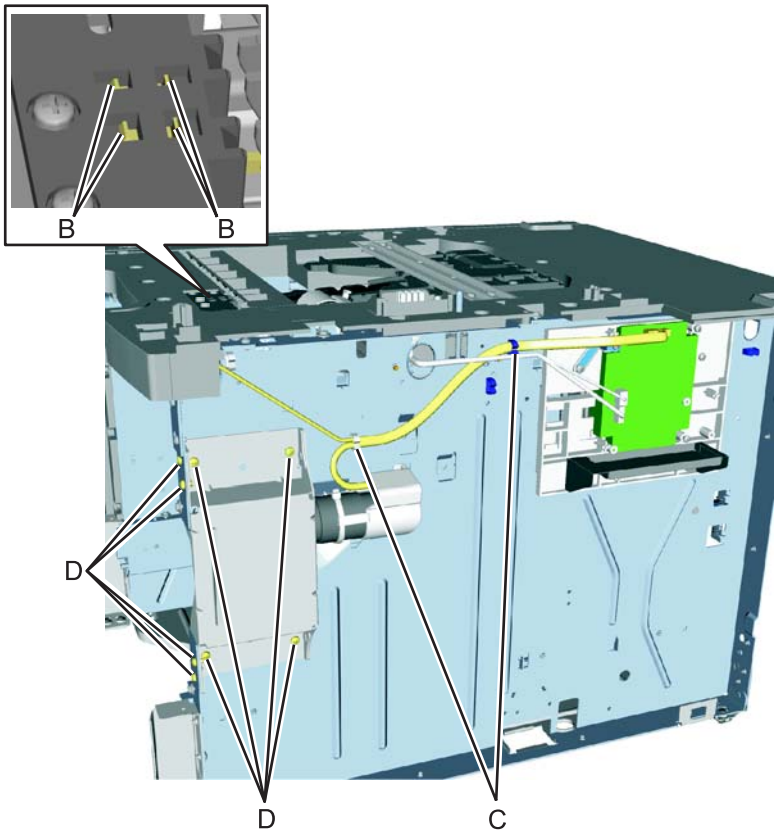
3. Remove the HCIT drawer slide.

HCIT elevator motor with sensor removal

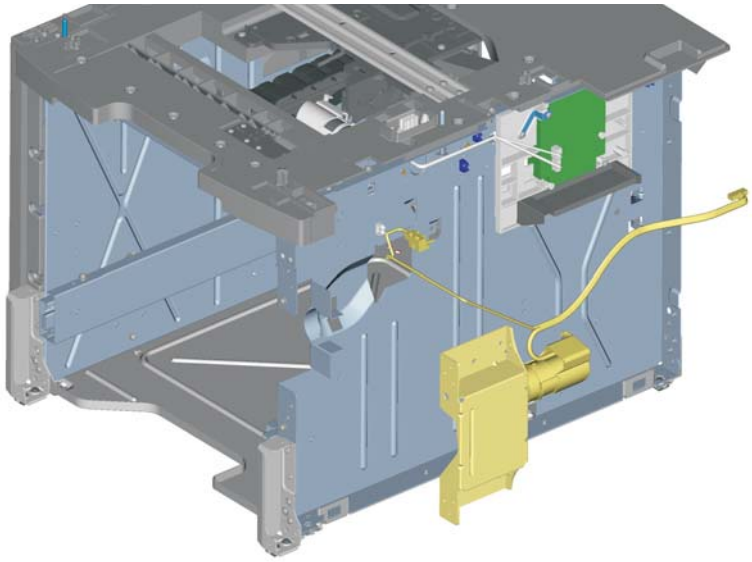
1. Remove the HCIT right cover. See **"HCIT right cover removal" on page 4-196**.
2. Disconnect the connector (A) from the HCIT controller board.



3. Release the hooks (B) securing the pass thru sensor to the top plate assembly.
4. Remove the pass thru sensor from the top plate assembly.
5. Release the harness from the clamps (C).
6. Remove the eight screws (D) securing the elevator motor with sensor to the side frame.

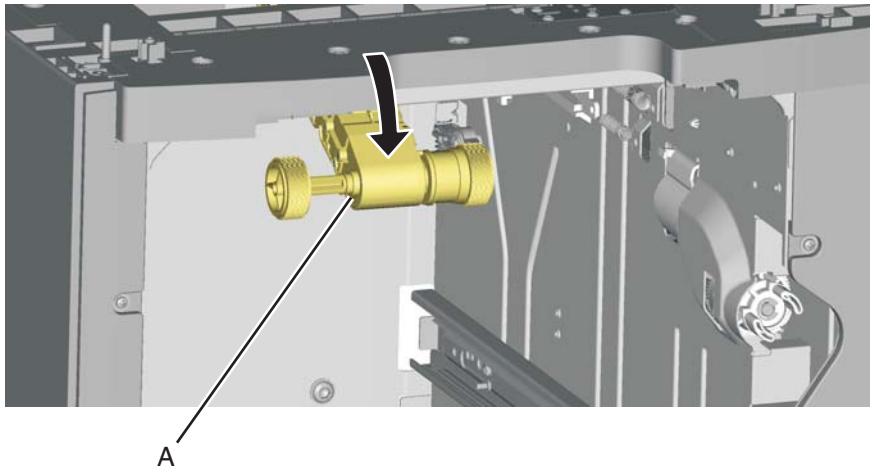


7. Remove the elevator motor with sensor.



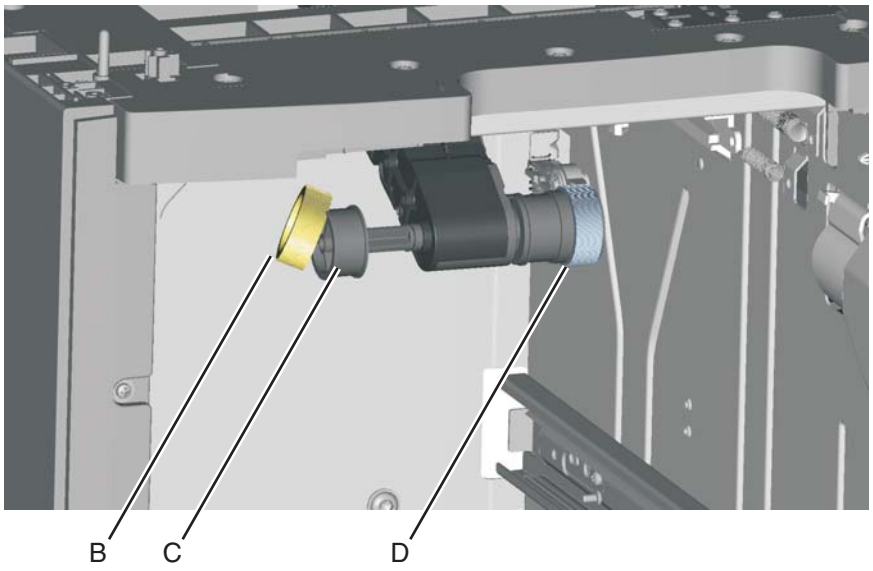
HCIT pick arm roll removal

1. Remove the high-capacity input tray (HCIT) media tray assembly. See **"HCIT media tray assembly removal" on page 4-193**.
2. Pull the auto compensator pick arm (A) down.



3. Remove the pick arm roll (B) from the pick roll assembly (C).
4. Repeat for the other pick arm roll (D).

   Note: Always replace the pick arm rolls as pairs.

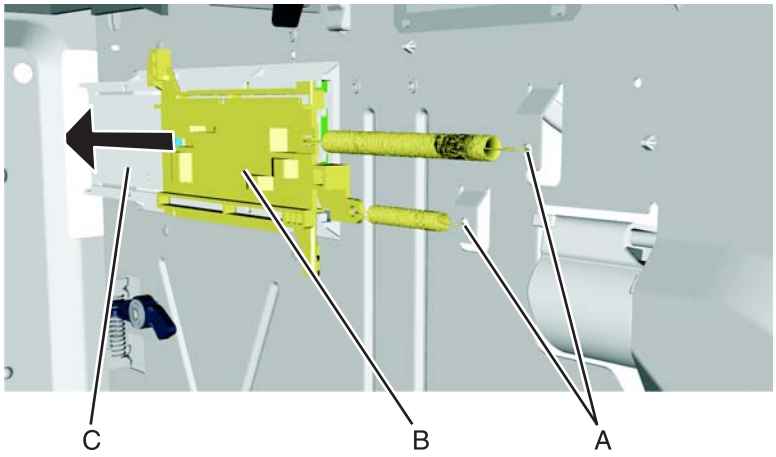


Installation notes:

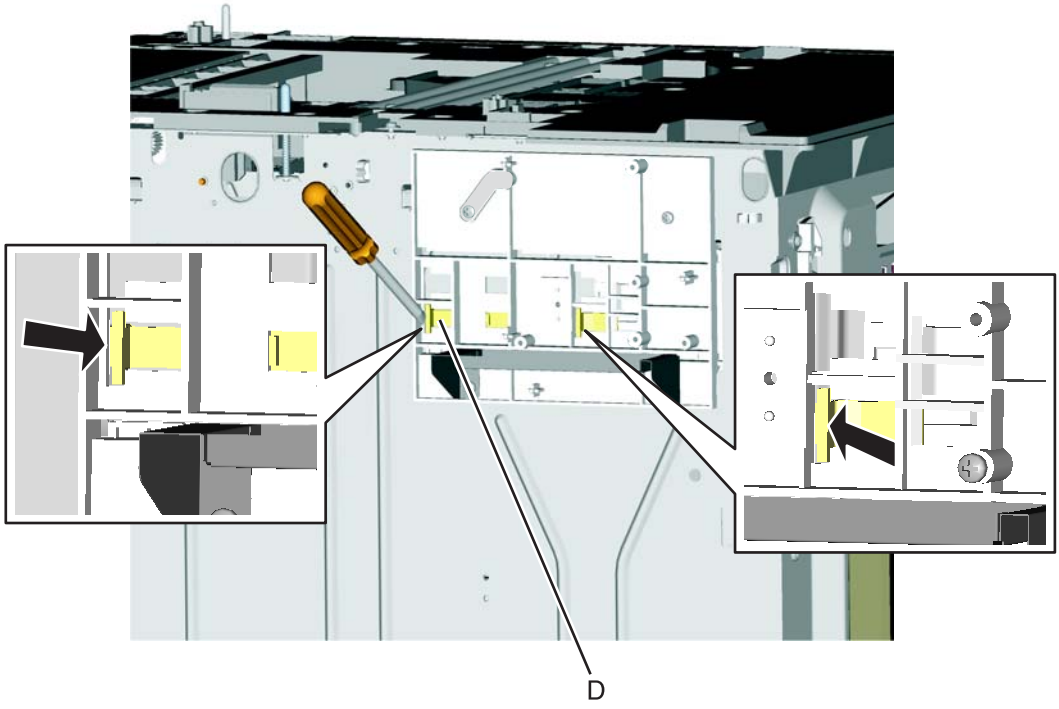
See **"Pick arm roll removal and replacement" on page 4-143** to make sure the pick arm roll is oriented correctly.

