CX421, CX522, CX622, CX625, MC2325, MC2425, MC2535, MC2640, XC2235, XC4240

7529-081, 23x, 4x6, 6x6, 83x

Service Manual

- **Start diagnostics**

- **Maintenance**

- **Safety and notices**

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August 16, 2018   www.lexmark.com

Product information

Product name:

Lexmark CX421adn; Lexmark CX522ade; Lexmark CX622ade; Lexmark CX625ade, CX625adhe, CX625adthe; Lexmark MC2325adw; Lexmark MC2425adw; Lexmark MC2535adw; Lexmark MC2640adwe; Lexmark XC2235; Lexmark XC4240

Machine type:

7529

Model(s):

081, 230, 238, 436, 486, 496, 636, 686, 836, 838, 898

Edition notice

August 16, 2018

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Notices, conventions, and safety information

Laser notice

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, Chapter I, 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: 2014.

Class I laser products are not considered to be hazardous. The printer contains a Class IIIb (3b) AlGaInP laser that is nominally 15 milliwatts operating in the wavelength region of 650–670 nanometers and enclosed in a non-serviceable printhead assembly. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service conditions.

Avis relatif à l'utilisation du laser

Cette imprimante est certifiée conforme aux exigences de la réglementation des Etats-Unis relative aux produits laser de classe I (1) (DHHS 21 CFR, Chapitre I, Sous-chapitre J). Pour les autres pays, elle est certifiée conforme aux exigences des normes CEI 60825-1: 2014 relatives aux produits laser de classe I.

Les produits laser de Classe I ne sont pas considérés comme dangereux. L'imprimante contient un dispositif laser AlGaInP (aluminium, gallium, indium et phosphore) de classe IIIb (3b) d'une puissance nominale de 15 milliwatts fonctionnant dans la plage de longueurs d'onde allant de 650 à 670 nanomètres et scellé dans un compartiment de têtes d'impression non réparable. Le système laser ainsi que 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.

Notificació del làser

La impressora està certificada als EUA per complir els requeriments de DHHS 21 CFR, capítol I, subcapítol J per a productes de làser Classe I (1), i a la resta del món s'ha certificat com productes de làser Classe I segons els requeriments de la norma IEC 60825-1: 2014.

Els productes de làser Classe I no es consideren perillosos. La impressora conté un làser intern Classe IIIb (3b) AlGaInP que normalment és de 15 miliwatts, que funciona a la regió de longitud d'ona de 650 a 670 nanòmetres i es troba dins d'una unitat de capçals d'impressió no substituïble. El sistema làser i la impressora estan dissenyats de manera que les persones no estiguin exposades a una radiació del làser superior al nivell de Classe I durant el funcionament normal, el manteniment de l'usuari o les condicions de servei prescrites.

Aviso de láser

Esta impresora se ha certificado en EE.UU. cumpliendo con los requisitos de DHHS 21 CFR, capítulo I, 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: 2014.

Los productos láser de Clase I no se consideran peligrosos. Este producto contiene un láser interno de Clase IIIb (3b) AlGaInP que opera nominalmente a 15 milivatios en una longitud de onda de 650–670 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 su uso normal, ni en tareas de mantenimiento o intervenciones de servicio técnico prescritas.

Aviso sobre laser

Esta impressora foi certificada nos EUA por estar em conformidade com os requisitos do DHHS 21 CFR capítulo I, subcapítulo J, para produtos a laser de Classe I (1) e, nos demais países, foi certificada como um produto a laser de Classe I em conformidade com os requisitos da IEC 60825-1: 2014.

Os produtos a laser de Classe I não são considerados prejudiciais. A impressora contém, internamente, um laser de Classe IIIb (3b) AlGaInP que funciona nominalmente a 15 miliwatts no comprimento de onda de 650-670 nanômetros, incluso em um conjunto do cabeçote de impressão sem possibilidade de manutenção. O sistema do laser e a impressora foram projetados para que jamais haja acesso humano à radiação do laser acima do nível da Classe I durante a operação normal ou a manutenção pelo usuário ou sob as condições de manutenção prescritas.

Avvertenze sui prodotti laser

La stampante è certificata negli Stati Uniti come prodotto conforme ai requisiti DHHS 21 CFR Capitolo I, Sottocapitolo J per i prodotti laser di Classe I (1), mentre in altri paesi è certificata come prodotto laser di Classe I conforme ai requisiti IEC 60825-1: 2014.

I prodotti laser di Classe I non sono considerati pericolosi. La stampante contiene internamente un laser AlGaInP di Classe IIIb (3b) con valore nominale di 15 milliwatt, funzionante nella regione della lunghezza d'onda dei 650-670 nanometri e contenuto in un gruppo testina di stampa non riparabile. 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.

Laserinformatie

De printer is in de Verenigde Staten gecertificeerd als een product dat voldoet aan de vereisten van DHHS 21 CFR hoofdstuk 1, paragraaf J voor laserproducten van klasse I (1). Elders is de printer gecertificeerd als een laserproduct van klasse I dat voldoet aan de vereisten van IEC 60825-1: 2014.

Laserproducten van klasse I worden geacht geen gevaar op te leveren. De printer bevat intern een laser van klasse IIIb (3b) AlGaInP met een nominaal vermogen van 15 milliwatt in een golflengtebereik van 650-670 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.

Lasererklæring

Printeren er certificeret i USA i henhold til kravene i DHHS 21 CFR kapitel I, 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: 2014.

Klasse I-laserprodukter er ikke anset som farlige. Printeren indeholder internt en Klasse IIIb (3b) AlGaAs-laser, der nominelt er en 15 milliwatt laser, som fungerer i bølgelængdeområdet 650–670 nanometer og indbygget i en printhovedenhed, der ikke er servicerbar. Lasersystemet og printeren er designet 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.

Laser-Hinweis

Der Drucker wurde in den USA zertifiziert und entspricht den Anforderungen der Vorschriften DHHS 21 CFR Kapitel I für Laserprodukte der Klasse I (1), andernorts ist er als Laserprodukt der Klasse I zertifiziert, das den Anforderungen von IEC 60825-1: 2014 entspricht.

Laserprodukte der Klasse I werden nicht als gefährlich betrachtet. Der Drucker enthält im Inneren einen Laser der Klasse IIIb (3b) AlGaInP mit 15 Milliwatt, im Wellenlängenbereich von 650 bis 670 Nanometern arbeitet. 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.

Laserilmoitus

Tämä tulostin on sertifioitu Yhdysvalloissa DHHS 21 CFR, Chapter I, Subchapter J -standardin mukaiseksi luokan I (1) -lasertuotteeksi ja muualla IEC 60825-1: 2014 -standardin mukaiseksi luokan I lasertuotteeksi.

Luokan I lasertuotteita ei pidetä haitallisina. Tulostimen sisällä on luokan IIIb (3b) AlGaInP -laser, jonka nimellisteho on 15 mW milliwatts, joka toimii 650–670 nanometrin aallonpituuksilla ja joka on suljettu tulostuspäähän, jota käyttäjä ei voi huoltaa. Laserjärjestelmä ja tulostin ovat rakenteeltaan sellaisia, että käyttäjä ei joudu alttiiksi luokkaa 1 suuremmalle säteilylle normaalin käytön, ylläpidon tai huollon aikana.

Lasermerknad

Skriveren er sertifisert i USA for samsvar med kravene i DHHS 21 CFR, kapittel I, 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: 2014.

Laserprodukter av klasse I anses ikke som helseskadelige. Skriveren inneholder en intern AlGaInP-laser av klasse IIIb (3b) på nominelt 15 milliwatt, som opererer i bølgelengder på 650–670 nanometer, inne i en skrivehodeenhet som ikke kan vedlikeholdes. Lasersystemet og skriveren er utformet slik at mennesker ikke utsettes for laserstråling utover nivået i klasse I under normal drift, vedlikehold eller foreskrevet service.

Meddelande om laser

Skrivaren är certifierad i USA i enlighet med kraven i DHHS 21 CFR kapitel I, 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: 2014.

Laserprodukter av klass I anses inte vara skadliga. Skrivaren innehåller en klass IIIb (3b) AlGaInP-laser på nominellt 15 mW som arbetar inom en våglängd på 650–670 nm och är innesluten i en icke-servicebar skrivhuvudenhet. Lasersystemet och skrivaren är utformade så att människor aldrig utsätts för laserstrålning över klass I-nivå under normala förhållanden vid användning, underhåll eller service.

レーザーについて

本機は、米国において クラス I（1） レーザー製品に対する DHHS 21 CFR、Chapter I、Subchapter J の要件に準拠し、その他の国では IEC 60825-1: 2014 の要件に準拠するクラス I レーザー製品として認可されています。

クラス I レーザー製品は、危険性がないとみなされています。 本機には、クラス IIIb（3b） AlGaInP レーザーが内蔵されています。これは、650 〜 670 ナノメートルの波長で、定格 15 ミリワットで動作するレーザーであり、整備不可のプリント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、ユーザーによるメンテナンス、または所定のサービス条件の下で、ユーザーがクラス I 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。

레이저 고지사항

프린터는 미국에서 레이저 제품용 DHHS 21 CFR Chapter I, Subchapter J의 요구 사항을 준수하며 이외 지역에서 IEC 60825-1: 2014의 요구 사항을 준수하는 클래스 I(1) 레이저 제품으로 승인되었습니다.

Class I 레이저 제품은 위험한 제품으로 간주되지 않습니다. 프린터에는 650~670 나노미터 범위의 파장 영역에서 공칭 작동하는 15밀리와트 AlGaInP 레이저인 클래스 IIIb(3b) 레이저가 내부에 포함되어 있으며 서비스 불가 프린트 헤드 어셈블리가 포함되어 있습니다. 레이저 시스템과 프린터는 정상적인 작동, 사용자 유지 관리 또는 사전 설명된 서비스 조건에는 사람에게 클래스 I 수준 이상의 레이저 방사가 노출되지 않도록 설계되었습니다.

激光注意事项

本打印机在美国认证合乎 DHHS 21 CFR Chapter I，Subchapter J 对分类 I（1）激光产品的标准，而在其他地区则被认证是合乎 IEC 60825-1: 2014 的分类 I 激光产品。

一般认为分类 I 激光产品不具有危险性。本打印机内部含有分类 IIIb（3b）的磷化铝镓铟激光，标称值为 15 毫瓦，其工作波长范围在 650–670nm 之间，并被封闭在不可维修的打印头配件中。本激光系统及打印机的设计，在一般操作、使用者维护或规定内的维修情况下，不会使人体接触分类 I 以上等级的辐射。

雷射聲明

本印表機係經過美國核可，符合 DHHS 21 CFR，Chapter I，Subchapter J 規定的 I (1) 級雷射產品；在美國以外的地區，為符合 IEC 60825-1: 2014 規定的 I 級雷射產品。

根據 I 級雷射產品的規定，這類產品不會對人體造成傷害。 本印表機所採用之 IIIb (3b) 級 AlGaInP 雷射在 650 至 670 奈米 (nanometer) 波長範圍內運作時通常為 15 毫瓦特 (milliwatt)，且含括在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 I 級以上的放射線，而對人體造成傷害。

Conventions

Note: A *note* identifies information that could help you.

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

CAUTION: A *caution* indicates a potentially hazardous situation that could injure you.

Different types of caution statements include:

CAUTION—POTENTIAL INJURY: Indicates a risk of injury.

CAUTION—SHOCK HAZARD: Indicates a risk of electrical shock.

CAUTION—HOT SURFACE: Indicates a risk of burn if touched.

CAUTION—TIPPING HAZARD: Indicates a crush hazard.

CAUTION—PINCH HAZARD: Indicates a risk of being caught between moving parts.

⚠ **CAUTION—ROTATING FAN BLADES:** Indicates a risk of laceration from moving fan blades.

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 electrical shock and personal injury during disassembly and servicing of this product. Professional service personnel should understand this risk and take necessary precautions.

⚠ **CAUTION—SHOCK HAZARD:** 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.

⚠ **CAUTION—POTENTIAL INJURY:** The lithium battery in this product is not intended to be replaced. There is a danger of explosion if a lithium battery is incorrectly replaced. Do not recharge, disassemble, or incinerate a lithium battery. Discard used lithium batteries according to the manufacturer's instructions and local regulations.

Consignes de sécurité

- La sécurité de ce produit est basée sur des tests et certifications de sa conception d'origine et de ses composants spécifiques. Le fabricant décline toute responsabilité en cas d'utilisation de pièces de rechange non autorisées.

- Les informations de maintenance de ce produit sont destinées à des professionnels qualifiés et ne sont pas conçues pour être utilisées par d'autres personnes.

- Il existe un risque potentiel de choc électrique et de blessures lors du démontage et de la maintenance de ce produit. Le personnel professionnel de maintenance doit comprendre les risques et prendre les précautions nécessaires.

⚠ **ATTENTION—RISQUE D'ELECTROCUTION :** Ce symbole indique un danger lié à des niveaux de tension dangereux dans la zone du produit à manipuler. Débranchez le produit avant de commencer, ou agissez avec prudence si le produit doit être alimenté pour effectuer l'opération.

⚠ **ATTENTION—RISQUE DE BLESSURE :** La batterie lithium de ce produit n'est pas destinée à être remplacée. Si vous ne respectez pas les instructions de remplacement de la batterie, vous risquez de provoquer une explosion. Ne rechargez pas, ne désassemblez pas et ne brûlez pas la batterie au lithium. Mettez les batteries lithium usagées au rebut selon les instructions du fabricant et les réglementations locales.

Informació de seguretat

- La seguretat d'aquest producte es basa en les proves i les homologacions del disseny original i dels components específics. El fabricant no és responsable de la seguretat en el cas d'ús de peces de recanvi no autoritzades.

- La informació de manteniment d'aquest producte s'ha preparat per a l'ús d'un professional tècnic i no per a l'ús d'altres persones.

- És possible que el risc de descàrrega elèctrica i lesions personals augmenti durant el desmuntatge i les tasques de manteniment d'aquest producte. El professional tècnic ha de comprendre aquest risc i prendre les precaucions necessàries.

⚠ **PRECAUCIÓ. PERILL DE DESCÀRREGA ELÈCTRICA:** Quan vegeu aquest símbol, indica que hi ha un perill de voltatge elevat en l'àrea del producte on esteu treballant. Desconnecteu el producte abans de començar o tingueu precaució si el producte ha de rebre alimentació per realitzar la tasca.

⚠ **PRECAUCIÓ. POSSIBLES DANYS:** La bateria de liti d'aquest producte no ha estat dissenyada perquè se substitueixi. Hi ha perill d'explosió si no es substitueix correctament la bateria de liti. No recarregueu, desmunteu o incinereu una bateria de liti. Desfeu-vos de les bateries de liti usades d'acord amb les instruccions del fabricant i les regulacions locals.

Información de seguridad

- La seguridad de este producto se basa en las pruebas y comprobaciones del diseño original y los componentes específicos. El fabricante no se hace responsable de la seguridad en caso de uso de piezas de repuesto no autorizadas.
- La información de mantenimiento de este producto se ha preparado para su uso por parte de un profesional de asistencia técnica y no está diseñada para su uso por parte de otros usuarios.
- Es posible que haya un mayor riesgo de descarga eléctrica y daños personales durante el desmontaje y el mantenimiento de este producto. El personal de asistencia profesional debe conocer este riesgo y tomar las precauciones necesarias.

⚠ **PRECAUCIÓN: PELIGRO DE DESCARGAS ELÉCTRICAS:** Cuando vea este símbolo, existe peligro de tensiones peligrosas en el área del producto en la que está trabajando. Desconecte el producto antes de empezar o tenga cuidado si el producto debe recibir alimentación a fin de realizar la tarea.

⚠ **PRECAUCIÓN: POSIBLES DAÑOS PERSONALES:** La batería de litio de este producto no debe reemplazarse. Existe riesgo de explosión si se sustituye incorrectamente una batería de litio. No recargue, desmonte ni incinere una batería de litio. Deseche las baterías de litio usadas según las instrucciones del fabricante y las normativas locales.

Informações sobre segurança

- A segurança deste produto é baseada em testes e aprovações do design original e de componentes específicos. O fabricante não é responsável por segurança em caso de uso não autorizado de peças de substituição.
- As informações sobre manutenção deste produto foram preparadas para utilização por um técnico profissional experiente e não se destinam ao uso por outros.
- Pode haver maior risco de choque elétrico e danos pessoais durante a desmontagem e manutenção deste produto. Os técnicos profissionais experientes devem entender esses riscos e tomar as precauções necessárias.

⚠ **ATENÇÃO—RISCO DE CHOQUE:** Se você vir este símbolo, existe perigo de tensão elétrica na área do produto onde está trabalhando. Desligue o produto antes de começar ou tenha cuidado se o produto precisar receber energia para executar a tarefa.

⚠ **ATENÇÃO—RISCO DE FERIMENTO:** A bateria de lítio neste produto não deve ser substituída. Existe o risco de explosão se uma bateria de lítio for substituída incorretamente. Não recarregue, desmonte nem incinere uma bateria de lítio. Descarte as baterias de lítio usadas de acordo com as instruções do fabricante e regulamentos locais.

Informazioni sulla sicurezza

- La sicurezza di questo prodotto è basata sui test e sulle approvazioni del design originale e dei componenti specifici. Il produttore non è responsabile della sicurezza in caso di utilizzo di parti di ricambio non autorizzate.

- Le informazioni di manutenzione per questo prodotto sono state predisposte per essere utilizzate da un tecnico dell'assistenza professionale e non sono state previste per l'uso da parte di altre persone.

- È possibile che vi sia un maggior rischio di scosse elettriche e lesioni personali durante lo smontaggio e la manutenzione di questo prodotto. Il personale dell'assistenza deve comprendere questo rischio e prendere le precauzioni necessarie.

⚠ **ATTENZIONE - PERICOLO DI SCOSSE ELETTRICHE:** Questo simbolo indica la presenza di un rischio per tensioni pericolose nell'area del prodotto in cui si lavora. Scollegare l'alimentazione prima di iniziare, o prestare la massima attenzione se per effettuare l'operazione il prodotto deve ricevere l'alimentazione.

⚠ **ATTENZIONE - PERICOLO DI LESIONI:** La batteria al litio contenuto nel prodotto non deve essere sostituita: in caso di sostituzione errata della batteria al litio, potrebbe verificarsi un'esplosione. Non ricaricare, smontare o bruciare batterie al litio. Smaltire le batterie al litio usate seguendo le istruzioni del produttore e le norme locali.

Informatie over veiligheid

- De veiligheid van dit product is gebaseerd op testen en goedkeuringen van het oorspronkelijke ontwerp en specifieke onderdelen. De fabrikant is niet verantwoordelijk voor de veiligheid bij gebruik van ongeautoriseerde vervangende onderdelen.

- De informatie over het onderhoud van dit product is opgesteld voor gebruik door een professionele onderhoudsmonteur en is niet bedoeld voor gebruik door anderen.

- Tijdens demontage en onderhoud van dit product bestaat mogelijk een hoger risico op elektrische schokken en lichamelijk letsel. Professionele onderhoudsmonteurs dienen op de hoogte te zijn van dit risico en de noodzakelijke voorzorgsmaatregelen te nemen.

⚠ **LET OP: GEVAAR VOOR ELEKTRISCHE SCHOKKEN:** Wanneer u dit symbool ziet, bestaat er een gevaar voor gevaarlijke spanning in het gebied van het product waaraan u werkt. Haal de stekker van het product uit het stopcontact voordat u begint, of let extra goed op als het product stroom nodig heeft om een taak te kunnen uitvoeren.

⚠ **LET OP: RISICO OP LETSEL:** De lithiumbatterij in dit product moet niet worden vervangen. Wanneer de lithiumbatterij niet juist wordt vervangen, bestaat er explosiegevaar. Probeer nooit lithiumbatterijen op te laden, open te maken of te verbranden. Gooi gebruikte lithiumbatterijen weg volgens de aanwijzingen van de fabrikant en houd hierbij de plaatselijke regelgeving in acht.

Sikkerhedsoplysninger

- Sikkerheden for dette produkt er baseret på afprøvning og godkendelser af det oprindelige design og specifikke komponenter. Producenten er ikke ansvarlig for sikkerhed i tilfælde af brug af uautoriserede dele til udskiftning.

- Vedligeholdelsesoplysninger om dette produkt er udarbejdet til brug af en kvalificeret servicetekniker og er ikke beregnet til at blive brugt af andre.

- Der kan være en forøget risiko for elektrisk stød eller personskade ved afmontering og service af dette produkt. Professionelt servicepersonale bør forstå denne risiko og tage nødvendige forholdsregler.

⚠ **FORSIGTIG - ELEKTRISK STØD:** Når du ser dette symbol, er der risiko for elektrisk spænding i nærheden af produktet, hvor du arbejder. Tag strømstikket ud inden du begynder, eller udvis forsigtighed, hvis produktet skal modtage strøm for at udføre opgaven.

⚠ **FORSIGTIG - RISIKO FOR SKADE:** Litium-batteriet i dette produkt er ikke beregnet til at blive udskiftet. Der er fare for eksplosion, hvis et litium-batteri udskiftes forkert. Du må ikke genoplade, demontere eller afbrænde et litium-batteri. Brugte litium-batterier skal bortskaffes i overensstemmelse med producentens instruktioner og lokale retningslinjer.

Sicherheitshinweise

- Die Sicherheit dieses Produkts basiert auf Tests und Zulassungen des Originaldesigns und der spezifischen Komponenten. Sofern nicht autorisierte Ersatzteile eingesetzt werden, übernimmt der Hersteller keinerlei Verantwortung in Bezug auf die Sicherheit dieses Produkts.

- Die Wartungsinformationen für dieses Produkt wurden für ausgebildete Servicemitarbeiter zusammengestellt und dürfen nicht von anderen verwendet werden.

- Möglicherweise besteht bei der Demontage und Wartung dieses Produkts eine erhöhte Stromschlag- und Verletzungsgefahr. Ausgebildete Servicemitarbeiter sollten sich dieser Gefahr bewusst sein und die notwendigen Vorsichtsmaßnahmen ergreifen.

  ⚠ **VORSICHT – STROMSCHLAGGEFAHR:** Wenn Sie dieses Symbol sehen, besteht eine Gefahr durch gefährliche Spannungen in dem Produktbereich, in dem Sie arbeiten. Trennen Sie das Produkt von seiner Stromverbindung, bevor Sie beginnen, oder gehen Sie vorsichtig vor, wenn das Produkt für die Durchführung der Aufgabe mit Strom versorgt werden muss.

  ⚠ **VORSICHT – MÖGLICHE VERLETZUNGSGEFAHR** Die Lithiumbatterie in diesem Produkt darf nicht ausgetauscht werden. Wird eine Lithiumbatterie nicht ordnungsgemäß ausgetauscht, besteht Explosionsgefahr. Lithiumbatterien dürfen auf keinen Fall wieder aufgeladen, auseinander genommen oder verbrannt werden. Befolgen Sie zum Entsorgen verbrauchter Lithiumbatterien die Anweisungen des Herstellers und die örtlichen Bestimmungen.

Turvallisuusohjeet

- Tämän laitteen turvallisuus perustuu alkuperäisen rakenteen ja tiettyjen osien testaukseen ja hyväksymiseen. Valmistaja ei vastaa turvallisuudessa, jos laitteessa on käytetty luvattomia vaihto-osia.

- Tämän tuotteen huoltoa koskevat tiedot on tarkoitettu vain ammattitaitoisen huoltohenkilön käyttöön.

- Tämän tuotteen purkamiseen ja huoltoon voi liittyä kasvanut sähköiskun tai henkilövahingon vaara. Ammattitaitoisen huoltohenkilön on ymmärrettävä tämä vaara ja toimittava sen edellyttämällä tavalla.

  ⚠ **HUOMIO – SÄHKÖISKUN VAARA:** Tämä symboli ilmaisee, että tuotteen työskentelyalueella on olemassa vaarallinen jännite. Irrota laite verkkovirrasta ennen kuin aloitat tai toimi erittäin varovasti, jos laitteessa on oltava virta työn aikana.

  ⚠ **HUOMIO – TAPATURMAN MAHDOLLISUUS:** Tuotteessa olevaa litiumakkua ei ole tarkoitettu vaihdettavaksi. Litiumakun poistaminen väärin aiheuttaa räjähdysvaaran. Älä lataa, pura tai polta litiumakkua. Hävitä käytetyt litiumakut valmistajan ohjeiden ja paikallisten säädösten mukaisesti.

Sikkerhetsinformasjon

- Sikkerheten til dette produktet er basert på testing og godkjenning av originaldesignet og bestemte komponenter. Produsenten er ikke ansvarlig for sikkerheten ved bruk av uautoriserte reservedeler.

- Vedlikeholdsinformasjonen for dette produktet er tilrettelagt for bruk av profesjonelt servicepersonale, og er ikke ment for bruk av andre.

- Det kan være en økt risiko for elektrisk støt og personskade under demontering og vedlikehold av produktet. Profesjonelt servicepersonell må være innforstått med denne risikoen og ta nødvendige forholdsregler.

FORSIKTIG – FARE FOR STØT: Dette symbolet betyr at det er fare for farlig spenning i det området av produktet der du arbeider. Koble fra produktet før du begynner, eller vær forsiktig hvis produktet må ha strøm for å kunne utføre oppgaven.

FORSIKTIG – POTENSIELLE SKADER: Litiumbatteriet i dette produktet er ikke beregnet for å byttes. Det er fare for eksplosjon hvis litiumbatteriet skiftes ut på feil måte. Ikke lad opp, demonter eller destruer et litiumbatteri. Kast brukte litiumbatterier i henhold til produsentens instruksjoner og lokale regelverk.

Säkerhetsinformation

- Säkerheten för denna produkt baseras på tester och godkännanden av ursprungsdesignen och av specifika komponenter. Tillverkaren har inget ansvar vid användning av oauktoriserade reservdelar.
- Underhållsinformationen för produkten är avsedd att användas av utbildade servicetekniker och inte avsedd att användas av andra.
- Risken för elektriska stötar och personskador kan vara förhöjd vid isärtagning och service av produkten. Professionell servicepersonal bör vara medvetna om denna risk och vidta nödvändiga försiktighetsåtgärder.

VAR FÖRSIKTIG– RISK FÖR ELEKTRISK STÖT: När du ser denna symbol är det risk att det finns farlig spänning i den del av produkten du arbetar med. Koppla från strömmen innan du börjar, eller var försiktig om produkten måste vara strömförsörjd för att uppgiften ska kunna utföras.

VAR FÖRSIKTIG – RISK FÖR SKADA: Litiumbatteriet i produkten är inte utbytbart. Om ett litiumbatteri byts ut på fel sätt finns det risk att det exploderar. Du får inte ladda om, ta isär eller elda upp ett litiumbatteri. Gör dig av med använda litiumbatterier enligt tillverkarens instruktioner och lokala föreskrifter.

安全情報

- 本製品の安全性は、本来の設計、特定コンポーネントの試験、承認に基づいています。承認されていない交換部品をお客様が使用した場合、メーカーは安全性に対して責任を負いません。
- 本製品のメンテナンス情報は、専門のサービス担当者による利用を目的としており、その他の人を対象としていません。
- 本製品の分解や保守サービスを行う場合は、感電や傷害の危険性があります。専門のサービス担当者はこの危険性を理解し、十分な対策を講じる必要があります。

注意—感電危険: この表記がある場合、対象製品の作業領域には、高電圧による危険性が生じています。作業を始める前に、製品から電源コードを取り外してください。また作業時に、製品に給電する必要がある場合は、十分に注意するようにしてください。

注意—傷害の恐れあり: この製品に使用されているリチウム電池は、交換を前提としていません。リチウム電池の交換を誤ると破裂する危険性があります。リチウム電池の充電、解体、焼却はしないでください。使用済みのリチウム電池を廃棄する際は、製造元の指示およびお使いの地域の法律に従ってください。

안전 정보

- 이 제품의 안전은 기본 디자인 및 특정 구성품의 승인 및 테스팅을 기반으로 합니다. 제조업체는 권한 없는 교체 부품 사용 시 안전에 대해 책임을 지지 않습니다.
- 이 제품의 유지관리 정보는 전문 서비스 요원을 대상으로 하며 다른 사람은 사용할 수 없습니다.
- 제품 분해 및 서비스 중에는 감전 및 상해 위험이 증가할 수 있습니다. 전문 서비스 요원은 이와 같은 위험을 이해하고 필요한 예방 조치를 취해야 합니다.

⚠ **주의—감전 위험:** 이 기호가 표시된 경우 작업 중인 제품 주변에서 위험 전압 위험이 있습니다. 사용 전/후에 전원 코드를 뽑아 두시고 제품에서 작업을 수행하는 데 반드시 전원이 필요한 경우에는 주의하여 사용하십시오.

⚠ **주의—상해 위험:** 이 제품에 들어 있는 리튬 배터리는 교체할 수 없습니다. 리튬 배터리를 잘못 교체하면 폭발할 위험이 있습니다. 리튬 배터리를 충전, 분해하거나 불에 태우지 마십시오. 제조업체의 지침과 지역 규정에 따라 다 쓴 리튬 배터리를 폐기하십시오.

安全信息

- 本产品的安全性以原始设计和特定组件的测试和审批为基础。如果使用未经授权的替换部件，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，并不打算由其他人使用。
- 本产品在拆卸和维修时，遭受电击和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。

⚠ **小心—电击危险：** 当您看到此符号时，在您工作的产品区域内存在危险电压的威胁。在您开始操作之前请拔掉产品电源，如果产品必须接收功率才能执行任务，请务必谨慎操作。

⚠ **小心—可能的伤害：** 本产品中的锂电池不可更换。如果不正确更换锂电池，可能会有爆炸危险。不要再充电、拆解或焚烧锂电池。丢弃旧的锂电池时应按照制造商的指导及当地法规进行处理。

安全資訊

- 本產品安全性係以原始設計及特定元件之測試與核准為依據。如有使用未獲授權替換組件之情形者，製造商對安全性概不負責。
- 本產品之維護資訊僅供專業維修人員使用，而非預定由他人使用。
- 拆裝及維修本產品時，有可能造成電擊與人員損傷之危險。專業維修人員應瞭解前項危險並採取必要措施。

⚠ **請當心—觸電危險：** 當您看到此符號時，表示您所在產品工作區有危險電壓。開始工作之前，請先拔掉產品電源線，若產品必須接上電源方能執行作業，用電時請務必小心。

⚠ **請當心—潛在受傷危險性：** 本產品中的鋰電池原本並不需要予以更換。若未正確更換鋰電池，可能會有爆炸的危險。請勿將鋰電池充電、拆裝或焚燒。請遵照製造商的指示及當地法規，丟棄用過的電池。

General caution statements

⚠ **CAUTION—POTENTIAL INJURY:** To avoid the risk of fire or electrical shock, connect the power cord to an appropriately rated and properly grounded electrical outlet that is near the product and easily accessible.

⚠ **CAUTION—POTENTIAL INJURY:** To avoid the risk of fire or electrical shock, use only the power cord provided with this product or the manufacturer's authorized replacement.

⚠ **CAUTION—POTENTIAL INJURY:** Do not use this product with extension cords, multioutlet power strips, multioutlet extenders, or UPS devices. The power capacity of these types of accessories can be easily overloaded by a laser printer and may result in a risk of fire, property damage, or poor printer performance.

⚠ **CAUTION—POTENTIAL INJURY:** Only a Lexmark Inline Surge Protector that is properly connected between the printer and the power cord provided with the printer may be used with this product. The use of non-Lexmark surge protection devices may result in a risk of fire, property damage, or poor printer performance.

Change history

Change history

August 16, 2018

- Updated the 220 V fuser maintenance kit content PN in the Maintenance chapter.

August 13, 2018

- Removed PN 40X7641 and PN 41X1724 from the Parts catalog chapter.
- Removed PN 41X0027 and replaced it with PN 41X2055 in the Miscellaneous section of the Parts catalog chapter.
- Updated the description of the following PNs in the Miscellaneous section of the Parts catalog chapter.
  - 41X2095
  - 41X2096
  - 41X2097
- Updated the description for PN 41X1039 to transfer module in Assembly 4 of the Parts catalog chapter.
- Changed all instances of the term image transfer unit to transfer module.
- Updated the following topics in the Removals chapter:
  - Data security notice
  - Imaging kit removal
  - Transfer module removal
- Updated the descriptions of the following PNs in the Parts catalog chapter:
  - 41X1973
  - 41X1322
  - 41X1259
  - 41X1039

June 19, 2018

- Product announce

General information

Printer model configurations

The Lexmark™ CX421, CX522, CX622, CX625, MC2325, MC2425, MC2535, MC2640, XC2235, XC4240 printers are network-capable, multifunction laser printers. The printers support color and monochrome printing and are embedded with home screen solutions and applications. All information in this service manual pertains to all models unless explicitly noted.

The printers are available in the following models:

Model	Configurations	Machine type/model
CX421adn	Network-ready color laser printer with 2.4" color display, analog fax, internal duplex printing, and duplex scanning for small workgroups	7529-230
CX522ade	Network-ready color laser printer with 4.3" color touch screen, analog fax, internal duplex printing, and duplex scanning for small workgroups	7529-436
CX622ade	Network-ready color laser printer with 4.3" color touch screen, analog fax, internal duplex printing, and duplex scanning for medium workgroups	7529-636
CX625ade	Network-ready color laser printer with 7" color touch screen, analog fax, internal duplex printing, and duplex scanning for medium workgroups	7529-836
CX625adhe	Network-ready color laser printer with 7" color touch screen, analog fax, standard hard disk, headphone jack, internal duplex printing, and duplex scanning for medium workgroups	7529-838
MC2325adw	Network-ready color laser printer with 2.4" color display, wireless, analog fax, internal duplex printing, and simplex scanning for small workgroups	7529-081
MC2425adw	Network-ready color laser printer with 2.4" color display, internal duplex printing, and wireless connectivity for small workgroups	7529-238
MC2535adwe	Network-ready color laser printer with 4.3" color touch screen, analog fax, internal duplex printing, and duplex scanning for small workgroups	7529-486
MC2640adwe	Network-ready color laser printer with 4.3" color touch screen, analog fax, internal duplex printing, and duplex scanning for medium workgroups	7529-686
XC2235	Network-ready color laser printer with 4.3" color touch screen, analog fax, internal duplex printing, and duplex scanning for small workgroups	7529-496
XC4240	Network-ready color laser printer with 7" color touch screen, analog fax, standard hard disk, headphone jack, internal duplex printing, and duplex scanning for medium workgroups	7529-898

Finding the serial number

Open door A, and then find the serial number at the left side of the printer.
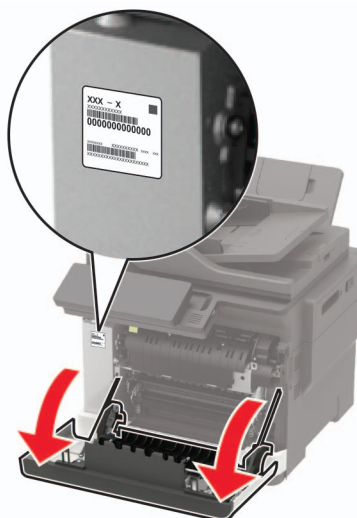
Paper support

Supported paper sizes

Notes:

- Your printer model may have a 650-sheet duo tray, which consists of a 550-sheet tray and an integrated 100-sheet multipurpose feeder. The 550-sheet tray of the 650-sheet duo tray supports the same paper sizes as the optional 550-sheet tray. The integrated multipurpose feeder supports different paper sizes, types, and weights.
- The ADF supports the listed paper sizes except all envelopes and Universal sizes smaller than 105 x 105 mm (4.13 x 4.13 in.).
- The scanner glass supports the listed paper sizes except legal, Oficio (Mexico), and folio.

Paper size and dimension	Standard 250-sheet tray	Manual feeder	Optional 650-sheet duo tray		Optional 550-sheet tray	Two-sided printing
			550-sheet tray	Multipurpose feeder		
A4 210 x 297 mm (8.27 x 11.7 in.)	✓	✓	✓	✓	✓	✓
A5[1,2] 148 x 210 mm (5.83 x 8.27 in.)	✓	✓	✓	✓	✓	X
A6 105 x 148 mm (4.13 x 5.83 in.)	✓	✓	X	✓	X	X
JIS B5 182 x 257 mm (7.17 x 10.1 in.)	✓	✓	✓	✓	✓	X
Letter 215.9 x 279.4 mm (8.5 x 11 in.)	✓	✓	✓	✓	✓	✓
Legal 215.9 x 355.6 mm (8.5 x 14 in.)	✓	✓	✓	✓	✓	✓
Executive 184.2 x 266.7 mm (7.25 x 10.5 in.)	✓	✓	✓	✓	✓	X
Oficio (Mexico) 215.9 x 340.4 mm (8.5 x 13.4 in.)	✓	✓	✓	✓	✓	✓
Folio 215.9 x 330.2 mm (8.5 x 13 in.)	✓	✓	✓	✓	✓	✓
Statement 139.7 x 215.9 mm (5.5 x 8.5 in.)	✓	✓	X	✓	X	X
Hagaki 100 x 148 mm (3.94 x 5.83 in.)	✓	✓	X	✓	X	✓

[1] Load this paper size into tray 1 and the manual feeder with the long edge entering the printer first.

[2] Load this paper size into tray 2, tray 3, and the multipurpose feeder with the short edge entering the printer first.

[3] When Universal is selected, the page is formatted for 215.9 x 355.6 mm (8.5 x 14 in.) unless the size is specified by the software application.

[4] Load narrow paper with the short edge entering the printer first.

[5] When Other Envelope is selected, the page is formatted for 215.9 x 355.6 mm (8.5 x 14 in.) unless the size is specified by the software application.

General information

Paper size and dimension	Standard 250-sheet tray	Manual feeder	Optional 650-sheet duo tray		Optional 550-sheet tray	Two-sided printing
			550-sheet tray	Multipurpose feeder		
Universal[3,4] 98.4 x 148 mm to 215.9 x 355.6 mm (3.87 x 5.83 in. to 8.5 x 14 in.)	✓	✓	X	✓	X	X
Universal[3,4] 76.2 x 127 mm to 215.9 x 355.6 mm (3 x 5 in. to 8.5 x 14 in.)	X	✓	X	✓	X	X
Universal[3,4] 148 x 210 mm to 215.9 x 355.6 mm (5.83 x 8.27 in. to 8.5 x 14 in.)	✓	✓	✓	✓	✓	X
Universal[3,4] 210 x 250 mm to 215.9 x 355.6 mm (8.27 x 11.0 in. to 8.5 x 14 in.)	✓	✓	✓	✓	✓	✓
7 3/4 Envelope 98.4 x 190.5 mm (3.875 x 7.5 in.)	✓	✓	X	✓	X	X
9 Envelope 98.4 x 225.4 mm (3.875 x 8.9 in.)	✓	✓	X	✓	X	X
10 Envelope 104.8 x 241.3 mm (4.12 x 9.5 in.)	✓	✓	X	✓	X	X
DL Envelope 110 x 220 mm (4.33 x 8.66 in.)	✓	✓	X	✓	X	X
C5 Envelope 162 x 229 mm (6.38 x 9.01 in.)	✓	✓	X	✓	X	X

[1] Load this paper size into tray 1 and the manual feeder with the long edge entering the printer first.

[2] Load this paper size into tray 2, tray 3, and the multipurpose feeder with the short edge entering the printer first.

[3] When Universal is selected, the page is formatted for 215.9 x 355.6 mm (8.5 x 14 in.) unless the size is specified by the software application.

[4] Load narrow paper with the short edge entering the printer first.

[5] When Other Envelope is selected, the page is formatted for 215.9 x 355.6 mm (8.5 x 14 in.) unless the size is specified by the software application.

General information

Paper size and dimension	Standard 250-sheet tray	Manual feeder	Optional 650-sheet duo tray		Optional 550-sheet tray	Two-sided printing
			550-sheet tray	Multipurpose feeder		
B5 Envelope 176 x 250 mm (6.93 x 9.84 in.)	✓	✓	X	✓	X	X
Monarch 98.425 x 190.5 mm (3.875 x 7.5 in.)	✓	✓	X	✓	X	X
Other Envelope[5] 98.4 x 162 mm to 176 x 250 mm (3.87 x 6.38 in. to 6.93 x 9.84 in.)	✓	✓	X	✓	X	X

[1] Load this paper size into tray 1 and the manual feeder with the long edge entering the printer first.

[2] Load this paper size into tray 2, tray 3, and the multipurpose feeder with the short edge entering the printer first.

[3] When Universal is selected, the page is formatted for 215.9 x 355.6 mm (8.5 x 14 in.) unless the size is specified by the software application.

[4] Load narrow paper with the short edge entering the printer first.

[5] When Other Envelope is selected, the page is formatted for 215.9 x 355.6 mm (8.5 x 14 in.) unless the size is specified by the software application.

Supported paper types

Notes:

- Your printer model may have a 650-sheet duo tray, which consists of a 550-sheet tray and an integrated 100-sheet multipurpose feeder. The 550-sheet tray of the 650-sheet duo tray supports the same paper type as the 550-sheet tray. The integrated multipurpose feeder supports different paper sizes, types, and weights.
- Labels, envelopes, and card stock always print at 25 pages per minute.
- The ADF supports only plain paper.

Paper type	Standard 250-sheet tray	Manual feeder	Optional 650-sheet duo tray		Optional 550-sheet tray	Two-sided printing
			550-sheet tray	Multipurpose feeder		
Plain paper	✓	✓	✓	✓	✓	✓
Card stock	✓	✓	✓	✓	✓	X
Envelopes	✓	✓	X	✓	X	X
Paper labels	✓	✓	✓	✓	✓	✓
Vinyl labels	✓	✓	✓	✓	✓	X

Supported paper weights

Notes:

- Your printer model may have a 650-sheet duo tray, which consists of a 550-sheet tray and an integrated 100-sheet multipurpose feeder. The 550-sheet tray of the 650-sheet duo tray supports the same paper types as the 550-sheet tray. The integrated multipurpose feeder supports different paper sizes, types, and weights.
- Labels, envelopes, and card stock always print at 25 pages per minute.
- The ADF supports 52–120 g/m^2 (14–32 lb bond) paper.