HCIT slide assembly with spring removal

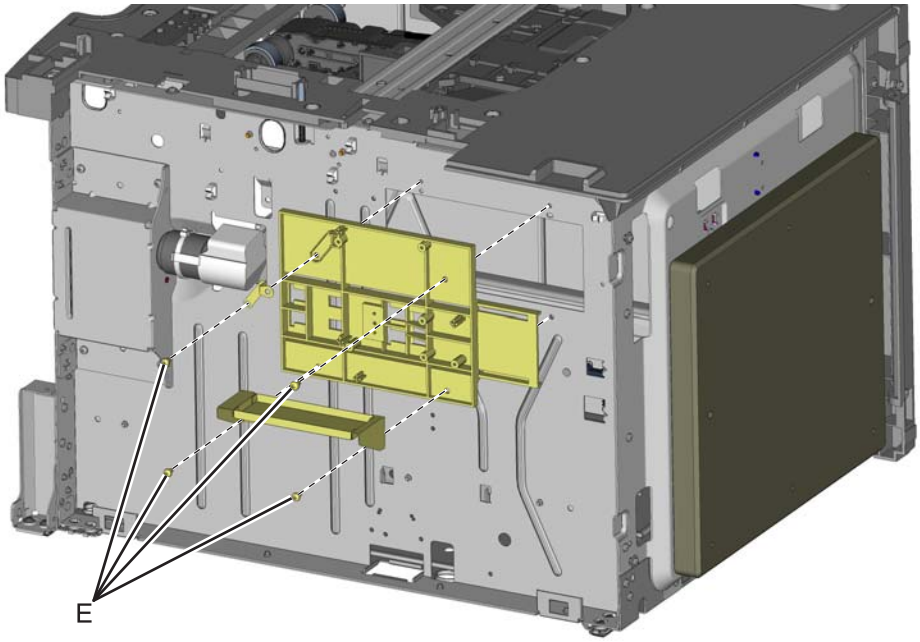
1. Remove the HCIT controller board assembly. See **"HCIT controller board assembly removal" on page 4-199**.
2. Disconnect the two springs (A) from the frame.
   Note: Leave the springs attached to the cam size sensing plate (B) and the actuator switch.
3. Slide the cam size sensing plate (B) through the access hole in the rear side frame.



4. Remove the media size actuator from the card mount option (C).
5. *Snap* loose the actuator switch (D), and remove.



6. Remove the four screws (E) securing the card mount option to the frame.



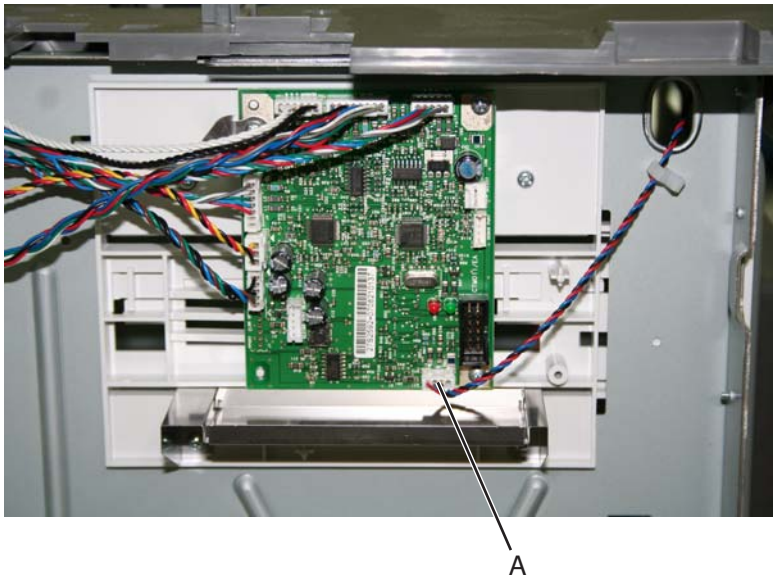
7. Remove the card mount option.

Installation note:

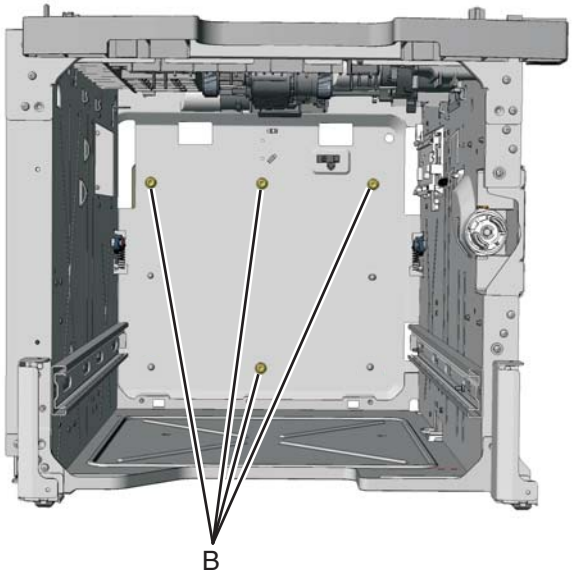
1. Place the card mount option into position, and secure it with the four screws.
2. Reinstall the media size actuator to the card mount option.
3. Reinstall the actuator switch with spring through the inside of the drawer.
4. Reinstall the cam size sensing plate with spring through the access hole in the rear side.
5. Reattach the two springs to the frame.

Photointerrupter sensor with cable assembly removal

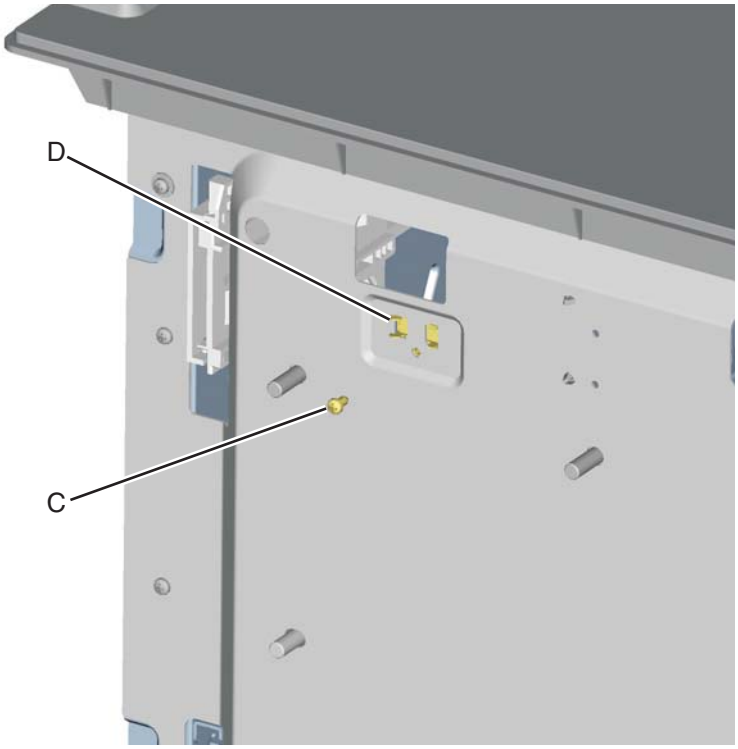
1. Remove the high-capacity input tray (HCIT) right cover. See **"HCIT right cover removal" on page 4-196**.
2. Disconnect the photo interrupter sensor cable connector (A) from the HCIT controller board.



3. Turn the drawer rear side down, and use 4.0 mm wrench to remove the four Allen screws (B) securing the counterweight to the rear frame.
   Warning: Do *not* remove the screws without turning the drawer rear side down first. The counterweight is very heavy; it might fall and cause damage.



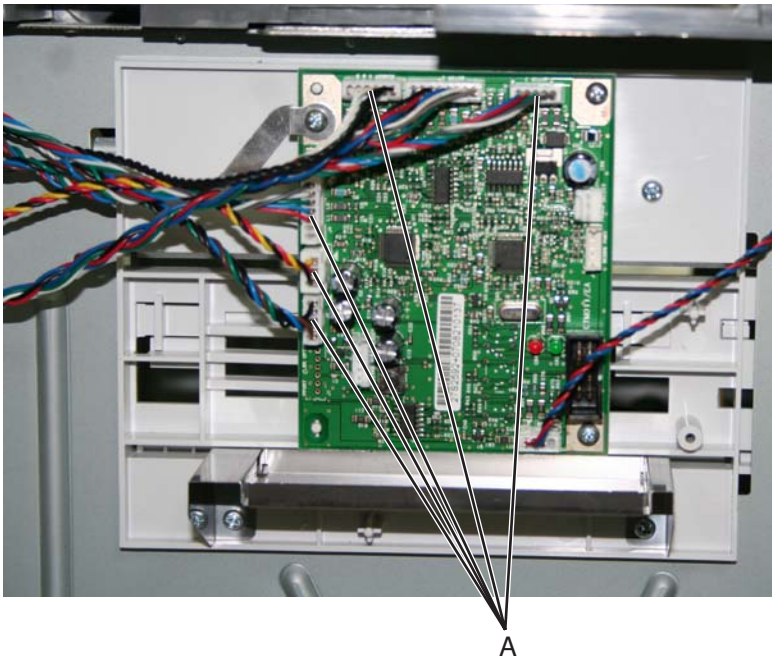
4. Remove the screw (C) securing the sensor to the rear frame, and then release the hooks (D).
   Note: Remove the cable from the restraint, and observe the routing for reinstallation.



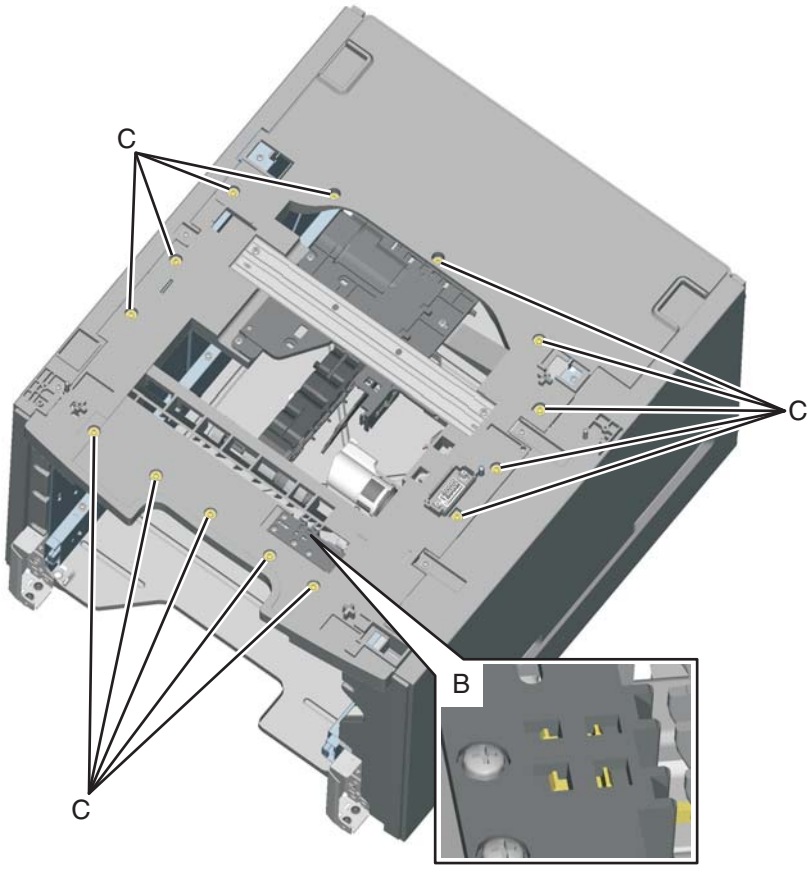
5. Remove the photo interrupter sensor with cable assembly.

Top plate assembly removal

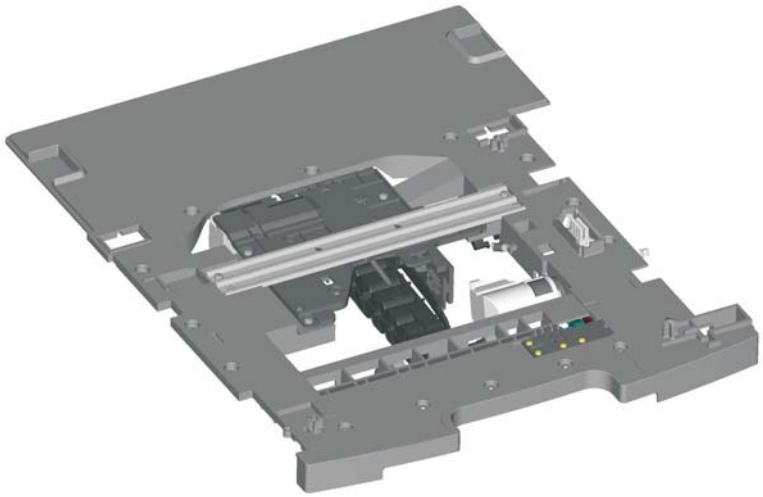
1. Remove the high-capacity input tray (HCIT) right cover. See **"HCIT right cover removal" on page 4-196**.
2. Disconnect the five connectors (A) from the HCIT controller board.



3. Release the hooks (B) securing the pass thru sensor from the top plate assembly.
4. Remove the fourteen screws (C) securing the top plate assembly to the frame.