Paper type and weight	Standard 250-sheet tray	Manual feeder	Optional 650-sheet duo tray		Optional 550-sheet tray	Two-sided printing
			550-sheet tray	Multipurpose feeder		
Light paper[1] 60–74.9 g/m^2 grain long (16–19.9-lb bond)	✓	✓	✓	✓	✓	✓
Plain paper 75–90.3 g/m^2 grain long (20–24-lb bond)	✓	✓	✓	✓	✓	✓
Heavy paper 90.3–105 g/m^2 grain long (24.1–28-lb bond)	✓	✓	✓	✓	✓	✓
Card stock 105.1–162 g/m^2 grain long (28.1–43-lb bond)	✓	✓	✓	✓	✓	X
Card stock 105.1–200 g/m^2 grain long (28.1–53-lb bond)	✓	✓	X	X	X	X
Paper Labels[2] 131 g/m^2 (35-lb bond)	✓	✓	✓	✓	✓	✓[3]
Vinyl Labels[2] 131 g/m^2 (35-lb bond)	✓	✓	✓	✓	✓	X

[1] Paper less than 75 g/m^2 (20 lb) must be printed with Paper Type set to Light Paper. Failure to do so may cause excessive curl which can lead to feeding errors, especially in more humid environments.

[2] Labels and other specialty media are supported for occasional use and must be tested for acceptability.

[3] Paper labels up to 105 g/m^2 (28-lb bond) are supported.

[4] 100% cotton content maximum weight is 24-lb bond.

[5] 28-lb bond envelopes are limited to 25% cotton content.

Paper type and weight	Standard 250-sheet tray	Manual feeder	Optional 650-sheet duo tray		Optional 550-sheet tray	Two-sided printing
			550-sheet tray	Multipurpose feeder		
Envelopes[4,5] 60–105 g/m^2 (16–28-lb bond)	✓	✓	X	✓	X	X

[1] Paper less than 75 g/m^2 (20 lb) must be printed with Paper Type set to Light Paper. Failure to do so may cause excessive curl which can lead to feeding errors, especially in more humid environments.

[2] Labels and other specialty media are supported for occasional use and must be tested for acceptability.

[3] Paper labels up to 105 g/m^2 (28-lb bond) are supported.

[4] 100% cotton content maximum weight is 24-lb bond.

[5] 28-lb bond envelopes are limited to 25% cotton content.

Tools required for service

- Flat-blade screwdrivers, various sizes

- #1 Phillips screwdriver, magnetic

- #2 Phillips screwdriver, magnetic

- #2 Phillips screwdriver, magnetic short-blade

- Torx^{TM} screwdriver (T20 head)

- Needle-nose pliers

- Diagonal side cutters

- Spring hook

- Feeler gauges

- Analog or digital multimeter

- 3-mm ball hex wrench

- Toner vacuum

- Flashlight

Diagnostics and troubleshooting

⚠️ **CAUTION—SHOCK HAZARD:** This product uses a soft power switch. It does not physically disconnect the input AC voltage. To avoid the risk of electrical shock, always remove the power cord from the printer when removal of the input AC voltage is required.

⚠️ **CAUTION—SHOCK HAZARD:** To avoid the risk of electrical shock and to prevent damage to the printer, remove the power cord from the electrical outlet and disconnect all connections to any external devices before you connect or disconnect any cable, electronic board, or assembly.

⚠️ **CAUTION—HOT SURFACE:** The inside of the printer might be hot. To reduce the risk of injury from a hot component, allow the surface to cool before touching it.

⚠️ **CAUTION—PINCH HAZARD:** To avoid the risk of a pinch injury, use caution in areas marked with this label. Pinch injuries may occur around moving parts, such as gears, doors, trays, and covers.

Troubleshooting overview

Performing the initial troubleshooting check

- With the power cord unplugged from the electrical outlet, check if the cord is free from breakage, short circuits, disconnected wires, or incorrect connections.

- Make sure that the printer is properly grounded.

- Make sure that the power supply line voltage is within 10% of the rated line voltage.

- Make sure that the printer is securely installed on a level surface in a well-ventilated area.

- Make sure that the temperature and relative humidity are within the specifications. See **"Temperature information" on page 482**.

- Avoid locations that:
  – Generate ammonia gas
  – Are exposed to direct sunlight
  – Are near open flames
  – Are dusty

- Make sure that the recommended paper for this printer is used.

- Do a test print with paper from a newly opened package, and then check the result.

Fixing print quality issues

Initial print quality check

Before troubleshooting print problems, perform the following:

- Make sure that the printer is located in an area that follows the recommended operating environment and power requirement specifications.

- Check the status of supplies. Replace supplies that are low or empty.

- Load 20-lb (75-80 g/m^2) plain letter or A4 paper. Make sure that the paper guides are properly set and locked. From the control panel, set the paper size and type to match the paper loaded in the tray.

- From the home screen, navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**.

- Print and keep the menu settings page. The original menu settings page will be used to restore the custom settings if necessary.

- Make sure that the print resolution is set to 4800 CQ and the toner darkness is set to 4 on the menu settings page.

- Check the toner cartridges for damage, and replace if necessary.

- Make sure that the correct print driver is used to prevent print problems. If the wrong print driver is installed, then incorrect characters could print and the copy may not fit the page correctly.

Supplies used to resolve print quality issues

For this family of printers, the following supplies are available to resolve print quality issues:

Supply item	Part number
Developer units	- 78C0D60—40K page starter black developer unit - 78C0D70—40K page starter cyan developer unit - 78C0D80—40K page starter magenta developer unit - 78C0D90—40K page starter yellow developer unit - 78C0D10—125K page black developer unit - 78C0D20—125K page cyan developer unit - 78C0D30—125K page magenta developer unit - 78C0D40—125K page yellow developer unit
Imaging kits	- 78C0Z10—125K page black imaging kit - 78C0Z50—125K page black and color imaging kit - 78C0ZK0—125K page black return imaging kit - 78C0ZV0—125K page black and color return imaging kit
Toner cartridges	Check the supplies guide for the part number of the cartridge used in your printer.
Waste toner bottle	78C0W00—25K pages

Notes:

- The photoconductor basket is not available.
- Before ordering a developer unit, make sure to check which imaging kit the customer is using.

Determining the installed imaging kit and developer unit types from the imaging kit label

- The 40K developer unit has *Starter* printed on the label.
- The 125K developer unit does not have *Starter* printed on the label.
- The 40K imaging kit has an *A* printed on the right side of the label of the photoconductor basket. It is found under the QR code on the label.
- The 125K does not have the *A* printed.
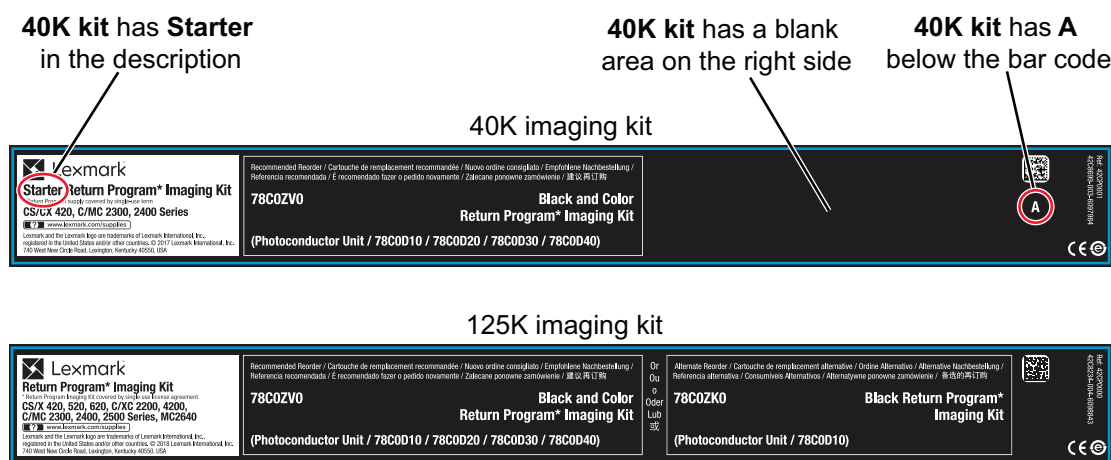
Determining the installed imaging kit and developer unit types from the printer reports

- The Menu Settings and Device Statistics reports can either be printed from the Reports menu on the control panel, or they can be accessed through the Embedded Web Server.
- Under the Other Supplies section of the Menu Settings pages, the capacity value indicates either 40K or 125K.
- Under the Supply Information section of the Device Statistics pages, the capacity value indicates either 40000 or 125000.

Supply item interchangeability

- The 40K developer units work only with the 40K page starter imaging kit.
- The 125K developer units work only with the 125K page imaging kit.

Using the imaging kit

- If a printer with a starter 40K imaging kit has a print defect that is traced to a cyan, magenta, yellow, or black photoconductor unit, then use the 125K black and color imaging kit as a replacement.
- If a printer with a 125K imaging kit has a print defect that is traced to a cyan, magenta, yellow, or black photoconductor unit, then use the 125K black imaging kit as a replacement.

Blurred print check

Action	Yes	No
Step 1 From the home screen, navigate to **Settings** > **Print** > **Quality** > **Advanced Imaging** > **Color Adjust**. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Load paper from a fresh package. **Note:** Paper absorbs moisture due to humidity. Store paper in its original wrapper until it is ready to be used. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 **a** Remove the imaging kit. See **"Imaging kit removal" on page 316**. **b** Clean the printhead lenses. See **"Cleaning the printhead lenses" on page 452**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 **a** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Weather Station** **b** Press **OK** or touch **Start**. Are the temperature and humidity levels reported similar to the actual temperature and humidity levels in the room?	Go to step 6.	Go to step 5.
Step 5 Perform the weather station service check. See **"Weather station removal" on page 338**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Make sure that the HVPS cable is properly connected to the HVPS connector on the controller board. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Check the HVPS cable for continuity. Is there continuity?	Go to step 10.	Go to step 8.

Action	Yes	No
Step 8 Check the HVPS cable for damage, and replace if necessary. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 **a** Remove the transfer module. See **"Transfer module removal" on page 312**. **b** Make sure that the three HVPS contacts are properly positioned, and can freely move up and down. Are the contacts properly positioned, and do they freely move up and down?	Go to step 11.	Go to step 10.
Step 10 **a** Reseat the HVPS. **b** Reseat the transfer module. Does the problem remain?	Go to step 11.	The problem is solved.
Step 11 Replace the HVPS. See **"HVPS removal" on page 307**. Does the problem remain?	Go to step 12.	The problem is solved.
Step 12 Replace the transfer module. See**"Transfer module removal" on page 312**. Does the problem remain?	Go to step 13.	The problem is solved.
Step 13 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Misaligned color check

Action	Yes	No
Step 1 **a** Enter the Diagnostics menu, and then navigate to: **Advanced Print Quality Samples** > **Advanced Print Quality Test Pages** **b** Check pages G and H on the test pages to determine the color misalignment. Is there color misalignment?	Go to step 2.	The problem is solved.

Action	Yes	No
Step 2 From the home screen, navigate to **Settings** > **Print** > **Quality** > **Advanced Imaging** > **Color Adjust**. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Perform the auto alignment service check. See **"Auto alignment service check" on page 72**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Replace the printhead. See **"Printhead removal" on page 389**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Toner easily rubs off check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Actions	Yes	No
Step 1 Depending on your operating system, specify the paper type from the Printing Preferences or Print dialog. **Notes:** • Make sure that the setting matches the paper loaded. • You can also change the setting on the printer control panel. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check if the paper weight is supported. **Note:** If the weight is not supported, then load a supported one. Does the problem remain?	Go to step 3.	The problem is solved.

Actions	Yes	No
Step 3 Load paper from a fresh package. **Note:** Paper absorbs moisture due to humidity. Store paper in its original wrapper until it is ready to be used. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 **a** From the home screen, navigate to **Settings** > **Device** > **Maintenance** > **Configuration Menu** > **Reports** > **Event Log** **b** Check the log history for fuser error codes. Are fuser error codes logged?	Go to step 5.	Contact the next level of support.
Step 5 Perform the service check for the error code. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Replace the LVPS. See **"LVPS removal" on page 294**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Gray or solid background check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Action	Yes	No
Step 1 Remove, and then insert the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** Place a narrow strip of paper over the gap between the developer units. **Note:** Make sure that the paper stays in place when inserting the imaging kit to prevent the laser from discharging the photoconductor units. **b** From the home screen, navigate to **Settings** > **Reports** > **Print Quality Pages**. **c** Check the test pages for solid colors. Is the solid color missing where the strip of paper was placed?	Go to step 3.	Go to step 6.
Step 3 Reseat the printhead cable on the controller board. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Replace the printhead. See **"Printhead removal" on page 389**. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.
Step 6 Reseat the HVPS cable on the HVPS and on the JHVPS1 connector on the controller board. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Check the HVPS cable for continuity. Is there continuity?	Go to step 9.	Go to step 8.
Step 8 Replace the HVPS cable. Does the problem remain?	Go to step 9.	The problem is solved.

Action	Yes	No
Step 9 **a** Remove the transfer module. See **"Transfer module removal" on page 312**. **b** Check if the three HVPS contacts are properly positioned, and if they can freely move up and down. Are the contacts properly positioned, and do they freely move up and down?	Go to step 11.	Go to step 10.
Step 10 **a** Reseat the HVPS. **b** Reseat the transfer module. Does the problem remain?	Go to step 11.	The problem is solved.
Step 11 Replace the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 12.	The problem is solved.
Step 12 Replace the HVPS. See **"HVPS removal" on page 307**. Does the problem remain?	Go to step 13.	The problem is solved.
Step 13 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Solid color or black image check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

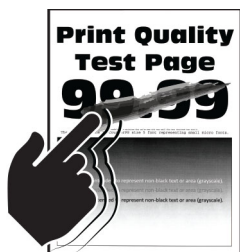| Action	Yes	No
Step 1 Remove, and then insert the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** Place a narrow strip of paper over the gap between the developer units. **Note:** Make sure that the paper stays in place when inserting the imaging kit to prevent the laser from discharging the photoconductor units. **b** From the home screen, navigate to **Settings** > **Reports** > **Print Quality Pages**. **c** Check the test pages for solid colors. Is the solid color missing where the strip of paper was placed?	Go to step 3.	Go to step 6.
Step 3 Reseat the printhead cable on the controller board. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Replace the printhead. See **"Printhead removal" on page 389**. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.
Step 6 Reseat the HVPS cable on the HVPS and on the JHVPS1 connector on the controller board. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Check the HVPS cable for continuity. Is there continuity?	Go to step 9.	Go to step 8.
Step 8 Replace the HVPS cable. Does the problem remain?	Go to step 9.	The problem is solved.

Action	Yes	No
Step 9 **a** Remove the transfer module. See **"Transfer module removal" on page 312**. **b** Check if the three HVPS contacts are properly positioned, and if they can freely move up and down. Are the contacts properly positioned, and do they freely move up and down?	Go to step 11.	Go to step 10.
Step 10 **a** Reseat the HVPS. **b** Reseat the transfer module. Does the problem remain?	Go to step 11.	The problem is solved.
Step 11 Replace the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 12.	The problem is solved.
Step 12 Replace the HVPS. See **"HVPS removal" on page 307**. Does the problem remain?	Go to step 13.	The problem is solved.
Step 13 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Blank or white pages check

Pre-check procedure

Make sure to perform the following pre-check procedure before performing this service check:

1 From the home screen, navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**.

2 Check page A to determine any missing colors.

3 If any one color or black is missing, then perform the missing color check. See **"Missing color check" on page 56**.

Action	Yes	No
Step 1 Remove, and then insert the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** Remove the imaging kit. See **"Imaging kit removal" on page 316**. **b** Check if the developer unit and the imaging kit capacities match. **Note:** The available capacities are 40K and 125K. Do the capacities match?	Go to step 4.	Go to step 3.
Step 3 Replace the mismatched developer unit. See **"Developer unit removal" on page 306**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 **a** Remove the imaging kit. See **"Imaging kit removal" on page 316**. **b** Remove the developer units from the imaging kit. See **"Developer unit removal" on page 306**. **c** Check the contacts between the developer units and the PCUs on the imaging kit. Are the contacts clean?	Go to step 6.	Go to step 5.
Step 5 Clean the contacts. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Check if the contacts between the developer units and the PCUs on the imaging kit are damaged. Are the contacts damaged?	Go to step 7.	Go to step 8.
Step 7 Replace the damaged imaging kit component. See **"Supplies used to resolve print quality issues" on page 32**. Does the problem remain?	Go to step 8.	The problem is solved.

Action	Yes	No
Step 8 Reseat the printhead cable on the JPH1 connector on the controller board. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 Reseat the HVPS cable on the HVPS and on the JHVPS1 connector on the controller board. Does the problem remain?	Go to step 10.	The problem is solved.
Step 10 Check the HVPS cable for continuity. Is there continuity?	Go to step 11.	Go to step 12.
Step 11 Replace the HVPS cable. Does the problem remain?	Go to step 12.	The problem is solved.
Step 12 **a** Remove the transfer module. See **"Transfer module removal" on page 312**. **b** Check if the three HVPS contacts are properly positioned, and if they can freely move up and down. Are the contacts properly positioned, and do they freely move up and down?	Go to step 14.	Go to step 13.
Step 13 Reposition the HVPS so that the pins can freely move up and down. Does the problem remain?	Go to step 14.	The problem is solved.
Step 14 Replace the HVPS. See **"HVPS removal" on page 307**. Does the problem remain?	Go to step 15.	The problem is solved.
Step 15 Replace the printhead. See **"Printhead removal" on page 389**. Does the problem remain?	Go to step 16.	The problem is solved.
Step 16 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Horizontal white lines check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Actions	Yes	No
Step 1 Depending on your operating system, specify the paper type from the Printing Preferences or Print dialog. **Notes:** • Make sure that the setting matches the paper loaded. • You can also change the setting on the printer control panel. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Remove, and then insert the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 a Remove the HVPS. See **"HVPS removal" on page 307**. b Check if the HVPS cable connectors are pinched or damaged. Are the cable connectors pinched or damaged?	Go to step 4.	Go to step 5.
Step 4 Replace the HVPS cable. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Check the cables connecting the HVPS to the controller board for proper connection, and reseat if necessary. Does the problem remain?	Go to step 6.	The problem is solved.

Actions	Yes	No
Step 6 Replace the HVPS. See **"HVPS removal" on page 307**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Horizontal colored lines or banding check
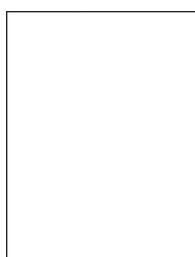

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Actions	Yes	No
Step 1 Depending on your operating system, specify the paper type from the Printing Preferences or Print dialog. **Notes:** • Make sure that the setting matches the paper loaded. • You can also change the setting on the printer control panel. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Load paper from a fresh package. **Note:** Paper absorbs moisture due to humidity. Store paper in its original wrapper until it is ready to be used. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Remove, and then reinstall the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 4.	The problem is solved.

Actions	Yes	No
Step 4 **a** Enter the Diagnostics menu, and then navigate to: **Settings** > **Troubleshooting** > **Print Quality Test Pages** **b** Check the test page for lines. Do the lines appear in equal intervals?	Go to step 5.	Contact the next level of support.
Step 5 Perform the repeating defects check. See **"Repeating defects check" on page 61**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Text or images cut off check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Actions	Yes	No
Step 1 Adjust the paper guides in the tray to the correct position for the paper loaded. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Depending on your operating system, specify the paper size from the Printing Preferences or Print dialog. **Notes:** • Make sure that the setting matches the paper loaded. • The paper size setting can be changed on the printer control panel. Does the problem remain?	Go to step 3.	The problem is solved.

Actions	Yes	No
Step 3 a Remove, and then insert the imaging kit. See **"Imaging kit removal" on page 316**. b Remove, and then insert the developer units. See **"Developer unit removal" on page 306**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Check for packing material left on the imaging components. Is there packing material left on the imaging components?	Go to step 5.	Go to step 6.
Step 5 Remove the packing material. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Replace the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Mottled print and dots check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Action	Yes	No
Step 1 Check the printer for leaked toner contamination. Is the printer free of leaked toner?	Go to step 2.	Go to step 6.
Step 2 **a** From the home screen, navigate to **Settings** > **Paper** > **Tray Configuration** > **Paper Size/Type** **b** Check if the paper type and paper size settings match the paper loaded. **c** Make sure that paper does not have a textured or rough finish. Do the settings match?	Go to step 4.	Go to step 3.
Step 3 Depending on your operating system, specify the paper size and paper type from the Printing Preferences or Print dialog. **Notes:** • Make sure that the settings match the paper loaded. • You can also change the settings on the printer control panel. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Load paper from a fresh package. **Note:** Paper absorbs moisture due to humidity. Store paper in its original wrapper until it is ready to be used. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Remove, and then insert the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 **a** Using a toner vacuum, clean the printer thoroughly. **b** Perform a print job to clear the remaining toner from the imaging components. Does the problem remain?	Go to step 7.	The problem is solved.

Action	Yes	No
Step 7 Replace the developer unit of the leaking color. See **"Supplies used to resolve print quality issues" on page 32** to determine which developer unit to use. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 Replace the photoconductor unit. See **"Supplies used to resolve print quality issues" on page 32** to determine which photoconductor unit to use. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 Check the transfer module for proper installation and damage, and replace if necessary. See **"Transfer module removal" on page 312**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Vertical white lines check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Action	Yes	No
Step 1 Depending on your operating system, specify the paper type from the Printing Preferences or Print dialog. **Notes:** • Make sure that the setting matches the paper loaded. • You can also change the setting on the printer control panel. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Load paper source with the recommended paper type. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Remove, and then insert the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 **a** Remove the waste toner bottle. See **"Waste toner bottle service check" on page 122**. **b** Remove the imaging kit. See **"Imaging kit removal" on page 316**. **c** Clean the printhead lenses. See **"Cleaning the printhead lenses" on page 452**. **d** From the home screen, navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 **a** Check the test pages and identify the affected color. **b** Replace the developer unit of the affected color. **c** If vertical streaks in all colors appear on page A, then replace the transfer module. See **"Transfer module removal" on page 312**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Replace the photoconductor unit. See **"Supplies used to resolve print quality issues" on page 32** to determine which photoconductor unit to use. Does the problem remain?	Go to step 7.	The problem is solved.

Action	Yes	No
Step 7 Check the transfer module for proper installation and damage, and replace if necessary. See **"Transfer module removal" on page 312**. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 Replace the printhead. See **"Printhead removal" on page 389**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Ghost images check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Action	Yes	No
Step 1 Load the tray with the correct paper type. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Depending on your operating system, specify the paper type from the Printing Preferences or Print dialog. **Notes:** • Make sure that the setting matches the paper loaded. • You can also change the setting on the printer control panel. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 From the home screen, navigate to **Settings** > **Print** > **Quality** > **Advanced Imaging** > **Color Adjust**. Does the problem remain?	Go to step 4.	The problem is solved.

Action	Yes	No
Step 4 Remove, and then reinstall the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 From the home screen, check the status of the black and color imaging kit. Does the status indicate **OK**?	Go to step 6.	Go to step 7.
Step 6 Measure the distance from one point of the original image to the same point on the ghost image. Is the distance 43.9 mm?	Go to step 8.	Go to step 7.
Step 7 Replace the developer unit of the affected color. See **"Supplies used to resolve print quality issues" on page 32** to determine which developer unit to use. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 Replace the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 **a** From the home screen, navigate to **Settings** > **Reports** > **Menu Settings Page** **Note:** Perform this step twice to clear any debris. **b** Check the fuser assembly for toner contamination. Is the fuser assembly contaminated?	Go to step 10.	Contact the next level of support.
Step 10 Replace the fuser. See **"Fuser removal" on page 342**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Diagnostics and troubleshooting

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Vertical colored lines or banding check
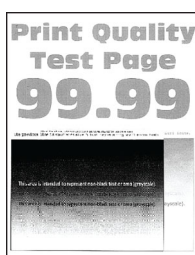

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Action	Yes	No
Step 1 If the printer is an MFP, then use a blank sheet of paper to make a two-sided copy on the ADF. Do vertical dark lines appear?	Go to step 2.	Go to step 3.
Step 2 Clean the ADF scanner glass. See **"Cleaning the scanner" on page 450**. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Depending on your operating system, specify the paper type from the Printing Preferences or Print dialog. **Notes:** • Make sure that the setting matches the paper loaded. • You can also change the setting on the printer control panel. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Load paper from a fresh package. **Note:** Paper absorbs moisture due to humidity. Store paper in its original wrapper until it is ready to be used. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Remove, and then reinstall the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 6.	The problem is solved.

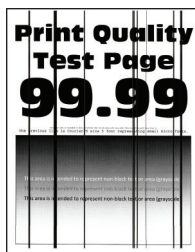| Action	Yes	No
Step 6 Replace the developer unit of the affected color. See **"Supplies used to resolve print quality issues" on page 32** to determine which developer unit to use. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Replace the imaging kit. See **"Supplies used to resolve print quality issues" on page 32** to determine which imaging kit to use. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 Replace the transfer module. See **"Transfer module removal" on page 312**. **Note:** Make sure that there are no debris underneath the transfer module when it is removed. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 Replace the fuser. See **"Fuser removal" on page 342**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Dark print check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Action	Yes	No
Step 1 **a** From the home screen, navigate to **Settings** > **Print** > **Quality** > **Advanced Imaging** > **Color Adjust** **b** Perform a color adjustment. Does the problem remain?	Go to step 2.	The problem is solved.

Action	Yes	No
Step 2 Depending on your operating system, reduce the toner darkness from the Printing Preferences or Print dialog. **Note:** You can also change the setting on the printer control panel. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Depending on your operating system, specify the paper type from the Printing Preferences or Print dialog. **Notes:** • Make sure that the setting matches the paper loaded. • You can also change the setting on the printer control panel. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Check if the paper is textured or has a rough finish. Is the paper textured or rough?	Go to step 5.	Go to step 6.
Step 5 Replace textured or rough paper with plain paper. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Load paper from a fresh package. **Note:** Paper absorbs moisture due to humidity. Store paper in its original wrapper until it is ready to be used. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 **a** From the home screen, navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages** **b** Check the test pages. Is only one color affected?	Go to step 8.	Go to step 9.
Step 8 Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Color alignment adjust** > **AA adjustment row** Does the problem remain?	Go to step 9.	The problem is solved.

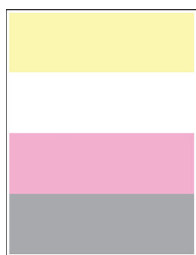| Action	Yes	No
Step 9 Perform the toner patch sensing service check. See **"Toner patch sensing service check" on page 68**. Does the problem remain?	Go to step 10.	The problem is solved.
Step 10 Check the HVPS cable for proper connection, and reseat if necessary. Does the problem remain?	Go to step 11.	The problem is solved.
Step 11 Check the continuity of the main HVPS cable. Does the cable have continuity?	Go to step 13.	Go to step 12.
Step 12 Replace the cable. Does the problem remain?	Go to step 13.	The problem is solved.
Step 13 Check the contacts on the transfer module for damage. Are the contacts free of damage?	Go to step 15.	Go to step 14.
Step 14 Replace the transfer module. See **"Transfer module removal" on page 312**. Does the problem remain?	Go to step 15.	The problem is solved.
Step 15 Replace the HVPS. See **"HVPS removal" on page 307**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Missing color check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Action	Yes	No
Step 1 From the home screen, navigate to **Settings** > **Print** > **Quality** > **Advanced Imaging** > **Color Adjust**. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Remove any packing material left on the imaging kit. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 **a** Make sure that the toner cartridges and developer units are properly installed. **b** Make sure that the developer units and the imaging kit match. See **"Supplies used to resolve print quality issues" on page 32**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 **a** Remove, and then insert the imaging kit. See **"Imaging kit removal" on page 316**. **b** Remove, and then insert the waste toner bottle. See **"Waste toner bottle removal" on page 320**. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Reseat the printhead cable connector on the controller board. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 **a** From the home screen, navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**. **b** Check the test pages. Is only one color missing?	Go to step 7.	Go to step 10.
Step 7 Check if the missing color is yellow. Is the missing color yellow?	Go to step 8.	Go to step 10.

Action	Yes	No
Step 8 Remove the imaging kit, and then check if the transfer module cleaning blade is in the correct position. Is the cleaning blade in the correct position?	Go to step 9.	Go to step 10.
Step 9 Replace the transfer module. See **"Transfer module removal" on page 312**. Does the problem remain?	Go to step 10.	The problem is solved.
Step 10 Check the contacts on the imaging kit and the developer unit of the missing color for dust or debris. Are the contacts free of dust or debris?	Go to step 12.	Go to step 11.
Step 11 Clean the contacts between the developer unit and the imaging kit. Does the problem remain?	Go to step 12.	The problem is solved.
Step 12 Replace the developer unit of the affected color. See **"Supplies used to resolve print quality issues" on page 32** to determine which developer unit to use. Does the problem remain?	Go to step 13.	The problem is solved.
Step 13 Check if the pins in the HVPS freely move in and out with an equal amount of spring force. Do the pins freely move?	Go to step 15.	Go to step 14.
Step 14 Replace the HVPS. See **"HVPS removal" on page 307**. Does the problem remain?	Go to step 15.	The problem is solved.

Action	Yes	No
Step 15 **a** Remove the imaging kit. See **"Imaging kit removal" on page 316**. **b** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Motor tests** **c** Go to the appropriate developer unit motor test for the missing color, and then run the test. Does the motor run?	Go to step 17.	Go to step 16.
Step 16 Replace the defective EP drive motor. See **"Motor (drive unit) removal" on page 291**. Does the problem remain?	Go to step 17.	The problem is solved.
Step 17 **a** Remove the imaging kit. See **"Imaging kit removal" on page 316**. **b** While manually turning the motors, check if the couplers that drive the imaging kit move. Do the couplers move?	Go to step 19.	Go to step 18.
Step 18 Replace the EP drive assembly. See **"EP drive assembly removal" on page 291**. Does the problem remain?	Go to step 19.	The problem is solved.
Step 19 Check the Print Quality Test Pages if the black plane or the CMY plane is missing. Is the black plane or the CMY plane missing?	Go to step 20.	Go to step 21.
Step 20 Replace the HVPS. See **"HVPS removal" on page 307**. Does the problem remain?	Go to step 21.	The problem is solved.
Step 21 Replace the printhead. See **"Printhead removal" on page 389**. Does the problem remain?	Go to step 22.	The problem is solved.
Step 22 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Diagnostics and troubleshooting
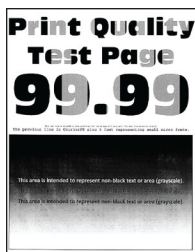
Uneven print density check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Action	Yes	No
Step 1 Remove, and then insert the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 From the home screen, navigate to **Settings** > **Print** > **Quality** > **Advanced Imaging** > **Color Adjust**. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 **a** From the home screen, navigate to **Settings** > **Device** > **Preferences** **b** Check if the paper type and size settings match the paper type and size set on the tray. Do the settings match?	Go to step 5.	Go to step 4.
Step 4 Change the paper size and type, or adjust the size settings in the tray. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Check the paper for texture or rough finish. Is the paper textured or rough?	Go to step 6.	Go to step 7.
Step 6 Replace the textured or rough paper with plain paper. Does the problem remain?	Go to step 7.	The problem is solved.

Action	Yes	No
Step 7 Clean the printhead lenses. See **"Cleaning the printhead lenses" on page 452**. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 Replace the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Repeating defects check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Action	Yes	No
Step 1 Check the rollers in the paper path for dust or debris. Is there dust or debris on the rollers?	Go to step 2.	Go to step 3.
Step 2 Clean the affected rollers. Does the problem remain?	Go to step 3.	The problem is solved.

Action	Yes	No

Step 3
a From the home screen, navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**
b Measure the distance between the repeating defects on the affected color page.
c Check if the distance matches any of the following measurements:
 	
Imaging kit
  • 94.20 mm (3.71 in.)
  • 29.80 mm (1.17 in.)
  • 23.20 mm (0.91 in.)
 	
Developer unit
  • 43.90 mm (1.73 in.)
  • 45.50 mm (1.79 in.)
 	
Transfer module
  • 37.70 mm (1.48 in.)
  • 78.50 mm (3.09 in.)
  • 55 mm (2.17 in.)
 	
Fuser
  • 79.80 mm (3.14 in.)
  • 94.30 mm (3.71 in.)
 	
Do the repeating defects match any of the measurements?
	Go to step 4.	Contact the next level of support.

Step 4 Replace the component that matches the measurement. See **"Supplies used to resolve print quality issues" on page 32** to determine which developer unit or imaging kit to use. Does the problem remain?	Go to step 5.	The problem is solved.

Action	Yes	No

Step 5
Refer to the following list for additional components that can be replaced to resolve a repeating defect.
Replace the parts one at a time in the following order, and then print a test page after replacing a part.
 	
99 mm interval
• Fuser
 	
94 mm interval
• Imaging kit
 	
79 mm interval
• Developer unit of the affected color
 	
75 mm interval
• Fuser
 	
55–56 mm interval
  a Developer unit
  b Transfer module
  c EP drive
 	
44–45 mm interval
• Developer unit
 	
33 mm interval
  a Developer unit
  b EP drive
 	
28 mm, 24 mm, 16 mm, 12–14 mm, 9 mm, and 4-5 mm interval
• EP drive
 	
6–7 mm interval
  a Fuser motor
  b EP drive
 	
1–3 mm interval
  a Developer unit
  b Fuser
  c EP drive
  d MFP redrive
 	
Less than 1 mm interval
  a EP drive
  b Fuser motor
 	
Note: If a part was replaced in the previous step, then contact the next level of support.
 	
Does the problem remain?
	Contact the next level of support.	The problem is solved.

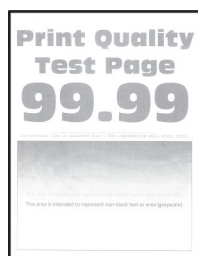# Light print check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Action	Yes	No
Step 1 From the home screen, navigate to **Settings** > **Print** > **Quality** > **Advanced Imaging** > **Color Adjust**. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Depending on your operating system, increase the toner darkness from the Printing Preferences or Print dialog. **Note:** You can also change the setting on the printer control panel. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 **a** From the home screen, navigate to **Settings** > **Print** > **Quality** > **Color Saver**. **b** Turn off Color Saver. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Depending on your operating system, specify the paper type from the Printing Preferences or Print dialog. **Notes:** • Make sure that the setting matches the paper loaded. • You can also change the setting on the printer control panel. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Check if the paper is textured or rough. Is the paper textured or rough?	Go to step 6.	Go to step 7.

Action	Yes	No
Step 6 Replace the textured or rough paper with plain paper. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Load paper from a fresh package. **Note:** Paper absorbs moisture due to humidity. Store paper in its original wrapper until it is ready to be used. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 Remove, and then reinstall the imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 Remove, and then reinstall the developer unit of the affected color. See**"Developer unit removal" on page 306**. Does the problem remain?	Go to step 10.	The problem is solved.
Step 10 **a** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Motor tests** **b** Select the motor of the affected color, and then run the test. Does the motor run?	Go to step 12.	Go to step 11.
Step 11 Check the motor cable for proper installation, and reseat if necessary. Does the problem remain?	Go to step 12.	The problem is solved.
Step 12 Clean the printhead lenses. See **"Cleaning the printhead lenses" on page 452**. Does the problem remain?	Go to step 13.	The problem is solved.
Step 13 Check the HVPS cable on the HVPS and on the JHVPS1 connector on the controller board for proper connection. Is the cable properly connected at both ends?	Go to step 15.	Go to step 14.

Action	Yes	No
Step 14 Reconnect the cable. Does the problem remain?	Go to step 15.	The problem is solved.
Step 15 Check the cable for continuity. Does the cable have continuity?	Go to step 17.	Go to step 16.
Step 16 Replace the HVPS cable. Does the problem remain?	Go to step 17.	The problem is solved.
Step 17 **a** Remove the transfer module. See **"Transfer module removal" on page 312**. **b** Check if the three contacts are visible and if they freely move. Are the contacts visible and do they freely move?	Go to step 19.	Go to step 18.
Step 18 Replace imaging kit. See **"Imaging kit removal" on page 316**. Does the problem remain?	Go to step 19.	The problem is solved.
Step 19 Replace the transfer module. See **"Transfer module removal" on page 312**. Does the problem remain?	Go to step 20.	The problem is solved.
Step 20 Replace the HVPS. See **"HVPS removal" on page 307**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Skewed print check

Note: Before performing this print quality check, go to the home screen and navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**, and then perform the initial print quality check. See **"Initial print quality check" on page 32**.

Action	Yes	No
Step 1 **a** Adjust the paper guides in the tray to the correct position for the paper loaded. **b** Make sure that the paper stack is below the maximum paper fill line. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Load paper from a fresh package. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Make sure that the paper loaded is supported. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Check the transfer module for proper installation and damage, and reinstall if necessary. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Perform the printhead adjustment. See **"Registration adjustment" on page 284**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Check the pick rollers for dust or debris, and clean the rollers if necessary. Does the problem remain?	Go to step 7.	The problem is solved.

Action	Yes	No

Step 7
If the paper from tray 1 are straight but the paper from the other tray are skewed, then perform the following:
a Make sure that the paper guides in the tray are free to move and properly adjusted.
b Enter the Diagnostics menu, and then navigate to:
Printer diagnostics & adjustments > **Registration adjust**
c Select **Duplex Skew** or **Option Skew**.
Notes:
  • Duplex Skew affects the duplex sides.
  • Option Skew affects the tray 2, tray 3, and MPF paper.
  • Raising the value of the skew setting rotates the horizontal lines clockwise while the vertical lines will remain vertical.
d Print a test page.
 	
Does the problem remain?
	Contact the next level of support.	The problem is solved.

Toner patch sensing service check

Pre check procedure

Note: Perform this procedure before performing the service check.

1 Enter the Diagnostics menu, and then navigate to:

Printer Setup > **EP setup** > **Toner patch sensor adjust** > **Full calibration**

2 Navigate to **Advanced Print Quality Samples** > **Advanced Print Quality Test Pages**.

3 Check pages G and H on the test pages to determine the color misalignment.

4 If colors are misaligned, then navigate to **Printer diagnostics & adjustments** > **Color alignment adjust** > **Auto align**.

5 Find AA adjustment, and then press **OK** or touch **Start**.

Note: This action triggers the auto align routine which performs the color alignment error corrections for the 0.42 mm, 0.84 mm, and 3 mm ranges.

6 Navigate to **Advanced Print Quality Samples** > **Advanced Print Quality Test Pages**.

7 Check pages G and H on the test pages to determine the color misalignment.

8 If colors are misaligned, then navigate to **Printer diagnostics & adjustments** > **Color alignment adjust** > **Auto align**.

Note: Ignore the AA adjustment pre-check in this step.

Action	Yes	No
Step 1 **a** From the home screen, navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**. **b** On the Device information section of the test page, check the CalSet values of the following: • C developer unit operating point • C laser operating point • C linearization stat • M developer unit operating point • M laser operating point • M linearization stat • Y developer unit operating point • Y laser operating point • Y linearization stat • K developer unit operating point • K laser operating point • K linearization stat Are the CalSet values 0?	Go to step 2.	The problem is solved.
Step 2 Perform the blank or white pages service check. See **"Blank or white pages check" on page 41**. Was an issue found and resolved?	Go to step 3.	Go to step 4.
Step 3 Perform the auto alignment service check. See **"Auto alignment service check" on page 72**. Does the problem remain?	Go to step 4.	The problem is solved.

Action	Yes	No

Step 4
 a Enter the Diagnostics menu, and then navigate to:
 Printer setup > **EP setup** > **Toner patch sensor adjust**
 b Find Sensor gain characterization, and then press **OK** or touch **Start**.
 c Find Sensor gain verification, and then press **OK** or touch **Start**.
 d On the TPS Sensor Characterization and Verification Information page section of the print out, check the values of following:
   1 The PaperLeft-NDS Volts and PaperRight-DS Volts in the Patch Average from the TPS Verification Page section.
   2 The Left-NDS Volts and Right-DS Volts in the High Gain Bare Belt Characterization Results section.
   3 The mV value in the Amplifier Offset Characterization Result section.
 	
 Do the results approximately match the expected values and fall within the requirements?
	The problem is solved.	Go to step 5.

Step 5 Check the cables at the JTPS1 and JTPS2 connectors on the controller board for proper connection, and reseat if necessary. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 **a** Remove the transfer module. See **"Transfer module removal" on page 312**. **b** Make sure that the sensors (toner patch) are free of dust or debris. **c** Perform the auto alignment service check. See **"Auto alignment service check" on page 72**. Does the problem remain?	Go to step 7.	The problem is solved.

Action	Yes	No

Step 7
 a Replace the sensors (toner patch). See **"Sensors (toner patch) removal" on page 304**.
 b Enter the Diagnostics menu, and then navigate to:
 Printer setup > **EP setup** > **Toner patch sensor adjust**
 c Find Sensor gain characterization, and then press **OK** or touch **Start**.
 d Find Sensor gain verification, and then press **OK** or touch **Start**.
 e On the TPS Sensor Characterization and Verification Information page section of the print out, check the values of following:
   1 The PaperLeft-NDS Volts and PaperRight-DS Volts in the Patch Average from the TPS Verification Page section.
   2 The Left-NDS Volts and Right-DS Volts in the High Gain Bare Belt Characterization Results section.
   3 The mV value in the Amplifier Offset Characterization Result section.
 	
 Do the results approximately match the expected values and fall within the requirements?
	The problem is solved.	Contact the next level of support.

Post check procedure

Note: Perform this procedure before performing the service check.

1 Enter the Diagnostics menu, and then navigate to:

  Printer Setup > **EP setup** > **Toner patch sensor adjust** > **Full calibration**

2 Navigate to **Advanced Print Quality Samples** > **Advanced Print Quality Test Pages**.

3 Check pages G and H on the test pages to determine the color misalignment.

4 If colors are misaligned, then navigate to **Printer diagnostics & adjustments** > **Color alignment adjust** > **Auto align**.

5 Find AA adjustment, and then press **OK** or touch **Start**.

  Note: This action triggers the auto align routine which performs the color alignment error corrections for the 0.42 mm, 0.84 mm, and 3 mm ranges.

6 Navigate to **Advanced Print Quality Samples** > **Advanced Print Quality Test Pages**.

7 Check pages G and H on the test pages to determine the color misalignment.

8 If colors are misaligned, then navigate to **Printer diagnostics & adjustments** > **Color alignment adjust** > **Auto align**.

  Note: Ignore the AA adjustment pre-check in this step.

9 From the home screen, navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**.

10 On the Device information section of the print quality test page, check the CalSet values of the following:

- C developer unit operating point
- C laser operating point
- C linearization stat
- M developer unit operating point
- M laser operating point
- M linearization stat
- Y developer unit operating point
- Y laser operating point
- Y linearization stat
- K developer unit operating point
- K laser operating point
- K linearization stat

11 If the CalSet values are not 0, then contact the next level of support.

Auto alignment service check

Pre check procedure

Note: Perform this procedure before performing the service check.

1 Enter the Diagnostics menu, and then navigate to:

Printer Setup > **EP setup** > **Toner patch sensor adjust** > **Full calibration**

2 Navigate to **Advanced Print Quality Samples** > **Advanced Print Quality Test Pages**.

3 Check pages G and H on the test pages to determine the color misalignment.

4 If colors are misaligned, then navigate to **Printer diagnostics & adjustments** > **Color alignment adjust** > **Auto align**.

5 Find AA adjustment, and then press **OK** or touch **Start**.

Note: This triggers the auto align routine which performs the color alignment error corrections for the 0.42 mm, 0.84 mm, and 3 mm ranges.

6 Navigate to **Advanced Print Quality Samples** > **Advanced Print Quality Test Pages**.

7 Check pages G and H on the test pages to determine the color misalignment.

8 If colors are misaligned, then navigate to **Printer diagnostics & adjustments** > **Color alignment adjust** > **Auto align**.

Note: Ignore the AA adjustment pre check in this step.

Action	Yes	No
Step 1 **a** From the home screen, navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**. **b** On the CalSet section of the test page, check the color alignment stat value. Is the value 0?	Go to step 2.	The problem is solved.

Step 2
a Perform the Blank or white pages check or Missing color check. See **"Blank or white pages check" on page 41** or **"Missing color check" on page 56**.
b Enter the Diagnostics menu, and then navigate to:
Printer setup > **EP setup** > **Toner patch sensor adjust**
c Find Sensor gain characterization, and then press **OK** or touch **Start**.
d Find Sensor gain verification, and then press **OK** or touch **Start**.
e On the TPS Sensor Characterization and Verification Information page section of the print out, check the values of following:
  1 The PaperLeft-NDS Volts and PaperRight-DS Volts in the Patch Average from the TPS Verification Page section.
  2 The Left-NDS Volts and Right-DS Volts in the High Gain Bare Belt Characterization Results section.
  3 The mV value in the Amplifier Offset Characterization Result section.
 	
Do the results approximately match the expected values and fall within the requirements?
	The problem is solved.	Go to step 3.

Step 3 Check the cables at the JTPS1 and JTPS2 connectors on the controller board for proper connection, and reseat if necessary. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 **a** Remove the transfer module. See **"Transfer module removal" on page 312**. **b** Make sure that the sensors (toner patch) are free of dust or debris. Does the problem remain?	Go to step 5.	The problem is solved.

Action	Yes	No

Step 5
a Replace the sensors (toner patch). See **"Sensors (toner patch) removal" on page 304**.
b Enter the Diagnostics menu, and then navigate to:
    Printer setup > **EP setup** > **Toner patch sensor adjust**
c Find Sensor gain characterization, and then press **OK** or touch **Start**.
d Find Sensor gain verification, and then press **OK** or touch **Start**.
e On the TPS Sensor Characterization and Verification Information page section of the print out, check the values of following:
    1 The PaperLeft-NDS Volts and PaperRight-DS Volts in the Patch Average part of the TPS Veriication Page section.
    2 The Left-NDS Volts and Right-DS Volts in the High Gain Bare Belt Characterization Results section.
    3 The mV value in the Amplifier Offset Characterization Result section.
 	
Do the results approximately match the expected values and fall within the requirements?
	The problem is solved.	Contact the next level or support.

Post check procedure

Note: Perform this procedure before performing the service check.

1 Enter the Diagnostics menu, and then navigate to:

    Printer diagnostics & adjustments > **Color alignment adjust**

2 Find AA adjustment, and then press **OK** or touch **Start**.

    Note: This action triggers the auto align routine which performs the color alignment error corrections for the 0.42 mm, 0.84 mm, and 3 mm ranges.

3 Enter the Diagnostics menu, and then navigate to:

    Printer Setup > **EP setup** > **Toner patch sensor adjust** > **Full calibration**

    Note: This action triggers the auto align routine which performs the color alignment error corrections for the 0.42 mm range only.

4 From the home screen, navigate to **Settings** > **Troubleshooting** > **Print Quality Test Pages**.

5 On the CalSet section of the test page, check if the color alignment stat value is 0. If the value is not 0, then contact the next level of support.

Paper jams

Avoiding jams

Load paper properly

- Make sure that the paper lies flat in the tray.

Correct loading of paper	Incorrect loading of paper
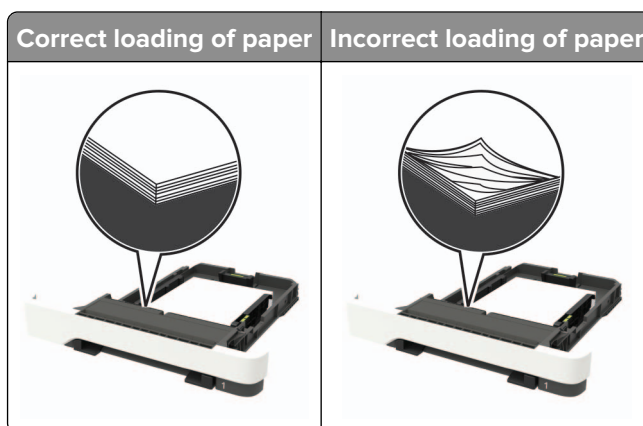
- Do not load or remove a tray while the printer is printing.
- Do not load too much paper. Make sure that the stack height is below the maximum paper fill indicator.
- Do not slide paper into the tray. Load paper as shown in the illustration.

- Make sure that the paper guides are positioned correctly and are not pressing tightly against the paper or envelopes.
- Push the tray firmly into the printer after loading paper.

Use recommended paper

- Use only recommended paper or specialty media.
- Do not load paper that is wrinkled, creased, damp, bent, or curled.

- Flex, fan, and align the paper edges before loading.
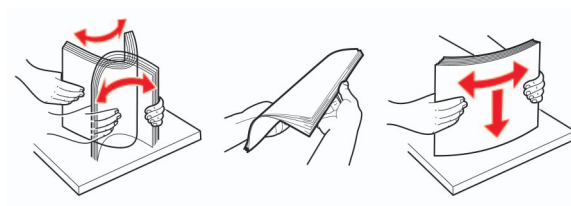
- Do not use paper that has been cut or trimmed by hand.
- Do not mix paper sizes, weights, or types in the same tray.
- Make sure that the paper size and type are set correctly on the computer or printer control panel.
- Store paper according to manufacturer recommendations.

Identifying jam locations

Notes:

- When Jam Assist is set to On, the printer flushes blank pages or pages with partial prints after a jammed page has been cleared. Check your printed output for blank pages.
- When Jam Recovery is set to On or Auto, the printer reprints jammed pages.

	Jam location
1	Automatic document feeder (ADF)
2	Standard bin
3	In the fuser
4	Below the fuser
5	Duplex unit
6	Trays
7	Multipurpose feeder
8	Manual feeder

Paper jam in trays

1 Remove the tray.

2 Remove the jammed paper.

> **Note:** Make sure that all paper fragments are removed.
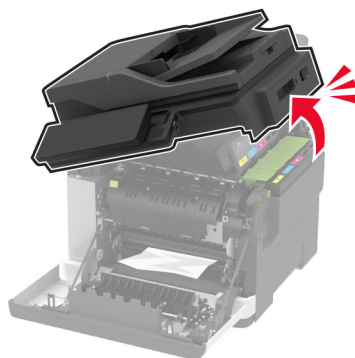

3 Insert the tray.

Paper jam in door A

Paper jam in the fuser

1 Open doors A and B.

⚠ **CAUTION—HOT SURFACE:** The inside of the printer might be hot. To reduce the risk of injury from a hot component, allow the surface to cool before touching it.
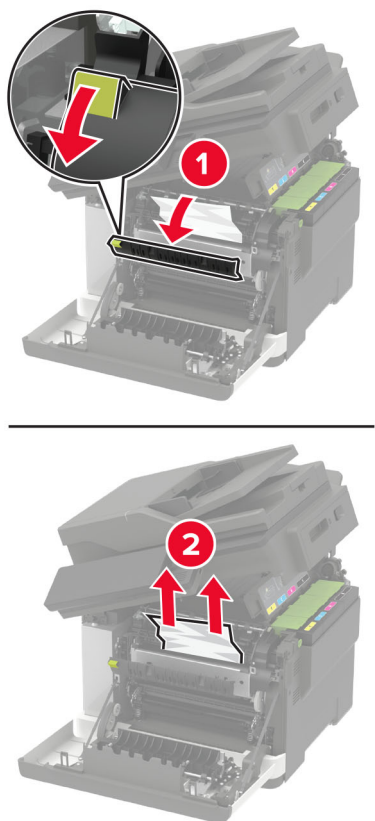
2 Remove the jammed paper.

Note: Make sure that all paper fragments are removed.

3 Open the fuser access door, and then remove the jammed paper.

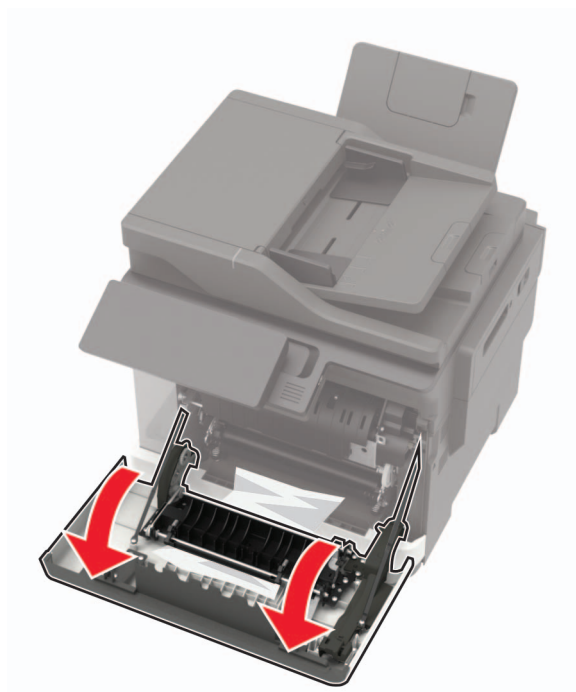**Note:** Make sure that all paper fragments are removed.

4 Close doors B and A.

Paper jam in the duplex unit
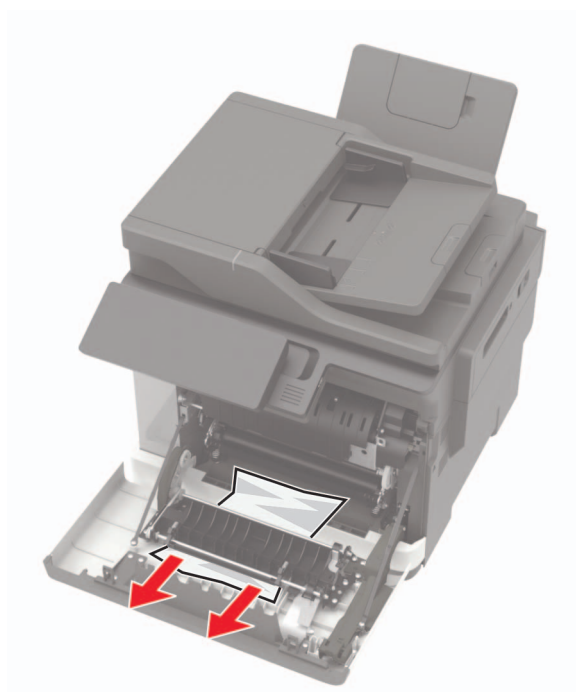
1 Open door A.

> ⚠️ **CAUTION—HOT SURFACE:** The inside of the printer might be hot. To reduce the risk of injury from a hot component, allow the surface to cool before touching it.

2 Remove the jammed paper.

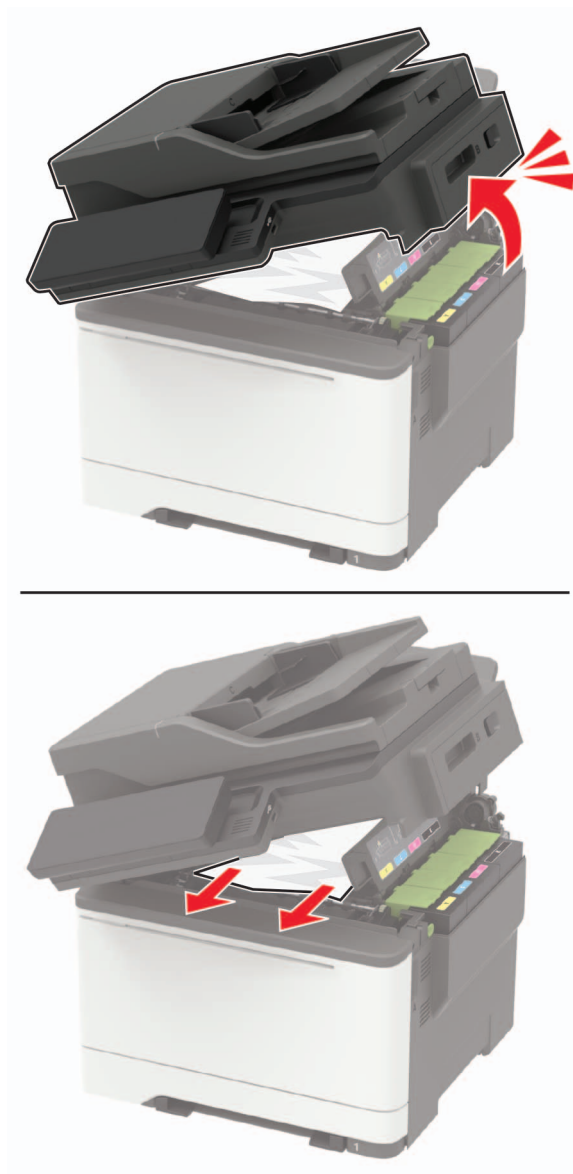> **Note:** Make sure that all paper fragments are removed.

3 Close door A.

Paper jam in the standard bin

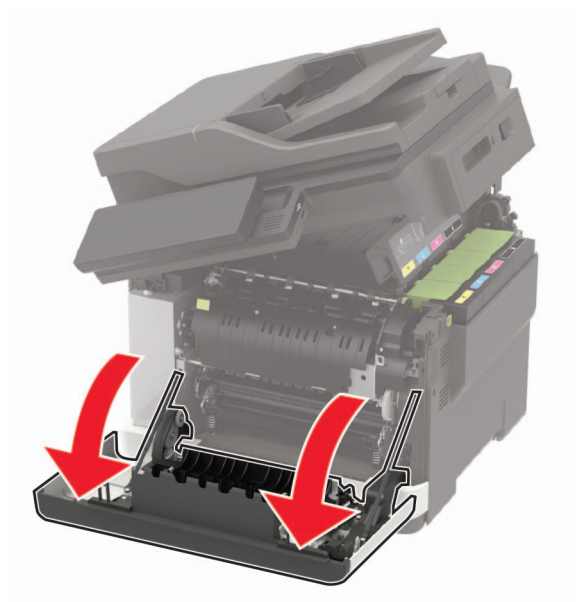**1** Open door B, and then remove the jammed paper.

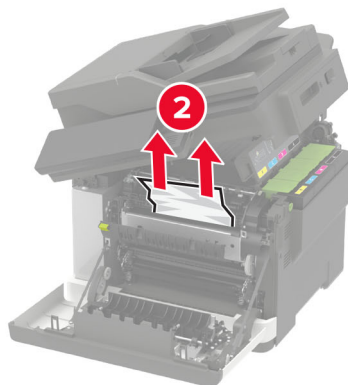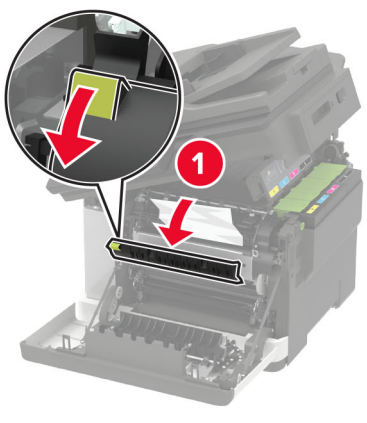**Note:** Make sure that all paper fragments are removed.

2 Open door A.

⚠ **CAUTION—HOT SURFACE:** The inside of the printer might be hot. To reduce the risk of injury from a hot component, allow the surface to cool before touching it.

3 Open the fuser access door, and then remove the jammed paper.

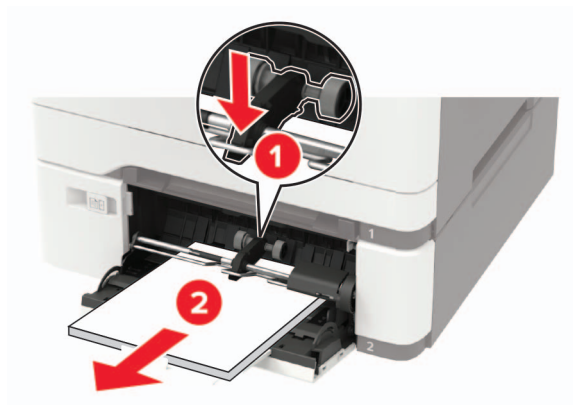**Note:** Make sure all paper fragments are removed.

4 Close doors A and B.

Paper jam in the multipurpose feeder

Note: The multipurpose feeder is available only in some printer models.

1 Remove paper from the multipurpose feeder.

2 Remove the jammed paper.

Note: Make sure that all paper fragments are removed.

3 Flex, fan, and align the paper edges before loading.
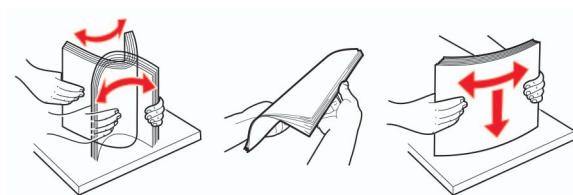
4 Reload paper.

Paper jam in the manual feeder

1 Remove the tray.

2 Remove the jammed paper.

> **Note:** Make sure that all paper fragments are removed.

3 Insert the tray.
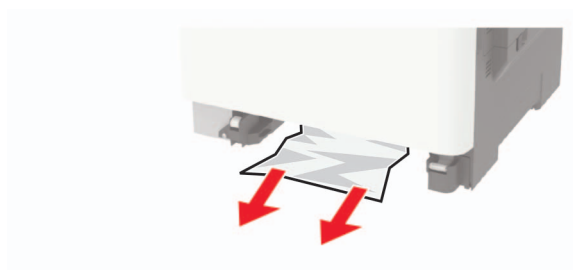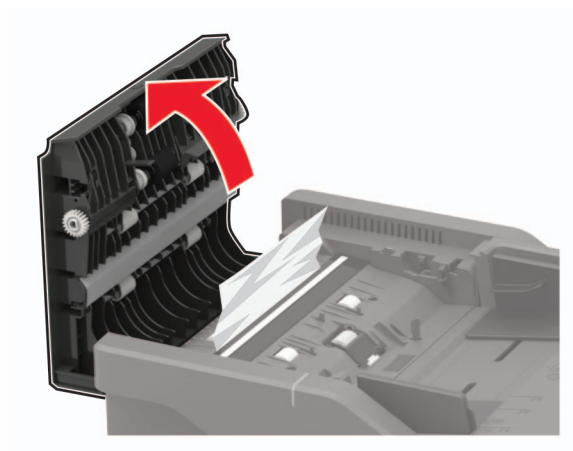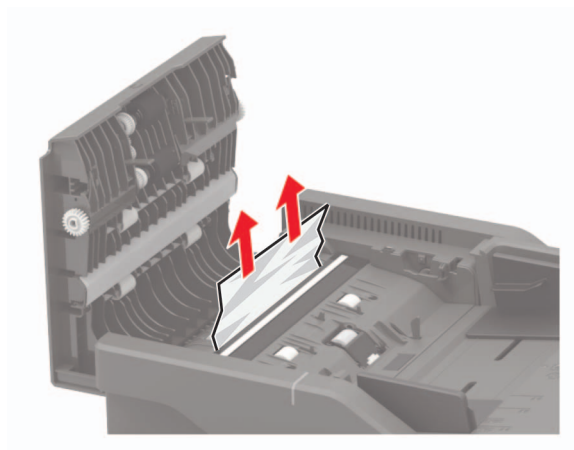
Paper jam in door C

1 Remove all original documents from the ADF tray.

2 Open door C.

3 Remove the jammed paper.

Note: Make sure that all paper fragments are removed.

4 Close door C.

200 paper jams

200 paper jam messages

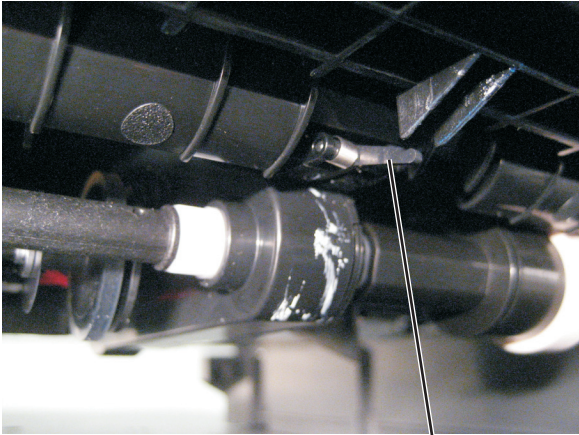| Error code	Description	Action
200.02	The paper fed from the MPF or manual feeder arrived at the sensor (input) earlier than expected.	See **"Sensor (input) service check" on page 86**.
200.03	The Paper fed from the MPF did not reach the sensor (input).	
200.05	The paper fed from the MPF or manual feeder never cleared the sensor (input).	
200.06	The paper fed from the MPF was not picked. The paper did not reach the sensor (input).	
200.12	The paper fed from tray 1 arrived at the sensor (input) earlier than expected.	
200.15	The paper fed from tray 1 never cleared the sensor (input).	
200.16	The paper fed from tray 1 was not picked. The paper did not reach the sensor (input).	
200.22	The paper fed from tray 2 arrived at the sensor (input) earlier than expected.	
200.23	The paper fed from tray 2 did not reach the sensor (input).	
200.25	The paper fed from tray 2 never cleared the sensor (input).	
200.32	The paper fed from tray 3 arrived at the sensor (input) earlier than expected.	
200.33	The paper fed from tray 3 did not reach the sensor (input).	
200.35	The paper fed from tray 3 never cleared the sensor (input).	
200.91	The paper remains on the sensor (input) during the warm up sequence.	

Sensor (input) service check

Notes:

- If the paper source is an option tray, then make sure to perform the Option tray jam service check in addition to this check. See **"Option tray jam service check" on page 109**.
- Make sure that the tray 1 pass-through and manual feeder are free of dust or debris.

- Make sure that the duplex/manual feed sensor flag freely moves and is not obstructing the paper path.
- If a 232.x3 or 232.x5 error code appears on the display, then perform this check first at step 14, and then perform the Sensor (S1 duplex/manual feed) service check. See **"Sensor (redrive/duplex path 1) service check" on page 100**.

Action	Yes	No
Step 1 **a** Remove the tray insert. **b** Open the front door, and then remove the jammed paper. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Make sure that the sensor (input) paper path and the pass-through paper paths of any installed options are free of debris or dust. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check if the error code is 200.1x. Is the error code 200.1x?	Go to step 4.	Go to step 6.
Step 4 Make sure that the pick tires are free of dust or debris. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Replace the pick tires. **"Pick tire removal" on page 420**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Check the sensor (input) for proper installation and damage. Is the sensor properly installed and free of damaged?	Go to step 7.	Go to step 14.

Action	Yes	No
Step 7 a Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** b Find the sensor (Input). c Remove the tray insert, and then rotate the input sensor flag (A) to toggle the sensor. **Note:** The flag must freely rotate and return to its original position. Does the sensor status change while toggling the sensor?	Go to step 9.	Go to step 8.
Step 8 Make sure that the gray cable is properly connected to the sensor (input). Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 a Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** b Find the sensor (Tray 1 pick). c Remove the tray insert, and then rotate the smart pick encoder to toggle the sensor. **Note:** The counter on the display must increment. Did the counter increment?	Go to step 11.	Go to step 10.
Step 10 Make sure that the red cable is properly connected to the sensor (tray 1 pick). Does the problem remain?	Go to step 11.	The problem is solved.

Action	Yes	No
Step 11 **a** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Motor tests** **b** Select **Pick (Tray 1) Duplex**, and then **Pick (Tray 1) Picking**. Did the motors run?	Go to step 13.	Go to step 12.
Step 12 **a** Turn off the printer. **b** Remove the rear cover. See **"Rear cover removal" on page 373**. **c** Make sure that the JSP1 cable is properly connected on the controller board. Does the problem remain?	Go to step 13.	The problem is solved.
Step 13 Disconnect the cable, and then check the following voltages at the JSP1 connector on the controller board: • Pin 14: 5 V dc • Pin 15: 3.3 V dc Are the voltage readings approximately the same?	Go to step 14.	Go to step 15.
Step 14 Replace the motor (drive unit). See **"Motor (drive unit) removal" on page 291**. Does the problem remain?	Go to step 15.	The problem is solved.
Step 15 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.
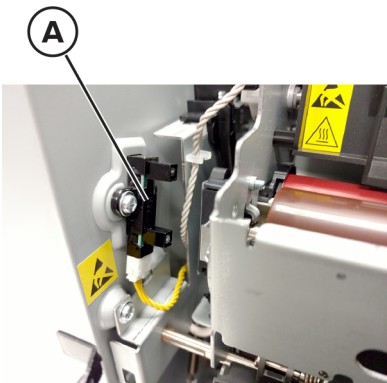
202 paper jams

202 paper jam messages

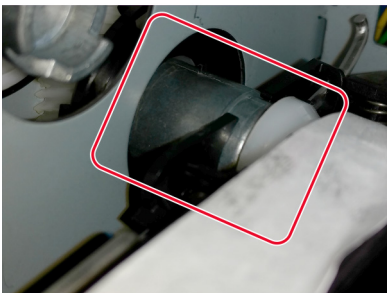| Error code	Description	Action
202.03	The paper fed from the MPF or manual feeder never arrived at the sensor (fuser exit).	See **"202.x3 error service check" on page 93**.
202.04	The paper fed from the MPF or manual feeder cleared the sensor (fuser exit) earlier than expected.	See **"Sensor (fuser exit) service check" on page 91**.

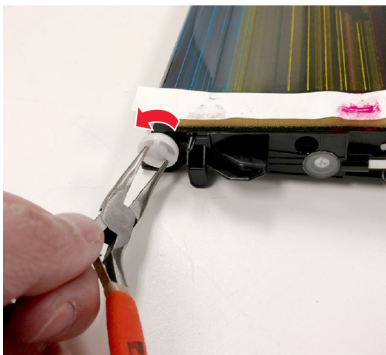| Error code	Description	Action
202.05	The paper fed from the MPF or manual feeder never cleared the sensor (fuser exit).	See **"202.x5 error service check" on page 94**.
202.13	The paper fed from tray 1 never arrived at the sensor (fuser exit).	See **"202.x3 error service check" on page 93**.
202.14	The paper fed from tray 1 cleared the sensor (fuser exit) earlier than expected.	See **"Sensor (fuser exit) service check" on page 91**.
202.15	The paper fed from tray 1 never cleared the sensor (fuser exit).	See **"202.x5 error service check" on page 94**.
202.23	The paper fed from tray 2 never arrived at the sensor (fuser exit).	See **"202.x3 error service check" on page 93**.
202.24	The paper fed from tray 2 cleared the sensor (fuser exit) earlier than expected.	See **"Sensor (fuser exit) service check" on page 91**.
202.25	The paper fed from tray 2 never cleared the sensor (fuser exit).	See **"202.x5 error service check" on page 94**.
202.33	The paper fed from tray 3 never arrived at the sensor (fuser exit).	See **"202.x3 error service check" on page 93**.
202.34	The paper fed from tray 3 cleared the sensor (fuser exit) earlier than expected.	See **"Sensor (fuser exit) service check" on page 91**.
202.35	The paper fed from tray 3 never cleared the sensor (fuser exit).	See **"202.x5 error service check" on page 94**.
202.91	The paper remains on the sensor (fuser exit) during the warm up sequence.	See **"Sensor (fuser exit) service check" on page 91**.

Sensor (fuser exit) service check

Action	Yes	No
Step 1 Open the front door to access the jam area, and then remove the jammed paper. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check the sensor (A) for proper installation and damage. Is the sensor properly installed and free of damage?	Go to step 4.	Go to step 3.
Step 3 Replace the sensor. See **"Sensor (fuser exit) removal" on page 296**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 **a** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** **b** Select **Sensor (Fuser exit)**. Does the sensor status change while toggling the sensor?	Go to step 8.	Go to step 5.
Step 5 **a** Turn off the printer. **b** Remove the rear cover. See **"Rear cover removal" on page 373**. **c** Make sure that the cable on the JBIN1 connector on the controller board is properly connected. Does the problem remain?	Go to step 6.	The problem is solved.

Action	Yes	No

Step 6
a Disconnect the JBIN1 cable on the controller board.
b Perform a POR, and then check the following voltages at the JBIN1 connector on the controller board:
    • Pin 4: 5 V dc
    • Pin 5: 3.3 V dc
 	
Are values approximately the same?
	Go to step 7.	Go to step 12.

Step 7 Make sure that the fuser exit sensor cable is properly connected at both ends. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 **a** Make sure that the fuser exit sensor cable has continuity. **b** Check the cable for damage, and replace if necessary. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 Replace the sensor. See **"Sensor (fuser exit) removal" on page 296**. Does the problem remain?	Go to step 10.	The problem is solved.
Step 10 **a** Check the fuser for proper installation and damage. **b** Check the belt, rollers, and guides for wear or damage, and replace if necessary. Is the fuser properly installed and free of damage?	Go to step 12.	Go to step 11.
Step 11 Replace the fuser. See **"Fuser removal" on page 342**. Does the problem remain?	Go to step 12.	The problem is solved.
Step 12 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

202.x3 error service check

Action	Yes	No
Step 1 **a** Remove the imaging kit. See **"Imaging kit removal" on page 316**. **b** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Motor tests** **c** Select **K+ITM**. Does the transfer belt move while the motor is running?	Go to step 6.	Go to step 2.
Step 2 Make sure that the transfer belt coupler on the EP drive is engaged with the white transfer module links. **Notes:** • Do not touch the belt. • If available, use a mirror. Is the transfer belt coupler properly engaged?	Go to step 6.	Go to step 3.
Step 3 Remove, and then reinstall the transfer module. See **"Transfer module removal" on page 312**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Replace the transfer module guide. See **"Transfer module guide removal" on page 364**. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Replace the EP drive. See **"EP drive assembly removal" on page 291**. Does the problem remain?	Go to step 6.	The problem is solved.

Action	Yes	No
Step 6 Check the transfer belt for tear and damage. Is the belt free of tear and damage?	Go to step 8.	Go to step 7.
Step 7 Replace the transfer module. See **"Transfer module removal" on page 312**. Does the problem remain?	Perform the Sensor (fuser exit) service check. See **"Sensor (fuser exit) service check" on page 91**.	The problem is solved.
Step 8 **a** Remove the transfer module. See **"Transfer module removal" on page 312**. **b** Using a pair of needle-nose pliers, turn the white coupler on the belt counter-clockwise. Does the coupler turn and does the belt move without binding?	Perform the Sensor (fuser exit) service check. See **"Sensor (fuser exit) service check" on page 91**.	Go to step 9.
Step 9 Replace the transfer module. See **"Transfer module removal" on page 312**. Does the problem remain?	Perform the Sensor (fuser exit) service check. See **"Sensor (fuser exit) service check" on page 91**.	The problem is solved.

202.x5 error service check

Action	Yes	No
Step 1 **a** Fan the paper stack before loading the paper. **b** Make sure that the side and rear tray guides are set to the correct paper size being loaded. Does the problem remain?	Go to step 2.	The problem is solved.

Action	Yes	No
Step 2 Remove paper from the output bin, and then resend the print job. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 **a** Make sure that the paper is not curled or damaged. **b** Load paper with a different weight if necessary. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 If the printer is an MFP, make sure that the redrive belt is properly attached to the pulley. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 **a** Make sure that all toner cartridges are properly installed. **b** Make sure that the toner access cover is properly closed. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Check the toner cover for damage, and replace if necessary. See **"MFP toner cover removal" on page 383**. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 **a** Enter the diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** **b** Find the sensor (Fuser exit). Does the sensor status change while toggling the sensor?	Go to step 10.	Go to step 8.
Step 8 **a** Make sure that the sensor cable is properly connected at both ends. **b** Check the sensor cable for damage, and replace if necessary. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 Replace the sensor (fuser exit). See **"Sensor (fuser exit) removal" on page 296**. Does the problem remain?	Go to step 10.	The problem is solved.

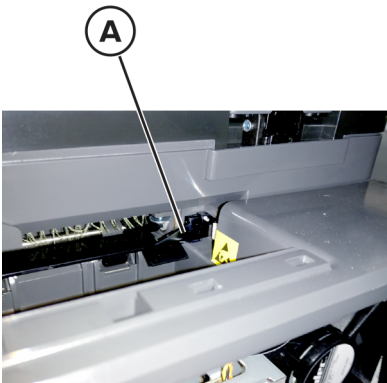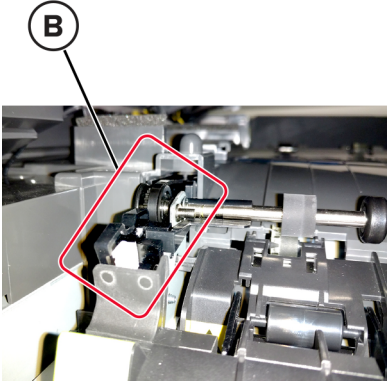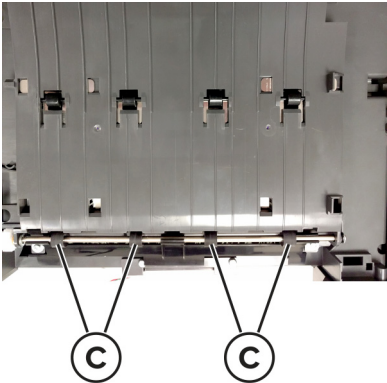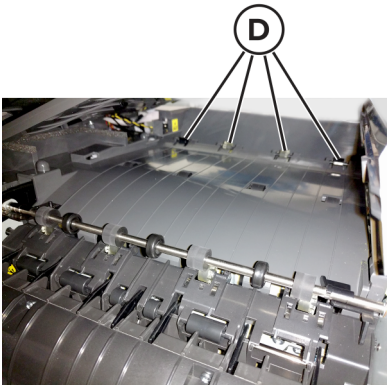| Action	Yes	No
Step 10 Replace the fuser. See **"Fuser removal" on page 342**. Does the problem remain?	Contact the next level of support.	The problem is solved.

203 paper jams

203 paper jam messages

Error code	Description	Action
203.03	The paper fed from the MPF or manual feeder did not reach the sensor (output bin full).	See **"Sensor (output bin full) service check" on page 96**.
203.13	The paper fed from tray 1 did not reach the sensor (output bin full).	
203.23	The paper fed from tray 2 did not reach the sensor (output bin full).	
203.33	The paper fed from tray 3 did not reach the sensor (output bin full).	

Sensor (output bin full) service check

Action	Yes	No
Step 1 Check if the output bin full flag freely moves. Does the flag freely move?	Go to step 3.	Go to step 2.
Step 2 Reinstall the flag. Does the problem remain?	Go to step 3.	The problem is solved.

Action	Yes	No
Step 3 Check the output bin full sensor actuator (A) for proper installation and damage, and replace if necessary. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Make sure that the sensor (output bin full) is free of debris and obstructions. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 **a** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** **b** Find the sensor (Output bin full). Does the sensor status change while toggling the sensor?	Go to step 10.	Go to step 6.
Step 6 Make sure that the cable at the sensor and at the JBIN2 connector on the controller board is properly connected. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Check the continuity of the sensor cable. Does the cable have continuity?	Go to step 9.	Go to step 8.
Step 8 Replace the sensor cable. Does the problem remain?	Go to step 9.	The problem is solved.

Action	Yes	No
Step 9 Replace the sensor (output bin full). Does the problem remain?	Go to step 10.	The problem is solved.
Step 10 Make sure that the redrive belt (B) is properly installed on the pulley of the fuser exit shaft. **Notes:** • The belt is slightly loose on the pulley. Do not attempt to tighten it. • Replace the top cover assembly if the belt is damaged. See **"Top cover removal" on page 377**. Does the problem remain?	Go to step 11.	The problem is solved.
Step 11 **a** Raise the scanner assembly. **b** Make sure that the redrive rollers are free of dust or debris. **c** Make sure that the four rollers (C) freely move. Does the problem remain?	Go to step 12.	Go to step 13.

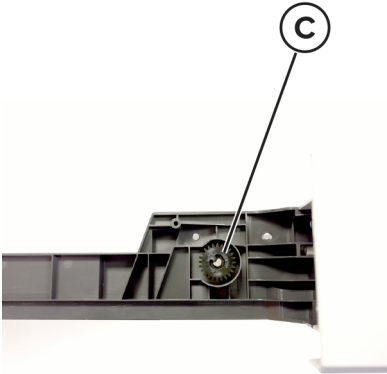| Action	Yes	No
Step 12 Replace the redrive unit. See **"Redrive unit removal" on page 391**. Does the problem remain?	Go to step 13.	The problem is solved.
Step 13 a Make sure that the four rollers (D) are free of dust or debris. b Make sure that the rollers freely move. Do the rollers freely move?	Go to step 15.	Go to step 14.
Step 14 Replace the top cover. See **"Top cover removal" on page 377**. Does the problem remain?	Go to step 15.	The problem is solved.
Step 15 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.
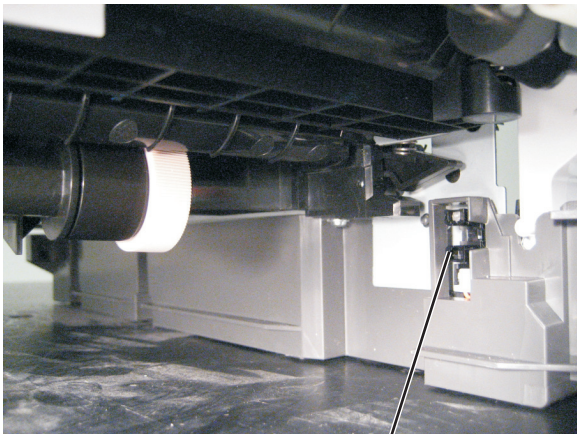
231 paper jams
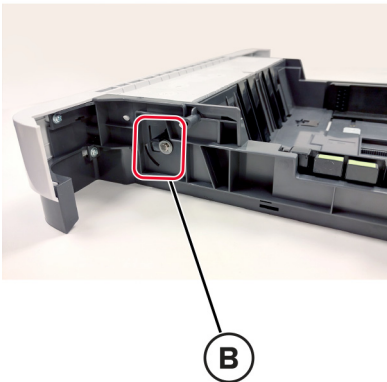
231 paper jam messages

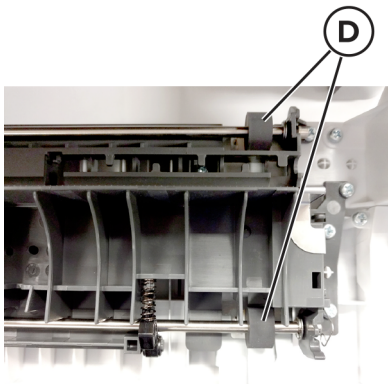| Error code	Description	Action
231.03	The paper fed from the MPF or manual feeder did not reach the sensor (redrive/duplex path 1) during a duplex print job.	See **"Sensor (redrive/duplex path 1) service check" on page 100**.
231.05	The paper fed from the MPF or manual feeder never cleared the sensor (redrive/duplex path 1) during a duplex print job.	
231.13	The paper fed from tray 1 did not reach the sensor (redrive/duplex path 1) during a print job.	
231.15	The paper fed from tray 1 never cleared the sensor (redrive/duplex path 1) during a duplex print job.	
231.23	The paper fed from tray 2 did not reach the sensor (redrive/duplex path 1) during a print job.	
231.25	The paper fed from tray 2 never cleared the sensor (redrive/duplex path 1) during a duplex print job.	
231.33	The paper fed from tray 3 did not reach the sensor (redrive/duplex path 1) during a print job.	
231.35	The paper fed from tray 3 never cleared the sensor (redrive/duplex path 1) during a duplex print job.	

Sensor (redrive/duplex path 1) service check

Action	Yes	No
Step 1 a Make sure that the tray side guides for all the trays are properly adjusted. b Make sure that the paper type and size settings match the paper type and size set on the tray. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Make sure that the paper size and weight are supported by the duplex. See **"Supported paper sizes" on page 24** and **"Supported paper weights" on page 28**. Are the paper size and weight supported?	Go to step 4.	Go to step 3.