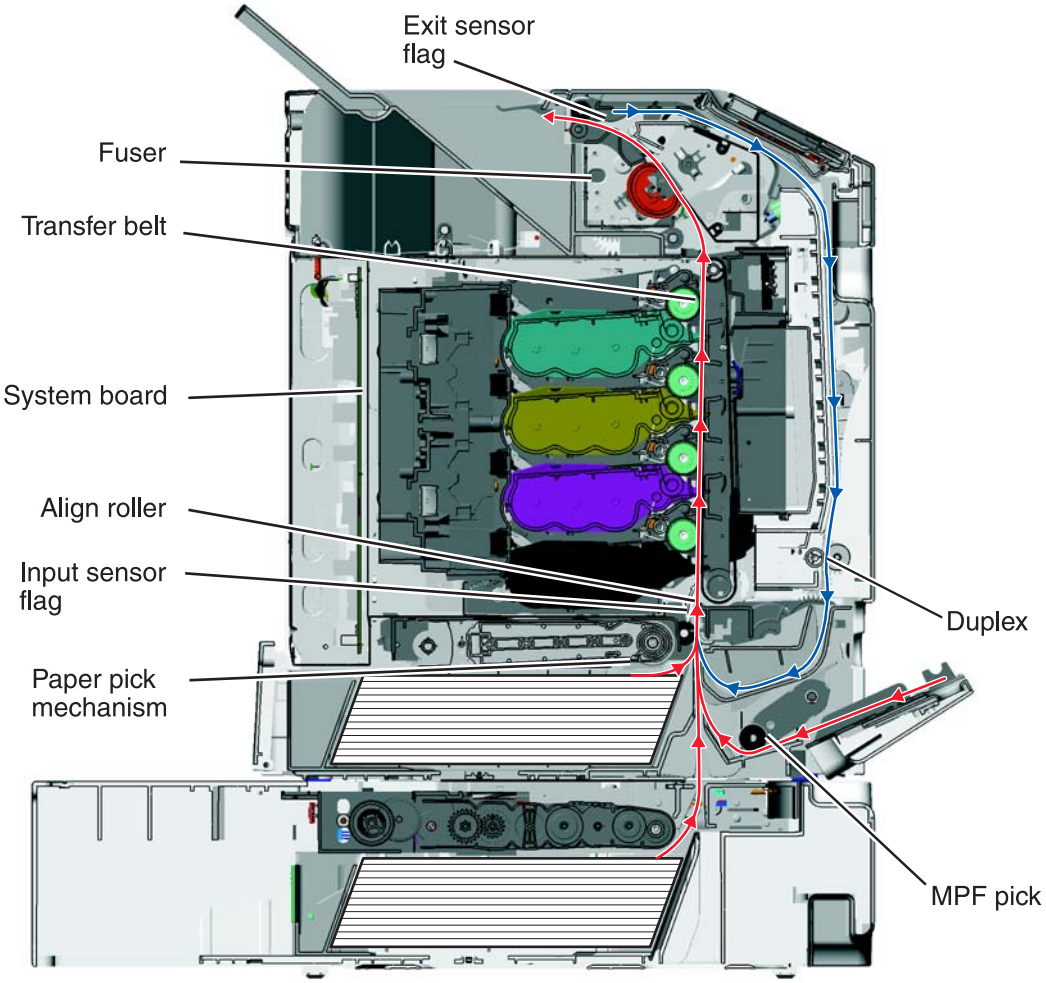


5. Remove the top plate assembly.



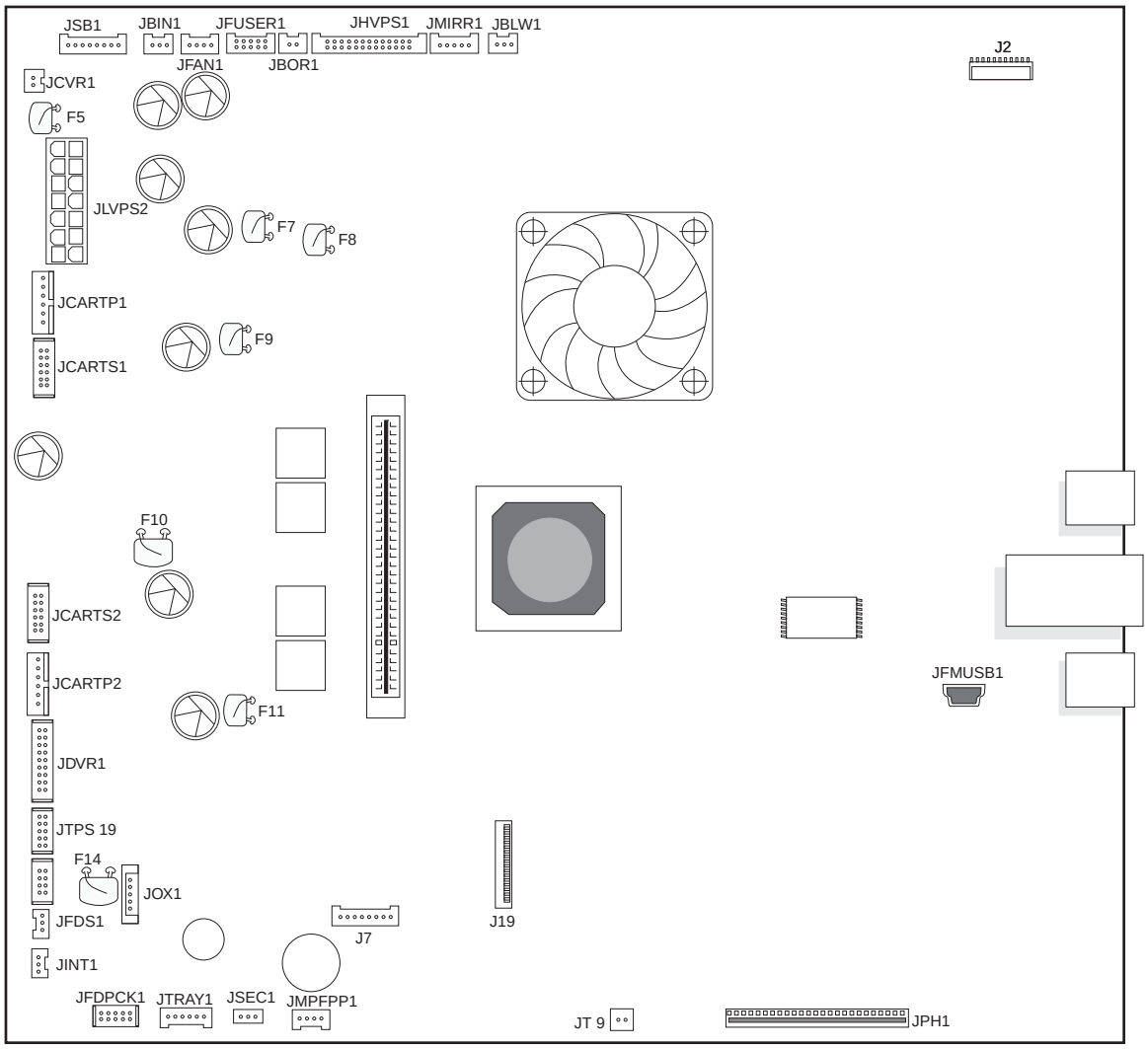
5. Connector locations

Locations



Connectors

System board diagram



System board listing

See “System board diagram” on page 5-2.

Connector	Description
F(#)	Fuse
J2	Operator panel I/F
J5	Ethernet connector
JBIN1	Output bin sensor
JBLW1	Cartridge blower
JBOOT1	Daughter card boot connector
JBOR1	Black only retract connector
JBUSB1	USB device port
JCARTP1	Cartridge 1 BLDC motor (upper)
JCARTS1	Fuser and cartridge 1 connector
JCARTS2	Cartridge 2 BLDC motor (lower)
JCVR1	+25V Cover Open Switch Connector
JDVR1	Daughter card motor driver
JDX1	Duplex/MFP BDC motor drive
JFAN1	System fan
JFDPCK1	Feed and pick motor connector
JFDS1	Feed thru sensor connector
JFMUSB1	USB device port
JFUSER1	Fuser motor connector
JHVPS1	High voltage power supply
JINT1	Interlock switch (5v)
JLVPS2	Low voltage power supply
JMIRR	Mirror motor connector
JMPFPP1	MPF sensor
JOPT1	Option port connector
JPH1	Printhead connector
JSB1	Cartridge SB connector
JSEC1	Security jumper connector
JTOPP1	Speaker connector
JTPS1	Toner patch sensor connector
JTRAY1	Tray 1 input, NMT sensors
JUSB1	USB device port

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.

Maintaining the printer

Periodically, certain tasks are required to maintain optimum print quality.

Cleaning the exterior of the printer

1. Make sure that the printer is turned off and unplugged from the outlet.

CAUTION

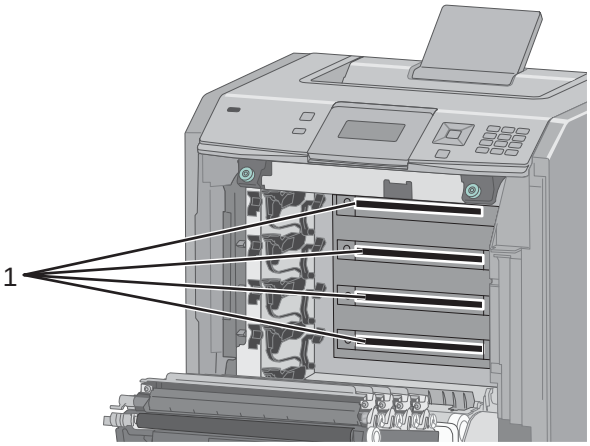
SHOCK HAZARD: To avoid the risk of electric shock when cleaning the exterior of the printer, unplug the power cord from the outlet, and disconnect all cables to the printer before proceeding.

2. Remove paper from the standard exit bin.
3. Dampen a clean, lint-free cloth with water.
   Warning: Potential Damage: Do not use household cleaners or detergents, as they may damage the finish of the printer.
4. Wipe only the outside of the printer, making sure to include the standard exit bin.
   Warning: Potential Damage: Using a damp cloth to clean the interior may cause damage to your printer.
5. Make sure the paper support and standard exit bin are dry before beginning a new print job.

Cleaning the printhead lenses

Clean the printhead lenses when you encounter print quality problems.

1. Open the front access door.
   Warning: Potential Damage: To avoid overexposing the photoconductor units, do not leave the front door open for more than 10 minutes.
2. Remove all four toner cartridges. Do not remove the photoconductor units for this procedure.
3. Locate the four printhead lenses.



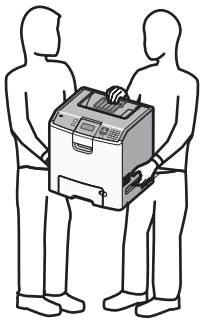
4. Clean the lenses using a can of compressed air.
   Warning: Potential Damage: Do not touch the printhead lenses.
5. Reinstall the four toner cartridges.
6. Close the front door.

Moving the printer

	CAUTION POTENTIAL INJURY: The printer weight is greater than 54 lbs (24.5kg) and requires two or more trained personnel to lift it safely.

Follow these guidelines to avoid personal injury or printer damage:

- Always use at least two people to lift the printer.



- Always turn off the printer using the power switch before moving it.
- Disconnect all cords and cables from the printer before moving it.
- Remove the printer from the options before moving it.

7. Parts catalog

How to use this parts catalog

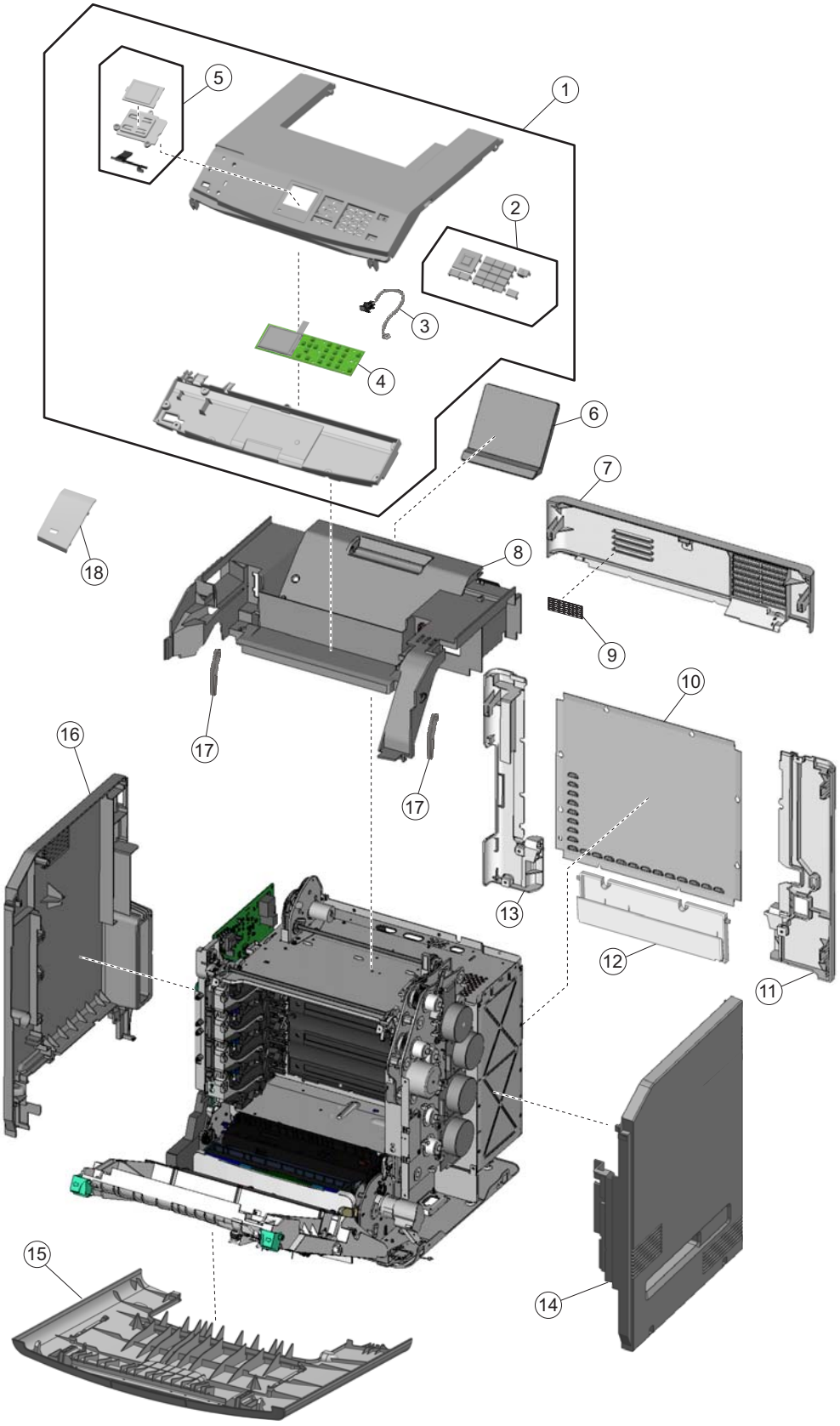
The following legend is used in the parts catalog:

Asm-index	Part number	Units/mach	Units/ FRU	Description

- **Asm-index**: Identifies the assembly and the item in the diagram. For example, 3-1 indicates Assembly 3 and 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.
- Model information used in the parts catalog:

Abbreviation used	Machine type and model	Printer name	Description
310	5026-310	Lexmark C746n	Network-ready
330	5026-330	Lexmark C746dn	Network-ready with duplex
330	5026-330	Lexmark C746dtn	Network-ready with duplex and 550 sheet tray
510	5026-510	Lexmark C748e	Network-ready with etask touch screen
530	5026-530	Lexmark C748de	Network-ready with etask touch screen and duplex
530	5026-530	Lexmark C748dte	Network-ready with etask touch screen, duplex, and 550 sheet tray