Action	Yes	No
Step 3 Load a supported paper size and weight. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 **a** Make sure that the printer is on a hard and flat surface, so that the tray is properly seated in the printer, and the S1 can actuator properly move. **b** Open the front door, and then remove the jammed paper. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Remove the tray insert, and then make sure that the sensor (A) is free of debris and obstructions. A Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 **a** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** **b** Find the sensor (Redrive/duplex path 1). **c** Use a piece of paper to toggle the sensor. Does the sensor status change while toggling the sensor?	Go to step 7.	Go to step 11.

Action	Yes	No
Step 7 Check if the actuator (B) in the tray freely rotates and returns to its home position. Does the flag freely rotate and return to its home position?	Go to step 9.	Go to step 8.
Step 8 Replace the tray insert. Does the problem remain?	Contact the next level of support.	The problem is solved.
Step 9 Turn the gear (C) to check if the manual feed shaft freely rotates. Does the manual feed shaft freely rotate?	Contact the next level of support.	Go to step 10.
Step 10 Replace the tray insert. Does the problem remain?	Contact the next level of support.	The problem is solved.

Action	Yes	No
Step 11 a Turn off the printer. b Remove the rear cover. See **"Rear cover removal" on page 373**. c Make sure that the cable on the JFUSES1 connector on the controller board is properly connected. Does the problem remain?	Go to step 12.	The problem is solved.
Step 12 Check the cable for continuity or damage, and replace if necessary. Does the problem remain?	Go to step 13.	The problem is solved.
Step 13 Turn on the printer, and then check for the following voltage values at the JFUSES1 connector on the controller board: • Pin 7: +5 V dc • Pin 8: Ground • Pin 9: +3.3 V dc Are the values approximately the same?	Go to step 14.	Go to step 22.
Step 14 Replace the sensor (redrive/duplex path 1). See **"Sensor (duplex) removal" on page 363**. Does the problem remain?	Go to step 15.	The problem is solved.
Step 15 Check if the following error codes appear: • 231.x3 • 231.x5 • 232.x3 • 232.x5 Did any of the error codes appear?	Go to step 16.	Go to step 22.
Step 16 Run a duplex print job from tray 1 and the option trays. Does the error only occur from an option tray?	Go to step 17.	Go to step 18.
Step 17 Replace the defective option tray. Does the problem remain?	Go to step 18.	The problem is solved.

Action	Yes	No
Step 18 Check the fuser rollers for excessive wear or damage. Do the rollers show excessive wear or damage?	Go to step 19.	Go to step 20.
Step 19 Replace the fuser. See **"Fuser removal" on page 342**. Does the problem remain?	Go to step 20.	The problem is solved.
Step 20 Check the two duplex aligner rollers (D) for excessive wear or damage. Do the rollers show excessive wear or damage?	Go to step 21.	Go to step 22.
Step 21 Replace the front door. See **"Front door removal" on page 322**. Does the problem remain?	Go to step 22.	The problem is solved.
Step 22 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

232 paper jams

232 paper jam messages

Error code	Description	Action
232.02	The paper fed from the MPF or manual feeder arrived at the sensor (input) earlier than expected during a duplex print job.	See **"Sensor (input) service check" on page 86**.
232.12	The paper fed from tray 1 arrived at the sensor (input) earlier than expected during a duplex print job.	
232.22	The paper fed from tray 2 arrived at the sensor (input) earlier than expected during a duplex print job.	
232.32	The paper fed from tray 3 arrived at the sensor (input) earlier than expected during a duplex print job.	
232.03	The paper fed from the MPF or manual feeder never arrived at the sensor (input) during a duplex print job.	
232.13	The paper fed from tray 1 never arrived at the sensor (input) during a duplex print job.	
232.23	The paper fed from tray 2 never arrived at the sensor (input) during a duplex print job.	
232.33	The paper fed from tray 3 never arrived at the sensor (input) during a duplex print job.	
232.05	The paper fed from the MPF or manual feeder never cleared the sensor (input) during a duplex print job.	
232.15	The paper fed from tray 1 never cleared the sensor (input) during a duplex print job.	
232.25	The paper fed from tray 2 never cleared the sensor (input) during a duplex print job.	
232.35	The paper fed from tray 3 never cleared the sensor (input) during a duplex print job.	

24y paper jams

241 paper jam messages

Error code	Description	Action
241.05	The paper fed from the manual feeder never cleared the sensor (redrive/duplex path 1).	See **"Sensor (redrive/duplex path 1) service check" on page 100**.
241.82	The motor (tray 1 pick) failed to achieve the expected speed.	See **"Motor (tray 1 pick/duplex) service check" on page 147**.
241.83	The motor (tray 1 pick) stalled.	
241.84	The motor (tray 1 pick) is running too slow.	
241.91	The paper remains on the sensor (redrive/duplex path 1) during the warm-up sequence.	See **"Sensor (redrive/duplex path 1) service check" on page 100**.

242 paper jam messages

Error code	Description	Action
242.05	The paper fed from the MPF never cleared the sensor (tray 2 pass-through).	See **"Option tray jam service check" on page 109**.
242.06	The paper fed from the MPF was not picked. The paper did not reach the sensor (tray 2 pass-through).	
242.21	The paper fed from tray 2 remains detected at the sensor (tray 2 pass-through).	
242.22	The paper fed from tray 2 arrived too early at the sensor (tray 2 pass-through).	
242.25	The paper fed from tray 2 cleared the sensor (tray 2 pass-through) too late.	
242.26	The paper fed from the tray 2 was not picked. The paper did not reach the sensor (tray 2 pass-through).	
242.31	The paper fed from tray 3 remains detected at sensor (tray 2 pass-through).	
242.32	The paper fed from tray 3 arrived too early at the sensor (tray 2 pass-through).	
242.33	The paper fed from tray 3 did not reach the sensor (tray 2 pass-through).	
242.35	The paper fed from tray 3 cleared the sensor (tray 2 pass-through) too late.	

Error code	Description	Action
242.7	The motor (tray 2 pass-through) does not turn on.	See **"Option tray motor service check" on page 145**.
242.71	The motor (tray 2 pass-through) does not turn off.	
242.72	The motor (tray 2 pass-through) failed to achieve the expected speed.	
242.73	The motor (tray 2 pass-through) stalled.	
242.74	The motor (tray 2 pass-through) is running too slow.	
242.75	The motor (tray 2 pass-through) is running too fast.	
242.76	The motor (tray 2 pass-through) moved too long.	
242.8	The motor (tray 2 pick) does not turn on.	
242.81	The motor (tray 2 pick) does not turn off.	
242.82	The motor (tray 2 pick) failed to achieve the expected speed.	
242.83	The motor (tray 2 pick) stalled.	
242.84	The motor (tray 2 pick) is running too slow.	
242.85	The motor (tray 2 pick) is running too fast.	
242.86	The motor (tray 2 pick) moved too long.	
242.91	The paper remains detected at the sensor (tray 2 pass-through) during the warm up sequence.	See **"Option tray jam service check" on page 109**.
242.92	The paper fed from an unknown source arrived too early at the sensor (tray 2 pass-through).	
242.93	The paper fed from an unknown source did not reach the sensor (tray 2 pass-through).	
242.95	The paper fed from an unknown source cleared the sensor (tray 2 pass-through) too late.	
242.96	The paper fed from an unknown source was not picked. The paper did not reach the sensor (tray 2 pass-through).	

243 paper jam messages

Error code	Description	Action
243.31	The paper fed from tray 3 remains detected at the sensor (tray 3 pass-through).	See **"Option tray jam service check" on page 109**.
243.32	The paper fed from tray 3 arrived too early at the sensor (tray 3 pass-through).	
243.35	The paper fed from tray 3 cleared the sensor (tray 3 pass-through) too late.	
243.36	The paper fed from tray 3 was not picked. The paper did not reach the sensor (tray 3 pass-through).	
243.70	The motor (tray 3 pass-through) does not turn on.	See **"Option tray motor service check" on page 145**.
243.71	The motor (tray 3 pass-through) does not turn off.	
243.72	The motor (tray 3 pass-through) failed to achieve the expected speed.	
243.73	The motor (tray 3 pass-through) stalled.	
243.74	The motor (tray 3 pass-through) is running too slow.	
243.75	The motor (tray 3 pass-through) is running too fast.	
243.76	The motor (tray 3 pass-through) moved too long.	
243.80	The motor (tray 3 pick) does not turn on.	
243.81	The motor (tray 3 pick) does not turn off.	
243.82	The motor (tray 3 pick) failed to achieve the expected speed.	
243.83	The motor (tray 3 pick) stalled.	
243.84	The motor (tray 3 pick) is running too slow.	See **"Option tray jam service check" on page 109**.
243.85	The motor (tray 3 pick) is running too fast.	
243.86	The motor (tray 3 pick) moved too long.	
243.91	The paper remains detected at the sensor (tray 3 pass-through) during the warm-up sequence.	See **"Option tray motor service check" on page 145**.
243.92	The paper fed from an unknown source arrived too early at the sensor (tray 3 pass-through).	
243.93	The paper fed from an unknown source did not reach the sensor (tray 3 pass-through).	
243.95	The paper fed from an unknown source cleared the sensor (tray 3 pass-through) too late.	
243.96	The paper fed from an unknown source was not picked. The paper did not reach the sensor (tray 3 pass-through).	

Option tray jam service check

Action	Yes	No
Step 1 Check if the paper type and size settings match the paper type and size loaded on the tray. Do the settings match?	Go to step 3.	Go to step 2.
Step 2 Change the paper size and type, or adjust the size setting in the tray. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Make sure that the rear and side guides in the trays are properly adjusted. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Make sure that the trays and the tray 1 pass-through are free of dust or debris. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 **a** Make sure that the tray pick tires are free of dust or debris. **b** Check the tray pick tires for proper installation and damage, and reseat or replace if necessary. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 **a** Make sure that the pass-through sensors in the option trays are properly installed and free of damage, and replace if necessary. **b** Make sure that the sensors are free of debris and obstructions. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Check the tray pass-through sensors and actuators for damage. Are the sensors and actuators free of damage?	Go to step 9.	Go to step 8.
Step 8 Replace the affected tray. Does the problem remain?	Go to step 9.	The problem is solved.

Action	Yes	No
Step 9 **a** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** **b** Find the sensor (Pass-through). **c** Find the sensor (MPF media present). Do the sensors status change while toggling the sensor?	Go to step 11.	Go to step 10.
Step 10 Check the affected sensor for proper installation, and reseat if necessary. Does the problem remain?	Go to step 11.	The problem is solved.

Step 11
a Enter the Diagnostics menu, and then navigate to:
    Additional input tray diagnostics > **Motor tests**
b Select **Pick (tray x) motor test**, and then press **OK** or touch **Start**.
    Note: Make sure to perform the motor test in both directions.
c Select **Pass-through (tray x) motor test**, and then press **OK** or touch **Start**.
    Note: Make sure to perform the motor test in both directions.
 	
Did the motors run?
	Go to step 12.	Go to step 13.

Step 12 Perform a print test. Does the problem remain?	Go to step 13.	The problem is solved.
Step 13 Make sure that the option connector in the subframe is properly installed in tray 2. Does the problem remain?	Go to step 14.	The problem is solved.
Step 14 Make sure that the cable at the JOPT1 connector on the controller board is properly connected. Does the problem remain?	Go to step 15.	The problem is solved.
Step 15 Check the continuity of the option cable on the printer. Does the cable have continuity?	Go to step 17.	Go to step 16.

Action	Yes	No
Step 16 Replace the cable. Does the problem remain?	Go to step 17.	The problem is solved.
Step 17 Check the tray connections for proper installation and damage, and replace the affected tray if necessary. Does the problem remain?	Contact the next level of support.	The problem is solved.

28y paper jams

280 paper jam messages

Error code	Description	Action
280.11	The paper remains detected at the sensor (ADF first scan) after the printer is turned on.	Go to **"ADF jam service check" on page 112**.
280.13	The paper fed from tray 1 never arrived at the sensor (ADF first scan).	
280.15	The paper fed from tray 1 never cleared the sensor (ADF first scan).	

281 paper jam messages

Error code	Description	Action
281.11	The paper remains detected at the sensor (ADF pick) after the printer is turned on.	Go to **"ADF jam service check" on page 112**.
281.13	The paper fed from tray 1 never arrived at the sensor (ADF pick).	
281.15	The paper fed from tray 1 never cleared the sensor (ADF pick).	

283 paper jam messages

Error code	Description	Action
283.11	The paper remains detected at the sensor (ADF paper present) and sensor (ADF deskew) after the printer is turned on.	Go to **"ADF jam service check" on page 112**.
283.13	The paper fed from tray 1 never arrived at the sensor (ADF paper present).	
283.15	The paper fed from tray 1 never cleared the sensor (ADF paper present).	

284 paper jam messages

Error code	Description	Action
284.11	The paper remains detected at the sensor (ADF second scan) after the printer is turned on.	Go to **"ADF jam service check" on page 112**.
284.13	The paper fed from tray 1 never arrived at the sensor (ADF second scan).	
284.15	The paper fed from tray 1 never cleared the sensor (ADF second scan).	

ADF jam service check

Notes:

- Before performing this check, make sure to update to the latest scanner firmware.
- Perform this check only if the paper feeds and jams in the ADF. If the paper is not feeding into the ADF, then see **"ADF feed error service check" on page 180**.

Action	Yes	No
Step 1 Make sure that the paper is free of damage, wrinkles, or moisture, and then perform a scan job. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** Perform another scan job. **b** Check if the paper is skewing while it is fed into the ADF. Is the paper skewing while it is fed into the ADF?	Go to step 3.	Go to step 4.

Action	Yes	No
Step 3 **a** Make sure that the paper guides are properly adjusted to the paper size being loaded. **b** Make sure that the ADF top cover is properly closed. **c** Perform a scan job. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Check the ADF rollers for debris, contamination, wear, or damage. Are the rollers free of debris, contamination, wear or damage?	Go to step 5.	Go to step 6.
Step 5 Replace the separator roller and ADF top cover. See **"ADF separator roller removal" on page 402** and **"ADF top cover removal" on page 404**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Check the paper path for paper jams and fragments. Is the paper path free of jams and fragments?	Go to step 8.	Go to step 7.
Step 7 Remove the paper jams and fragments. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 **a** Enter the Diagnostics menu, and then navigate to: **Scanner diagnostics** > **Motor tests** **b** Perform all motor tests. Are the motors properly working?	Go to step 9.	Go to step 13.
Step 9 **a** Enter the Diagnostics menu, and then navigate to: **Scanner diagnostics** > **Sensor tests** **b** Perform all sensor tests. Are the sensors properly working?	Go to step 11.	Go to step 10.
Step 10 Make sure that the sensors are free of debris and dust. Does the problem remain?	Go to step 11.	The problem is solved.

Action	Yes	No
Step 11 Check the ADF sensor actuators for proper installation and damage. Are the actuators properly installed and free of damage?	Go to step 13.	Go to step 12.
Step 12 Replace the ADF assembly. See **"ADF assembly removal (SADF/RADF)" on page 392** or **"ADF assembly removal (DADF)" on page 395**. Does the problem remain?	Contact the next level of support.	The problem is solved.
Step 13 **a** Reseat the ADF cable on the controller board. **b** If applicable, reseat the ADF cable on the ADF relay card. Does the problem remain?	Go to step 14.	The problem is solved.
Step 14 Check for the following signals or voltage values from the JADF1 connector on the controller board: • Pin 14: +24 V dc • Pin 15: +3.3 V dc • Pin 17: +3.3 V dc Are the signals or voltage values approximately the same?	Go to step 15.	Contact the next level of support.
Step 15 Replace the ADF assembly. See **"ADF assembly removal (SADF/RADF)" on page 392** or **"ADF assembly removal (DADF)" on page 395**. Does the problem remain?	Contact the next level of support.	The problem is solved.

295 paper jams

295 paper jam messages

Error code	Description	Action
295.01	The page gap is too small.	See **"ADF feed error service check" on page 180**.

680 paper jams

680 paper jam messages

Error code	Description	Action
680.20	The paper is out at the sensor (ADF paper present).	See **"ADF feed error service check" on page 180**.

User attendance messages

Non-Lexmark supply

The printer has detected a non-Lexmark supply or part installed in the printer.

The Lexmark printer is designed to function best with genuine Lexmark supplies and parts. Use of third-party supplies or parts may affect the performance, reliability, or life of the printer and its imaging components.

All life indicators are designed to function with Lexmark supplies and parts and may deliver unpredictable results if third-party supplies or parts are used. Imaging component usage beyond the intended life may damage the Lexmark printer or associated components.

Warning—Potential Damage: Use of third-party supplies or parts can affect warranty coverage. Damage caused by the use of third-party supplies or parts may not be covered by the warranty.

If a customer accepts any and all of these risks and proceeds with the use of non-genuine supplies or parts in the printer, then instruct the customer to press and hold **X** and **#** simultaneously from the control panel for 15 seconds. Do not perform this action yourself.

If a customer does not want to accept these risks, then remove the third-party supply or part from the printer and install a genuine Lexmark supply or part. For more information, see **Using genuine Lexmark parts and supplies**.

If the printer does not print after pressing and holding **X** and **#** simultaneously for 15 seconds, then instruct the customer to reset the supply usage counter.

1 From the control panel, navigate to:

   Settings > **Device** > **Maintenance** > **Configuration Menu** > **Supply Usage And Counters**

2 Select the part or supply to reset, and then select **Start**.

3 Read the warning message, and then select **Continue**.

4 Press and hold **X** and **#** simultaneously for 15 seconds to clear the message.

   Note: If the customer is unable to reset the supply usage counters, then the customer should return the item to the place of purchase.

31 user attendance errors

31 user attendance error messages

Error code	Description	Action
31.35z	Waste toner bottle smart chip or sensor problem.	See **"Waste toner bottle service check" on page 122**.
31.40z	The printer failed to replenish due to bad auger gear and toner cartridge gear mesh.	Insert the toner cartridge of the affected color.
31.40z	Black toner cartridge smart chip or sensor problem.	See **"Missing toner cartridge, developer unit, or photoconductor unit service check" on page 118**.
31.41z	Cyan toner cartridge smart chip or sensor problem.	
31.42z	Magenta toner cartridge smart chip or sensor problem.	
31.43z	Yellow toner cartridge smart chip or sensor problem.	
31.60z	Black imaging kit or photoconductor smart chip or sensor problem.	
31.65z	Black and color imaging kit smart chip or sensor problem.	

The following are the meaning of the z codes:

- A—Missing
- B—Missing Mux
- C—Read failure
- D—Write failure
- E—Device information read failure
- F—Authentication error
- G—Read failure

32 user attendance errors

32 user attendance error messages

Error code	Description	Action
32.40z	Black toner cartridge unsupported error.	See **"Missing toner cartridge, developer unit, or photoconductor unit service check" on page 118**.
32.41z	Cyan toner cartridge unsupported error.	
32.42z	Magenta toner cartridge unsupported error.	
32.43z	Yellow toner cartridge unsupported error.	
32.65z	Black and color imaging kit or photoconductor unit unsupported error.	

The following are the meaning of the z codes:

- A—Unsupported memory map version in the smart chip
- B—Failed capacity class/model compatibility check
- C—Failed OEM check
- D—Failed SWE marriage check
- E—The supply is on the revoked list
- F—The toner cartridge or imaging kit is MICR, and the firmware release does not support MICR

33 user attendance errors

33 user attendance error messages

Note: See **"Non-Lexmark supply" on page 115**.

Error code	Description	Action
33.40z	Non-Lexmark black toner cartridge. The smart chip contents have been manipulated by a third party manufacturer.	See **"Missing toner cartridge, developer unit, or photoconductor unit service check" on page 118**.
33.41z	Non-Lexmark cyan toner cartridge. The smart chip contents have been manipulated by a third party manufacturer.	
33.42z	Non-Lexmark magenta toner cartridge. The smart chip contents have been manipulated by a third party manufacturer.	
33.43z	Non-Lexmark yellow cartridge. The smart chip contents have been manipulated by a third party manufacturer.	
33.50z	Non-Lexmark black developer unit. The smart chip contents have been manipulated by a third party manufacturer.	
33.64z	Non-Lexmark black and color imaging kit. The smart chip contents have been manipulated by a third party manufacturer.	

The following are the meaning of the z codes:

- A— Non-genuine Lexmark supply
- B— Supply is exposed

Missing toner cartridge, developer unit, or photoconductor unit service check

Action	Yes	No
Step 1 **a** Make sure that the toner cartridge or photoconductor unit is properly installed. **b** Check the error code on the display, and then verify if the toner cartridge, developer unit, or photoconductor unit is supported. **c** Replace the unsupported supply. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check the HVPS and pogo pin cables for proper connection, and reseat if necessary. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 **a** Make sure that the pogo pin contacts are free from dust or debris. **b** Check the pogo pin contacts for damage, and replace if necessary. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Replace the imaging kit. See **"Imaging kit removal" on page 316**. **Note:** See **"Supplies used to resolve print quality issues" on page 32** to determine which imaging kit to use. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 **a** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** **b** Find the sensor (Toner meter). Does the sensor status change while toggling the sensor?	Go to step 7.	Go to step 6.
Step 6 Replace the TMC card. See **"TMC card removal" on page 301**. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

34 user attendance errors

34 user attendance error messages

Error code	Description	Action
34.04	The printer tried to do a duplex print job on a sheet that was too short or too narrow for the duplex path.	Perform one of the following: **1** Load the correct paper size in the tray. **2** From the control panel, select **Continue** to clear the message, and then print using a different tray paper source. **3** Check the tray length and width guides, and then make sure that paper is properly loaded in the tray. **4** Make sure that the correct paper size and type are specified in the Printing Preferences or Print dialog. **5** Make sure that the paper size and type are specified in the Paper menu on the printer control panel. **6** Cancel the print job.

42 user attendance errors

42 user attendance error messages

Error code	Description	Action
42.xyz	Printer region mismatch.	See **"Region mismatch service check" on page 120**.

The following are the meaning of the xyz codes:

- A b z—A is the printer region (error values 1 to 6, and 0 always matches)
- a B z—B is the cartridge region (values 0 to 6)
- a b Z—Z is the cartridge color (CMY or K)
- 0 b z—Region 0: The machine is not regionalized, and matches any regionalized cartridge
- a 0 z—Region 0: The cartridge is not regionalized, and only matches with machine region 0
- 1 1 z—Region 1: North America
- 2 2 z—Region 2: Europe Economic Area + Extras
- 3 3 z—Region 3: Asia Pacific Group
- 4 4 z—Region 4: Latin America
- 5 5 z—Region 5: Rest Of Europe, Middle East, and Africa
- 6 6 z—Region 6: Australia and New Zealand

Region mismatch service check

Action	Yes	No
Step 1 Check the region number of the toner cartridge and the printer. Do the numbers match?	Contact the next level of support.	Go to step 2.
Step 2 Install the appropriate toner cartridge. Does the problem remain?	Contact the next level of support.	The problem is solved.

43 user attendance errors

43 user attendance error messages

Error code	Description	Action
43.40z	Black toner cartridge toner meter cycle error.	See **"TMC card service check" on page 120**.
43.41z	Cyan toner cartridge toner meter cycle error.	
43.42z	Magenta toner cartridge toner meter cycle error.	
43.43z	Yellow toner cartridge toner meter cycle error.	

The following are the meaning of the yz codes:
- y—Recoverable first error
- z—Non-recoverable second error

TMC card service check

Action	Yes	No
Step 1 a Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** b Find the sensor (Toner meter). Does the sensor status change while toggling the sensor?	Go to step 2.	Go to step 3.
Step 2 Replace the toner cartridge. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Replace the TMC card. See **"TMC card removal" on page 301**. Does the problem remain?	Contact the next level of support.	The problem is solved.

80 user attendance errors

80 user attendance error messages

Error code	Description	Action
80.1	The maintenance kit is low.	See **"Maintenance kit service check" on page 121**.
80.2	The maintenance kit is very low.	
80.3	Replace the maintenance kit. Zero estimated pages remain.	
80.4		

Maintenance kit service check

Action	Yes	No
⚠ **CAUTION—SHOCK HAZARD:** Do not perform this step if the printer is on. **a** Replace the required maintenance kit. **b** Reset the maintenance counter. Does the problem remain?	Contact the next level of support.	The problem is solved.

82 user attendance errors

82 user attendance error messages

Error code	Description	Action
82.11	The waste toner bottle is nearly full. The sensor threshold has been reached.	See **"Waste toner bottle service check" on page 122**.
82.19	The waste toner bottle is nearly full. The user-selected EWS set point has been reached.	
82.31	Replace the waste toner bottle. The sensor end of life threshold has been reached.	

Waste toner bottle service check

Action	Yes	No
Step 1 Reseat the waste toner bottle. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Make sure that the printer is placed on a hard and flat surface. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Make sure that the waste toner bottle contacts and waste toner bottle contact block contacts are free from dust or debris. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Check the waste toner bottle contact block for proper connection and damage. Is the waste toner bottle contact block properly connected and free of damage?	Contact the next level of support.	Go to step 5.
Step 5 Replace the waste toner bottle contact block. See **"Waste toner bottle contact block removal" on page 321**. Does the problem remain?	Contact the next level of support.	The problem is solved.

84 user attendance errors

84 user attendance error messages

Error code	Description	Action
84.11	The imaging kit is low.	See **"Toner cartridge or photoconductor unit service check" on page 124**.
84.13		
84.19		
84.21	The imaging kit is very low.	
84.29		
84.31	Replace the imaging kit. Zero estimated pages remain.	
84.41	Replace the imaging kit. Zero estimated pages remain. Absolute end of life has been reached due to the PC rev counter.	
84.43	Replace the imaging kit. Zero estimated pages remain. Absolute end of life has been reached due to page count.	
84.48	Replace the imaging kit. Zero estimated pages remain. Absolute end of life has been reached due to exhausted Quanta.	

88 user attendance errors

88 user attendance error messages

Error code	Description	Action
88.00	The toner cartridge is nearly low.	See **"Toner cartridge or photoconductor unit service check" on page 124**.
88.10	The toner cartridge is low.	
88.19		
88.20	The toner cartridge is very low.	
88.30	Replace the toner cartridge. Zero estimated pages remain.	
88.40		
88.48		

Toner cartridge or photoconductor unit service check

Action	Yes	No
Step 1 **a** Make sure that the toner cartridge or photoconductor unit is installed. **b** Check if the toner cartridge or photoconductor unit is supported, and replace if necessary. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** Make sure that the toner cartridge or photoconductor unit is properly installed. **b** Make sure that the toner cartridge or photoconductor unit cables are properly connected. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 **a** Check the toner cartridge or photoconductor unit contacts for damage, and replace if necessary. **b** Replace the imaging kit if necessary. See **"Imaging kit removal" on page 316**. **Note:** See **"Supplies used to resolve print quality issues" on page 32** to determine which imaging kit to use. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Check the controller board pins for damage. Are the controller board pins free of damage?	Contact the next level of support.	Go to step 5.
Step 5 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Non-supply user attendance errors

Non-supply user attendance error messages

Error code	Description	Action
35	Insufficient memory.	See **"Insufficient memory service check" on page 125**.
36	The resolution is reduced.	N/A

Error code	Description	Action
37	No memory for collation, defrag, or held jobs.	See **"Insufficient memory service check" on page 125**.
38	The memory is full.	See **"Insufficient memory service check" on page 125**.
39	Complex page.	See **"Complex page service check" on page 126**.
51	The flash memory is defective.	See **"Flash memory failure service check" on page 127**.
52	The flash memory is full.	See **"Insufficient flash memory service check" on page 127**.
53	Unformatted flash memory.	See **"Flash memory failure service check" on page 127**.
54	Serial port or network error.	See **"Flash memory failure service check" on page 127**.
55	The option is not supported.	See **"Unsupported internal option service check" on page 128**
56	The parallel, serial, or USB port is disabled.	See **"Disabled port service check" on page 128**.
57	The configuration changed, and all held jobs are lost.	N/A
58	There are too many input options or trays.	See **"Excess options service check" on page 129**.
58.xx	The optional tray is defective or incorrectly installed.	See **"Invalid input option type or ID is detected service check" on page 202**.
59	The option or tray incompatible.	See **"Incompatible hardware option service check" on page 130**.
61	The hard disk is defective.	See **"Hard disk failure service check" on page 131**.
62	The hard disk is full.	
63	The hard disk is not formatted.	Format the hard disk.
64	The hard disk format is not supported.	

Insufficient memory service check

Action	Yes	No
Step 1 **a** Perform a POR. **b** From the home screen, navigate to **Settings** > **Print** > **Setup** > **Download Target** > **Disk**. Does the problem remain?	Go to step 2.	The problem is solved.

Action	Yes	No
Step 2 If applicable, install an extra memory card. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check the controller board pins for damage. Are the pins free of damage?	Contact the next level of support.	Go to step 4.
Step 4 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Complex page service check

Action	Yes	No
Step 1 a Perform a POR. b From the home screen, navigate to **Settings** > **Print** > **Setup** > **Download Target** > **Disk**. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Enter the Diagnostics menu, and then navigate to: **Input tray quick print** > **Tray 1** > **Single** Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check the controller board pins for damage. Are the pins free of damage?	Contact the next level of support.	Go to step 4.
Step 4 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Flash memory failure service check

Action	Yes	No
Step 1 **a** From the home screen, navigate to **Settings** > **Print** > **Job Accounting** > **Log Near Full Level**. **b** Make sure that the value is set to the maximum. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check the controller board pins for damage. Are the pins free of damage?	Go to step 4.	Go to step 3.
Step 3 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Make sure that the printer is using the latest firmware version, and update if necessary. Does the problem remain?	Contact the next level of support.	The problem is solved.

Insufficient flash memory service check

Action	Yes	No
Step 1 From the home screen, navigate to **Settings** > **USB Drive** > **Flash Drive Scan** > **Format Flash**. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** From the home screen, navigate to **Settings** > **Print** > **Job Accounting** > **Log Near Full Level**. **b** Make sure that the value is set to the maximum. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check the controller board pins for damage. Are the pins free of damage?	Go to step 5.	Go to step 4.

Action	Yes	No
Step 4 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Make sure that the printer is using the latest firmware version, and update if necessary. Does the problem remain?	Contact the next level of support.	The problem is solved.

Unsupported internal option service check

Action	Yes	No
Step 1 If applicable, make sure that the option cards are supported. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check the controller board pins for damage. Are the pins free of damage?	Go to step 4.	Go to step 3.
Step 3 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Make sure that the printer is using the latest firmware version, and update if necessary. Does the problem remain?	Contact the next level of support.	The problem is solved.

Disabled port service check

Action	Yes	No
Step 1 **a** Make sure that the cables connected to the ports are properly installed. **b** Check the cables for damage, and replace if necessary. Does the problem remain?	Go to step 2.	The problem is solved.

Action	Yes	No
Step 2 Enter the Network/Ports menu and make sure that the applicable port settings are enabled. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 If applicable, make sure that the option card is supported. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Check the controller board pins for damage. Are the pins free of damage?	Go to step 6.	Go to step 5.
Step 5 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Make sure that the printer is using the latest firmware version, and update if necessary. Does the problem remain?	Contact the next level of support.	The problem is solved.

Excess options service check

Action	Yes	No
Step 1 Perform a POR, and then resend the print job. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 If applicable, make sure that the internal option is supported. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 a If applicable, remove all internal options. b Perform a POR, and then resend the print job. Does the problem remain?	Go to step 6.	Go to step 4.

Action	Yes	No
Step 4 Check if the number of internal options installed is allowed, and then remove the excess option. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Check the number of input options allowed, and then remove the excess input options. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Check the controller board pins for damage. Are the pins free of damage?	Contact the next level of support.	Go to step 7.
Step 7 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Incompatible hardware option service check

Action	Yes	No
Step 1 ⚠ **CAUTION—SHOCK HAZARD:** Do not perform this step if the printer is on. **a** Reseat the hardware option cables. **b** Check the cables for damage, and replace if necessary. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check if the firmware version of the hardware option is supported by the engine firmware, and update the firmware if necessary. **Note:** Contact the next level of support for the correct firmware version. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check the hardware option controller board pins for damage, and replace if necessary. Does the problem remain?	Contact the next level of support.	The problem is solved.

Hard disk failure service check

Action	Yes	No
Step 1 Delete unnecessary files. • From the home screen, navigate to **Settings** > **Device** > **Maintenance** > **Out-of-Service Erase** > **Erase Hard Disk** > **Sanitize all information on hard disk** > **Erase downloads** > **Delete now**. • From the home screen, navigate to **Settings** > **Maintenance** > **Configuration Menu** > **Disk Configuration** > **Jobs on Disk** > **Delete**. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Make sure that the printer is using the latest firmware version. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 **a** Make sure that the hard disk cable is properly installed. **b** Check the cable for damage, and replace if necessary. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 **a** Make sure that the hard disk is properly installed. **b** Check the hard disk for damage, and replace if necessary. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Check the controller board pins for damage. Are the pins free of damage?	Contact the next level of support.	Go to step 6.
Step 6 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Printer hardware errors

100 errors

100 error messages

Error code	Description	Action
100.01	The weather station data is invalid.	See **"Weather station service check" on page 209**.
100.04D	The printhead temperature is below the range.	See **"Printhead service check" on page 133**.
100.25	• The cavity thermistor on the sensor (toner patch) is out of range. • The cavity and toner patch sensor thermistor reading is out of range.	See **"Toner patch sensing service check" on page 68**.

110 errors

110 error messages

Error code	Description	Action
110.20	The printhead error was detected before the motor was turned on.	See **"Printhead service check" on page 133**.
110.21	The printhead power was off when the laser servo started.	
110.31	The printhead error (no first Hysnc) was detected.	
110.32	The printhead error (lost first Hysnc) was detected.	
110.33	The printhead error (lost first Hysnc) was detected during servo.	
110.34	The printhead error (mirror motor lost lock) was detected.	
110.35	The printhead error (mirror motor no first lock) was detected.	
110.36	The printhead error (mirror motor never stabilized) was detected.	
110.41	The printhead NVRAM read failure occurred.	
110.70	The printhead NVRAM values were incorrect.	
110.71	The printhead timing measurement error was detected.	
110.90	The video cable was unplugged.	
110.91	The printhead timing reading error was detected.	
110.92	The printhead NVRAM checksum mismatch occurred.	

Printhead service check

Action	Yes	No
Step 1 Perform a POR. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check the cables on the printhead and on the JMIRR1 and JPH1 connectors on the controller board for proper connection. Are the cables properly connected?	Go to step 4.	Go to step 3.

Action	Yes	No
Step 3 Reconnect the cables. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Check the printhead cable for damage, and replace if necessary. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Replace the printhead. See **"Printhead removal" on page 389**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

120 errors

120 error messages

Error code	Description	Action
120.80	The motor (fuser) does not turn on.	See **"Motor (fuser) service check" on page 135**.
120.81	The motor (fuser) does not turn off.	
120.82	The motor (fuser) failed to achieve the expected speed.	
120.83	The motor (fuser) stalled.	
120.84	The motor (fuser) is over speeding.	
120.85	The motor (fuser) is under speeding.	
120.86	The motor (fuser) moved too long.	

Motor (fuser) service check

Action	Yes	No
Step 1 Perform a POR. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check the fuser for damage or life expiration, and replace if necessary. See **"Fuser removal" on page 342**. Does the problem remain?	Go to step 3.	Go to step 4.
Step 3 Check the cable at the JFUSES2 connector on the controller board for proper connection. Is the cable properly connected?	Go to step 5.	Go to step 4.
Step 4 Reconnect the cable. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Check the cable for damage, and replace if necessary. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Replace the motor (fuser drive). See **"Motor (fuser drive) removal" on page 300**. Does the problem remain?	Contact the next level of support.	The problem is solved.

121 errors

121 error messages

Error code	Description	Action
121.00	The fuser failed to reach temperature during warm-up.	See **"Fuser service check" on page 140**.
121.01	Attempting to heat the fuser, but the fuser is not installed.	
121.02	Attempting to power up the fuser while it is too warm (belt: 50°C, lamp: 76°C) to execute EWC/line voltage detection after a **Wrong Fuser Installed error** had been previously declared.	
121.03	Fuser hardware and driver mismatch.	
121.04	Attempting to heat the fuser but the fuser relay is open, and the fuser PIC micro controller is not reporting an error or is not responding.	
121.05	Attempting to heat the fuser but the fuser relay is open, and the fuser PIC micro controller is reporting an error condition.	
121.06	The fuser has been too cold for too long while it is powered at 100%.	
121.07	The fuser is on for more than the allowed time after a gap blowout, and the temperature is still too cold.	
121.08	The fuser is too cold while paper is in the fuser.	
121.09	The fuser fell below the minimum required temperature for motors.	
121.10	The fuser did not warm up enough to start EWC/line voltage detection (belt: 60°C, lamp: 88°C) within time-out (belt: 10 seconds, lamp: 90 seconds).	
121.11	The fuser took too long to reach the final EWC/line detection temperature (belt: 90°C, lamp: 149°C).	
121.12	The fuser never reached final EWC/line detection temperature (belt: 90°C, lamp: 149°C).	
121.13	The fuser heated too fast to the final EWC/line detection temperature (belt: 90°C, lamp: 149°C).	
121.15	The heater power is too high.	

Error code	Description	Action
121.16	The heater power is too low.	See **"Fuser service check" on page 140**.
121.17	A fuser heater runaway is detected on the LV machine.	
121.18	A fuser heater runaway is detected on the HV machine.	
121.19	The fuser high power trace heated to the final EWC/line detection temperature too fast.	
121.20	The fuser high power trace heating rate from 165°C to 180°C exceeded the error threshold.	
121.20	The fuser is too cold during steady state control. **Note:** This event can occur during printing or standby modes.	
121.21	The fuser low power trace heating rate from 165°C to 180°C exceeded the error threshold.	
121.22	Open fuser relay detected.	
121.23	The fuser reached the final EWC/line detection temperature (belt: 90°C, lamp: 149°C).	
121.24	The fuser never reached the final EWC/line detection temperature (belt: 90°C, lamp: 149°C).	
121.25	After the line voltage detection, the controller did not roll over to the steady state control in time.	
121.26	The fuser failed to reach the temperature during warm-up.	
121.28	The fuser failed to reach the EP warm-up temperature in time.	
121.30	The fuser has been on for too long after a gap blowout, and the temperature is still too cold.	
121.31	The fuser is too hot.	
121.32	The fuser is too cold for too long while its power is at 100%.	
121.33	The fuser is too cold when the paper is in the fuser.	

Error code	Description	Action
121.34	The fuser is too cold during steady state control when a paper is not in the fuser. **Note:** This event can occur during printing or standby modes.	See **"Fuser service check" on page 140**.
121.35	Attempting to power up with the fuser too warm (belt: 50°C, lamp: 76°C) to execute EWC/line voltage detection after a **Wrong Fuser Installed** error was previously declared.	
121.36	An open fuser relay was detected with very cold, or unknown ambient temperature.	
121.37	The fuser heated to the final EWC/line detection temperature (belt: 90°C, lamp: 149°C) too fast.	
121.38	Fuser UBER defect detection. Belt to heater temperature delta exceeded.	
121.41	Fuser mechanism did not detect the expected cam sensor signal.	
121.42	The fuser gate time is increasing out of control.	
121.48	Fuser hardware and driver mismatch.	
121.50	The fuser went over the required temperature during a global over temperature check.	
121.51	The fuser secondary heater is too hot.	
121.52	The main thermistor temperature is out of range.	
121.53	The main thermistor temperature change rate is out of range.	
121.54	The secondary thermistor temperature is out of range.	
121.55	The secondary thermistor temperature change rate is out of range.	
121.56	The middle thermistor temperature is out of range.	

Error code	Description	Action
121.57	The middle thermistor temperature change rate is out of range.	See **"Fuser service check" on page 140**.
121.58	The edge thermistor temperature is out of range.	
121.59	The edge thermistor temperature change rate is out of range.	
121.60	The belt contact thermistor temperature is out of range.	
121.61	The belt contact thermistor temperature change rate is out of range.	
121.62	The belt non contact thermistor temperature is out of range.	
121.63	The belt non contact thermistor temperature change rate is out of range.	
121.64	The belt non contact 2 thermistor temperature is out of range.	
121.65	The belt non contact 2 thermistor temperature change rate is out of range.	
121.66	The narrow media thermistor temperature is out of range.	
121.67	The narrow media thermistor temperature change rate is out of range.	
121.70	The calculated heater resistance is too high.	
121.71	Open fuser main heater thermistor.	
121.72	Open fuser secondary heater thermistor.	
121.73	Open fuser middle heater thermistor.	
121.74	Open fuser edge thermistor.	
121.76	Open contact belt thermistor.	

Fuser service check

Action	Yes	No
Step 1 Some of these errors are caused by a faulty component on the LVPS. Check the history file in the printer to verify other occurrences. If there are other occurrences, then replace the LVPS. See **"LVPS removal" on page 294**. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** Turn off the printer. **b** Remove the rear cover. See **"Rear cover removal" on page 373**. **c** Check the cable on the JFUSES2 connector on the controller board for proper connection and damage, and replace if necessary. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check the cable on the JLVPS1 connector on the controller board for proper connection and damage, and replace if necessary. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 **a** Open the front door. **b** Remove the right cover. See **"Right cover removal" on page 299**. **c** Check the power cable and the thermistor cables for proper connection and damage. Are the cables properly connected and free of damage?	Go to step 6.	Go to step 5.
Step 5 Replace the damaged cables. **Note:** If the cables cannot be replaced, then replace the fuser. See **"Fuser removal" on page 342**. Does the problem remain?	Go to step 6.	The problem is solved.

Action	Yes	No
Step 6 Check the following voltage values on the JFUSES2 connector pins on the controller board: • Pin 1: +24 V dc (door closed) • Pin 2: +24 V dc (doors closed) • Pin 3: +24 V dc (doors closed) • Pin 4: +24 V dc (doors closed) • Pin 5: Between 0.6 and 3.28 V dc • Pin 6: Ground • Pin 8: Ground • Pin 10: Between -3 and +3.3 V dc • Pin 11: Ground (no wire) Are the voltage values approximately the same?	Go to step 7.	Go to step 8.
Step 7 Replace the fuser. See **"Fuser removal" on page 342**. Does the problem remain?	Contact the next level of support.	The problem is solved.
Step 8 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

126 errors

126 error messages

Error code	Description	Action
126.05	The LVPS dropped while not sleeping.	See **"LVPS service check" on page 142**.
126.06	An LVPS 25 V line error was detected.	
126.07	An LVPS 5 V rail was down during POR.	
126.10	No line frequency was detected.	
126.11	Line frequency has gone outside the operating range.	

LVPS service check

Action	Yes	No
Step 1 Perform a POR. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check the cable on the JLVPS1 connector on the controller board for proper connection and damage, and replace if necessary. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Replace the LVPS. See **"LVPS removal" on page 294**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

142 errors

142 error messages

Error code	Description	Action
142.80	The motor (CMY) does not turn on.	See **"Motor (EP drive) service check" on page 143**.
142.81	The motor (CMY) does not turn off.	
142.82	The motor (CMY) failed to achieve the expected speed.	
142.83	The motor (CMY) stalled.	
142.84	The motor (CMY) is running too slow.	
142.85	The motor (CMY) is running too fast.	
142.86	The motor (CMY) moved too long.	

Motor (EP drive) service check

Action	Yes	No
Step 1 Perform a POR. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** Remove the imaging kit. See **"Imaging kit removal" on page 316**. **b** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Motor tests** > **CMY developer** **c** Press **OK** or touch **Start**. Does the motor run?	Go to step 3.	Go to step 7.
Step 3 **a** Remove the imaging kit. See **"Imaging kit removal" on page 316**. **b** Remove the transfer module. See **"Transfer module removal" on page 312**. **c** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Motor tests** > **K/ITM developer** **d** Press **OK** or touch **Start**. Does the motor run?	Go to step 4.	Go to step 7.
Step 4 Manually turn the black developer unit and transfer module drive gears. Do the gears freely turn?	Go to step 6.	Go to step 5.
Step 5 Replace the EP drive. See **"EP drive assembly removal" on page 291**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Check the imaging kit and transfer module for damage or life expiration, and replace if necessary. See **"Imaging kit removal" on page 316** and **"Transfer module removal" on page 312**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Action	Yes	No
Step 7 a Make sure that the cable on the motor (EP drive) is properly connected. b Make sure that the cables on the JCARTP1 and JCARTS1 connectors on the controller board are properly connected. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 Check the cables for damage and replace if necessary. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 Replace the motor (drive unit). See **"Motor (drive unit) removal" on page 291**. Does the problem remain?	Contact the next level of support.	The problem is solved.

151 errors

151 error messages

Error code	Description	Action
151.80	The motor (K/ITM) does not turn on.	See **"Motor (EP drive) service check" on page 143**.
151.81	The motor (K/ITM) does not turn off.	
151.82	The motor (K/ITM) failed to achieve the expected speed.	
151.83	The motor (K/ITM) stalled.	
151.84	The motor (K/ITM) is running too slow.	
151.85	The motor (K/ITM) is running too fast.	
151.86	The motor (K/ITM) moved too long.	

160 errors

160 error messages

Error code	Description	Action
160.80	The motor (MPF) does not turn on.	See **"Option tray motor service check" on page 145**.
160.81	The motor (MPF) does not turn off.	
160.82	The motor (MPF) failed to achieve the expected speed.	
160.83	The motor (MPF) stalled.	
160.84	The motor (MPF) is running too slow.	
160.85	The motor (MPF) is running too fast.	
160.86	The motor (MPF) moved too long.	

Option tray motor service check

Action	Yes	No
Step 1 a Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor Tests** b Select **Pick (tray x) motor test**, and then press **OK** or touch **Start**. **Note:** Make sure to perform the motor test in both directions. c Select **Pass-through (tray x) motor test**, and then press **OK** or touch **Start**. **Note:** Make sure to perform the motor test in both directions. Did the motors run?	Go to step 2.	Go to step 3.
Step 2 Perform a print test. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Make sure that the option connector in the subframe is properly connected to the tray 2 option. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Make sure that cable on the JOPT1 connector on the controller board is properly connected. Does the problem remain?	Go to step 5.	The problem is solved.

Diagnostics and troubleshooting

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Action	Yes	No
Step 5 Check the option cable for continuity, and replace if necessary. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Check the option tray connections for damage, and replace the affected tray if necessary. Does the problem remain?	Contact the next level or support.	The problem is solved.

161 errors

161 error messages

Error code	Description	Action
161.80	The motor (tray 1 pick) does not turn on.	See **"Motor (tray 1 pick/duplex) service check" on page 147**.
161.81	The motor (tray 1 pick) does not turn off.	
161.82	The motor (tray 1 pick) failed to achieve the expected speed.	
161.83	The motor (tray 1 pick) stalled.	
161.84	The motor (tray 1 pick) is running too slow.	
161.85	The motor (tray 1 pick) is running too fast.	
161.86	The motor (tray 1 pick) moved too long.	

Motor (tray 1 pick/duplex) service check

Action	Yes	No
Step 1 Perform a POR. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** Remove tray 1. **b** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Motor tests** > **Pick (tray 1) / Duplex** **c** Select **Tray 1 Picking**, and then press **OK** or touch **Start**. **Note:** Make sure to perform the motor test in both directions. **d** Select **Tray 1 Duplex**, and then press **OK** or touch **Start**. **Note:** Make sure to perform the motor test in both directions. Did the motors run?	Go to step 3.	Go to step 4.
Step 3 Make sure that cable on the JSP1 connector on the controller board is properly connected. Does the problem remain?	Go to step 5.	The problem is solved.
Step 4 Check the cable for damage. Is the cable damaged?	Go to step 5.	Go to step 6.
Step 5 Replace the media feeder. See **"Tray 1 media feeder removal" on page 368**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support	The problem is solved.

162 errors

162 error messages

Error code	Description	Action
162.70	The motor (tray 2 pick) does not turn on.	See **"Option tray motor service check" on page 145**.
162.71	The motor (tray 2 pick) does not turn off.	
162.72	The motor (tray 2 pick) failed to achieve the expected speed.	
162.73	The motor (tray 2 pick) stalled.	
162.74	The motor (tray 2 pick) is running too slow.	
162.75	The motor (tray 2 pick) is running too fast.	
162.76	The motor (tray 2 pick) moved too long.	

163 errors

163 error messages

Error code	Description	Action
163.70	The motor (tray 3 pick) does not turn on.	See **"Option tray motor service check" on page 145**.
163.71	The motor (tray 3 pick) does not turn off.	
163.72	The motor (tray 3 pick) failed to achieve the expected speed.	
163.73	The motor (tray 3 pick) stalled.	
163.74	The motor (tray 3 pick) is running too slow.	
163.75	The motor (tray 3 pick) is running too fast.	
163.76	The motor (tray 3 pick) moved too long.	

166 errors

166 error messages

Error code	Description	Action
166.70	The motor (tray 2 transport) does not turn on.	See **"Option tray motor service check" on page 145**.
166.71	The motor (tray 2 transport) does not turn off.	
166.72	The motor (tray 2 transport) failed to achieve the expected speed.	
166.73	The motor (tray 2 transport) stalled.	
166.74	The motor (tray 2 transport) is running too slow.	
166.75	The motor (tray 2 transport) is running too fast.	
166.76	The motor (tray 2 transport) moved too long.	

167 errors

167 error messages

Error code	Description	Action
167.70	The motor (tray 3 transport) does not turn on.	See **"Option tray motor service check" on page 145**.
167.71	The motor (tray 3 transport) does not turn off.	
167.72	The motor (tray 3 transport) failed to achieve the expected speed.	
167.73	The motor (tray 3 transport) stalled.	
167.74	The motor (tray 3 transport) is running too slow.	
167.75	The motor (tray 3 transport) is running too fast.	
167.76	The motor (tray 3 transport) moved too long.	

171 errors

171 error messages

Error code	Description	Action
171.82	Main fan error.	See **"Main fan service check" on page 150**.
171.83		
171.84		
171.85		

Main fan service check

Action	Yes	No
Step 1 Check the main fan area for obstructions. Is the fan area free from obstructions?	Go to step 3.	Go to step 2.
Step 2 Remove the obstructions. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check the cable on the JFAN2 connector on the controller board for proper connection. Is the cable properly connected?	Go to step 5.	Go to step 4.
Step 4 Reconnect the cable. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Replace the main fan. See **"System fan removal" on page 371**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

600 errors

600 error message

Error code	Description	Action
600.95	The printer intentionally declared a jam. **Note:** This event is typically used to prevent a kiosk user from printing free pages.	Perform a POR.

602 errors

602 error messages

Error code	Description	Action
602.x8	The tray [x] timed out while waiting for the ILN command.	See **"Engine error service check" on page 151**.
602.x9	The tray [x] failed to become the input source.	

x = tray number

Engine error service check

Action	Yes	No
Step 1 Perform a POR. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** Remove the rear cover. See **"Rear cover removal" on page 373**. **b** Reseat all the cables on the controller board. **c** Check the controller board contacts and pins for damage. Is the controller board free of damage?	Contact the next level of support.	Go to step 3.
Step 3 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

620 errors

620 error messages

Error code	Description	Action
620.80	The motor (fuser) does not turn on.	See **"Motor (fuser) service check" on page 135**.
620.81	The motor (fuser) does not turn off.	
620.82	The motor (fuser) failed to achieve the expected speed.	
620.83	The motor (fuser) stalled.	
620.84	The motor (fuser) is running too slow.	
620.85	The motor (fuser) is running too fast.	
620.86	The motor (fuser) moved too long.	
621.01	The fuser heater was too cold when the paper entered the fuser nip.	See **"Fuser service check" on page 140**.

642 errors

642 error messages

Error code	Description	Action
642.80	The motor (CMY) does not turn on.	See **"Motor (EP drive) service check" on page 143**.
642.81	The motor (CMY) does not turn off.	
642.82	The motor (CMY) failed to achieve the expected speed.	
642.83	The motor (CMY) stalled.	
642.84	The motor (CMY) is running too slow.	
642.85	The motor (CMY) is running too fast.	
642.86	The motor (CMY) moved too long.	

651 errors

651 error messages

Error code	Description	Action
651.80	The motor (K/ITM) does not turn on.	See **"Motor (EP drive) service check" on page 143**.
651.81	The motor (K/ITM) does not turn off.	
651.82	The motor (K/ITM) failed to achieve the expected speed.	
651.83	The motor (K/ITM) stalled.	
651.84	The motor (K/ITM) is running too slow.	
651.85	The motor (K/ITM) is running too fast.	
651.86	The motor (K/ITM) moved too long.	

661 errors

661 error messages

Error code	Description	Action
661.80	The motor (tray 1 pick) does not turn on.	See **"Motor (tray 1 pick/duplex) service check" on page 147**.
661.81	The motor (tray 1 pick) does not turn off.	
661.82	The motor (tray 1 pick) failed to achieve the expected speed.	
661.83	The motor (tray 1 pick) stalled.	
661.84	The motor (tray 1 pick) is running too slow.	
661.85	The motor (tray 1 pick) is running too fast.	
661.86	The motor (tray 1 pick) moved too long.	

662 errors

662 error messages

Error code	Description	Action
662.70	The motor (tray 2 pick) does not turn on.	See **"Option tray motor service check" on page 145**.
662.71	The motor (tray 2 pick) does not turn off.	
662.72	The motor (tray 2 pick) failed to achieve the expected speed.	
662.73	The motor (tray 2 pick) stalled.	
662.74	The motor (tray 2 pick) is running too slow.	
662.75	The motor (tray 2 pick) is running too fast.	
662.76	The motor (tray 2 pick) moved too long.	

663 errors

663 error messages

Error code	Description	Action
663.70	The motor (tray 3 pick) does not turn on.	See **"Option tray motor service check" on page 145**.
663.71	The motor (tray 3 pick) does not turn off.	
663.72	The motor (tray 3 pick) failed to achieve the expected speed.	
663.73	The motor (tray 3 pick) stalled.	
663.74	The motor (tray 3 pick) is running too slow.	
663.75	The motor (tray 3 pick) is running too fast.	
663.76	The motor (tray 3 pick) moved too long.	

666 errors

666 error messages

Error code	Description	Action
666.70	The motor (tray 2 transport) does not turn on.	See **"Option tray motor service check" on page 145**.
666.71	The motor (tray 2 transport) does not turn off.	
666.72	The motor (tray 2 transport) failed to achieve the expected speed.	
666.73	The motor (tray 2 transport) stalled.	
666.74	The motor (tray 2 transport) is running too slow.	
666.75	The motor (tray 2 transport) is running too fast.	
666.76	The motor (tray 2 transport) moved too long.	

667 errors

667 error messages

Error code	Description	Action
667.70	The motor (tray 3 transport) does not turn on.	See **"Option tray motor service check" on page 145**.
667.71	The motor (tray 3 transport) does not turn off.	
667.72	The motor (tray 3 transport) failed to achieve the expected speed.	
667.73	The motor (tray 3 transport) stalled.	
667.74	The motor (tray 3 transport) is running too slow.	
667.75	The motor (tray 3 transport) is running too fast.	
667.76	The motor (tray 3 transport) moved too long.	

Procedure before starting the 9yy service checks

Retrieve certain information that helps your next level of support in diagnosing the problem before replacing the controller board.

Warning—Potential Damage: Do not replace the controllefr board unless instructed by your next level of support.

1 Collect the history information and firmware logs (Fwdebug and logs.tar.gz) from the SE menu.

2 Collect the settings from the Menu Settings Page.

3 Collect information from the user.

Note: Not all of the items are retrievable from the printer that you are working on.

A. Collecting the history information from the SE menu

Note: Make sure that your printer is connected to a network or to a print server.

1 Open a web browser, type **http://printer_IP_address/se**, and then press **Enter**.

Notes:

- **printer_IP_address** is the TCP/IP address of the printer.
- **se** is required to access the printer diagnostic information.

2 Click **History Information**, copy all information, and then save it as a text file.

3 E-mail the text file to your next level of support.

B. Collecting the firmware logs (Fwdebug and logs.tar.gz) from the SE menu

Notes:

- Make sure that your printer is connected to a network or to a print server.
- Some printers are designed to restart automatically after a 9yy error. On these printers, you can retrieve the secondary crash code information using the SE menu.

1 Open a web browser, type **http://printer_IP_address/se**, and then press **Enter**.

2 Click **Logs Gzip Compressed**.

Note: A logs.tar.gz file is saved to the Downloads folder. The file may take several minutes to save. You may rename the file if a logs.tar.gz already exists in the Downloads folder.

3 E-mail the logs to your next level of support.

Note: To download the FWdebug log to a flash drive, see **"General SE" on page 258**.

C. Collecting the settings from the Menu Settings Page

Note: The Menu Settings Page is different for each printer. For more information, see the *User's Guide*. Your next level of support will tell you which page they want to see.

Copying the Menu Settings Page from the Embedded Web Server (EWS)

Note: Make sure that your printer is connected to a network or to a print server.

1 Open a web browser, type **http://printer_IP_address**, and then press **Enter**.

2 Click Settings, and then select one of the settings pages from the links shown on the page.

3 Copy all the information, and then save it as a text file.

4 E-mail the text file to your next level of support.

Printing the Menu Settings Page

1 From the home screen, navigate to:

Reports > **Menu Settings Page**

2 Print the Menu Settings Page, and then use Scan to E-mail to send it to your next level of support.

D. Collecting information from the user

Ask the user for information about the following:

- Print job being run
- Operating system being used
- Print driver being used
- Other information on what was happening when the 9yy error occurred

900 errors

900 error messages

Error code	Description	Action
900.xx	Unrecoverable RIP software error/illegal trap.	See **"System software error service check" on page 157**.

System software error service check

Different types of 900.xx errors can occur. There may be a communication problem (bad cable, network connection, and software issues), or a hardware problem with the controller board or ISP (internal solutions port). Check the communication and software problems first. Determine if the problem is constant or intermittent. Use the following troubleshooting procedure to isolate the issue. Take notes as instructed. You will need that information in the event that you need to contact your next level of support.

Before troubleshooting:

1 Perform the **"Procedure before starting the 9yy service checks" on page 155**.

2 Determine the operating system used when the error occurred. If possible, determine whether a PostScript or PCL file was sent to the printer when the error occurred. Ask the customer which Lexmark Solutions applications are installed on the printer.

Action	Yes	No
Step 1 Perform a POR. Does the error remain?	Go to step 2.	The problem is solved.
Step 2 a Write down the exact 900.xx error code that appears on the display. b Turn off the printer. c Clear the print queues. d Disconnect all communication cables, and then remove all memory options. e Remove any installed ISP. f Reset the printer into the Diagnostics menu. Does the problem remain?	Go to step 3.	Go to step 6.

Action	Yes	No
Step 3 Check all the cables on the controller board for proper connection. Are the cables properly connected?	Go to step 5.	Go to step 4.
Step 4 **a** Reconnect the cables. **b** Reset the printer into the Diagnostics menu. Does the problem remain?	Go to step 5.	Go to step 6.
Step 5 **a** Replace the controller board. See **"Controller board removal" on page 375**. **b** Reset the printer. **Note:** If a different error code displays, then go to the service check for that error code. Does the problem remain?	Go to step 31.	The problem is solved.
Step 6 Print the following: • Error Log • Menu Settings Page • Network Settings Page Does the problem remain while printing these pages?	Go to step 31.	Go to step 7.
Step 7 **Note:** Before performing this step, write down the following information about the file being sent to the printer: • Application used • Operating system • Driver type • File type (PCL, PostScript, XPS, etc.) **a** Reattach the communications cable. **b** Reset the printer. **c** Perform a print job. Does the problem remain?	Go to step 8.	Go to step 10.
Step 8 **a** Reset the printer. **b** Perform a different print job. Does the problem remain?	Go to step 9.	Go to step 10.

Action	Yes	No
Step 9 **a** Upgrade the firmware. **Note:** Contact your next level of support for the correct firmware level to use. **b** Reset the printer. **c** Perform a print job. Does the problem remain?	Go to step 31.	Go to step 10.
Step 10 Verify if the printer is an MFP. Is the printer an MFP?	Go to step 11.	Go to step 13.
Step 11 Perform a copy job. Does the problem remain?	Go to step 31.	Go to step 12.
Step 12 Perform a scan to PC job. Does the problem remain?	Go to step 31.	Go to step 13.
Step 13 Verify if an optional memory is installed. Is there an optional memory installed?	Go to step 14.	Go to step 16.
Step 14 **a** Reinstall the memory. **b** Perform a print job. Does the problem remain?	Go to step 15.	Go to step 16.
Step 15 **a** Install a Lexmark-recommended memory option. **b** Perform a print job. Does the problem remain?	Go to step 31.	The problem is solved.
Step 16 Verify if a modem is installed. Is a modem installed?	Go to step 17.	Go to step 21.

Action	Yes	No
Step 17 **a** Reinstall the modem. **b** Reset the printer. Does the problem remain?	Go to step 18.	Go to step 20.
Step 18 **a** Upgrade the firmware if it was not upgraded in a previous step. 　**Note:** Contact your next level of support for the correct firmware level to use. **b** Reset the printer. **c** Perform a print job. Does the problem remain?	Go to step 19.	The problem is solved.
Step 19 **a** Replace the modem. **b** Reset the printer. Does the problem remain?	Go to step 31.	The problem is solved.
Step 20 Perform a fax job. Does the problem remain?	Go to step 31.	Go to step 21.
Step 21 Verify if an ISP option is installed. Is an ISP option installed?	Go to step 22.	The problem is solved.
Step 22 **a** Reinstall the first ISP option. **b** Reset the printer. Does the problem remain?	Go to step 24.	Go to step 23.
Step 23 Perform a job to test the option. Does the problem remain?	Go to step 24.	Go to step 26.

Action	Yes	No
Step 24 **a** Upgrade the firmware if it was not upgraded in a previous step. 　**Note:** Contact your next level of support for the correct firmware level to use. **b** Reset the printer. **c** Perform a print job. Does the problem remain?	Go to step 25.	The problem is solved.
Step 25 **a** Replace the faulty ISP option. **b** Reset the printer. Does the problem remain?	Go to step 31.	Go to step 26.
Step 26 Verify if there are more ISP options to install. Are there more ISP options to install?	Go to step 27.	The problem is solved.
Step 27 **a** Install the next ISP option. **b** Reset the printer. Does the problem remain?	Go to step 29.	Go to step 28.
Step 28 Perform a job to test the option. Does the problem remain?	Go to step 29.	Go to step 26.
Step 29 **a** Upgrade the firmware if it was not upgraded in a previous step. 　**Note:** Contact your next level of support for the correct firmware level to use. **b** Reset the printer. **c** Send a print job. Does the problem remain?	Go to step 30.	Go to step 26.
Step 30 **a** Replace the faulty ISP option. **b** Reset the printer. Does the problem remain?	Go to step 31.	Go to step 26.

Action	Yes	No
Step 31 Contact your next level of support. Provide the following information: • 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 the error appears to be isolated to a single file • File/Application used if the error is related to specific print file • Device operating system • Driver used (PCL/PS) • Frequency of the occurrence of the error		

91y errors

91y error messages

Error code	Description	Action
910.xx 911.xx 912.xx	General engine software error.	See **"91x.xx (910.xx–919.xx) Engine software service check" on page 162**.
913.xx	General engine software error.	See **"913.xx error code check" on page 163**.
914.xx 915.xx 916.xx 917.xx 918.xx 919.xx	General engine software error.	See **"91x.xx (910.xx–919.xx) Engine software service check" on page 162**.

91x.xx (910.xx–919.xx) Engine software service check

Actions	Yes	No
Step 1 **a** Remove the rear cover. See **"Rear cover removal" on page 373**. **b** Check the cables on the controller board for proper connection. Are the cables properly connected?	Go to step 2.	Go to step 3.

Actions	Yes	No
Step 2 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.
Step 3 Reconnect the cables, and then perform a POR. Does the problem remain?	Contact the next level of support.	The problem is solved.

913.xx error code check

Actions	Yes	No
Step 1 **a** Turn off the printer, and then remove the rear cover. See **"Rear cover removal" on page 373**. **b** Make sure all cable connections on the controller board are secure. Are all cable connections secure?	Go to step 3.	Go to step 2.
Step 2 **a** Reconnect any loose cables. **b** Print multiple print tests. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Replace the motor (fuser drive). See **"Motor (fuser drive) removal" on page 300**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

938 errors

938 error messages

Error code	Description	Action
938.01	The board level was not obtained.	See **"Controller board removal" on page 375**.
938.02	Timed out while waiting for the bullet serial data to be updated.	
938.03	The NVM_OK was not received from the NV2 server for a successfully submitted request.	
938.04	An over temperature condition is detected.	

95y errors

95y error messages

Error code	Description	Action
950.xx	The controller EEPROM and mirror are mismatched. • 950.00 through 950.29 codes—Mismatch between the controller and mirror. • 950.30 through 950.60 codes—Mismatch between the secure and controller.	See **"950.xx NVRAM failure service check" on page 166**.
951.xx	Error NV part on controller board.	See **"Controller board removal" on page 375**.
952.xx	A recoverable NVRAM cyclic redundancy check (CRC) error occurred. *n* is the offset at which the error occurred.	Performing a POR clears this error.
953.xx	NVRAM chip failure with mirror. **1** Perform a POR. **2** If the problem persists, then replace the UICC card.	See **"4.3-inch control panel removal" on page 335**, **"2.4-inch control panel top cover and control panel removal" on page 331**, or **"7-inch control panel removal" on page 336**.

Error code	Description	Action
954.xx	The NVRAM chip failure with controller part.	See **"950.xx NVRAM failure service check" on page 166**.
955.xx	The Code ROM or NAND flash failed the cyclic redundancy check (CRC) check or the NAND experienced an uncorrectable multi-bit failure. *<loc>* indicates the source of the failure and has one of the following values: • CRC Failure—The source is a failing package indicated by P*n* where *n* is the package number. This error can occur on a controller with ROM or NAND flash, and can occur as a result of the CRC check done when the printer is powered on. The range of package numbers is from 0–15. • Error Correction Code (ECC) Failure—The source is a failing page indicated by B*n* where *n* is the page number. This error occurs only if a multi-bit failure is detected during the ECC execution. Single bit failures are corrected automatically and will not result in a service error. The range of page numbers is from 0–1023.	
956.xx	• Controller board failure. • Processor failure. • Check on .02 for fan error.	
957.xx	• Controller board failure. • ASIC failure.	
958.xx	The printer has performed more than 100 shift and reflash operations as a result of ECC bit corrections.	
959.xx	Controller verification failure of system boot code.	See **"Invalid firmware/controller board service check" on page 167**.
959.0x	System hardware failure.	See **"Controller board removal" on page 375**.

950.xx NVRAM failure service check

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

Notes:

- This error indicates that the control panel and the controller board are mismatched.
- Replace the required component, enter the Diagnostics menu, and then verify that the problem is fixed before performing a POR.

Actions	Yes	No
Step 1 Check if the control panel has been replaced. Has the control panel been replaced?	Go to step 2.	Go to step 3.
Step 2 Replace the control panel UICC card with a new, and not previously installed UICC card. See **"4.3-inch control panel removal" on page 335**, **"2.4-inch control panel top cover and control panel removal" on page 331**, or **"7-inch control panel removal" on page 336**. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check if the controller board has been replaced. Has the controller board been replaced?	Go to step 4.	Go to step 5.
Step 4 Replace the controller board with a new, and not previously installed controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Perform a POR. Does the problem remain?	Go to step 6.	The problem is solved.

Actions	Yes	No
Step 6 Clear the NVRAM of the printer: **a** Turn off the printer. **b** With the printer off, press and hold buttons **6**, **7**, and **8** on the numeric keypad. **c** Turn on the printer. **d** When **Clear NVRAM** appears, release the buttons. **Notes:** • If the printer looks up on the Restoring Factory Defaults, then wait for two minutes, and then turn off the printer. • After 10 seconds, turn on the printer. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Replace the control panel. See **"4.3-inch control panel removal" on page 335**, **"2.4-inch control panel top cover and control panel removal" on page 331**, or **"7-inch control panel removal" on page 336**. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Invalid firmware/controller board service check

Action	Yes	No
Step 1 Update the firmware. **Note:** Contact the next level of support for the correct firmware level. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

96y errors

96y error messages

Error code	Description	Action
960.xx	RAM memory error—The RAM soldered on the board is bad.	See **"Controller board removal" on page 375**.
964.xx	• A download emulation cyclic redundancy check (CRC) failure has occurred. • A checksum failure was detected in the emulation header or emulation file.	See **"Download emulation cyclic redundancy service check" on page 168**.

Download emulation cyclic redundancy service check

Action	Yes	No
Step 1 Disable the download emulation, and then program the download emulation into the firmware card again. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Replace the firmware card, and then download the emulation to the new card. Does the problem remain?	Contact the next level of support.	The problem is solved.

97y errors

97y error messages

Error code	Description	Action
975.xx 975.xx	Network error—Unrecognizable network port.	Replace the standard network card, or the card in the specified slot.
976.xx	Unrecoverable software or error in the network or network card [x].	See **"Standard network/network card error service check" on page 169**.
978.xx	Bad checksum while programming the standard network or network card [x] port.	See **"Standard network/network card programming error service check" on page 169**.
979.xx	Flash parts failed while programming the standard network or network card [x] port.	See **"Standard network/network card error service check" on page 169**.

Standard network/network card error service check

Action	Yes	No
Step 1 Check if the network card is installed. Is the network card installed?	Go to step 2.	Go to step 3.
Step 2 Make sure that the network card is properly installed. Does the problem remain?	Contact the next level of support.	The problem is solved.
Step 3 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Standard network/network card programming error service check

Action	Yes	No
Step 1 Make sure that you downloaded the code in binary mode and not in ASCII, and then reprogram the network card. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check if the network card is installed. Is the network card installed?	Go to step 3.	Go to step 4.
Step 3 Make sure that the network card is properly installed. Does the problem remain?	Contact the next level of support.	The problem is solved.
Step 4 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

980-984 errors

980–984 error messages

Error code	Description	Action
980.xx	The engine is experiencing unreliable communication with the specified device. **Note:** *<device>* can be one of the following: • Tray 2 • Tray 3	See **"Options communication error service check" on page 171**.
981.xx	The specified device detects an engine protocol violation. **Note:** *<device>* can be one of the following: • Tray 2 • Tray 3	
982.xx	The specified device detects a communication error. **Note:** *<device>* can be one of the following: • Tray 2 • Tray 3	
983.xx	The specified device receives an invalid command. **Note:** *<device>* can be one of the following: • Tray 2 • Tray 3	
984.xx	The specified device receives an invalid command parameter. **Note:** *<device>* can be one of the following: • Tray 2 • Tray 3	

99y errors

99y error messages

Error code	Description	Action
990.xx	An equipment check condition occurred, but the exact component failure was not determined.	See **"Options communication error service check" on page 171**.
991.xx	An equipment check condition occurred in the controller card.	
992.xx	General software error.	

Options communication error service check

Action	Yes	No
Step 1 **a** Check if the firmware is updated, and update if necessary. **b** Make sure that the printer supports the option. See the *Printer, Option, and Stand Compatibility Guide*. **c** Make sure that the option is properly attached to the printer or adjacent option. **d** Perform a POR. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Reseat the printer interface cable on the printer controller board. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Do the following to each option: **a** Reinstall the option. **b** Print a test page, and then check if the option is properly working. Are all options properly working?	Go to step 4.	Contact the next level of support.
Step 4 Reseat the option interface cable. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Check the option interface cable for proper connection and damage, and replace if necessary. Does the problem remain?	Contact the next level of support.	The problem is solved.

ADF/Scanner hardware errors

84y errors

84y error messages

Error code	Description	Action
840.01	The scanner is disabled by the administrator.	See **"Scanner disabled service check" on page 173**.
840.02	The scanner is disabled for other reasons. For example, invalid license, and too many hardware errors.	

Error code	Description	Action
842.00	Non-responsive scanner communication failure.	See **"Scanner communication service check" on page 174**.
842.01	Hardware protocol scanner communication failure.	
842.02	Logical protocol scanner communication failure.	
843.00	• Scanner mechanical failure. • The flatbed carriage failed to return to the home position.	See **"Flatbed home position service check" on page 175**.
843.01	ADF scanner mechanical failure.	See **"ADF failure service check" on page 176**.

Scan/fax/copy symptoms

Symptom	Action
The ADF does not scan both sides of the document.	See **"ADF duplex service check" on page 181**.
The scanned image using the ADF is skewed.	See **"ADF feed error service check" on page 180**.
Multiple documents feed into the ADF.	
Documents do not feed into the ADF.	
The scanner makes a buzzing noise on startup or during a scan.	See **"Flatbed home position service check" on page 175**.
The page is blank.	See **"Black or blank page copy service check" on page 177**.
The page is black.	
No dial tone.	See **"Modem/fax card service check" on page 183**.
The printer does not connect to a fax machine.	The fax machine is turned off. Ask the fax recipient to check the machine.
Incoming fax has blank spaces or poor quality.	See **"Blank spaces on incoming fax service check" on page 178**.
Incoming fax has stretched words.	See **"Stretched words on incoming fax service check" on page 178**.
The printer does not transmit faxes.	See **"Fax transmission service check" on page 186**.
The printer does not receive faxes.	See **"Fax reception service check" on page 184**.
The ADF makes a rattling noise.	See **"ADF rattling noise service check" on page 183**.
The scanner carriage does not move during a scan.	See **"Flatbed motor error service check" on page 179**.

Scanner disabled service check

Action	Yes	No
Step 1 **a** Perform a POR, and then enter the Configuration mode. **b** In the Disable scanner menu, select **Enabled**. **c** Perform a POR. **d** Perform a copy job from the ADF and flatbed, and then check if an **840.xx** error message appears. Did an **840.xx** error message appear?	Go to step 2.	The problem is solved.
Step 2 **a** Enter the Configuration mode, and then select **Disabled**. **b** Perform a POR, and then enter the Configuration mode. **c** Select **Disabled**. **d** Check if the **ADF disabled or Auto Disabled** message appears. Did the **ADF disabled or Auto Disabled** message appear?	Go to step 3.	Go to step 4.
Step 3 **a** Replace the ADF assembly. See **"ADF assembly removal (SADF/RADF)" on page 392** or **"ADF assembly removal (DADF)" on page 395**. **b** Perform a POR, and then enter the Configuration mode. **c** In the Disable scanner menu, select **Enabled**. **d** Perform a POR. **e** Perform a copy job from the ADF and flatbed, and then check if an **840.xx** error message appears. Did an **840.xx** error message appear?	Go to step 4.	The problem is solved.
Step 4 Make sure that the cables on the JFBCIS1 and JBSCIS1 connectors (CX52x and CX62x only) on the controller board are properly connected. Does the problem remain?	Go to step 5.	The problem is solved.

Action	Yes	No
Step 5 **a** Replace the ADF assembly. See **"ADF assembly removal (SADF/RADF)" on page 392** or **"ADF assembly removal (DADF)" on page 395**. **b** Perform a POR, and then enter the Configuration mode. **c** In the Disable scanner menu, select **Enabled**. **d** Perform a POR. **e** Perform a copy job from the ADF and flatbed, and then check if an `840.xx` error message appears. Did an `840.xx` error message appear?	Contact the next level of support.	The problem is solved.

Scanner communication service check

Action	Yes	No
Step 1 **a** Reseat the cable at the JADF1 connector on the controller board. **b** For the CX52x and CX62x models, reseat the cable at the JBSCIS1 connector on the controller board. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Reseat the cable at the JFBCIS1 connector on the controller board. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Replace the ADF. See **"ADF assembly removal (SADF/RADF)" on page 392** or **"ADF assembly removal (DADF)" on page 395**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Replace the flatbed scanner. See **"Flatbed scanner assembly removal" on page 409**. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Flatbed home position service check

Action	Yes	No
Step 1 Turn off the printer, and then check if the CIS returns to the home position. Did the CIS return to the home position?	The problem is solved.	Go to step 2.
Step 2 **a** Enter the Diagnostics menu, and then navigate to: **Scanner diagnostics** > **Sensor tests** **b** Find the sensor (FB scanner home). Does the sensor status change while toggling the sensor?	Go to step 4.	Go to step 3.
Step 3 Reseat the cable at the JHS1 connector on the controller board. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Reseat the cable at the JFB1 connector on the controller board. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Measure the voltage of pin 1 on the JFB1 connector on the controller board. Is the voltage equal to +24 V dc?	Go to step 7.	Go to step 6.
Step 6 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Measure the voltage of pin 1 on the JHS1 connector on the controller board. **Note:** Pin 2 is ground. Is the voltage equal to +3.3 V ac?	Go to step 8.	Contact the next level of support.
Step 8 Replace the flatbed scanner. See **"Flatbed scanner assembly removal" on page 409**. Does the problem remain?	Contact the next level of support.	The problem is solved.

ADF failure service check

Action	Yes	No
Step 1 Perform a POR. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** Reseat the cable at the JADF1 connector on the controller board. **b** For the CX52x and CX62x models, reseat the cable at the JFBCIS1 and JBSCIS1 connectors on the controller board. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Replace the ADF. See **"ADF assembly removal (SADF/RADF)" on page 392** or **"ADF assembly removal (DADF)" on page 395**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Flatbed CIS service check

Action	Yes	No
Step 1 **a** Perform a POR. **b** Perform multiple scan or copy jobs. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Make sure that the CIS cable is properly connected to the JFBCIS1 connector on the controller board. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Replace the flatbed scanner. See **"Flatbed scanner assembly removal" on page 409**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Black or blank page copy service check

Action	Yes	No
Step 1 Print a test page. Is the test page black?	Go to step 2.	Go to step 3.
Step 2 Perform the Solid color or black image check. See **"Solid color or black image check" on page 39**. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Perform a flatbed copy job. Is the copy page blank or black?	Go to step 5.	Go to step 4.
Step 4 Perform an ADF copy job. Did paper feed into the ADF?	Go to step 6.	Go to step 5.
Step 5 **a** Enter the Diagnostics menu, and then navigate to: **Scanner diagnostics** > **Motor tests** **b** Select **Motor (Feed)**, and then press **OK** or touch **Start**. Did the motor run?	Go to step 6.	Go to step 7.
Step 6 **a** Enter the Diagnostics menu, and then navigate to: **Scanner diagnostics** > **Sensor tests** **b** Find the sensor (ADF media present). Does the sensor status change while toggling the sensor?	Go to step 9.	Go to step 7.
Step 7 Make sure that the ADF cable on the JADF1 connector on the controller board is properly connected. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 Replace the ADF assembly. See **"ADF assembly removal (SADF/RADF)" on page 392** or **"ADF assembly removal (DADF)" on page 395**. Does the problem remain?	Go to step 9.	The problem is solved.

Action	Yes	No
Step 9 **a** Make sure that the cable on the JFBCIS1 connector on the controller board is properly connected. **b** For CX52x and CX62x printer models, make sure that the cable on the JBSCIS1 connector on the controller board is properly connected. Does the problem remain?	Go to step 10.	The problem is solved.
Step 10 Replace the flatbed scanner assembly. See **"Flatbed scanner assembly removal" on page 409**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Blank spaces on incoming fax service check

Actions	Yes	No
Step 1 Receive fax from another machine. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Attach the printer to a different telephone line. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Print a test page. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Install a new toner cartridge. Does the problem remain?	Contact the next level of support.	The problem is solved.

Stretched words on incoming fax service check

Actions	Yes	No
Receive fax from another machine. Does the problem remain?	Contact the next level of support.	The problem is solved.

Flatbed motor error service check

Action	Yes	No
Step 1 Make sure that the flatbed motor cable is properly connected to the JFB1 connector on the controller board. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Measure the voltage of pin 1 on the JFB1 connector on the controller board. **Note:** The voltage is only present when a flatbed copy job is running. Is the voltage value +24 V ac?	Go to step 3.	Contact the next level of support.
Step 3 Replace the flatbed scanner assembly. See **"Flatbed scanner assembly removal" on page 409**. Does the problem remain?	Contact the next level of support.	The problem is solved.

ADF streak service check

Action	Yes	No
Step 1 a Perform a copy job using the ADF. b Check if streaks appear in the middle of the copy job. Do streaks appear?	Go to step 2.	The problem is solved.
Step 2 a Using a soft, lint-free cloth, clean the ADF glass on the flatbed. b Using a damp cloth, clean the separator roll and separator pad. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check the ADF glass for proper installation, scratches, or damage. Is the ADF glass properly installed, and free of scratches or damage?	Go to step 5.	Go to step 4.
Step 4 Perform the Vertical colored lines or banding check. See **"Vertical colored lines or banding check" on page 53**. Does the problem remain?	Go to step 5.	The problem is solved.

Action	Yes	No
Step 5 Replace the ADF assembly. See **"ADF assembly removal (SADF/RADF)" on page 392** or **"ADF assembly removal (DADF)" on page 395**. Does the problem remain?	Contact the next level of support.	The problem is solved.

ADF feed error service check

Action	Yes	No
Step 1 Make sure that the original document is clean and not damaged. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 **a** If the ADF is multifeeding, then check the ADF separator pad and ADF separator rollers for proper installation and damage. **b** Clean the pad and rollers with a soft, lint-free cloth and isopropyl alcohol. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Replace the separator pad and ADF pick roller. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 If the paper is skewing when it is fed into the ADF, then check the paper width guide for proper operation, and adjust if necessary. Dose the problem remain?	Go to step 5.	The problem is solved.
Step 5 **a** If the paper jams when fed into the ADF, then check if the top cover is open. **b** If the top cover is closed, open and then close the top cover. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 If the paper jams inside the ADF, then perform the ADF jam service check. See **"ADF jam service check" on page 112**. Does the problem remain?	Go to step 7.	The problem is solved.

Action	Yes	No
Step 7 **a** Enter the Diagnostics menu, and then navigate to: **Scanner Diagnostics** > **Motor Tests** **b** Select **ADF pick**, and then press **OK** or touch **Start**. **c** Select **ADF feed**, and then press **OK** or touch **Start**. Did the motors run?	Go to step 8.	Go to step 11.
Step 8 **a** Enter the Diagnostics menu, and then navigate to: **Scanner Diagnostics** > **Sensor Tests** **b** Find the sensor (ADF media present). Does the sensor status change while toggling the sensor?	Go to step 9.	Go to step 11.
Step 9 **a** Make sure that the ADF sensor actuators are free of dust or debris. **b** Check the actuators for proper installation and damage. Are the actuators properly installed and free of damage?	Go to step 11.	Go to step 10.
Step 10 Replace the ADF assembly. See **"ADF assembly removal (DADF)" on page 395** or **"ADF assembly removal (SADF/RADF)" on page 392**. Does the problem remain?	Go to step 11.	The problem is solved.
Step 11 Make sure that the ADF cable on the JADF1 connector on the controller board is properly connected. Does the problem remain?	Go to step 12.	The problem is solved.
Step 12 Check the following voltage values on the JADF1 connector on the controller board: • Pin 14: +24 V dc • Pin 15: +3.3 V dc • Pin 17: +3.3 V dc Are the voltage values approximately the same?	Contact the next level of support.	The problem is solved.

ADF duplex service check

Note: Perform this check only if the paper feeds and jams in the ADF. If the paper is not feeding into the ADF, then see **"ADF feed error service check" on page 180**.