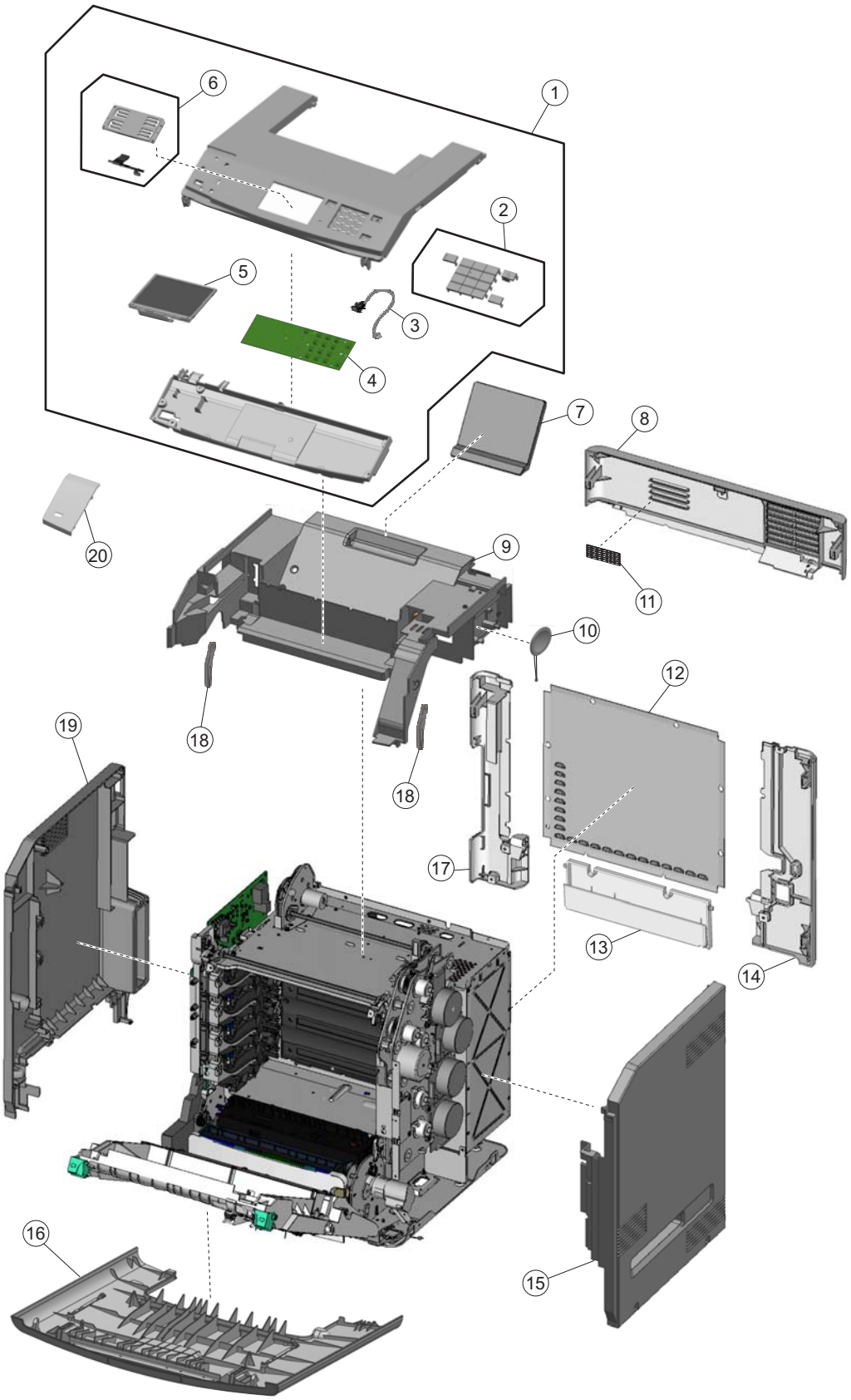
Assembly 1: Covers (C746)



Assembly 1: Covers (C746)

Index	P/N	Units/ mach	Units/ FRU	Description
1—1	40X7520	1	1	Top access cover assembly, 2.3 inch
2	40X7660	1	1	2.3 inch operator panel buttons parts package Includes the following: • Button kit • Sleep button • Return button • Select button • Navigation button • Home button • LED Lens
3	40X5121	1	1	Bin full sensor with cable
4	40X7603	1	1	2.3 inch operator panel assembly with card Includes the following: • LCD Display • UICC card
5	40X7966	1	1	Top access cover parts package Includes the following: • Bin full flag • Operator panel display bracket
6	40X5106	1	1	Output bin extension cover
7	40X5103	1	1	Rear upper cover
8	40X5993	1	1	Top cover assembly
9	40X5287	1	1	Cooling fan filter
10	40X5145	1	1	Rear frame cover
11	40X5105	1	1	Rear right cover
12	40X5153	1	1	Dust cover assembly
13	40X5104	1	1	Rear left cover
14	40X5994	1	1	Right cover
15	40X7661	1	1	Front access door cover assembly
16	40X5102	1	1	Left cover
17	40X5119	1	1	Top access cover links (slider cam) Note: The left link is also available in the top access cover assembly and the right link is also available in the EP drive assembly
18	40X8317	1	1	Operator panel bezel, C74x (blank logo)
18	40X6879	1	1	Operator panel bezel, C746n
18	40X7335	1	1	Operator panel bezel, C746dn and C746dtn

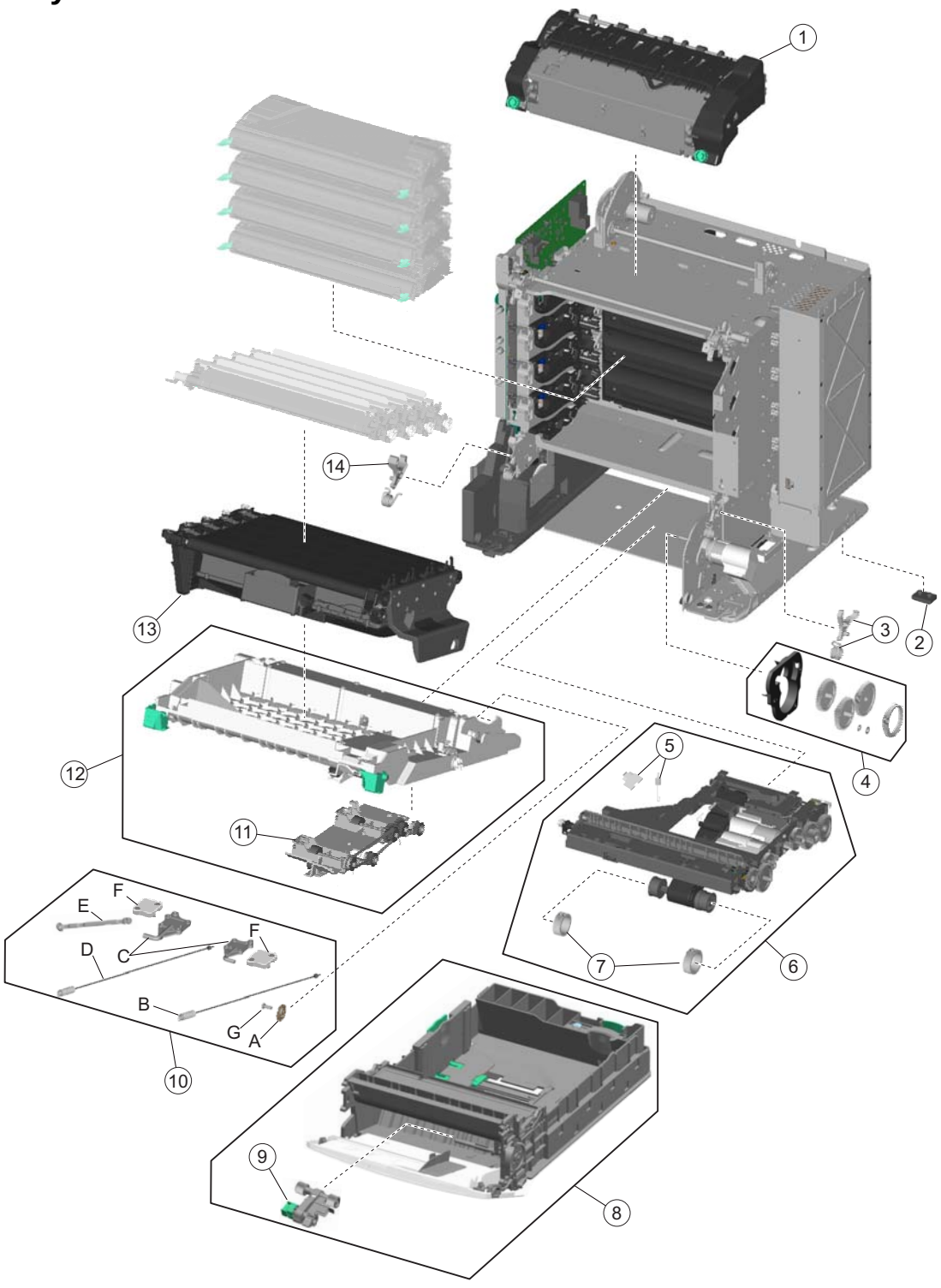
Assembly 2: Covers (C748)



Assembly 2: Covers (C748)