Action	Yes	No
Step 1 **a** Enter the Diagnostics menu, and then navigate to: **Scanner diagnostics** > **Motor tests** **b** Perform all motor tests. Are the motors properly working?	Go to step 2.	Go to step 5.
Step 2 **a** Enter the Diagnostics menu, and then navigate to: **Scanner diagnostics** > **Sensor tests** **b** Perform all sensor tests. Are the sensors properly working?	Go to step 3.	Go to step 5.
Step 3 **a** Make sure that the ADF sensor actuators are free of dust or debris. **b** Check the actuators for proper installation and damage. Are the actuators properly installed and free of damage?	Go to step 5.	Go to step 4.
Step 4 Replace the ADF assembly. See **"ADF assembly removal (SADF/RADF)" on page 392** or **"ADF assembly removal (DADF)" on page 395**. Does the problem remain?	Go to step 7.	The problem is solved.
Step 5 Make sure that the ADF cable on the JADF1 connector on the controller board is properly connected. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Replace the ADF assembly. See **"ADF assembly removal (SADF/RADF)" on page 392** or **"ADF assembly removal (DADF)" on page 395**. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

ADF rattling noise service check

Actions	Yes	No
Step 1 Reseat the ADF separator roller. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Replace the ADF separator roller. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Remove, and then install the ADF top cover. See **"ADF top cover removal" on page 404**. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Replace the ADF top cover. Does the problem remain?	Contact the next level of support.	The problem is solved.

Modem/fax card service check

Action	Yes	No
Step 1 Check if the telephone cable is properly connected to the modem card and electrical outlet. Is the cable properly connected to the modem card and electrical outlet?	Go to step 2.	Go to step 3.
Step 2 Connect the telephone cable to the modem card and electrical outlet. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check if the telephone cable can make and receive calls. Is the phone line properly working?	Go to step 5.	Go to step 4.
Step 4 Connect the printer to a properly functioning telephone jack. Does the problem remain?	Go to step 5.	The problem is solved.

Action	Yes	No
Step 5 Make sure that the modem cable is properly connected to the modem card and to the JFAX2 connector on the controller board. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Replace the fax card. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Check the voltages values of the following pins on the JFAX2 connector on the controller board: • Pin 2: +3.3 V dc • Pin 3: +3.3 V dc • Pin 5: +5 V dc • Pin 7: Ground • Pin 9: Ground • Pin 11: Ground • Pin 13: Ground Are the voltage values approximately the same?	Contact the next level of support.	Go to step 8.
Step 8 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Fax reception service check

Note: Before performing this service check, make sure that the correct country code is selected.

Actions	Yes	No
Step 1 Reseat the telephone cable on the LINE port of the printer and on the wall jack. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check if the telephone line can send and receive calls. Is the phone line properly working?	Go to step 4.	Go to step 3.

Actions	Yes	No
Step 3 Connect the telephone cable to a working wall jack. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Check if the telephone line is analog. Is the telephone line analog?	Go to step 7.	Go to step 5.
Step 5 Check if the telephone line is a VOIP line. Is the line VOIP?	Go to step 6.	Go to step 7.
Step 6 Ask the system administrator to verify if the VOIP server is configured to receive faxes. Is the server configured to receive faxes?	Go to step 7.	Contact the next level of support.
Step 7 Check if the printer is on a PABX. Is the printer on a PABX?	Go to step 9.	Go to step 8.
Step 8 **a** From the home screen, navigate to **Settings** > **Fax** > **Analog Fax Setup** > **Fax Send Settings** > **Behind a PABX**. **b** Select **Yes**. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 **a** From the home screen, navigate to **Settings** > **Fax** > **Analog Fax Setup** > **Fax Send Settings** > **Behind a PABX**. **b** Select **No**. **c** Check if access to an outside line needs a dial prefix. Does access to an outside line need a dial prefix?	Go to step 10.	Go to step 11.
Step 10 Send a fax using a dial prefix. Does the problem remain?	Go to step 11.	The problem is solved.
Step 11 Check if the printer sends a fax to one specific destination. Does the printer send a fax to one specific destination?	Go to step 13.	Go to step 12.

Actions	Yes	No
Step 12 Check if the device that does not receive a fax can send a fax. Can the device send a fax?	Go to step 13.	Contact the next level of support.
Step 13 **a** Enter the Service Engineer menu, and then navigate to: **Fax SE** > **Fax Settings** > **AutoPrint T30 Logs** **b** Check the reported error code. See **"Fax error log codes" on page 189**. **c** Perform the action suggested for the error. Does the problem remain?	Go to step 14.	The problem is solved.
Step 14 **a** Enter the Service Engineer menu, and then navigate to: **Fax SE** > **Modem Settings** > **Transmit Level** **b** Adjust the setting in steps of 1 dB. **Note:** The recommended adjustment range is ±5 dB from the default value. Does the problem remain?	Contact the next level of support.	The problem is solved.

Fax transmission service check

Actions	Yes	No
Step 1 Reseat the telephone cable on the LINE port of the printer and on the wall jack. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check for a dial tone. Is there a dial tone?	Go to step 3.	Go to step 5.
Step 3 Check if the telephone line can send and receives calls. Is the phone line properly working?	Go to step 6.	Go to step 4.
Step 4 Check if the telephone line is free of static or external noise. Is the line free of static or external noise?	Go to step 6.	Go to step 5.

Actions	Yes	No
Step 5 Connect the telephone cable to a working wall jack. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 **a** From the home screen, navigate to **Settings** > **Fax** > **Analog Fax Setup** > **Fax Receive Settings** > **Admin Controls** > **Enable Fax Receive**. **b** Select **On**. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 **a** From the home screen, navigate to **Settings** > **Fax** > **Analog Fax Setup** > **Fax Receive Settings** > **Admin Controls** > **Answer on**. **b** Select a ring pattern. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 Check if the telephone line is analog. Is the line analog?	Go to step 11.	Go to step 9.
Step 9 Check if the telephone line is a VOIP line. Is the line VOIP?	Go to step 11.	Go to step 10.
Step 10 Ask the system administrator to check if the VOIP server is configured to receive faxes. Is the server configured to receive faxes?	Go to step 11.	Contact the next level of support.
Step 11 Check if the printer receives a fax from one specific remote device. Does the printer receive a fax from one specific remote device?	Go to step 13.	Go to step 12.
Step 12 Check if a different device can send a fax. Can the device send a fax?	Contact the next level of support.	Go to step 13.

Actions	Yes	No
Step 13 **a** From the home screen, navigate to **Settings** > **Fax** > **Analog Fax Setup** > **Fax Receive Settings** > **Admin Controls** > **Block No Name Fax**. **b** Select **Off**. Does the problem remain?	Go to step 14.	The problem is solved.
Step 14 **a** From the home screen, navigate to **Settings** > **Fax** > **Analog Fax Setup** > **Fax Receive Settings** > **Admin Controls** > **Banned Fax List**. **b** Check if the remote device number is on the list. Is the number on the list?	Go to step 15.	Go to step 16.
Step 15 Remove the remote device number from the list. Does the problem remain?	Go to step 16.	The problem is solved.
Step 16 **a** Enter the Service Engineer menu, and then navigate to: **Fax SE** > **Modem Settings** > **Receive Thresh** **b** Adjust the setting in steps of 2 dB. **Note:** The recommended adjustment range is between -33 dB and -48 dB. Does the problem remain?	Go to step 17.	The problem is solved.
Step 17 **a** Enter the Service Engineer menu, and then navigate to: **Fax SE** > **Fax Settings** > **AutoPrint T30 Logs** **b** Check the reported error code. See **"Fax error log codes" on page 189**. **c** Perform the action suggested for the error. Does the problem remain?	Contact the next level of support.	The problem is solved.

Fax error log codes

Error code	Description	Action
000	No error occurred during a fax transmission.	No action is needed.
200	An error occurred when transmitting training.	• Check the line quality. • Select a lower Max Speed value under the Fax Send settings. • Adjust the transmit level.
3XX	An error occurred when receiving an image data.	• Check the line quality. • Adjust the Receive Threshold. • Select a lower Max Speed value unde the r Fax Receive settings.
4XX	An error occurred when sending an image data.	• Check the line quality. • Adjust the Transmit Level. • Select a lower Max Speed value under the Fax Receive settings.
5XX	An unknown response is received from a remote fax device.	No action is needed. The issue is with the other device.
6XX	An error occurred when receiving a frame.	• Check the line quality. • Adjust the Receive Threshold.
7XX	An error occurred when sending a frame.	• Check the line quality. • Adjust the Transmit Level. • Select a lower Max Speed value under the Fax Send settings.
800	An EOT was unexpectedly received from the modem in V34 mode.	If the error persists, then disable the V34 modulation scheme.
802	Too many time-outs occurred during ECM reception.	If the error persists, then disable the ECM mode.
803	Fax cancelled by the user.	No action is needed.
804	Unexpectedly received a disconnect command from the remote end.	• Check the line quality. • Adjust the Transmit Level or Receive Threshold setting. • The remote device could be requesting an unsupported feature.
805	The remote fax device failed to respond to the DCS command.	• Adjust the Transmit Level or Receive Threshold setting. • The remote device could be malfunctioning.
808	T1 timeout occurred when trying to establish a connection with a remote fax device.	Adjust the Transmit Level or Receive Threshold setting.

Error code	Description	Action
809	T2 Timeout occurred due to loss of command/response synchronization.	Adjust the Transmit Level or Receive Threshold setting.
80A	T5 Timeout occurred when transmitting image data to remote fax device.	- Check line quality. - Adjust the Transmit Level setting - Decrease the Max Speed setting under Fax Send settings.
80B	Too many errors when transmitting in ECM mode.	- Check line quality. - Adjust the Transmit Level setting - Select a lower 'Max Speed' value under Fax Send settings.
80C	Remote device failed to respond to the CTC command.	- Decrease the Max Speed setting under Fax Send settings. - Adjust the Transmit Level setting
80D	Received too many requests from remote end to repeat the previous command sent.	- Check line quality. - Adjust the Transmit Level setting - Check if line conditions on remote end will facilitate a good connection.
80E	Functional limitation-Remote fax device does not support G3 receive capability.	No action needed. Issue with the remote device.
811	Failed to detect a fax device at the remote end.	- Verify MFD is answering to fax call and not a voice call. - Decrease the Rings To Answer setting.
812	No more data rates available in V34 modulation scheme.	Decrease the modulation scheme.
813	Timeout occurred after waiting too long to receive a good frame.	Adjust the Receive Threshold setting.
814	Tried too many times at selected speed using V34 modulation scheme.	- Adjust the Transmit Level setting. - Decrease the modulation scheme.
815	Fax transmission was interrupted due to power failure.	Troubleshoot MFP if error persists. See **"Modem/fax card service check" on page 183**.
818	Fax transmission failed due to insufficient memory to store scanned image.	Adjust the Memory Use setting to allocate more memory for send jobs.
819	Fax transmission failed due to insufficient memory to store received image.	Adjust the Memory Use setting to allocate more memory for receive jobs.
81A	A timeout occurred during transmission of a page in ECM mode.	Decrease the Max Speed setting under Fax Send settings.

Diagnostics and troubleshooting

Error code	Description	Action
880	Failure to transmit training successfully in V17, V29, V27 terminal modulation schemes.	• Decrease the Max Speed setting under Fax Send settings. • Adjust the Transmit Level setting. • Check line quality.
881	Failure to transmit training successfully in V33, V29, V27 terminal modulation schemes.	• Decrease the Max Speed setting under Fax Send settings. • Adjust the Transmit Level setting. • Check line quality.
882	Failure to transmit training successfully in V17, V29 terminal modulation schemes.	• Decrease the Max Speed setting under Fax Send settings. • Adjust the Transmit Level setting. • Check line quality.
883	Failure to transmit training successfully in V17, V27 terminal modulation schemes.	• Decrease the Max Speed setting under Fax Send settings. • Adjust the Transmit Level setting. • Check line quality.
884	Failure to transmit training successfully in V29, V27 terminal modulation schemes.	• Decrease the Max Speed setting under Fax Send settings. • Adjust the Transmit Level setting. • Check line quality.
885	Failure to transmit training successfully in V17 terminal modulation scheme.	• Decrease the Max Speed setting under Fax Send settings. • Adjust the Transmit Level setting. • Check line quality.
886	Failure to transmit training successfully in V29 terminal modulation scheme.	• Decrease the Max Speed setting under Fax Send settings. • Adjust the Transmit Level setting. • Check line quality.
887	Failure to transmit training successfully in V27 terminal modulation scheme.	• Decrease the Max Speed setting under Fax Send settings. • Adjust the Transmit Level setting. • Check line quality.
888	Failure to transmit training successfully at 2400 bps in V27 terminal modulation scheme.	• Adjust the Transmit Level setting. • Check line quality.
889	Failed to connect at the minimum speed supported by the MFP.	• Adjust the Transmit Level setting. • Incompatible connection.
88A	Failed to connect using V.34 modulation scheme.	• Check line quality. • Decrease the modulation scheme. • Adjust the Transmit Level or Receive Threshold settings.

Diagnostics and troubleshooting

Error code	Description	Action
901	No fax tones detected from remote end.	• Verify destination phone number. • Verify that the remote fax is authorized to receive faxes.
902	No dial tone detected.	• Check by enabling Behind a PABX setting. • Check phone line. • Check MFD modem hardware.
903	Busy tone detected.	Check with remote end if successive attempts fail.
904	Hardware error detected.	See **"Modem/fax card service check" on page 183**.
905	A timeout occurred after dialing the number and waiting for a response.	Check with remote end if successive attempts fail.
906	Fax cancelled by user.	No action needed.
907	Modem detected a digital line connection.	Verify that the MFP is connected to an analog line. See **"Fax transmission service check" on page 186**.
908	Phone line was disconnected	Restore phone line connection.
A00	Received request for unsupported function from remote fax device.	No action needed.
A01	Received request for unsupported image width from remote fax device.	No action needed.
A02	Received request for unsupported image resolution from remote fax device.	No action needed.
A03	Received request for unsupported compression type from remote fax device.	No action needed.
A04	Received request for unsupported image length from remote fax device.	No action needed.
F00	Unknown error occurred.	No action needed.

Escalating a fax issue to next level of support

Before contacting the next level of support, go to the SE menu, and then generate a fax error file. This file contains machine settings information and debug information that will help the next level of support determine the cause of a failure.

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

1 Open a web browser, and then type `http://MFP/<IP address>/se`.

The SE menu displays.

2 Click **Dump Job History**.

The following information appears:

Fax Job Log

Wednesday, 2006-02-08 11:25

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

3 Write down the type of connection, the type of error, and the job in which the error occurred.

4 Open a Web browser, and then type **http://MFP/<IP address>/se**.

5 Click **Report a Fax Problem**.

The fax check list appears.

6 Fill in the requested information.

Type in the information you retrieved in step 3.

The next level of support can assist you if you have questions about the information requested on the page.

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

Describe the Physical Connection:

Type:	Description:	Channel Quality:
⦿ Analog	☐ VoIP/FoIP	⦿ Clear
○ Digital	☐ PAB	○ OK
	☐ ISD	○ Some Noise
		○ Very Noisy

Note: The fields requesting the code levels, model number, and type of problem are auto-filled. If the information is not in the fields, then retrieve it from the SE menu. To access the SE menu, press *411 or open a web browser, and then type **http://MFP/<IP address>/se**.

7 Click **Submit**.

Note: The file that the MFP generates is not transmitted automatically to the next level of support. It is placed on the computer desktop.

8 Type a filename, and then save the file.

9 Click **OK**.

10 E-mail the file to the next level of support.

Other symptoms

Base printer symptoms

Base printer symptoms

Symptom	Action
The printer does not have power.	See **"Dead printer service check" on page 194**.
The control panel is not functioning.	See **"Control panel service check" on page 197**.
False values for the front door appear on the display.	See **"Interlock service check" on page 199**.
Sensor (narrow media) service check.	See **"Sensor (narrow media) service check" on page 203**.
TMC card service check.	See **"TMC card service check" on page 120**.
The printer is not communicating with the USB host.	See **"USB service check" on page 204**.
The printer is not communicating with the network host.	See **"Network service check" on page 205**.

Dead printer service check

A dead printer is one which, when powered on from a known good electrical outlet, displays no indication of power to the printer by changes to the control panel display, or any movement of the fan or motors.

If a 650-sheet duo tray is installed, remove the tray and then check the base printer for correct operation. If the base printer operates correctly, then replace the 650-sheet duo tray.

Warning—Potential Damage: Observe all necessary ESD precautions when removing and handling the controller board or any installed option cards or assemblies.

CAUTION—SHOCK HAZARD: 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 to perform the task.

Note: Remove any input option from the printer.

Action	Yes	No
Step 1 Turn on the printer. Did the printer turn on?	The problem is solved.	Go to step 2.
Step 2 Check the AC power voltage. Is the line voltage correct?	Go to step 4.	Go to step 3.

Action	Yes	No
Step 3 Inform the customer of possible issues with the line voltage. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Check the AC power cord for damage, and replace if necessary. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Check the USB ground contacts on the controller board for damage, and repair if necessary. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Make sure that the voltage switch on the LVPS is properly set, and change if necessary. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 **a** Turn off the printer. **b** Remove the rear cover. See **"Rear cover removal" on page 373**. **c** Check the cable connection at the JLVPS1 connector on the controller board for proper connection, and reseat if necessary. Does the problem remain?	Go to step 8.	The problem is solved.

Action	Yes	No
Step 8 Turn on the printer, and then check the following voltages at the JLVPS1 connector on the controller board: **Note:** Test one connector pin at a time. • Pin 1: +6.5 V • Pin 2: Ground • Pin 3: +6.5 V • Pin 4: Ground • Pin 5: +6.5 V • Pin 6: Ground • Pin 7: +24 V_RAW • Pin 8: Ground • Pin 9: +24 V_RAW • Pin 10: Ground • Pin 11: +24 V_RAW • Pin 12: Ground • Pin 13: RELAY_DRIVE • Pin 14: PS_ZERO_XING_IN • Pin 15: HEAT1_ON_R • Pin 16: +24 V_ON_R+ Are the voltage values approximately the same?	Go to step 9.	Go to step 10.
Step 9 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.
Step 10 Replace the LVPS. See **"LVPS removal" on page 294**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Control panel service check
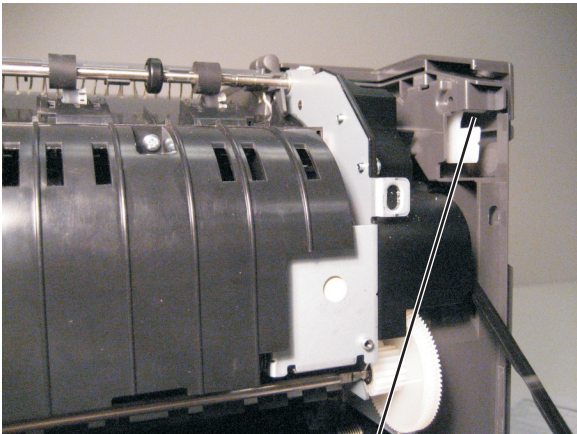
Action	Yes	No
Step 1 Perform a POR. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check the indicator light on the control panel. Is the indicator light on?	Go to step 3.	Go to step 4.
Step 3 Check the Ethernet and controller board LEDs on the controller board. Are the LEDs on?	Go to step 4.	Go to step 9.
Step 4 Check the ribbon cable connection between the control panel and the controller board. Is the cable properly connected at both ends?	Go to step 6.	Go to step 5.
Step 5 Reconnect the cable. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Check the cable for damage, and replace if necessary. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Replace the control panel cable. Does the problem remain?	Go to step 8.	The problem is solved.
Step 8 Replace the control panel. See **"4.3-inch control panel removal" on page 335**, **"2.4-inch control panel top cover and control panel removal" on page 331**, or **"7-inch control panel removal" on page 336**. Does the problem remain?	Go to step 12.	The problem is solved.
Step 9 Disconnect the LVPS cable from the controller board, and then measure the voltage values of the red and orange wires. Is the reading on the red wire +6.5 V, and the orange wire +25 V?	Go to step 12.	Go to step 10.

Action	Yes	No
Step 10 Replace the LVPS cable. Does the problem remain?	Go to step 11.	The problem is solved.
Step 11 Replace the LVPS. See **"LVPS removal" on page 294**. Does the problem remain?	Go to step 12.	The problem is solved.
Step 12 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.
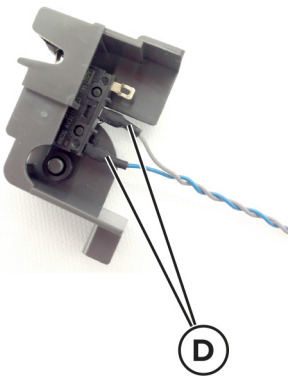
HVPS service check

Action	Yes	No
Step 1 Perform a POR. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check the cable at the JHVPS1 connector on the controller board for proper connection and damage, and replace if necessary. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 **a** Remove the transfer module, and then check if the three contacts move up and down, and are making contact with the transfer module. **b** Reposition the transfer module so that the contacts move up and down. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Replace the HVPS. See **"HVPS removal" on page 307**. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Interlock service check

Action	Yes	No
Step 1 **a** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** **b** Find the sensor (Door interlock). Does the sensor status change while toggling the sensor?	Go to step 2.	Go to step 7.
Step 2 **a** Open the front door, and then check the web pivot plate (A) at the top right corner of the printer. A **Note:** With the other covers in place and closed, the pivot plate interacts with switches in the door. **b** Open the toner cover, and then check the motion of the pivot plate. Is the pivot plate loose, damaged, or missing?	Go to step 3.	Go to step 4.
Step 3 Replace the right cover. See **"Right cover removal" on page 299**. Does the problem remain?	Go to step 4.	The problem is solved.

Action	Yes	No
Step 4 Open the toner door, and then check the vertical web (B) that pushes and rotates the pivot plate. B Is the web damaged?	Go to step 5.	Go to step 6.
Step 5 Replace the MFP toner cover. See **"MFP toner cover removal" on page 383**. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 **a** Open the front door. **b** Using a spring hook, push the metal arms (C) to check the movement of the two switches. C Are the switches and surrounding area damaged?	Go to step 8.	Go to step 7.
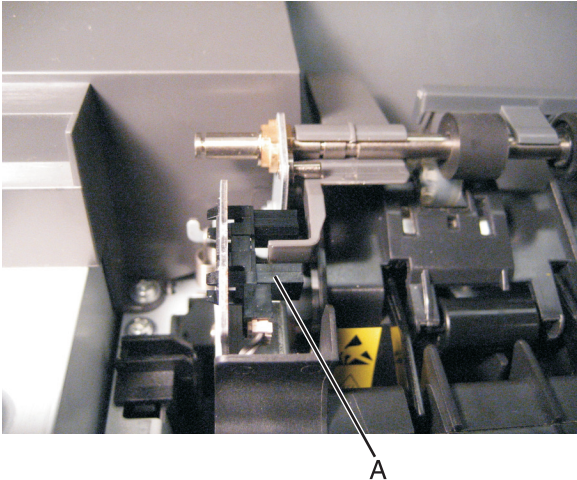
Action	Yes	No
Step 7 Check the cable connections (D) on the sensor. Are the cables properly connected to the switch?	Go to step 9.	Go to step 8.
Step 8 Replace the interlock switch cover assembly. See **"Interlock switch cover assembly removal" on page 326**. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 **a** Turn off the printer. **b** Remove the rear cover. See **"Rear cover removal" on page 373**. **c** Turn on the printer, and then verify if the pin 1 value of the JCVR1 connector on the controller board is +25 V dc. Is the value approximately the same?	Go to step 10.	Go to step 12.

Step 10
a Close the front door, and then close the toner door.
b Make sure that the right cover is in place.
c Turn off the printer, and then disconnect the cable at the JCVR1 connector on the controller board.
d Test the JCVR1 connector on the controller board under the following conditions:
  • Close the front cover and toner door, and then test if pin 1 and pin 2 have continuity.
  • With one or both doors open, pin 1 and pin 2 should not have continuity.
 	
Are the tests verified?
	Contact the next level or support.	Go to step 11.

Action	Yes	No
Step 11 Replace the front door. See **"Front door removal" on page 322**. Does the problem remain?	Go to step 12.	The problem is solved.
Step 12 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level or support.	The problem is solved.

Invalid input option type or ID is detected service check

Action	Yes	No
Step 1 **a** Make sure to update to the latest printer firmware version. **b** Make sure that the options configuration is supported. **c** Perform a POR. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check the option interface cable for proper connection and damage, and replace if necessary. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check the printer interface cable and adjacent options for proper connection and damage, and replace if necessary. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Perform a POR. Does the problem remain?	Contact the next level of support.	The problem is solved.

Sensor (narrow media) service check

Action	Yes	No
Step 1 **a** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** **b** Find the sensor (Narrow media). **c** Open the front door, and then toggle the sensor (A). A Does the sensor status change while toggling the sensor?	Go to step 3.	Go to step 2.
Step 2 Replace the sensor (narrow media). See **"Sensor (narrow media) removal" on page 387**. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check the sensor flag for proper installation and damage, and replace if necessary. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Check the sensor cable for proper connection or damage, and replace if necessary. Does the problem remain?	Go to step 5.	The problem is solved.
Step 5 **a** Enter the Diagnostics menu, and then navigate to: **Printer diagnostics & adjustments** > **Sensor tests** **b** Find the sensor (Bin full). **c** Open, and then close the front door to toggle the sensor. Does the sensor status change while toggling the sensor?	Contact the next level or support.	Go to step 6.

Action	Yes	No
Step 6 Check the sensor cable for proper connection and damage, and replace if necessary. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact your next level or support.	The problem is solved.

USB service check

Actions	Yes	No
Step 1 Check if the USB cable is properly connected to the printer and host PC. Is the cable properly connected?	Go to step 3.	Go to step 2.
Step 2 Properly connect the cable at both ends. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Use a different USB cable. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 Connect a different device to the USB cable, and then check if the host PC detects the device. Did the host PC detect the device?	Go to step 5.	Contact the next level of support.
Step 5 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Network service check

Action	Yes	No
Step 1 Check if the printer is using an Ethernet network. Is the printer using an Ethernet network?	Go to step 2.	Go to step 3.
Step 2 Make sure that the Ethernet cable is properly connected at both ends. Does the problem remain?	Go to step 4.	The problem is solved.
Step 3 **a** Make sure that the printer is not physically connected to a wired LAN. **b** If the printer is connected using an Ethernet connection, unplug the cable from the printer, and then perform a POR to connect the printer to a wireless network. Does the problem remain?	Go to step 4.	The problem is solved.
Step 4 **a** From the home screen, navigate to **Settings** > **Network/Ports** > **Active Adapters**. **b** Check if the adapter that appears matches the adapter used in the printer. Do the adapters match?	Go to step 6.	Go to step 5.
Step 5 Change the active adapter setting to match the adapter used in the printer. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 **a** Check the online status of the printer under Printers and Faxes on the host computer. **b** Delete all print jobs in the print queue. Is the printer online and in the Ready state?	Go to step 8.	Go to step 7.
Step 7 Change the printer status to Online. Does the problem remain?	Go to step 8.	The problem is solved.

Action	Yes	No
Step 8 Check the printer IP address on the Network Settings Page. Does it match the IP address in the drivers port using the printer?	Go to step 13.	Go to step 9.
Step 9 Check if the printer uses a static IP address on a network. Is the printer using a DHCP IP address?	Go to step 10.	Go to step 12.
Step 10 Check the first two segments of the IP address. Does the IP address start with 169.254?	Go to step 11.	Go to step 12.
Step 11 Perform a POR. Does the problem remain?	Go to step 13.	The problem is solved.
Step 12 Reset the IP address on the printer to match the IP address on the driver. Does the problem remain?	Go to step 13.	The problem is solved.
Step 13 Check if the printer and computer IP addresses have the same subnet address. Does the printer and computer IP addresses have the same subnet address?	Go to step 15.	Go to step 14
Step 14 Using the subnet address supplied by the network administrator, assign a unique IP address to the printer. **Note:** The printer IP address should match the IP address on the print driver. Does the problem remain?	Go to step 15.	The problem is solved.
Step 15 Check if the printer is physically connected to the network. Is the printer physically connected to the network?	Go to step 16.	Go to step 23.
Step 16 Use a different Ethernet cable. Does the problem remain?	Go to step 17.	The problem is solved.

Action	Yes	No
Step 17 Have the network administrator check the network drop for activity. Is the network drop functioning properly?	Go to step 19.	Go to step 18.
Step 18 Try a known and functioning network drop. Does the problem remain?	Go to step 19.	The problem is solved.
Step 19 Check if the bulit-in Ethernet port on the controller board is used to connect to the network. Is the built-in Ethernet port on the controller board used to connect to the network?	Go to step 22.	Go to step 20.
Step 20 Make sure that the option Ethernet card is properly installed, and reseat if necessary Does the problem remain?	Go to step 21.	The problem is solved.
Step 21 Replace the option Ethernet card. Does the problem remain?	Go to step 22.	The problem is solved.
Step 22 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.
Step 23 Check if the printer is on the same wireless network as the other devices. Is the printer on the same wireless network as the other devices?	Go to step 25.	Go to step 24.
Step 24 Assign the correct wireless network to the printer. Does the problem remain?	Go to step 25.	The problem is solved.
Step 25 Check if the other devices on the wireless network are properly communicating. Are the other devices on the wireless network properly communicating?	Go to step 26.	Contact the network administrator.

Action	Yes	No
Step 26 Make sure that the wireless card on the printer is properly installed. Does the problem remain?	Go to step 27.	The problem is solved.
Step 27 Check if an antenna is attached to the wireless card. Is an antenna attached to the wireless card?	Go to step 28.	Go to step 29.
Step 28 Check the antenna for proper installation and damage, and replace if necessary. Does the problem remain?	Go to step 29.	The problem is solved.
Step 29 Replace the wireless card. See **"Wireless card removal" on page 341**. Does the problem remain?	Go to step 30.	The problem is solved.
Step 30 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

TPS service check

Action	Yes	No
Step 1 Check the cable on the JTPS1 and JTPS2 connector on the controller board for proper connection and damage, and replace if necessary. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check the cables on the left and right TPS sensors for proper connection and damage, and replace if necessary. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Check the left and right TPS sensors for proper installation and damage, and replace if necessary. See **"Sensors (toner patch) removal" on page 304**. Does the problem remain?	Go to step 4.	The problem is solved.

Action	Yes	No
Step 4 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Weather station service check

Action	Yes	No
Step 1 Make sure that the cable on the JWS1 connector on the controller board is properly connected. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Make sure that the weather station cable is properly connected. Does the problem remain?	Go to step 3.	The problem is solved.
Step 3 Replace the sensor (weather station). See **"Weather station removal" on page 338**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Input option symptoms

550-sheet tray and 650-sheet duo tray input option symptoms
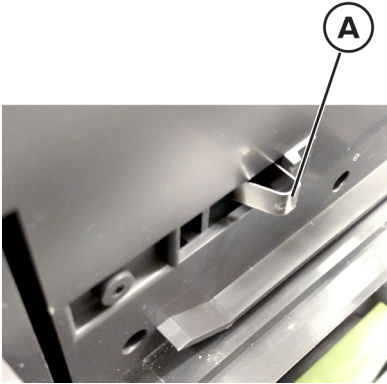
Note: The C2325, MC2325, CS421, CX421, C2425, and MC2425 does not support the 550-sheet tray.

Symptom	Action
The printer fails to recognize an installed option.	See **"Option and paper size not recognized service check" on page 212**.
Tray [x] does not recognize the paper size loaded.	See **"Option and paper size not recognized service check" on page 212**.
• A `Tray missing` message appears even if the tray is installed. • The tray insert does not fit in the tray base.	See **"Sensor (tray [x]) service check" on page 210**.
Double feed.	See **"Double feed and printout skewed service check" on page 215**.
The printout is skewed.	See **"Double feed and printout skewed service check" on page 215**.
The printer failed to feed from the option tray.	See **"Failed to feed from option tray and leading edge damaged service check" on page 221**.

Symptom	Action
The leading edge is damaged.	See **"Failed to feed from option tray and leading edge damaged service check" on page 221**.
The printer failed to feed from the MPF.	See **"Failed to load/feed from the multipurpose feeder service check" on page 218**.
Load MPF with plain letter-size paper.	See **"Failed to load/feed from the multipurpose feeder service check" on page 218**.
Tray 2 or tray 3 is missing.	See **"Tray 2 or tray 3 missing service check" on page 227**.
Tray 2 or tray 3 is not detected.	See **"Tray 2 or tray 3 not detected service check" on page 224**.
Tray 2 or tray 3 is empty.	See **"Tray 2 or tray 3 empty service check" on page 230**.
Incompatible tray 3.	See **"Incompatible tray 3 service check" on page 233**.

Sensor (tray [x]) service check

Actions	Yes	No
Step 1 **a** Perform a POR. **b** Reseat the printer on the input option. **c** Make sure that the input option configuration is supported. See the *Printer, Option, and Stand Compatibility Guide*. Does the problem remain?	Go to step 2.	Problem resolved.
Step 2 When the printer is in the Ready state, remove and then insert the tray. Did a `Keep the current configuration` message appear?	Go to step 3.	Go to step 6.
Step 3 Check the vertical wall at the left side of the tray for damage, and replace the tray if necessary. Does the problem remain?	Go to step 4.	The problem is solved.

Actions	Yes	No
Step 4 Check the metal leaf (A) spring for damage. Is the spring damaged and unable to actuate the sensor?	Go to step 5.	Contact the next level of support.
Step 5 • If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray. Does the problem remain?	Go to step 6.	The problem is solved.
Step 6 Check if a **Keep the current configuration** message appears. Did a **Keep the current configuration** message appear?	Go to step 7.	The problem is solved.

Actions	Yes	No

Step 7
a Turn off the printer.
b Remove the rear cover. See **"Rear cover removal" on page 373**.
c Disconnect the following cables on the controller board:
    • JTRAY1 cable for tray 1
    • JOPT1 cable for tray 2 and tray 3
d Turn on the printer, and then measure the following voltage values:
For tray 1, check the following pins on the JTRAY1 connector on the controller board:
    • Pin 1: +5 V dc
    • Pin 2: +5 V dc
    • Pin 3: Ground
For tray 2, check the following pins on the JOPT1 connector on the controller board:
    • Pin 2: Ground
    • Pin 3: Ground
    • Pin 5: +24 V dc
 	
Are the voltage values approximately the same?
	The problem is solved.	Go to step 8.

Step 8 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Option and paper size not recognized service check

Action	Yes	No
Step 1 **a** Perform a POR. **b** Reseat the printer on the input option. **c** Make sure that the input option configuration is supported. See the *Printer, Option, and Stand Compatibility Guide*. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check if the printer is using both the 650-sheet duo tray and 550-sheet tray. Is the printer using both the 650-sheet duo tray and 550-sheet tray?	Go to step 3.	Go to step 4.

Action	Yes	No
Step 3 a Make sure that the sequence of the option trays is correct. The 650‑sheet duo tray should be tray 2, and the 550‑sheet tray should be tray 3. b Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** c Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 4.
Step 4 a Isolate the problem. Verify the problem by installing only one input option to the printer at a time. b Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** c Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 5.
Step 5 Check the following for any damage: For the 550‑sheet tray • Tray insert • Paper restraints • Paper dams • Pick pads For the 650‑sheet duo tray • Tray insert • Paper restraints • Paper dams • Pick pads • MPF gear • MPF pick assembly • MPF tray Is the tray free of damage?	Go to step 6.	• If a 650‑sheet duo tray insert is affected, then replace the 650‑sheet duo tray. • If a 550‑sheet tray insert is affected, then replace the 550‑sheet tray.
Step 6 Check the pick tires for wear, damage, contamination, and proper installation. Is the pick tire properly installed and free of wear or damage?	Go to step 7.	Go to step 8.

Action	Yes	No
Step 7 Check the tray and the following for any damage or contamination: • Top and bottom autoconnector • Sensor (pass-through) • Feed rollers • Input option pick assembly (if it can go down every time the tray is inserted) Is the tray free of damage or contamination?	Go to step 9.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 8 Replace the pick tire. See **"Pick tire removal" on page 420**. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 **a** Turn off the printer. **b** Remove the printer from the optional trays. **c** Remove the rear cover. See **"Rear cover removal" on page 373**. **d** Reseat the JOPT1 cable on the controller board. **e** Check the JOPT1 cable for damage, and replace if necessary. **f** Position the printer to partially hang on the side of a table, and then check the autoconnect/option tray cable for damage. Is the autoconnect/option tray cable damaged?	Go to step 10.	Go to step 11.
Step 10 • If the printer autoconnector is damaged, then replace the tray 2 to controller board cable. • If the option tray autoconnector is damaged, then go to step 12. Does the problem remain?	Go to step 12.	The problem is solved.
Step 11 • If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray. Does the problem remain?	Go to step 12.	The problem is solved.

Action	Yes	No

Step 12
 a Turn off the printer.
 b Remove the rear cover. See **"Rear cover removal" on page 373**.
 c Disconnect the cable at the JOPT1 connector on the controller board.
 d Turn on the printer.
 e Measure the following voltages on the JOPT1 connector on the controller board:
   • Pin 2: Ground
   • Pin 3: Ground
   • Pin 5: +24 V dc
   • Pin 6: Ground
   • Pin 7: +5 V dc
   • Pin 9: Ground
   • Pin 10: Ground
 	
 Are the voltage readings approximately the same?
	Contact the next level of support.	Go to step 13.

Step 13 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Double feed and printout skewed service check

Action	Yes	No
Step 1 **a** Fan the paper. **b** Verify the proper tray settings for the paper. **c** Check the condition of all the option tray pick tires. **d** Make sure that the tray is fully inserted. **e** Make sure that the paper guides are properly adjusted to the paper size being loaded. **f** Make sure that the printer and option trays are on a flat surface. **g** Make sure that the printer is sitting flat on the option trays. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check if the printer is using both the 650-sheet duo tray and 550-sheet tray. Is the printer using both the 650-sheet duo tray and 550-sheet tray?	Go to step 3.	Go to step 4.

Action	Yes	No
Step 3 **a** Make sure that the sequence of the option trays is correct. The 650-sheet duo tray should be tray 2, and the 550-sheet tray should be tray 3. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 4.
Step 4 **a** Isolate the problem. Verify the problem by installing only one input option to the printer at a time. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 5.
Step 5 Check the following for any damage: For the 550-sheet tray • Tray insert • Paper restraints • Paper dams • Pick pads For the 650-sheet duo tray • Tray insert • Paper restraints • Paper dams • Pick pads • MPF gear • MPF pick assembly • MPF tray Is the tray free of damage?	Go to step 6.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 6 Check the pick tires for wear, damage, contamination, and proper installation. Is the pick tire properly installed and free of wear or damage?	Go to step 7.	Go to step 8.

Action	Yes	No
Step 7 Check the tray and the following for any damage or contamination: • Top and bottom autoconnector • Sensor (pass-through) • Feed rollers • Input option pick assembly (if it can go down every time the tray is inserted) Is the tray free of damage or contamination?	Go to step 9.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 8 Replace the pick tire. See **"Pick tire removal" on page 420**. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 **a** Turn off the printer. **b** Remove the printer from the trays. **c** Remove the rear cover. See **"Rear cover removal" on page 373**. **d** Reseat the JOPT1 cable on the controller board. **e** Check the JOPT1 cable for damage, and replace if necessary. **f** Position the printer to partially hang on the side of a table, and then check the autoconnect/option tray cable for damage. Is the autoconnect/option tray cable damaged?	Go to step 10.	Go to step 11.
Step 10 • If the printer autoconnector is damaged, then replace the tray 2 to controller board cable. • If the option tray autoconnector is damaged, then go to step 12. Does the problem remain?	Go to step 12.	The problem is solved.
Step 11 • If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray. Does the problem remain?	Go to step 12.	The problem is solved.

Action	Yes	No

Step 12
a Turn off the printer.
b Remove the rear cover. See **"Rear cover removal" on page 373**.
c Disconnect the cable at the JOPT1 connector on the controller board.
d Turn on the printer.
e Measure the following voltages on the JOPT1 connector on the controller board:
  • Pin 2: Ground
  • Pin 3: Ground
  • Pin 5: +24 V dc
  • Pin 6: Ground
  • Pin 7: +5 V dc
  • Pin 9: Ground
  • Pin 10: Ground
 	
Are the voltage readings approximately the same?
	Contact the next level of support.	Go to step 13.

Step 13 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Failed to load/feed from the multipurpose feeder service check

Action	Yes	No
Step 1 **a** Make sure that the 650-sheet duo tray is tray 2. **b** Make sure that the 650-sheet duo tray is properly installed. **c** Fan the paper. **d** Make sure that the correct tray setting is set for the paper. **e** Verify the paper source. **f** Check the MPF pick tires for wear or damage, and replace if necessary. **g** Make sure that the tray insert is fully inserted. **h** Make sure that the paper is free from damage and defects. Does the problem remain?	Go to step 2.	The problem is solved.

Action	Yes	No
Step 2 Check if the printer is using both the 650-sheet duo tray and 550-sheet tray. Is the printer using both the 650-sheet duo tray and 550-sheet tray?	Go to step 3.	Go to step 4.
Step 3 **a** Make sure that the sequence of the option trays is correct. The 650-sheet duo tray should be tray 2, and the 550-sheet tray should be tray 3. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and the select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 4.
Step 4 **a** Isolate the problem. Verify the problem by installing only one option tray to the printer at a time. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and the select **Start**. Does the motor run on each input option?	Go to step 9.	Go to step 5.
Step 5 Check the following for any damage: • Input tray • Paper restrains • Paper dams • Pick pads • MPF gear • MPF pick assembly • MPF tray Is the option tray free of damage?	Go to step 6.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 6 **a** Make sure that the pick tire is free of contamination. **b** Check the pick tire for proper installation and damage. Is the pick tire properly installed and free of damage?	Go to step 9.	Go to step 7.
Step 7 Replace the pick tire. See **"Pick tire removal" on page 420**. Does the problem remain?	Go to step 8.	The problem is solved.

Action	Yes	No

Step 8
a Check the tray insert for damage or contamination.
b Check the following for damage or contamination:
   • Top and bottom autoconnector
   • Sensor (pass-through)
   • Feed rollers
   • Input option pick assembly
 	
Is the tray insert free of damage or contamination?
	Go to step 9.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray.
		• If a 550-sheet tray insert is affected, then replace the 550-sheet tray.