Index	P/N	Units/ mach	Units/ FRU	Description
2—1	40X5988	1	1	Top access cover assembly, 4.3 inch
2	40X5990	1	1	4.3 inch operator panel buttons parts package Includes the following: • Button kit • Home button • Sleep button • LED Lens
3	40X5121	1	1	Bin full sensor with cable
4	40X5989	1	1	UICC card
5	40X7116	1	1	4.3 inch LCD display
6	40X7966	1	1	Top access cover parts package Includes the following • Bin full flag • Operator panel display bracket
7	40X5106	1	1	Output bin extension cover
8	40X5103	1	1	Rear upper cover
9	40X5993	1	1	Top cover assembly
10	40X7703	1	1	Speaker
11	40X5287	1	1	Cooling fan filter
12	40X5145	1	1	Rear frame cover
13	40X5153	1	1	Dust cover assembly
14	40X5105	1	1	Rear right cover
15	40X5994	1	1	Right cover
16	40X7661	1	1	Front access door cover assembly
17	40X5104	1	1	Rear left cover
18	40X5119	1	1	Top access cover links (slider cam) Note: The left link is also available in the top access cover assembly and the right link is also available in the EP drive assembly
19	40X5102	1	1	Left cover
20	40X8317	1	1	Operator panel bezel, C74x (blank logo)
20	40X6877	1	1	Operator panel bezel, C748de
20	40X8259	1	1	Operator panel bezel, C748e

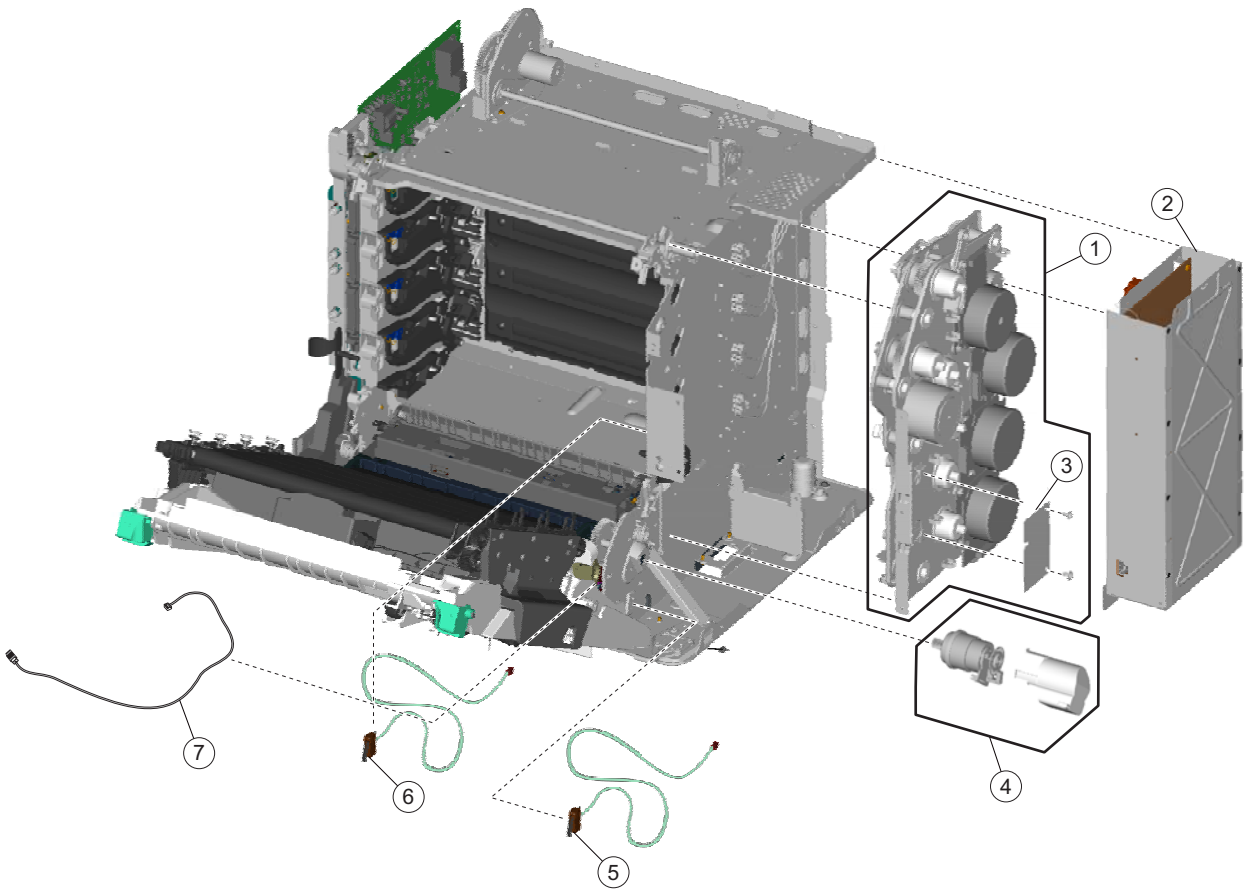
Assembly 3: Front



Assembly 3: Front

Index	P/N	Units/ mach	Units/ FRU	Description
3—1	40X8110	1	1	Fuser assembly, 115 V
1	40X8111	1	1	Fuser assembly, 230 V
1	40X8112	1	1	Fuser assembly, 100 V
2				Printer pad, included in screws parts packet (P/N 40X5136)
3	40X1446	1	1	Right bellcrank assembly, with spring
4	40X5132	1	1	MP feeder/duplex drive parts packet Includes the following • Retainer release arm • Grease packet (Nyogel 744) • Washer • Duplex engagement gear • MP feeder reduction gear • MP feeder/duplex reduction gear • MP feeder drive cover
5	40X6319	1	1	Cranklift spring and metal clip
6	40X8308	1	1	Paper pick assembly
7	40X5152	2	2	Pick arm roll
8	40X5999	1	1	Paper tray assembly, 550-sheet
9	40X6496	1	1	MPF pick arm assembly
10	40X5111	1	1	Front door parts packet Includes the following: • A—Front access door cap (1) • B—Right cable assembly (1) • C—Front access cover pivot (1) • D—Left cable assembly (1) • E—Front access door straps (2) • F—Front access door bracket (1) • G—Screw
11	40X5113	1	1	Duplex reference edge assembly
12	40X5995	1	1	Front door assembly
13	40X8307	1	1	Transfer module
14	40X1447	1	1	Left bellcrank assembly, with spring

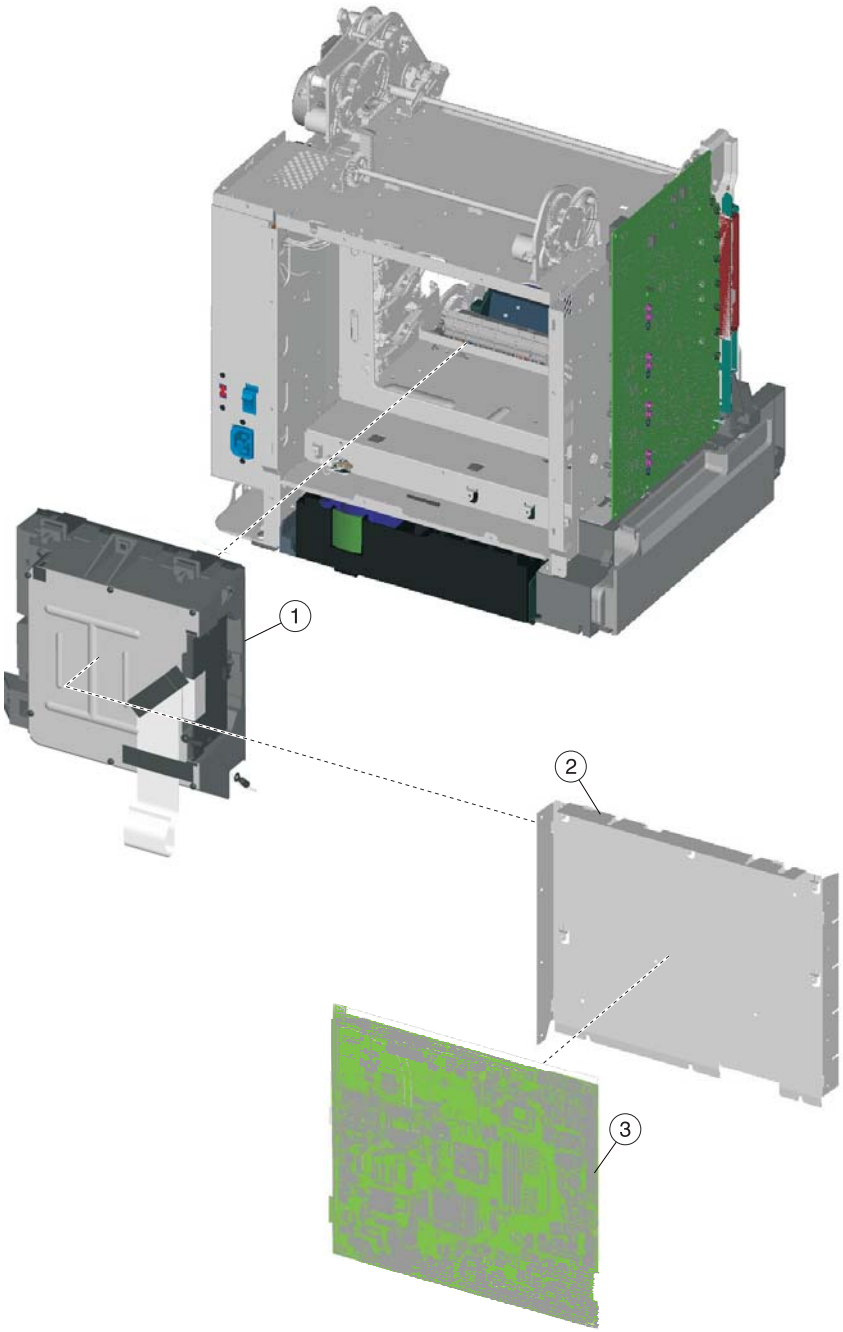
Assembly 4: Right



Assembly 4: Right

Index	P/N	Units/ mach	Units/ FRU	Description
4—1	40X5290	1	1	EP drive assembly
2	40X5991	1	1	Low-voltage power supply
3	40X5126	1	1	Motor driver card
4	40X8309	1	1	MP feeder/duplex motor
5	40X5128	1	1	24 V interlock switch
6	40X5127	1	1	5 V interlock switch
7	40X5998	1	1	MPF paper present sensor with cable