Step 9 **a** Turn off the printer. **b** Remove the printer from the trays. **c** Remove the rear cover. See **"Rear cover removal" on page 373**. **d** Reseat the JOPT1 cable on the controller board. **e** Check the JOPT1 cable for damage, and replace if necessary. **f** Position the printer to partially hang on the side of a table, and then check the autoconnect/option tray cable for damage. Is the autoconnect/option tray cable damaged?	Go to step 10.	Go to step 12.
Step 10 • If the printer autoconnector is damaged, then replace the tray 2 to controller board cable. • If the option tray autoconnector is damaged, then go to step 12. Does the problem remain?	Go to step 11.	The problem is solved.
Step 11 • If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray. Does the problem remain?	Go to step 12.	The problem is solved.

Action	Yes	No
Step 12 **a** Turn off the printer. **b** Remove the rear cover. See **"Rear cover removal" on page 373**. **c** Disconnect the JOPT1 cable on the controller board. **d** Turn on the printer. **e** Measure the following voltages on the JOPT1 connector on the controller board: • Pin 2: Ground • Pin 3: Ground • Pin 5: +24 V dc • Pin 6: Ground • Pin 7: +5 V dc • Pin 9: Ground • Pin 10: Ground Are the voltage readings approximately the same?	Contact the next level of support.	Go to step 13.
Step 13 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Failed to feed from option tray and leading edge damaged service check

Action	Yes	No
Step 1 **a** Fan the paper. **b** Verify the proper tray settings for the paper. **c** Verify the paper source. **d** Check the MPF pick tires for wear or damage, and replace if necessary. **e** Make sure that the tray is fully inserted. **f** Refer to the paper specifications and check the paper condition. **g** Make sure that the paper is free from damage and defects. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check if the printer is using both the 650-sheet duo tray and 550-sheet tray. Is the printer using both the 650-sheet duo tray and 550-sheet tray?	Go to step 3.	Go to step 4.

Action	Yes	No
Step 3 **a** Make sure that the sequence of the option trays is correct. The 650-sheet duo tray should be tray 2, and the 550-sheet tray should be tray 3. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 4.
Step 4 **a** Isolate the problem. Verify the problem by installing only one input option to the printer at a time. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 5.
Step 5 Check the following for any damage: For the 550-sheet tray • Tray insert • Paper restraints • Paper dams • Pick pads For the 650-sheet duo tray • Tray insert • Paper restraints • Paper dams • Pick pads • MPF gear • MPF pick assembly • MPF tray Is the tray free of damage?	Go to step 6.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 6 Check the pick tires for wear, damage, contamination, and proper installation. Is the pick tire properly installed and free of wear or damage?	Go to step 7.	Go to step 8.

Action	Yes	No
Step 7 Check the tray and the following for any damage or contamination: • Top and bottom autoconnector • Sensor (pass-through) • Feed rollers • Input option pick assembly (if it can go down every time the tray is inserted) Is the tray free of damage or contamination?	Go to step 9.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 8 Replace the pick tire. See **"Pick tire removal" on page 420**. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 **a** Turn off the printer. **b** Remove the printer from the trays. **c** Remove the rear cover. See **"Rear cover removal" on page 373**. **d** Reseat the JOPT1 cable on the controller board. **e** Check the JOPT1 cable for damage. **f** Position the printer to partially hang on the side of a table, and then check the autoconnect/option tray cable for damage. Is the autoconnect/option tray cable damaged?	Go to step 10.	Go to step 11.
Step 10 • If the printer autoconnector is damaged, then replace the tray 2 to controller board cable. • If the option tray autoconnector is damaged, then go to step 12. Does the problem remain?	Go to step 12.	The problem is solved.
Step 11 • If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray. Does the problem remain?	Go to step 12.	The problem is solved.

Action	Yes	No

Step 12
a Turn off the printer.
b Remove the rear cover. See **"Rear cover removal" on page 373**.
c Disconnect the cable at the JOPT1 connector on the controller board.
d Turn on the printer.
e Measure the following voltages on the JOPT1 connector on the controller board:
  • Pin 2: Ground
  • Pin 3: Ground
  • Pin 5: +24 V dc
  • Pin 6: Ground
  • Pin 7: +5 V dc
  • Pin 9: Ground
  • Pin 10: Ground
 	
Are the voltage readings approximately the same?
	Contact the next level of support.	Go to step 13.

Step 13 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Tray 2 or tray 3 not detected service check

Action	Yes	No
Step 1 **a** Perform a POR. **b** Reseat the option trays. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check if the printer is using both the 650-sheet duo tray and 550-sheet tray. Is the printer using both the 650-sheet duo tray and 550-sheet tray?	Go to step 3.	Go to step 4.

Action	Yes	No
Step 3 **a** Make sure that the sequence of the option trays is correct. The 650-sheet duo tray should be tray 2, and the 550-sheet tray should be tray 3. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 4.
Step 4 **a** Isolate the problem. Verify the problem by installing only one input option to the printer at a time. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 5.
Step 5 Check the following for any damage: For the 550-sheet tray • Tray insert • Paper restraints • Paper dams • Pick pads For the 650-sheet duo tray • Tray insert • Paper restraints • Paper dams • Pick pads • MPF gear • MPF pick assembly • MPF tray Is the tray free of damage?	Go to step 6.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 6 Check the pick tires for wear, damage, contamination, and proper installation. Is the pick tire properly installed and free of wear or damage?	Go to step 7.	Go to step 8.

Action	Yes	No
Step 7 Check the tray and the following for any damage or contamination: • Top and bottom autoconnector • Sensor (pass-through) • Feed rollers • Input option pick assembly (if it can go down every time the tray is inserted) Is the tray free of damage or contamination?	Go to step 9.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 8 Replace the pick tire. See **"Pick tire removal" on page 420**. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 **a** Turn off the printer. **b** Remove the printer from the trays. **c** Remove the rear cover. See **"Rear cover removal" on page 373**. **d** Reseat the JOPT1 cable on the controller board. **e** Check the JOPT1 cable for damage, and replace if necessary. **f** Position the printer to partially hang on the side of a table, and then check the autoconnect/option tray cable for damage. Is the tray autoconnect/option tray cable damaged?	Go to step 10.	Go to step 11.
Step 10 • If the printer autoconnector is damaged, then replace the tray 2 to controller board cable. • If the option tray autoconnector is damaged, then go to step 12. Does the problem remain?	Go to step 12.	The problem is solved.
Step 11 • If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray. Does the problem remain?	Go to step 12.	The problem is solved.

Action	Yes	No

Step 12
a Turn off the printer.
b Remove the rear cover. See **"Rear cover removal" on page 373**.
c Disconnect the cable at the JOPT1 connector on the controller board.
d Turn on the printer.
e Measure the following voltages on the JOPT1 connector on the controller board:
   • Pin 2: Ground
   • Pin 3: Ground
   • Pin 5: +24 V dc
   • Pin 6: Ground
   • Pin 7: +5 V dc
   • Pin 9: Ground
   • Pin 10: Ground
 	
Are the voltage readings approximately the same?
	Contact the next level of support.	Go to step 13.

Step 13 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Tray 2 or tray 3 missing service check

Action	Yes	No
Step 1 **a** Perform a POR. **b** Reseat the option trays. **c** Reseat the tray inserts. **d** Make sure that the paper pick assembly can be manually triggered. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check if the printer is using both the 650-sheet duo tray and 550-sheet tray. Is the printer using both the 650-sheet duo tray and 550-sheet tray?	Go to step 3.	Go to step 4.

Action	Yes	No
Step 3 **a** Make sure that the sequence of the option trays is correct. The 650-sheet duo tray should be tray 2, and the 550-sheet tray should be tray 3. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 4.
Step 4 **a** Isolate the problem. Verify the problem by installing only one input option to the printer at a time. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 5.
Step 5 Check the following for any damage: For the 550-sheet tray • Tray insert • Paper restraints • Paper dams • Pick pads For the 650-sheet duo tray • Tray insert • Paper restraints • Paper dams • Pick pads • MPF gear • MPF pick assembly • MPF tray Is the tray free of damage?	Go to step 6.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 6 Check the pick tires for wear, damage, contamination, and proper installation. Is the pick tire properly installed and free of wear or damage?	Go to step 7.	Go to step 8.

Action	Yes	No
Step 7 Check the tray and the following for any damage or contamination: • Top and bottom autoconnector • Sensor (pass-through) • Feed rollers • Input option pick assembly (if it can go down every time the tray is inserted) Is the tray free of damage or contamination?	Go to step 9.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 8 Replace the pick tire. See **"Pick tire removal" on page 420**. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 a Turn off the printer. b Remove the printer from the trays. c Remove the rear cover. See **"Rear cover removal" on page 373**. d Reseat the JOPT1 cable on the controller board. e Check the JOPT1 cable for damage, and replace if necessary. f Position the printer to partially hang on the side of a table, and then check the autoconnect/option tray cable for damage. Is the autoconnect/option tray cable damaged?	Go to step 10.	Go to step 11.
Step 10 • If the printer autoconnector is damaged, then replace the tray 2 to controller board cable. • If the option tray autoconnector is damaged, then go to step 12. Does the problem remain?	Go to step 12.	The problem is solved.
Step 11 • If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray. Does the problem remain?	Go to step 12.	The problem is solved.

Action	Yes	No

Step 12
a Turn off the printer.
b Remove the rear cover. See **"Rear cover removal" on page 373**.
c Disconnect the cable at the JOPT1 connector on the controller board.
d Turn on the printer.
e Measure the following voltages on the JOPT1 connector on the controller board:
  • Pin 2: Ground
  • Pin 3: Ground
  • Pin 5: +24 V dc
  • Pin 6: Ground
  • Pin 7: +5 V dc
  • Pin 9: Ground
  • Pin 10: Ground
 	
Are the voltage readings approximately the same?
	Contact the next level of support.	Go to step 13.

Step 13 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Tray 2 or tray 3 empty service check

Action	Yes	No
Step 1 **a** Add paper in the tray. **b** Properly set the paper restraints in the tray. **c** Perform a POR. **d** Reseat the option trays. **e** Refer to the paper specifications and check the condition of the paper. **f** Make sure that the paper is free from damage and defects. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check if the printer is using both the 650-sheet duo tray and 550-sheet tray. Is the printer using both the 650-sheet duo tray and 550-sheet tray?	Go to step 3.	Go to step 4.

Action	Yes	No
Step 3 **a** Make sure that the sequence of the option trays is correct. The 650-sheet duo tray should be tray 2, and the 550-sheet tray should be tray 3. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 4.
Step 4 **a** Isolate the problem. Verify the problem by installing only one input option to the printer at a time. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 9.	Go to step 5.
Step 5 Check the following for any damage: For the 550-sheet tray • Tray insert • Paper restraints • Paper dams • Pick pads For the 650-sheet duo tray • Tray insert • Paper restraints • Paper dams • Pick pads • MPF gear • MPF pick assembly • MPF tray Is the tray free of damage?	Go to step 6.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 6 Check the pick tires for wear, damage, contamination, and proper installation. Is the pick tire properly installed and free of wear or damage?	Go to step 7.	Go to step 8.

Action	Yes	No
Step 7 Check the tray and the following for any damage or contamination: • Top and bottom autoconnector • Sensor (pass-through) • Feed rollers • Input option pick assembly (if it can go down every time the tray is inserted) Is the tray free of damage or contamination?	Go to step 9.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 8 Replace the pick tire. See **"Pick tire removal" on page 420**. Does the problem remain?	Go to step 9.	The problem is solved.
Step 9 **a** Turn off the printer. **b** Remove the printer from the trays. **c** Remove the rear cover. See **"Rear cover removal" on page 373**. **d** Reseat the JOPT1 cable on the controller board. **e** Check the JOPT1 cable for damage, and replace if necessary. **f** Position the printer to partially hang on the side of a table, and then check the autoconnect/option tray cable for damage. Is the autoconnect/option tray cable damaged?	Go to step 10.	Go to step 11.
Step 10 • If the printer autoconnector is damaged, then replace the tray 2 to controller board cable. • If the option tray autoconnector is damaged, then go to step 12. Does the problem remain?	Go to step 12.	The problem is solved.
Step 11 • If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray. Does the problem remain?	Go to step 12.	The problem is solved.

Action	Yes	No

Step 12
a Turn off the printer.
b Remove the rear cover. See **"Rear cover removal" on page 373**.
c Disconnect the cable at the JOPT1 connector on the controller board.
d Turn on the printer.
e Measure the following voltages on the JOPT1 connector on the controller board:
    • Pin 2: Ground
    • Pin 3: Ground
    • Pin 5: +24 V dc
    • Pin 6: Ground
    • Pin 7: +5 V dc
    • Pin 9: Ground
    • Pin 10: Ground
 	
Are the voltage readings approximately the same?
	Contact the next level of support.	Go to step 13.

Step 13 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Incompatible tray 3 service check

Note: The C2325, MC2325, CS421, CX421, C2425, and MC2425 does not support the 550-sheet option tray.

Action	Yes	No
Step 1 **a** Make sure that the sequence of the option trays is correct. The 650-sheet duo tray should be tray 2, and the 550-sheet tray should be tray 3. **b** Reseat the option trays. Does the problem remain?	Go to step 2.	The problem is solved.
Step 2 Check if the printer is using both the 650-sheet duo tray and 550-sheet tray. Is the printer using both the 650-sheet duo tray and 550-sheet tray?	Go to step 3.	Go to step 4.

Action	Yes	No
Step 3 **a** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **b** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 7.	Go to step 4.
Step 4 **a** Isolate the problem. Verify the problem by installing only one input option to the printer at a time. **b** Enter the Diagnostics menu, and then navigate to: **Additional input tray diagnostics** > **Motor tests** **c** Select a motor, and then select **Start**. Does the test run successfully on each option?	Go to step 7.	Go to step 5.
Step 5 Check the tray and the following for any damage or contamination: • Top and bottom autoconnector • Sensor (pass-through) • Feed rollers • Input option pick assembly (if it can go down every time the tray is inserted) Is the tray free of damage or contamination?	Go to step 7.	• If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray.
Step 6 Replace the pick tire. See **"Pick tire removal" on page 420**. Does the problem remain?	Go to step 7.	The problem is solved.
Step 7 **a** Turn off the printer. **b** Remove the printer from the trays. **c** Remove the rear cover. See **"Rear cover removal" on page 373**. **d** Reseat the JOPT1 cable on the controller board. **e** Check the JOPT1 cable for damage, and replace if necessary. **f** Position the printer to partially hang on the side of a table, and then check the autoconnect/option tray cable for damage. Is the autoconnect/option tray cable damaged?	Go to step 8.	Go to step 9.

Action	Yes	No
Step 8 • If the printer autoconnector is damaged, then replace the tray 2 to controller board cable. • If the option tray autoconnector is damaged, then go to step 12. Does the problem remain?	Go to step 10.	The problem is solved.
Step 9 • If a 650-sheet duo tray insert is affected, then replace the 650-sheet duo tray. • If a 550-sheet tray insert is affected, then replace the 550-sheet tray. Does the problem remain?	Go to step 10.	The problem is solved.

Step 10
a Turn off the printer.
b Remove the rear cover. See **"Rear cover removal" on page 373**.
c Disconnect the cable at the JOPT1 connector on the controller board.
d Turn on the printer.
e Measure the following voltages on the JOPT1 connector on the controller board:
   • Pin 2: Ground
   • Pin 3: Ground
   • Pin 5: +24 V dc
   • Pin 6: Ground
   • Pin 7: +5 V dc
   • Pin 9: Ground
   • Pin 10: Ground
 	
Are the voltage readings approximately the same?
	Contact the next level of support.	Go to step 11.

Step 11 Replace the controller board. See **"Controller board removal" on page 375**. Does the problem remain?	Contact the next level of support.	The problem is solved.

Service menus

Using the control panel

Lexmark CX421, Lexmark MC2325, and Lexmark MC2425

	Use the	To
1	Display	View printing options, printer status, and error messages.
2	Select button	• Select a menu option. • Save the changes in a setting.
3	Arrow buttons	• Scroll through the menus or move between screens and menu options. • Adjust the numeric value of a setting.
4	Address book button	View the stored addresses.
5	Redial button	View the last number dialed.
6	Numeric keypad	Enter numbers or symbols in an input field.
7	Power button	• Turn on or turn off the printer. **Note:** To turn off the printer, press and hold the power button for five seconds. • Set the printer to Sleep or Hibernate mode. • Wake the printer from Sleep or Hibernate mode.
8	Stop or Cancel button	Stop the current printer task.
9	Start button	Start a printer task, depending on which mode is selected.
10	Pause button	Place a dial pause in a fax number.
11	Backspace button	Move the cursor backward and delete a character in an input field.
12	Fax button	Send faxes.
13	Indicator light	Check the printer status.
14	Back button	Return to the previous screen.
15	Home button	Go to the home screen.

Lexmark CX522, Lexmark CX622, Lexmark MC2535, Lexmark MC2640, Lexmark XC2235, and Lexmark XC2240

	Use the	To
1	Display	- View the printer messages and supply status. - Set up and operate the printer.
2	Home button	Go to the home screen.
3	Numeric keypad	Enter numbers or symbols in an input field.
4	Power button	- Turn on or turn off the printer. **Note:** To turn off the printer, press and hold the power button for five seconds. - Set the printer to Sleep or Hibernate mode. - Wake the printer from Sleep or Hibernate mode.
5	Clear all or Reset button	Reset the default settings of a function such as copying, faxing, or scanning.
6	Stop or Cancel button	Stop the current printer task.
7	Start button	Start a job, depending on which mode is selected.
8	Pause button	Place a dial pause in a fax number.
9	Backspace button	Move the cursor backward and delete a character in an input field.
10	Indicator light	Check the printer status.
11	Volume buttons	Adjust the speaker volume.

Service menus

Lexmark CX625 and Lexmark XC4240

	Use the	To
1	Display	• View the printer messages and supply status. • Set up and operate the printer.
2	Home button	Go to the home screen.
3	Power button	• Turn on or turn off the printer. **Note:** To turn off the printer, press and hold the power button for five seconds. • Set the printer to Sleep or Hibernate mode. • Wake the printer from Sleep or Hibernate mode.
4	Numeric keypad	Enter numbers or symbols in an input field.
5	Pause button	Place a dial pause in a fax number.
6	Start button	Start a job, depending on which mode is selected.
7	Clear all or Reset button	Reset the default settings of a function such as copying, faxing, or scanning.
8	Stop or Cancel button	Stop the current printer task.
9	Backspace button	Move the cursor backward and delete a character in an input field.
10	Indicator light	Check the status of the printer.
11	Volume buttons	Adjust the speaker volume.
12	Speaker port	Attach a speaker.

Understanding the status of the power button and indicator light

Indicator light	Printer status
Off	The printer is off or in Hibernate mode.
Blue	The printer is ready or processing data.
Red	The printer requires user intervention.

Power button light	Printer status
Off	The printer is off, ready, or processing data.
Solid amber	The printer is in Sleep mode.
Blinking amber	The printer is in Hibernate mode.

Using the home screen

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

Touch		To
1	Copy	Make copies.
2	E-mail	Send e-mails.
3	Settings	Access the printer menus.
4	Fax	Send fax.
5	Address Book	Manage a contact list that other applications on the printer can access.
6	Status/Supplies	• Show a printer warning or error message whenever the printer requires intervention to continue processing. • View more information on the printer warning or message, and on how to clear it. **Note:** You can also access this setting by touching the top section of the home screen.
7	USB Drive	• Print photos and documents from a flash drive. • Scan photos and documents to a flash drive
8	Job Queue	Show all the current print jobs. **Note:** You can also access this setting by touching the top section of the home screen.
9	Held Jobs	Show the print jobs that are held in the printer memory.
10	Shortcut Center	Organize all shortcuts.
11	App Profiles	Access application profiles.
12	Scan Profiles	Scan and save documents directly to the computer.

Service menus

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Touch		To
13	FTP	Scan and save documents directly to an FTP server.
14	Bookmarks	Organize all bookmarks.
15	Change Language	Change the language on the display.

Configuring the door interlock bypass jumpers

Note: The interlock bypass jumpers are only used with the following motors:

- Motor (fuser)
- Motor (K developer)
- Motor (transfer module)
- Motor (duplex/MPF)

The controller board has two door interlock bypass jumpers. These jumpers allow you to remove the motor cover and open the toner door to see the motors in operation while being tested in Diagnostics mode. The JMTREN1 jumper connector allows you to bypass the interlock switches, and test the motor (fuser) and motor (K developer/transfer module). The JMTREN2 jumper connector allows you to bypass the interlock switches, and test the motor (duplex/MPF).

Note: If the jumpers are not set to the bypass position, and a motor test is performed while the toner door is open, then a 1yy.80 error occurs.

Jumper configurations

Interlock bypass disabled (default)   Interlock bypass enabled
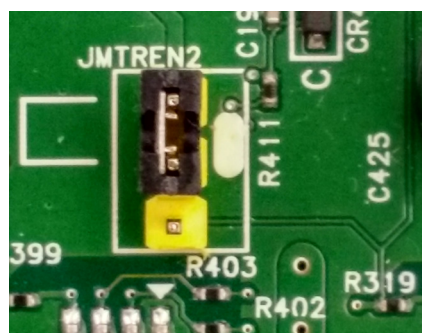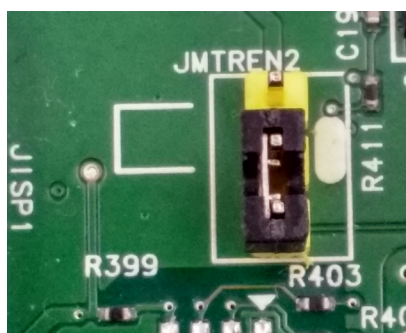
Interlock bypass disabled (default)   Interlock bypass enabled

Setting the jumper

1 Turn off the printer.

2 Remove the rear cover. See **"Rear cover removal" on page 373**.

3 Locate the jumper connectors on the controller board.

4 Move the jumper of the motor being tested to the bypass position.

5 From the control panel, press and hold the **3** and **6** buttons while turning on the printer to enter the Diagnostics menu.

6 Select **Printer diagnostics & adjustments** > **Motor tests**.

7 Select a motor, and then press **OK** or touch **Start**.

8 After the test, turn off the printer, and then move the jumpers back to the default position.

   Note: If the jumpers are not moved to the default position, then a `False door open` message appears on the screen.

Diagnostics menu

Entering the Diagnostics menu

The Diagnostics menu contains tests that are used to help isolate issues with the printer. To access some of these tests, avoid POST tests that run at POR. Some POST tests can generate errors that prevent a diagnostic test from running.

To access the Diagnostics menu from the home screen, press *** * 3 6** on the control panel.

Reports

Device Settings

This report lists all the current printer settings.

Enter the Diagnostics menu, and then navigate to:

Reports > **Device** > **Device Settings**

For non-touch-screen printer models, press **OK** to navigate through the settings.

Installed Licenses

This setting lists all the installed licenses and their feature data.

Enter the Diagnostics menu, and then navigate to:

Reports > **Licenses** > **Installed Licenses**

For non-touch-screen printer models, press **OK** to navigate through the settings.

Advanced Print Quality Samples

This setting prints a list of the printer settings and sample pages to check print quality.

Enter the Diagnostics menu, and then navigate to:

Advanced Print Quality Samples > **Advanced Print Quality Test Pages**

For non-touch-screen printer models, press **OK** to navigate through the settings.

Format Fax Storage

This setting deletes stored fax jobs.

1 Enter the Diagnostics menu, and then navigate to:

Format Fax Storage > **Format Fax Storage**

For non-touch-screen printer models, press $\boxed{\text{OK}}$ to navigate through the settings.

2 Press $\boxed{\text{OK}}$ or touch **Start**.

Event Log

Display Log

This setting displays the panel text that appears when the event occurs.

Enter the Diagnostics menu, and then navigate to:

Event Log > **Display Log**

For non-touch-screen printer models, press $\boxed{\text{OK}}$ to navigate through the settings.

Print Log

This setting lists an extended version of the various printer events.

1 Enter the Diagnostics menu, and then navigate to:

Event Log > **Print Log**

For non-touch-screen printer models, press $\boxed{\text{OK}}$ to navigate through the settings.

2 Press $\boxed{\text{OK}}$ or touch **Start**.

Note: The events that appear in the report vary depending on the operational history of the printer.

Print Log Summary

This setting lists a brief summary of the various printer events.

1 Enter the Diagnostics menu, and then navigate to:

Event Log > **Print Log Summary**

For non-touch-screen printer models, press $\boxed{\text{OK}}$ to navigate through the settings.

2 Touch **Start**.

Note: The events that appear in the report vary depending on the operational history of the printer.

Mark Log

This setting allows you to create a service, maintenance, or custom log entry. Each log entry is added in the printer event log.

1 Enter the Diagnostics menu, and then navigate to:

Event Log > **Mark Log**

For non-touch-screen printer models, press `OK` to navigate through the settings.

2 Select a log that you want to create, and then touch **Start**.

Input tray quick print

This setting lets you print a single or continuous Quick Test page in either duplex or simplex mode.

For non-touch-screen printer models, press `OK` to navigate through the settings.

1 Enter the Diagnostics menu, and then touch **Input tray quick print**.

2 Select where you want to print the pages from.

3 Select whether to print a single or continuous test page, and then touch **Start**.

Printer Setup

Printed page count (mono)

This setting displays the amount of pages printed in mono.

For non-touch-screen printer models, press `OK` to navigate through the settings.

1 Enter the Diagnostics menu, and then touch **Printer Setup**.

2 View the printed page count for mono.

Printed page count (color)

This setting displays the amount of pages printed in color.

For non-touch-screen printer models, press `OK` to navigate through the settings.

1 Enter the Diagnostics menu, and then touch **Printer Setup**.

2 View the printed page count for color.

Permanent page count

This setting displays the total number of pages printed in mono and color. After all the print tests are completed, this value resets to zero.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then touch **Printer Setup**.

2 View the permanent page count.

Processor ID

This setting indicates the ID of the processor on the controller board.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then touch **Printer Setup**.

2 View the processor ID.

Serial number

This setting displays a read-only value of the serial number.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then touch **Printer Setup**.

2 View the serial number.

Model name

This setting displays the model name of the printer.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then touch **Printer Setup**.

2 View the model name.

Engine setting [x]

Warning—Potential Damage: Do not change this setting without specific instructions from the next level of support.

This setting allows you to select a printer engine setting. Possible values are 0–255. 0 is the default.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

   Printer Setup > **Engine setting** [x]

2 Select a setting, enter a value, and then touch **OK**.

EP setup

Warning—Potential Damage: Do not change this setting without specific instructions from the next level of support.

This setting allows you to adjust the EP setup of the printer.

For non-touch-screen printer models, press ⟨OK⟩ to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

Printer Setup > **EP setup**

2 Select a setting.

Printer diagnostics and adjustments

Sensor tests

For non-touch-screen printer models, press ⟨OK⟩ to navigate through the settings.

1 Enter the Diagnostics menu, and then touch **Printer diagnostics & adjustments**.

2 From the Sensor tests section, touch **Start**.

A list of sensor tests appears.

3 Find, and then manually toggle the sensor.

Notes:

- The sensor status on the screen toggles between **1** and **0** when the sensor is properly working.
- If a sensor test fails, the test failure may not indicate a failed sensor. Further troubleshooting may be required. Check the boards and cables for possible issues.
- For the fuser exit sensor actuator, toggle it toward the rear door.

List of sensor tests

Test
Tray 1 pick
Input
Redrive/Duplex path 1
Output bin/Narrow media
Fuser exit
Door interlock
K Toner meter
C Toner meter
M Toner meter
Y Toner meter
Tray present

Test
TPS L and R
Waste Toner Bottle

Motor tests

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Motor tests**

2 Select a motor, and then press OK or touch **Start**.

Notes:

- If the motor is activated, then it is properly working.
- Some motors require automatic deactivation to avoid secondary issues such as possible damage and contamination.
- Some tests require a special action to activate a motor such as removing a major component.
- If the motor fails, the test failure may not indicate a failed motor. Further troubleshooting may be required. Check the boards and cables for possible issues.
- To stop a running motor in non-touch-screen printer models, press OK.

List of motor tests

Test
Pick (tray 1) picking
Pick (tray 1) duplex
Fuser (fusing)
Fuser (retracting)
CMY developer
K developer-transfer
Fan (main)

Registration adjust

This setting lets you adjust the skew, margins, or perform a Quick Test.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Registration adjust**

2 Select a setting to adjust.

Color alignment adjust

This setting allows you to adjust the color alignments and to print or reset the default settings.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Color alignment adjust**

2 Select a setting.

Supply reset

The setting resets the fuser and ITM counter values to zero.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Supply reset**

2 Select a setting, and then press OK or touch **Start**.

Add-on cards tests

This setting allows you to test the add-on cards installed on the printer.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Add-on cards tests**

2 Select a card.

Weather station

This setting lets you view the temperature and humidity reported by the weather station.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then touch **Printer diagnostics & adjustments**.

2 From the Weather station section, press OK or touch **Start**.

Universal Override

This setting allows the user to feed custom media sizes to a Custom Media Tray.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Universal Override**

2 Select a setting to adjust.

Memory tests

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Memory tests**

2 Select a test, and then press OK or touch **Start**.

Scanner Diagnostics

Motor Tests

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then select navigate to:

Scanner Diagnostics > **Motor Tests**

2 Select a motor, and then press OK or touch **Start**.

Notes:

- If the motor is activated, then it is properly working.
- Some motors require automatic deactivation in order to avoid secondary issues such as possible damage and contamination.
- Some tests require a special action to activate a motor such as removing a major component.
- If the motor fails, the test failure may not indicate a failed motor. Further troubleshooting may be required. Check the boards and cables for possible issues.

List of motor tests

Flatbed Scanner
Run ADF Transport Forward
ADF Stop Transport
ADF Pick

Sensor Tests

This test verifies the status of the scanner sensors.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then touch **Scanner Diagnostics**.

2 From the Sensor tests section, press OK or touch **Start**.

A dialog listing the sensor tests appears.

3 Find, and then manually toggle the sensor.

Notes:

- The sensor status on the screen toggles between **1** and **0** when the sensor is properly working.
- If a sensor test fails, the test failure may not indicate a failed sensor. Further troubleshooting may be required. Check the boards and cables for possible issues.

List of sensor tests

FB CCD home
ADF closed
ADF media present
ADF pick
ADF deskew
ADF 1st scan
ADF 2nd scan
ADF top door interlock
ADF calibration strip home

Feed Test

This test allows for a continuous feed from the ADF or flatbed.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

Scanner Diagnostics > **Feed Test**

2 Select a paper size.

3 From the Feed Test section, press OK or touch **Start**.

Scanner Calibration Reset

Before starting the test, make sure that the scanner glass and backing material are clean. For more information, go to **"Cleaning the scanner" on page 450**.

Service menus

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then touch **Scanner Diagnostics**.

2 From the Sensor Calibration Test section, press OK or touch **Start**.

To verify the result, do the following:

1 Load the ADF with a document containing light and dark content.

2 Print a two-sided copy of the document.

> **Notes:**
>
> - If the back side of the copy has vertical streaks, then clean the scanner glass and backing material, and then print another copy.
> - If the streaks still appear, then repeat the cleaning and verification procedure or replace the ADF.

Controller Calibration

This test must be done when the scanner controller or flatbed scanner is changed.

For non-touch-screen printer models, press OK to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

Scanner Diagnostics > **Controller Calibration**

2 Press OK or touch **Start**.

Additional input tray diagnostics

Sensor tests

1 Enter the Diagnostics menu, and then touch **Additional input tray diagnostics**.

2 From the Sensor tests section, press OK or touch **Start**.

A dialog listing the sensor tests appears.

3 Find, and then manually toggle the sensor.

> **Notes:**
>
> - The sensor status on the screen toggles between **1** and **0** when the sensor is properly working.
> - If a sensor test fails, the test failure may not indicate a failed sensor. Further troubleshooting may be required. Check the boards and cables for possible issues.

List of sensor tests

Test
Pass-through (tray [x])
Media out (tray [x])

Test
Media level (tray [x])
Tray present (tray [x])
MPF media present

Motor tests

For non-touch-screen printer models, press **OK** to navigate through the settings.

1 Enter the Diagnostics menu, and then navigate to:

Additional input tray diagnostics > **Motor tests**

2 Select a motor, and then press **OK** or touch **Start**.

Notes:

- If the motor is activated, then it is properly working.
- Some motors require automatic deactivation in order to avoid secondary issues such as possible damage and contamination.
- Some tests require a special action to activate a motor such as removing a major component.
- If the motor fails, the test failure may not indicate a failed motor. Further troubleshooting may be required. Check the boards and cables for possible issues.

Configuration Menu

Menu item	Description
USB Configuration USB PnP 1* 2	Change the USB driver mode of the printer to improve its compatibility with a personal computer. **Note:** This menu item appears only in some printer models.
USB Scan to Local On* Off	Set whether the USB device driver enumerates as a USB Simple device (single interface) or as a USB Composite device (multiple interfaces).
USB Configuration USB Speed Full Auto*	Set the USB port to run at full speed and disable its high-speed capabilities. **Note:** This menu item appears only in some printer models.
Tray Configuration Tray Linking Automatic* Off	Set the printer to link the trays that have the same paper type and paper size settings.
Note: An asterisk (*) next to a value indicates the factory default setting.	

Menu item	Description

Tray Configuration
   Show Tray Insert Message
      Off*
      On
	Show the `Tray Insert` message.

Tray Configuration
   Paper Prompts
      Auto*
      Multipurpose Feeder
      Manual Paper
   Envelope Prompts
      Auto*
      Multipurpose Feeder
      Manual Paper
	Set the paper source that the user fills when a prompt to load paper or envelope appears.
	Notes:
	• The multipurpose feeder is available only in some printer models.
	• For Multipurpose Feeder to appear, set Configure MP to Cassette from the Paper menu.

Tray Configuration
   Action for Prompts
      Prompt user*
      Continue
      Use current
	Set the printer to resolve paper- or envelope-related change prompts.

Reports
   Menu Settings Page
   Event Log
   Event Log Summary
   HealthCheck Statistics
	Print reports about printer menu settings, status, and event logs.

Supply Usage And Counters Clear Supply Usage History	Reset the supply usage history, such as number of pages and days remaining, to the factory shipped level.
Supply Usage And Counters Reset Maintenance Counter	Reset the counter after installing a new maintenance kit.
Supply Usage And Counters Tiered Coverage Ranges	Adjust the range for the amount of color coverage on the printed page.

Printer Emulations
   PPDS Emulation
      Off*
      On
	Set the printer to recognize and use the PPDS data stream.

Fax Configuration
   Fax Low Power Support
      Disable Sleep
      Permit Sleep
      Auto*
	Set fax to enter Sleep mode whenever the printer determines that it should.

Note: An asterisk (*) next to a value indicates the factory default setting.	

Menu item	Description

Fax Configuration
Fax Storage Location
   Disk
   NAND*
	Set the storage location for all faxes.

Print Configuration
Black Only Mode
   Off*
   On
	Print color content in grayscale.

Print Configuration
Color Trapping
   Off
   1
   2*
   3
   4
   5
	Enhance the printed output to compensate for misregistration in the printer.

Print Configuration Font Sharpening 0–150 (24*)	Set a text point-size value below which the high-frequency screens are used when printing font data. For example, if the value is 24, then all fonts sized 24 points or less use the high-frequency screens.

Device Operations
Quiet Mode
   Off*
   On
	Set the printer to operate in Quiet Mode.
	Note: Enabling this setting slows down the printer performance.

Device Operations
Panel Menus
   Off
   On*
	Enable access to the control panel menus.

Device Operations
Custom Supply Levels
   Off*
   On
	Let *printservice* read and edit values from the Embedded Web Server.

Device Operations
Safe Mode
   Off*
   On
	Set the printer to operate in a special mode, in which it attempts to continue offering as much functionality as possible, despite known issues.
	For example, when set to On, and the duplex motor is nonfunctional, the printer performs one-sided printing of the documents even if the job is two-sided printing.

Device Operations
Minimum Copy Memory
   80 MB*
   100 MB
	Set the minimum memory allocation for storing copy jobs.

Note: An asterisk (*) next to a value indicates the factory default setting.	

Service menus

Menu item	Description
Device Operations Clear Custom Status	Erase user-defined strings for the Default or Alternate custom messages.
Device Operations Clear all remotely-installed messages	Erase messages that were remotely installed.
Device Operations Automatically Display Error Screens Off On*	Show existing error messages on the display after the printer remains inactive on the home screen for a length of time equal to the Screen Timeout setting.
Device Operations Honor orientation on fast path copy On Off*	Enable the printer to use the orientation setting under the Copy menu when sending quick copy jobs.
Device Operations Enable Optional Parallel Port Off* On	Enable an optional parallel port. **Note:** When set to On, the printer restarts.
Toner patch sensor setup Calibration frequency preference Disabled Fewest color adjustment Fewer color adjustment Normal* Better color accuracy Best color accuracy	Set the printer to put down the correct amount of toner to maintain color consistency.
Toner patch sensor setup Full calibration	Run the full color calibration.
Toner patch sensor setup Print TPS information page	Print a diagnostic page that contains information on toner patch sensor calibration.
App Configuration LES Applications Off On*	Enable the Lexmark Embedded Solutions (LES) applications. **Notes:** • This menu item is available only in some printer models. • When set to On, this setting does not affect built-in applications.
Scanner Configuration Scanner Manual Registration Print Quick Test	Print a Quick Test target page. **Note:** Make sure that the margin spacing on the target page is uniform all the way around the target. If it is not, then the printer margins may need to be reset.
Note: An asterisk (*) next to a value indicates the factory default setting.	

Menu item	Description
Scanner Configuration Scanner Manual Registration Front ADF Registration Rear ADF Registration Flatbed Registration	Manually register the flatbed and ADF after replacing the ADF, scanner glass, or controller board.
Scanner Configuration Edge Erase Flatbed Edge Erase 0–6 (3*) ADF Edge Erase 0–6 (3*)	Set the size, in millimeters, of the no-print area around an ADF or flatbed scan job.
Scanner Configuration ADF Deskew ADF Mechanical Deskew Off On Auto*	Set the printer to perform ADF mechanical skew adjustment.
Scanner Configuration Disabled Scanner Enabled* Disabled ADF Disabled	Disable the scanner when it is not working properly.
Scanner Configuration Tiff Byte Order CPU Endianness* Little Endian Big Endian	Set the byte order of a TIFF-formatted scan output.
Scanner Configuration Exact Tiff Rows Per Strip On* Off	Set the RowsPerStrip tag value of a TIFF-formatted scan output.
Note: An asterisk (*) next to a value indicates the factory default setting.	

Service Engineer menu

Entering Invalid engine mode

This mode allows the printer to load the correct firmware code.

1 Turn off the printer.

2 From the control panel, press and hold the **3**, **4**, and **6** while turning on the printer.

3 Release the buttons after 10 seconds.

Entering the Service Engineer (SE) menu

To access the Service Engineer (SE) menu:

1 Turn on the printer.

2 When the home screen appears, press * * **411** on the control panel.

General SE

This setting allows you to save a log file to a USB drive.

Enter the Service Engineer (SE) menu, and then navigate to:

General SE > **Capture Logs to USB Drive**

Network SE

Enter the Service Engineer (SE) menu, and then touch **Network SE**.

Note: Use these settings as directed by the next level of support.

Top level menu	Intermediate menu
Print SE Menus	Print SE Menus
History	• Print History • Mark History
MAC	• Set Card Speed • LAA • Keep Alive
NPAP	Print Alerts
TCP/IP	• netstat • arp • Allow SNMP Set • MTU • Meditech Mode • RAW LPR Mode
Wireless	Enable Wi-Fi Direct Sigma Control Agent
Ping Test	• Ping • Ping6
Other Actions	• ifconfig • IPtables [Firewall Dump] • IP6tables [Firewall Dump] • IPsec Dump

Fax SE

Use this menu for the fax transmission and fax reception service checks.

Enter the Service Engineer (SE) menu, and then touch **Fax SE**.

Note: Use these settings as directed by the next level of support.

Top level menu	Intermediate menu
Code Levels	• Base: [current value] • Kernel: [current value] • Network: [current value] • Engine: [current value] • Loader: [current value] • Fax: [current value] • Scanner: [current value]
Agency Test	• Go Off Hook • Ring Detect • Generate Tones • Modulations
Fax Settings	• Line Features • Fax Modulations • Detect EOLS • Print Logs • AutoPrint T30 Logs

Top level menu	Intermediate menu		
Modem Settings	• Caller ID Pattern **Note:** Changing the value of this setting also changes the value of the Caller ID setting in the Fax Settings. • Dial Timeout • Transmit Level • Receive Thresh • DTMF Low Level • DTMF High Level • Positive Twt Ctrl • Negative Twt Ctrl • ATRA EQM Bias • V34 PreEmph Filt • Dial Tone Thresh • Progress Thresh • Pulse Make Time • Pulse Break Time • Pulse Dial Type • Interdigit Delay • Enable CEQ • V17 TX Filter • DC Characteristic • Impedance • Caller ID Pattern • Busy Tone Cycles • Busy Tone Min On Time • Busy Tone Max On Time • Busy Tone Min Off Time • Busy Tone Max Off Time • Congest Tone Cycles • Congest Tone Min On Time • Adjust Power FSK • Pulse Fall Time • High Ring Impedance		
Reboot System	After this setting is selected, the control panel displays the message: **About to reboot. Press Start to reboot. Press Stop to return.**		

Scan SE

This setting displays the current left, top, right, and mag scanner registration values for each scanner source (flatbed, ADF front, ADF rear).

Enter the Service Engineer (SE) menu, and then navigate to:

Service menus

Scan SE > **Scanner Info**

Parts removal

Data security notice

Identifying printer memory

- **Volatile memory**—The printer uses standard random access memory (RAM) to buffer user data temporarily during simple print and copy jobs.
- **Nonvolatile memory**—The printer may use two forms of nonvolatile memory: EEPROM and NAND (flash memory). Both types are used to store the operating system, printer settings, network information, scanner and bookmark settings, and embedded solutions.
- **Hard disk memory**—Some printers have a hard disk drive installed. The hard disk is designed for printer-specific functionality and cannot be used for long-term storage of data that is not print-related. The hard disk does not let users extract information, create folders, create disk or network file shares, or transfer FTP information directly from a client device. The hard disk can retain buffered user data from complex print jobs, form data, and font data.