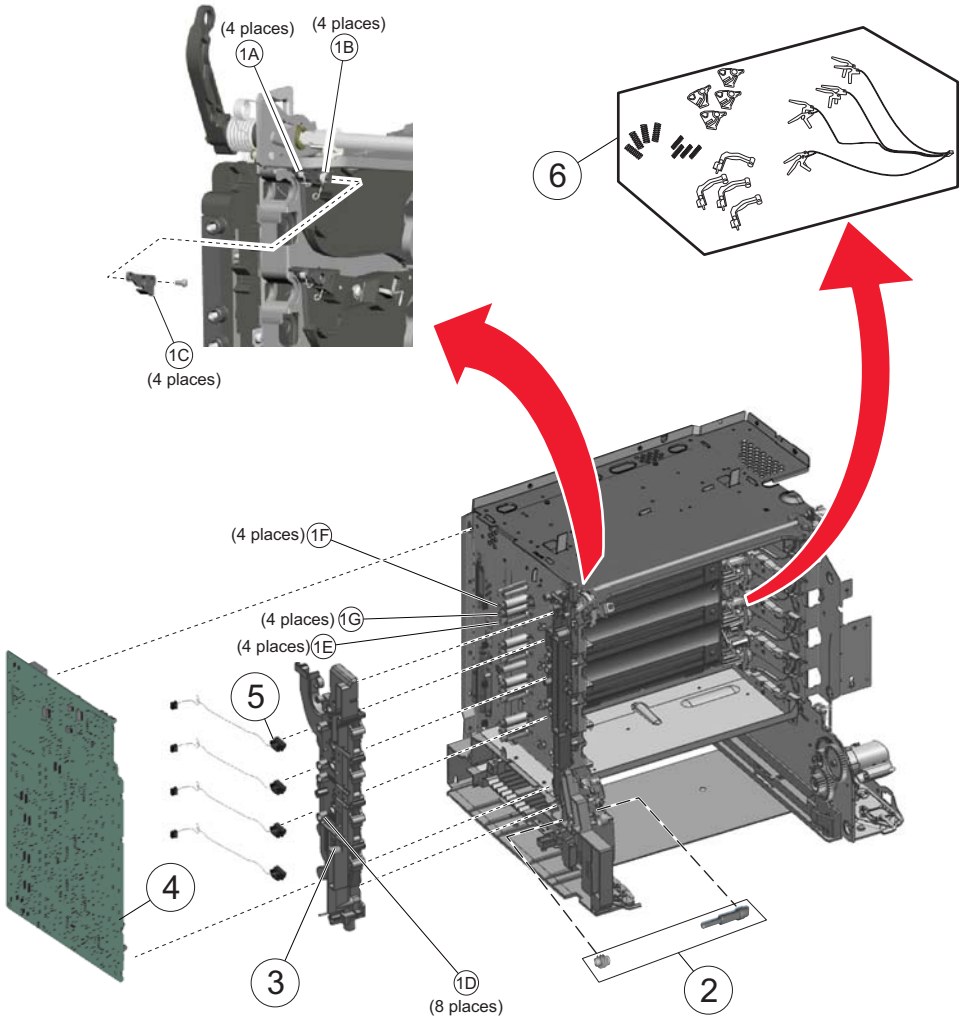
Assembly 5: Rear



Assembly 5: Rear

Index	P/N	Units/ mach	Units/ FRU	Description
5—1	40X5123	1	1	Printhead assembly
2	40X5107	1	1	System board support shield
3	40X5996	1	1	System board, 4.3 inch model
3	40X7953	1	1	System board, 2.3 inch model
NS	40X0269	1	1	Power cord—USA, Canada, Bolivia, Peru
NS	40X0288	1	1	Power cord (8 ft.)—Argentina
NS	40X0301	1	1	Power cord (8 ft.)—Australia, New Zealand
NS	40X3141	1	1	Power cord (8 ft.)—Austria, Belgium, Catalan, Czechoslovakia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Paraguay, Poland, Portugal, Russia, Spain, Sweden, Turkey, United Kingdom
NS	40X0271	1	1	Power cord (8 ft.)—Hong Kong, Ireland, United Kingdom
NS	40X4596	1	1	Power cord (8 ft.)—Brazil
NS	40X0273	1	1	Power cord (8 ft.)—Chile, Uruguay
NS	40X0303	1	1	Power cord (8 ft.)—China
NS	40X1774	1	1	Power cord (8 ft.)—Denmark, Finland, Norway, Sweden
NS	40X0275	1	1	Power cord (8 ft.)—Israel
NS	40X3609	1	1	Power cord (8 ft.)—Japan
NS	40X1792	1	1	Power cord (8 ft.)—Korea
NS	40X1773	1	1	Power cord (8 ft.)—South Africa
NS	40X1772	1	1	Power cord (8 ft.)—Switzerland
NS	40X1791	1	1	Power cord (8 ft.)—Taiwan

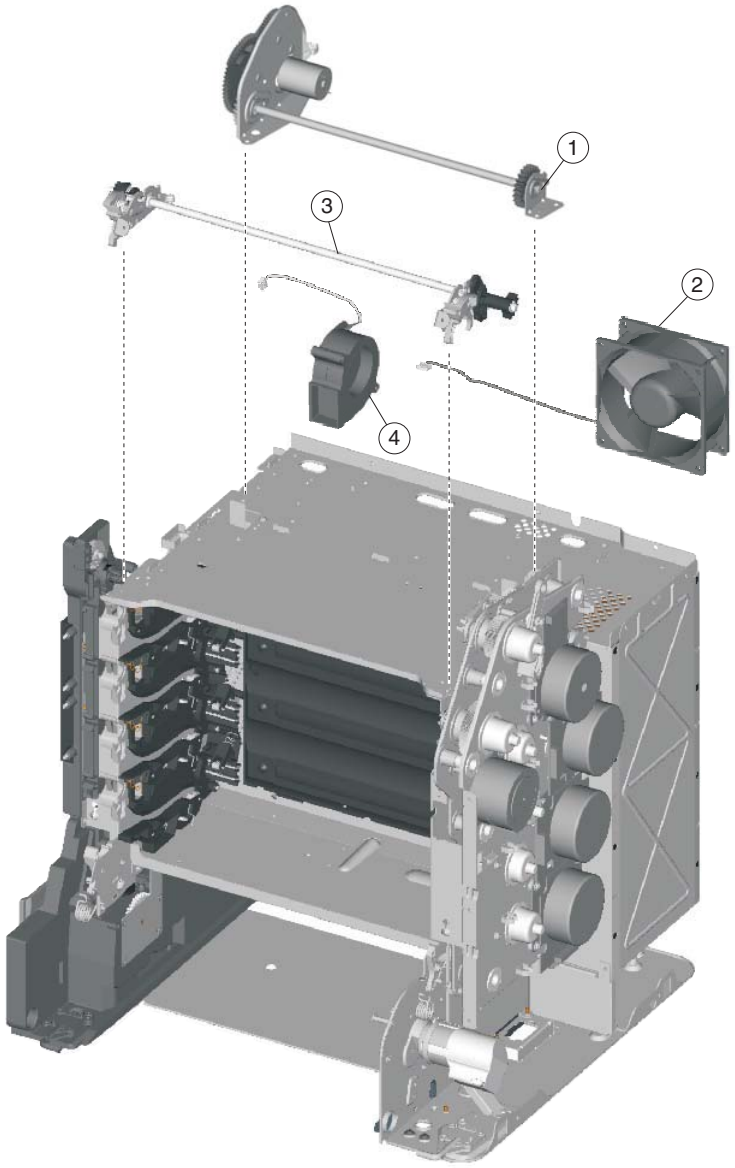
Assembly 6: Left



Assembly 6: Left

Index	P/N	Units/ mach	Units/ FRU	Description
6—1	40X5137	1	1	Contact springs kit Includes the following: • A—Torsion PCD contact spring • B—Torsion CR contact spring • C—Contact spring cap • D—Charge roll contact spring • E—HVPS TAR contact spring • F—HVPS doctor/developer contact spring • G—HVPS Db contact spring • Screw
2	40X7159	1	1	Auger shaft and gear parts pack
3	40X5307	1	1	Waste toner HV contact assembly
4	40X5129	1	1	High-voltage power supply
5	40X1416	4	1	Toner level sensor
6	40X8373	1	1	Toner cartridge contacts

Assembly 7: Top

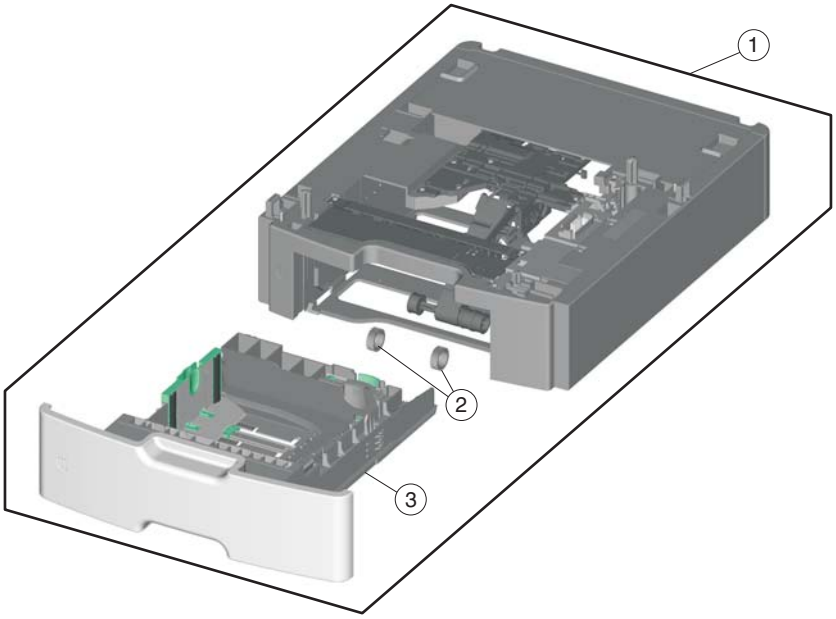


Index	P/N	Units/ mach	Units/ FRU	Description
7—1	40X5122	1	1	Color-On-Demand assembly
2	40X5109	1	1	Cooling fan
3	40X5130	1	1	Top cover camshaft assembly
4	40X5108	1	1	Cartridge cooling fan

Assembly 8: Cable parts packet

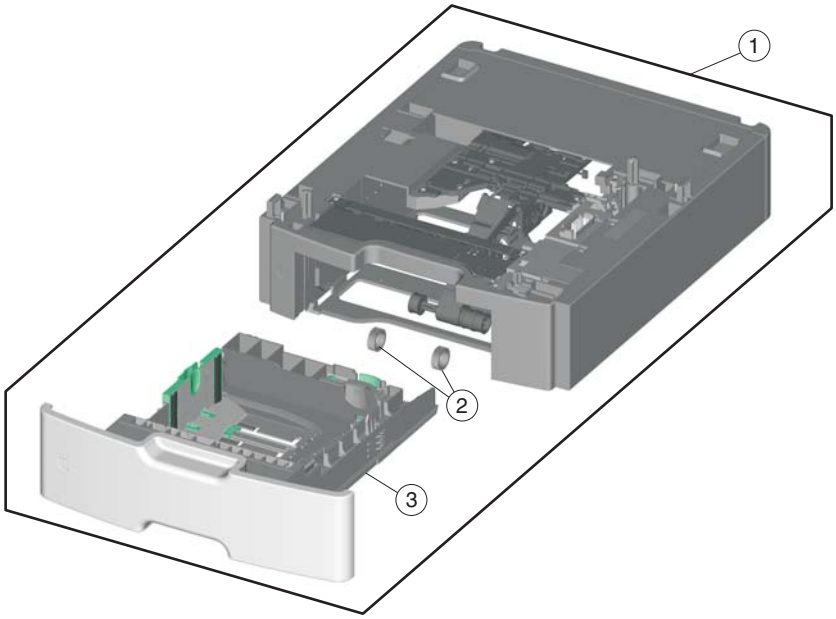
Index	P/N	Units/ mach	Units/ FRU	Description
NS	40X7973	1	1	Cables parts packet, including • Duplex/MPF motor cable • Fuser AC cable • Fuser DC cable • HVPS cable • Transport cable • Fuser and cartridge 1 motor cable • Cartridge 2 and 3 motor cable • USB-A cable • 550 option cable • Transport motor cable • Speaker cable • UICC cable (for single-function) • UICC cable (for multi-function) • Operator panel ground cable (for single-function) • Operator panel ground cable (for multi-function)
NS	40X6351	1	1	Motor driver cable

Assembly 9: Optional 550-sheet media drawer and tray



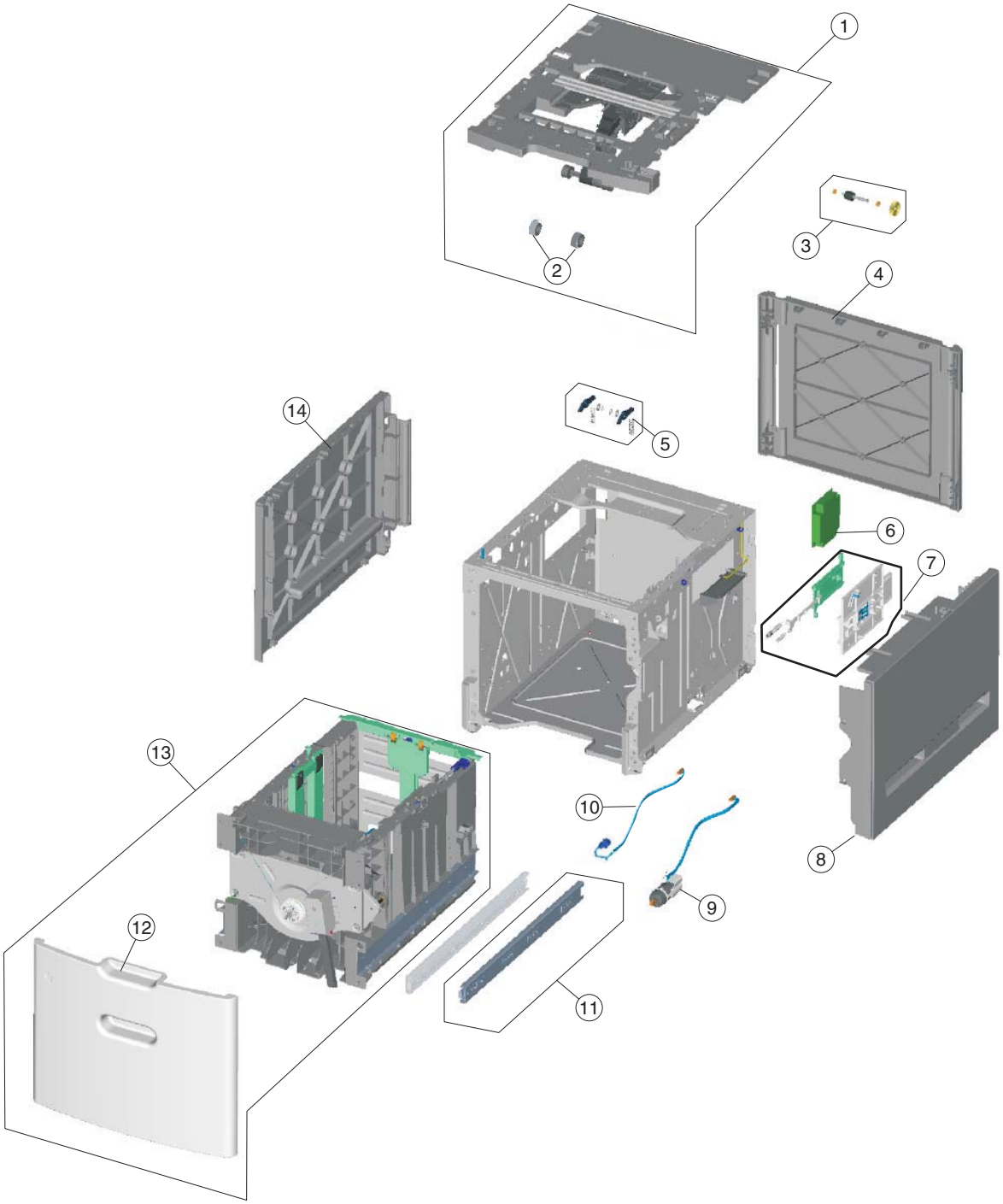
Index	P/N	Units/ opt	Units/ FRU	Description
9—1	40X5140	1	1	550-sheet tray option (drawer and tray assembly)
2	40X5168	2	2	Pick arm roll, 550-sheet tray
3	40X5141	1	1	550-sheet tray assembly

Assembly 10: Optional special media tray assembly



Index	P/N	Units/ opt.	Units/ FRU	Description
10—1	40X5142	1	1	Special media assembly, including tray
2	40X5152	2	2	Pick arm roll, 550-sheet drawer
3	40X5143	1	1	Special media tray assembly

Assembly 11: Optional high-capacity input option (HCIT)



Assembly 11: Optional high-capacity input option (HCIT)

Index	P/N	Units/ option	Units/ FRU	Description
11—1	40X5157	1	1	Top plate assembly
2	40X5168	2	2	HCIT pick arm roll
3	40X5156	1	1	Feed with bushing
4	40X5149	1	1	HCIT rear cover
5	40X4585	2	1	Tray latch with spring
6	40X5159	1	1	HCIT controller card assembly
7	40X4587	1	1	Slide assembly with springs
8	40X5147	1	1	HCIT right cover
9	40X5155	1	1	Elevator motor with sensor
10	40X5158	1	1	Photointerrupter sensor with cable assembly
11	40X4593	2	1	HCIT drawer slide assembly
12	40X5146	1	1	HCIT front tray cover
13	40X5144	1	1	HCIT paper drawer tray assembly
14	40X5148	1	1	HCIT left cover

Assembly 12: Options and features

Previous
Next
Go Back

Index	P/N	Units/ opt	Units/ FRU	Description
NS	40X5317	1	1	Parts packet, ISP thumbscrew and standoff
NS	40X5315	1	1	Wireless ISP thumbscrew
NS	40X5318	1	1	ISP thumbscrew
NS	40X5136	1	1	Parts packet, screw (contains each screw used in the printer, with the exception of the parts specifically called out.) See **“Screw and retainer identification table” on page 4-3**.
NS	40X5301	1	1	256 MB SDRAM
NS	40X5302	1	1	512 MB SDRAM
NS	40X5303	1	1	1024 MB SDRAM
NS	40X5704	1	1	256 MB flash card
NS	40X5969	1	1	Korean font card
NS	40X5971	1	1	Traditional Chinese font card
NS	40X5970	1	1	Simplified Chinese font card
NS	40X5972	1	1	Japanese font card
NS	40X7051	1	1	Lexmark PrintCryption™ card
NS	40X4826	1	1	MarkNet™ N8120 10/1000
NS	40X4827	1	1	MarkNet N8130 10/100 fiber
NS	40X4823	1	1	Parallel 1284-B interface card adapter
NS	40X4819	1	1	Serial interface card adapter
NS	40X7058	1	1	160 GB hard drive assembly
NS	7377200	1	1	Option drawer relocation kit
NS	40X5281	1	1	High-capacity input tray (HCIT) relocation kit
NS	40X5316	1	1	14-pin JST cable assembly for ISP interface cable
NS	40X8332	1	1	C74x relocation kit
NS	40X1367	1	1	10 ft. parallel cable, ROHS
NS	40X1368	1	1	2 meter USB cable, ROHS
NS	40X1592	1	1	Print server 4-port USB
NS	40X1593	1	1	Print server 1-port USB
NS	40X1594	1	1	Print server parallel
NS	40X8321	1	1	C746x forms + barcode
NS	40X8322	1	1	C748x forms + barcode
NS	40X7062	1	1	Wireless US 802.11b/g/n ISP adapter
NS	40X7063	1	1	Wireless EU 802.11b/g/n ISP adapter
NS	40X8324	1	1	C746x IPDS SCS TNe card
NS	40X8325	1	1	C748x IPDS SCS TNe card
NS	40X8327	1	1	C746x Prescribe card
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