The following parts can store memory:
- Printer control panel
- User interface controller card (UICC)
- Controller board
- Optional hard disks

Note: The printer control panel and controller board contain NVRAM.

Erasing printer memory

To erase volatile memory, turn off the printer.

To erase nonvolatile memory, do the following:

1 From the home screen, navigate to **Settings** > **Device** > **Maintenance** > **Out of Service Erase** > **Sanitize all information on nonvolatile memory**.

2 Select **Sanitize all information on nonvolatile memory**, and then select **ERASE**.

3 Follow the instructions on the screen.

To erase hard disk memory, do the following:

1 From the home screen, navigate to **Settings** > **Device** > **Maintenance** > **Out of Service Erase** > **Sanitize all information on hard disk**.

2 Select **Sanitize all information on hard disk**, and then select **ERASE**.

3 Follow the instructions on the screen.

Note: This process can take from several minutes to more than an hour, making the printer unavailable for other tasks.

If a hard disk is replaced, then do the following:

1 Remove the hard disk, and then return it to the customer.

2 Request the customer to sign the *Customer Retention* form.

   Note: You can get printed copies of the form from your Lexmark partner manager.

3 Take a photo of the signed form, and then upload it to the Service Request debrief tool.

4 Fax or e-mail the signed form to the number or e-mail address shown at the bottom of the form.

Removal precautions

⚠ **CAUTION—SHOCK HAZARD:** This product uses a soft power switch. It does not physically disconnect the input AC voltage. To avoid the risk of electrical shock, always remove the power cord from the printer when removal of the input AC voltage is required.

⚠ **CAUTION—SHOCK HAZARD:** To avoid the risk of electrical shock and to prevent damage to the printer, remove the power cord from the electrical outlet and disconnect all connections to any external devices before you connect or disconnect any cable, electronic board, or assembly.

⚠ **CAUTION—HOT SURFACE:** The inside of the printer might be hot. To reduce the risk of injury from a hot component, allow the surface to cool before touching it.

⚠ **CAUTION—PINCH HAZARD:** To avoid the risk of a pinch injury, use caution in areas marked with this label. Pinch injuries may occur around moving parts, such as gears, doors, trays, and covers.

Handling ESD-sensitive parts

To prevent damage to the electrostatic discharge (ESD)-sensitive parts in the printer, do the following:

- Turn off the printer before removing logic boards.
- Keep the parts in their original packing material until you are ready to install them into the printer.
- Make the least-possible movements with your body to prevent an increase of static electricity from clothing fibers, carpets, and furniture.
- Use the ESD wrist strap. Connect the wrist band to the system ground point. This action discharges any static electricity in your body to the printer.
- Hold the parts by their edge connector shroud. Do not touch its pins. If you are removing a pluggable module, then use the correct tool.
- If possible, keep all parts in a grounded metal cabinet.
- Do not place the parts on the printer cover or on a metal table. If you need to put down the parts, then put them in their packing material.
- Prevent parts from being accidentally touched by other personnel. Cover the printer when you are not working on it.
- Be careful while working with the parts when cold-weather heating is used. Low humidity increases static electricity.

Controller board/control panel replacement

Note: Perform this procedure only if both the controller board and the control panel fail.

⚠️ **CAUTION—POTENTIAL INJURY:** The lithium battery in this product is not intended to be replaced. There is a danger of explosion if a lithium battery is incorrectly replaced. Do not recharge, disassemble, or incinerate a lithium battery. Discard used lithium batteries according to the manufacturer's instructions and local regulations.

Warning—Potential Damage: When replacing both the controller board and control panel, replace the parts in the following order to avoid damaging the printer.

1 Replace the controller board first, and then start the printer into diagnostics mode.

   Note: Do not replace the control panel and controller board at the same time.

2 Turn off the printer, replace the control panel, and then start the printer into Diagnostics mode.

   Allow the printer to go through a complete start-up cycle.

3 If the problem persists, then leave the new control panel and reinstall the old controller board.

4 Restart the printer and allow it to go through a complete start-up cycle.

5 After the start-up, turn off the printer, and then install the new controller board.

6 Restart the printer and allow it to go through a complete start-up cycle.

If the procedure is successful, then there is no need to adjust any settings.

If the procedure fails, then contact technical support for assistance.

Restoring the printer configuration after replacing the controller board
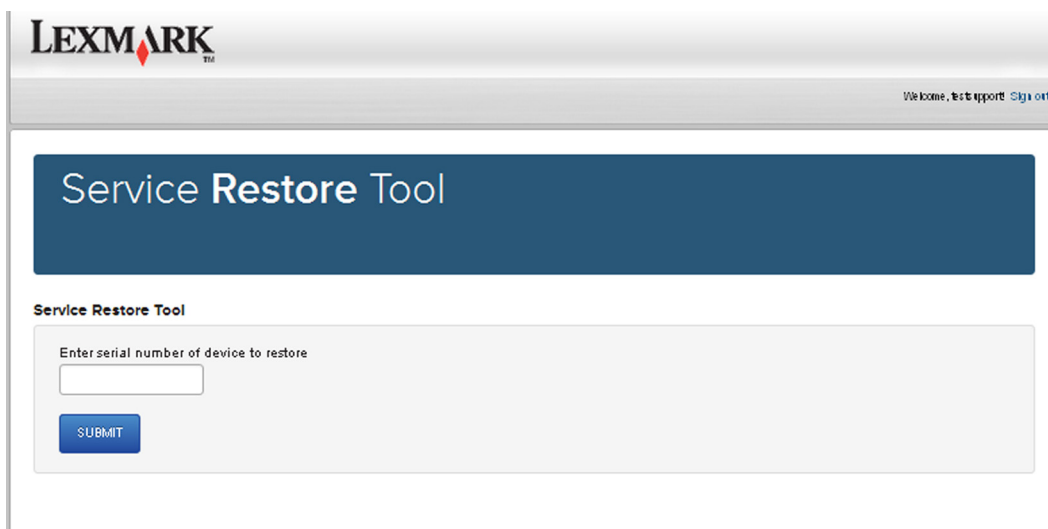
Restore the printer to its correct configuration to complete the replacement service. Use the Service Restore Tool to download the software bundle, and then flash the printer settings and embedded solutions.

Note: The software bundle contains the latest version of the firmware, applications, and software licenses from the Lexmark Virtual Solutions Center (VSC). The printer firmware may be at a different level from what was used before replacing the controller board.

Using the Service Restore Tool
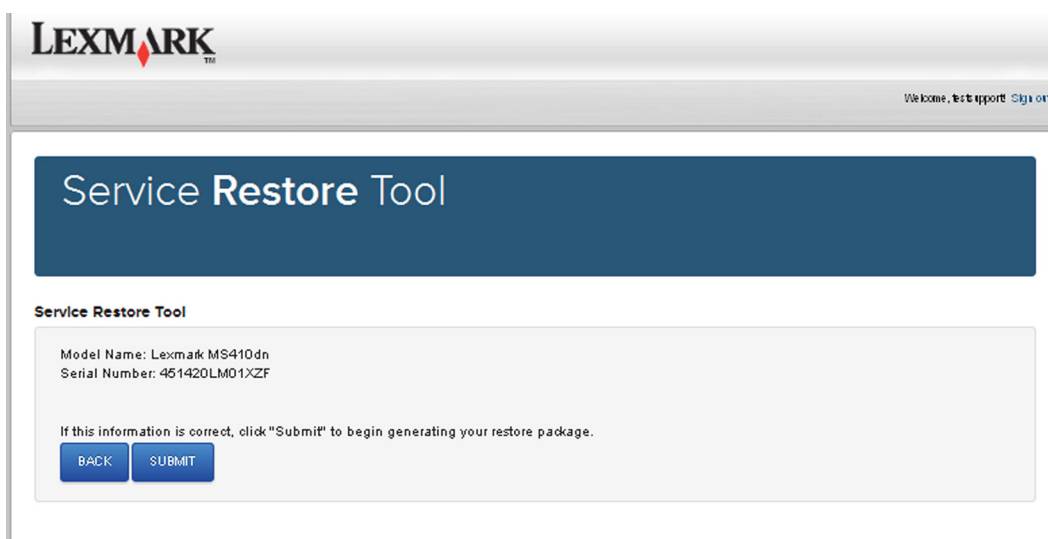
1 Go to **https://cdp.lexmark.com/service-restore-tool/** to access the tool.

2 Log in using your Lexmark or partner login.

   If your login fails, then contact your next level of support.

3 Enter the printer serial number, and then submit the information.

Note: Make sure that the serial number that appears on the verification screen is correct.

4 Save the zip file.

Note: Make sure that the serial number in the zip file matches the serial number of the printer being restored.
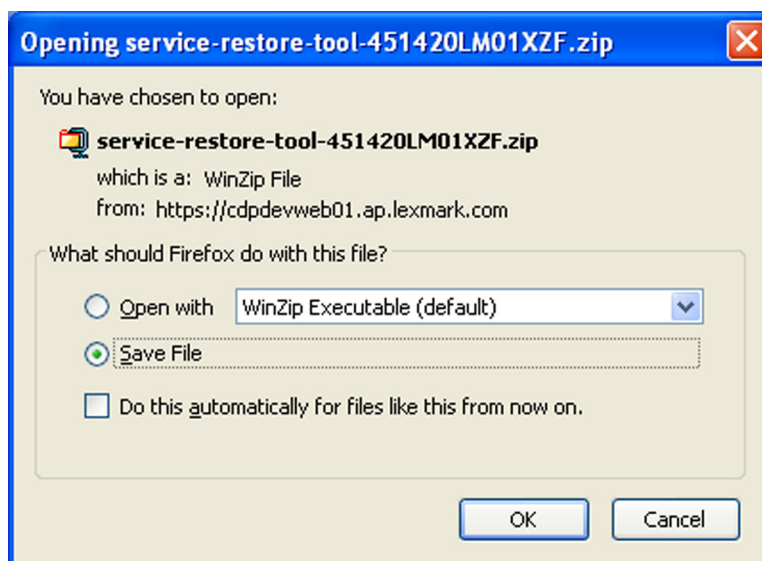
5 Extract the contents of the zip file, open the *Readme* file, and then follow the instructions in the file.

> **Notes:**
>
> - Perform the install instructions on the *Readme* file in the exact order shown. Only restart the printer when instructed to in the file.
> - For more information on how to flash the downloaded files, see **"Updating the printer firmware " on page 269**.
> - To load the zip files that are extracted from the Service Restore Tool, see **"Restoring solutions, licenses, and configuration settings" on page 268**.
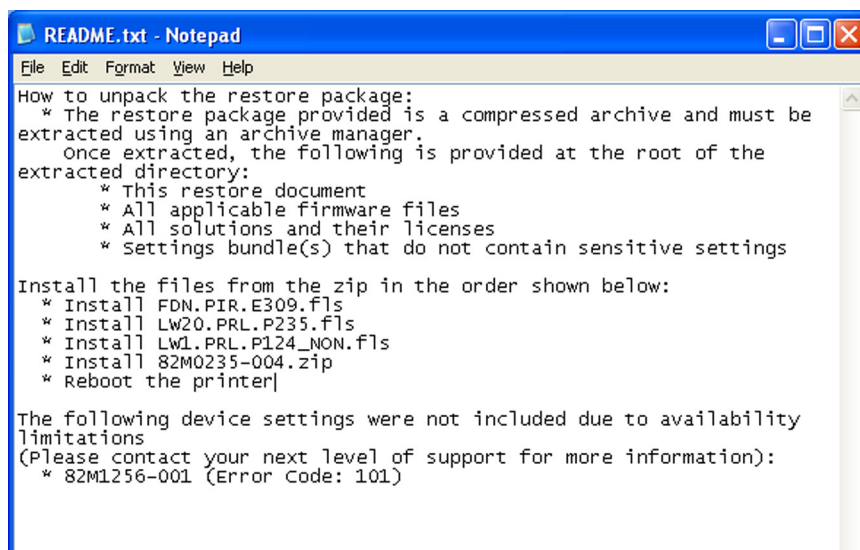
6 After performing the installation instructions in the *Readme* file, confirm from the customer if all the eSF apps have been installed.

> **Notes:**
>
> - If you are unable to access the administrative menus to verify that the printer is restored, then ask the customer for access rights.
> - If a 10.00 error appears after you restart the printer, then contact the next level of support.

Parts removal

Restoring solutions, licenses, and configuration settings

To load the zip files that are extracted from the Service Restore Tool, do the following:

1 Open a web browser, and then type the printer IP address.
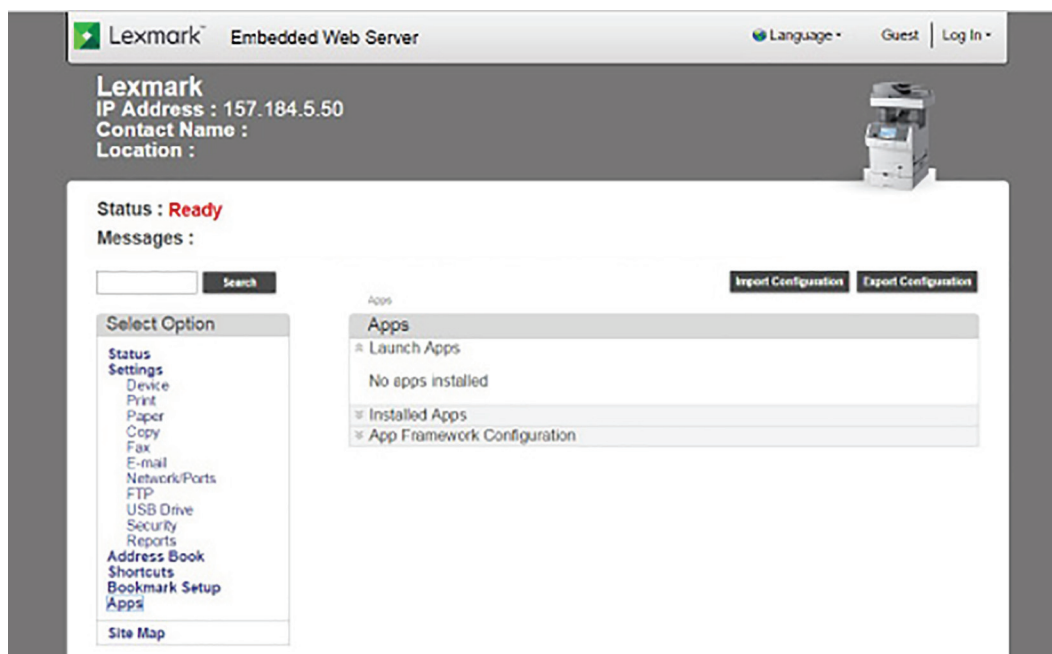
2 Click **Import Configuration**, and then click **Browse**.
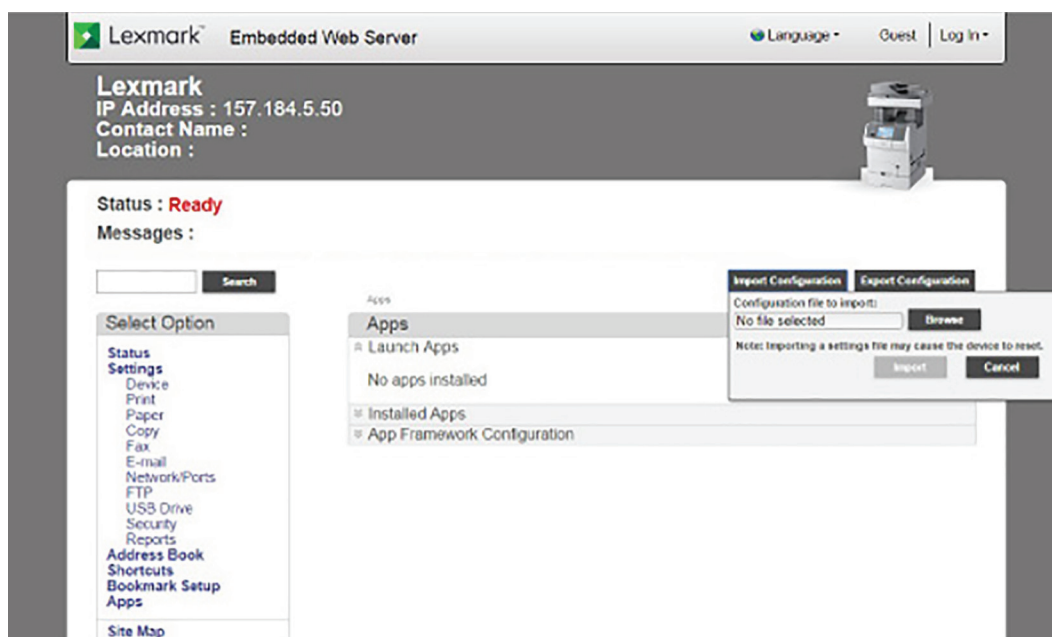
3 Navigate to the folder where the zip files are extracted from the Service Restore Tool.
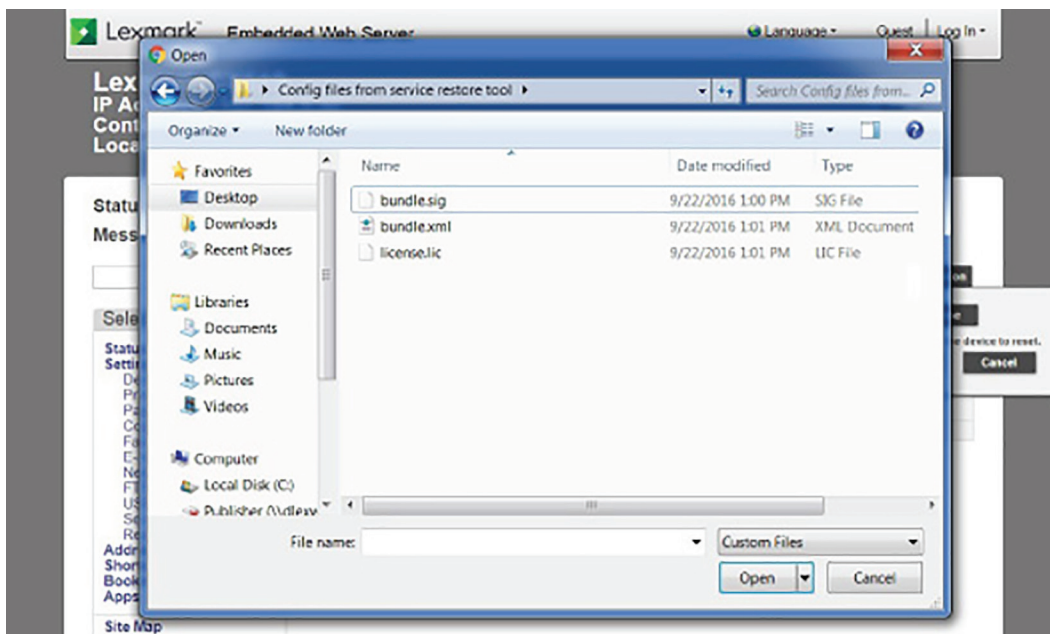
4 Select the file to import, and then click **Import**.

5 Repeat step 2 through to step 4 for the other files that are included in the extracted zip file.

Updating the printer firmware

Warning—Potential Damage: Before updating the printer firmware, ask the next level of support for the correct code. Using an incorrect code level may damage the printer.

The printer must be in ready state in order to update the firmware.

Using a flash drive

This option is available only in printer models with front USB port.

Make sure to enable the Enable Drive and Update Code settings. You can find the settings in the Flash drive menu under the Settings menu.

1 Insert the flash drive.

The display lists the files on the thumbdrive.

2 Select the file that you need to flash.

Note: Do not turn off the printer while the update is going on.

Using a network computer

Using the File Transfer Protocol (FTP)

Make sure that the printer is in ready state before flashing.

1 Turn on the printer.

2 Obtain the IP address:

- From the home screen
- From the TCP/IP section of the Network/Ports menu

3 From the command prompt of a network computer, open an FTP session to the printer IP address.

4 Use a PUT command to place the firmware file on the printer.

The printer performs a POR sequence and terminates the FTP session.

5 Repeat step 2 through to step 4 for the other files.

Using the Embedded Web Server

Make sure that the printer is in ready state before flashing.

1 Open a web browser, and then type the printer IP address.

2 From the home page, navigate to **Configuration** > **Update Firmware**.

3 Select the file to use.

The printer performs a POR sequence and terminates the FTP session.

4 Repeat step 2 through to step 4 for the other files.

Backing up eSF solutions and settings

Note: Export the eSF solutions and settings from the printer before replacing the controller board.

Exporting eSF solutions and settings file

1 Reset the printer into Invalid engine mode. See .

2 Open a web browser, and then type the printer IP address.

Note: If the web page cannot be accessed or an error occurs when starting the printer into Invalid engine mode, then data backup is not an option. Inform the customer that the data cannot be saved.

3 Click **Apps**, click **Export Configuration**, and then select one of the options in the dropdown menu.

4 Click **Export**.

Note: The size limit of the export file is 128 KB.

Disconnecting ribbon cables

Warning—Potential Damage: The ribbon cable and its socket may get damaged if it is not properly disconnected. When disconnecting the cable, hold its connector and press its tab before unplugging it.
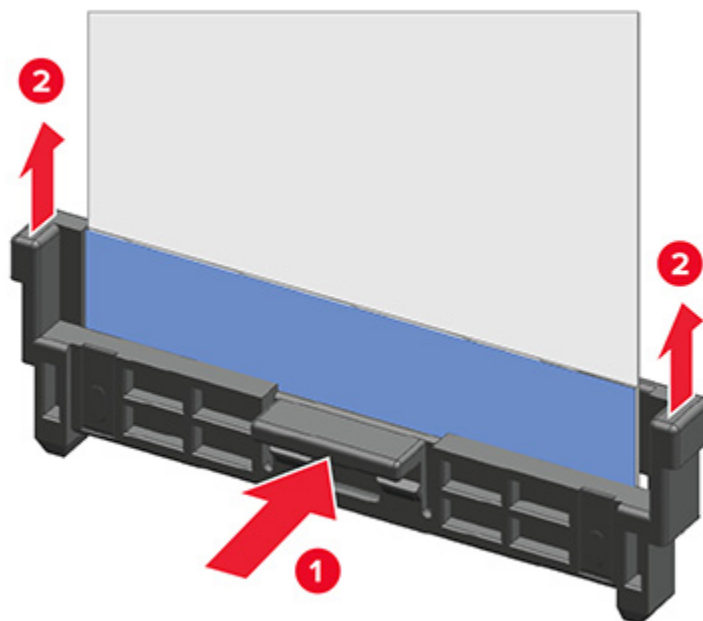
Ribbon cable connectors

Zero Insertion Force (ZIF) connectors

Zero Insertion Force (ZIF) connectors are used on the boards and cards used in this printer. Before inserting or removing a cable from these connectors, observe the following precautions.

Warning—Potential Damage: Do not insert the cable so that the contacts are facing the locking actuator. The contacts always face away from the actuator.

Warning—Potential Damage: Do not insert the cable diagonally into the ZIF socket. This action can damage the contacts on the cable.

Warning—Potential Damage: Avoid using a fingernail, or sharp object to open the locking mechanism. This action can damage the cable.

Warning—Potential Damage: Avoid pressing against the cable when opening the locking mechanism. This action can also damage the cable.

These are the types of ZIF connectors used in this printer:
- Horizontal top contact connector
- Horizontal bottom contact connector
- Vertical mount contact connector
- Horizontal sliding connector

Horizontal top contact connector

The horizontal top contact connector uses a back flip locking actuator to lock the ribbon cable into the Zero Insertion Force (ZIF) connector. The cable is inserted horizontally into the connector.

Warning—Potential Damage: When opening or closing this type of actuator, gently lift or close the two tabs located on each end of the actuator. The two tabs should be moved simultaneously. Do not close the actuator from the center of the actuator.

Removing a cable from the horizontal top contact connector

1 Place a finger at each end of the locking actuator, and then gently lift the actuator to the unlocked position.

2 Slide the cable out of the connector.

Inserting a cable into the horizontal top contact connector

1 When installing the cable, check the locking actuator to ensure it is in the unlocked position. The tabs on the ends of the actuator are vertical when the actuator is unlocked.

2 Insert the cable with the contacts on the cable facing up. Insert the cable on top of the actuator.

Note: Verify that the cable is installed squarely into the connector. If the cable is not squarely installed, then intermittent failures can occur.

Parts removal

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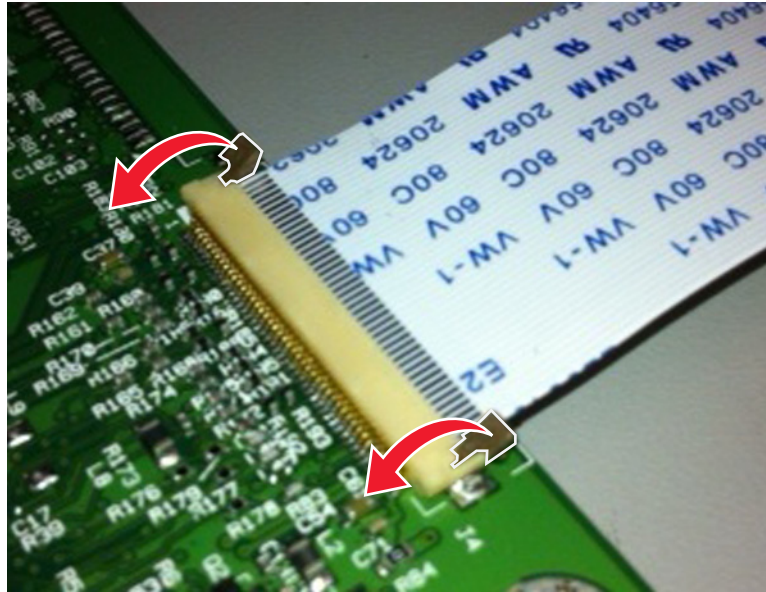
3 Rotate the locking actuator to the locked position. The cable must not move while this step is performed. If the cable moves, open the actuator, reposition the cable, and then close the actuator to the down position.
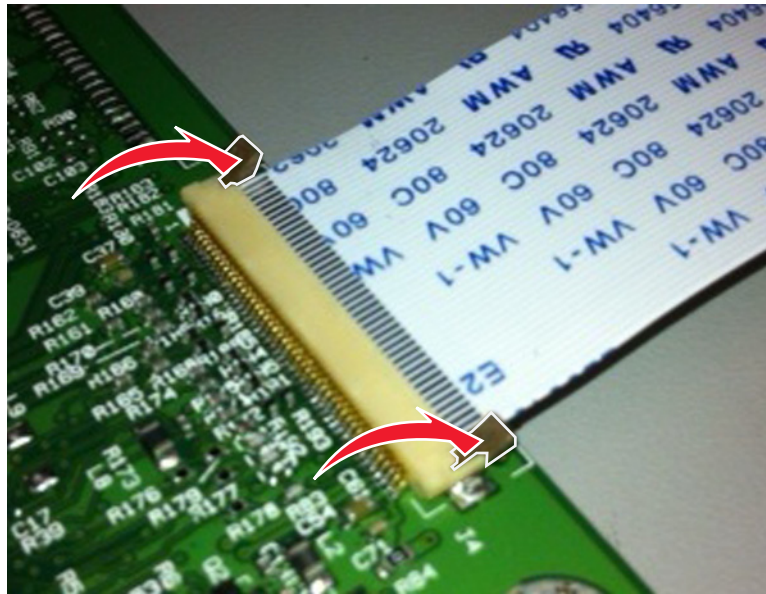
Horizontal bottom contact connector

The horizontal bottom contact connector uses a flip locking actuator to lock the ribbon cable into the Zero Insertion Force (ZIF) connector. The cable is inserted horizontally into the connector.

Warning—Potential Damage: When opening or closing this type of actuator, gently lift the center of the actuator using your finger. Do not use a fingernail or screwdriver to open the actuator. This can damage the ribbon cable. Do not close the actuator from the ends of the actuator.

Removing a cable from the horizontal bottom contact connector

1 Place two fingers towards each end of the locking actuator, and then gently lift the actuator to the unlocked position.
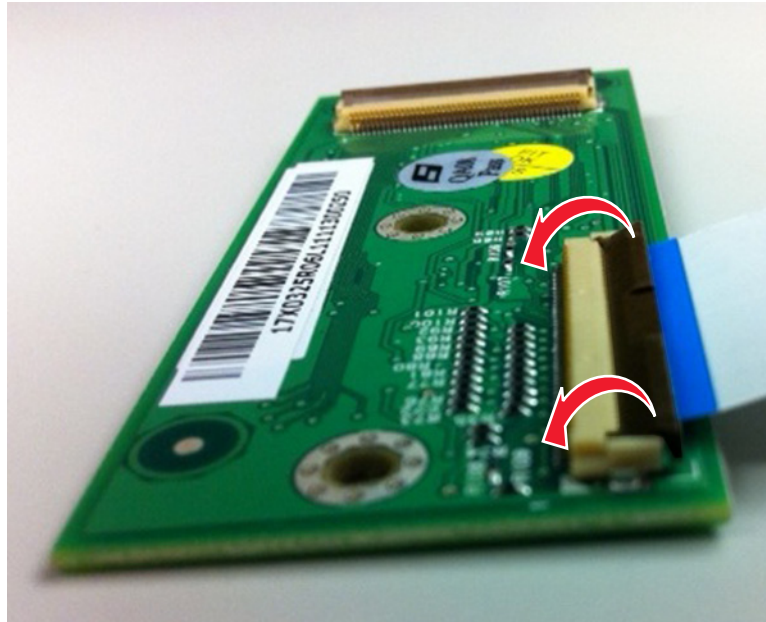
2 Slide the cable out of the connector.

Inserting a cable into the horizontal bottom contact connector

1 Check the actuator to verify that it is in the open position.

2 Insert the cable into the ZIF connector with the contacts facing downward and away from the locking actuator. Insert the cable below the actuator.

Note: Verify that the cable is installed squarely into the connector. If the cable is not squarely installed, then intermittent failures can occur.

Parts removal
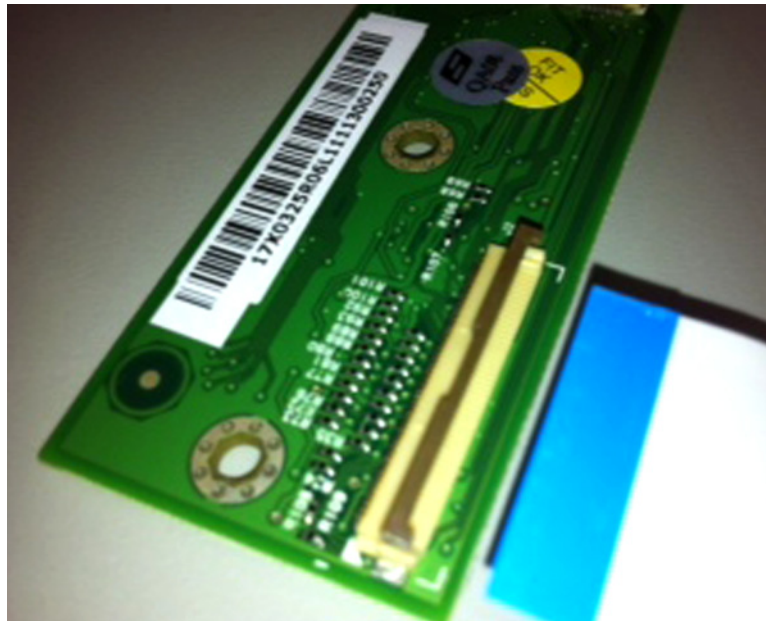
3 Place your finger in the middle of the actuator, and then rotate the locking actuator to the locked position.
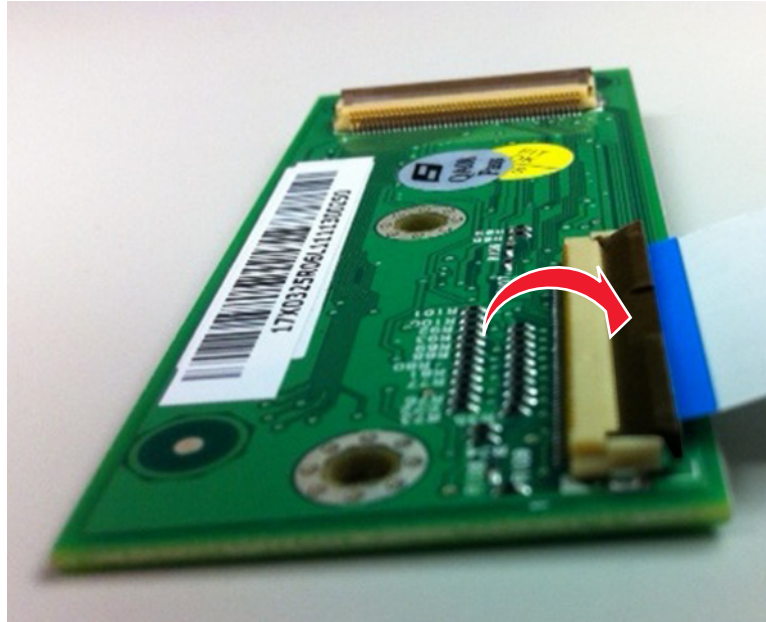
Vertical mount contact connector

The vertical mount contact connector uses a back flip locking actuator to lock the ribbon cable into the Zero Insertion Force (ZIF) connector. The cable is inserted vertically into the connector.

Warning—Potential Damage: When opening or closing this type of actuator, gently lift the center of the actuator using your finger. Do not use a fingernail or screwdriver to open the actuator. This could damage the ribbon cable. Do not close the actuator from the ends of the actuator.

Removing a cable from the vertical mount contact connector

1 Gently rotate the locking actuator from the center of the actuator to the unlocked position.

Parts removal

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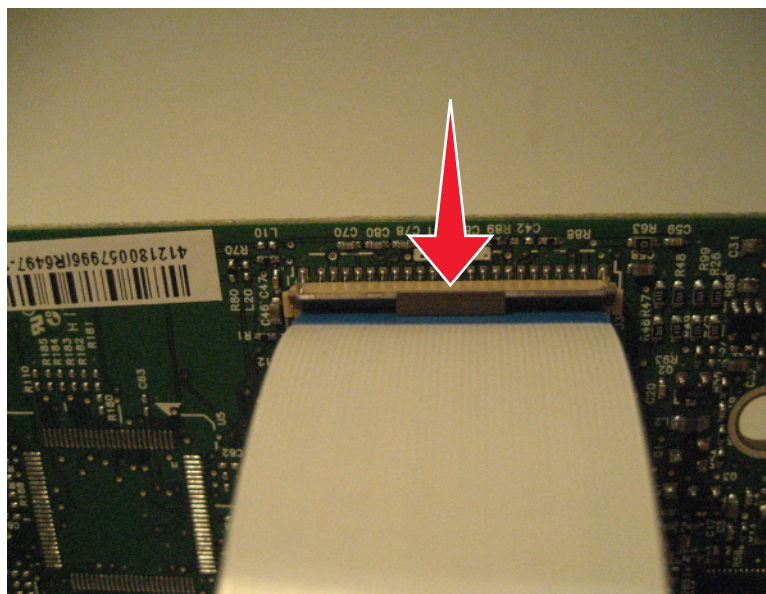
2 Slide the cable out of the connector.

Inserting a cable into the vertical mount contact connector

1 When installing the cable, check the locking actuator to verify it is in the open position.

2 Insert the cable with the contacts on the cable away from the locking actuator. Insert the cable on top of the actuator.

Note: Verify that the cable is installed squarely into the connector. If the cable is not squarely installed, then intermittent failures could occur.

Parts removal

3 Rotate the locking actuator to the locked position by pressing down on both ends of the actuator. The cable must not move while this step is performed. If the cable moves, open the actuator, reposition the cable, and then close the actuator to the down position.
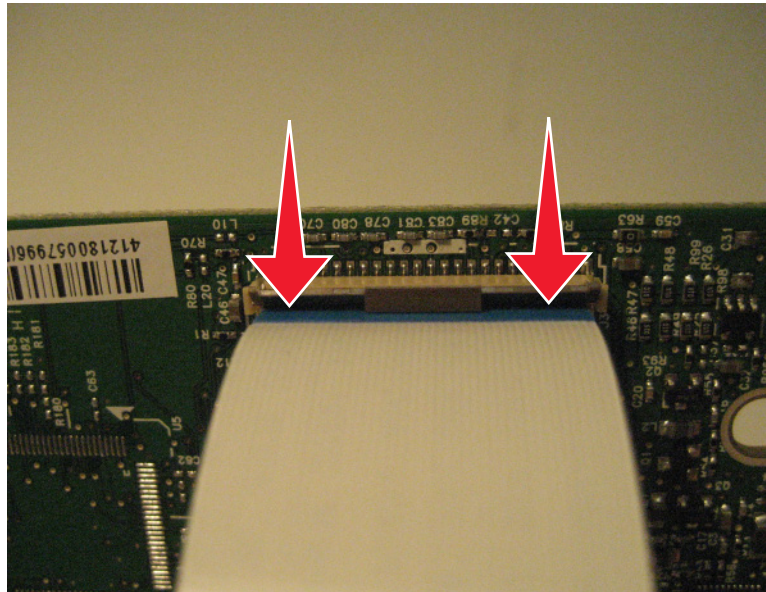
Horizontal sliding contact connector

The horizontal sliding contact connector uses a slide locking actuator to lock the ribbon cable into the Zero Insertion Force (ZIF) connector. The cable is inserted horizontally into the connector.

Warning—Potential Damage: When opening or closing this type of actuator, gently push or pull the two tabs located on each end of the actuator. Do not close the actuator from the center of the actuator. Do not use a screwdriver to open or close the actuator. Damage to the cable or connector could occur.

Removing a cable from the horizontal sliding contact connector

1 Simultaneously slide the two tabs on the ends of the locking actuator away from the connector.

2 Slide the cable out of the connector.

Inserting a cable into the horizontal sliding contact connector

1 When installing the cable, check the locking actuator to verify it is in the open position. If you are opening the connector, then pull back on both end tabs using equal force to avoid breaking the connector.
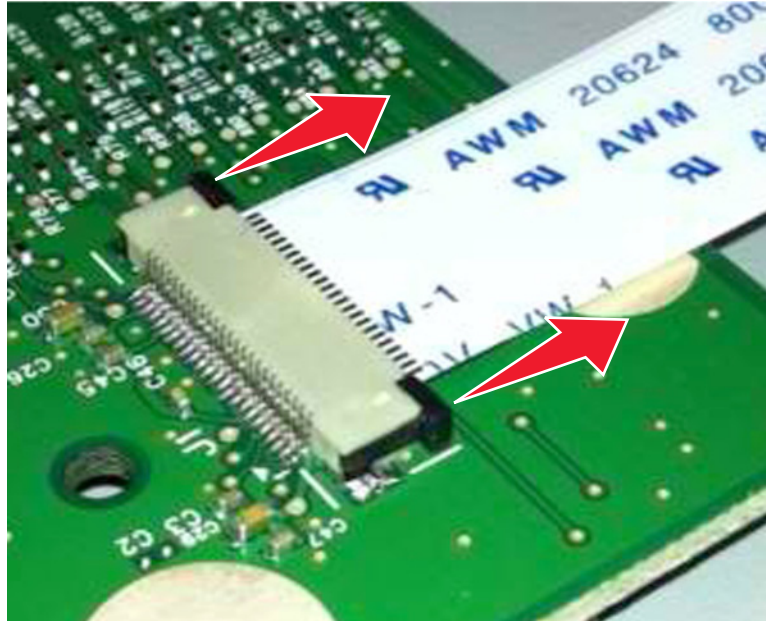
2 Insert the cable with the contacts on the cable facing away from the locking actuator. Insert the cable on top of the actuator.

3 Slide the locking actuator towards the connector, locking the cable into place. The cable must not move while this step is performed. If the cable moves, open the actuator, reposition the cable, and then close the actuator to the down position.
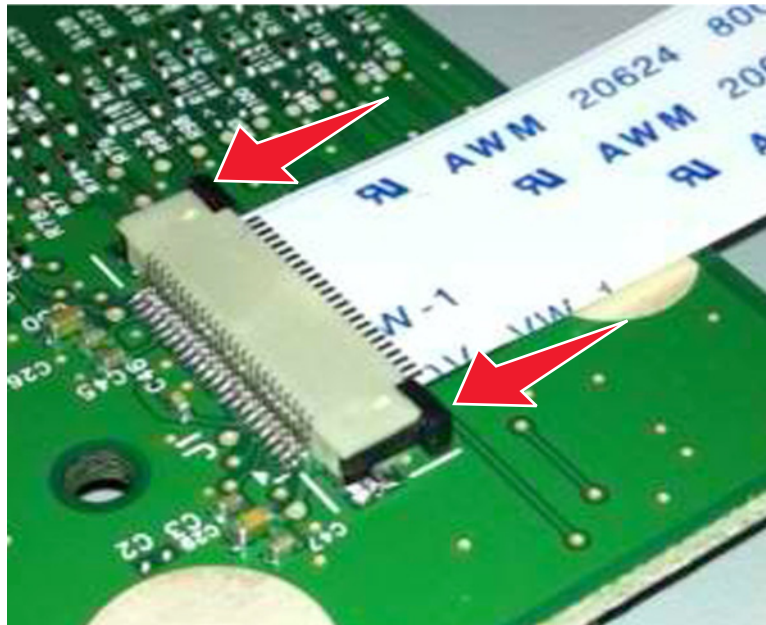
Low Insertion Force (LIF) connector

Warning—Potential Damage: When installing a cable into the LIF connector, make sure to avoid bending the edges of the cables and damaging the contacts on the cables.

Inserting a cable into the LIF connector

1 Looking at the connector, take note on which side the contacts are located. Many boards have the word *contacts* stamped on them to indicate which side of the LIF has the contacts. When looking at the board, take note that the contacts from the board to the connector are on the side of the connector with the contacts.
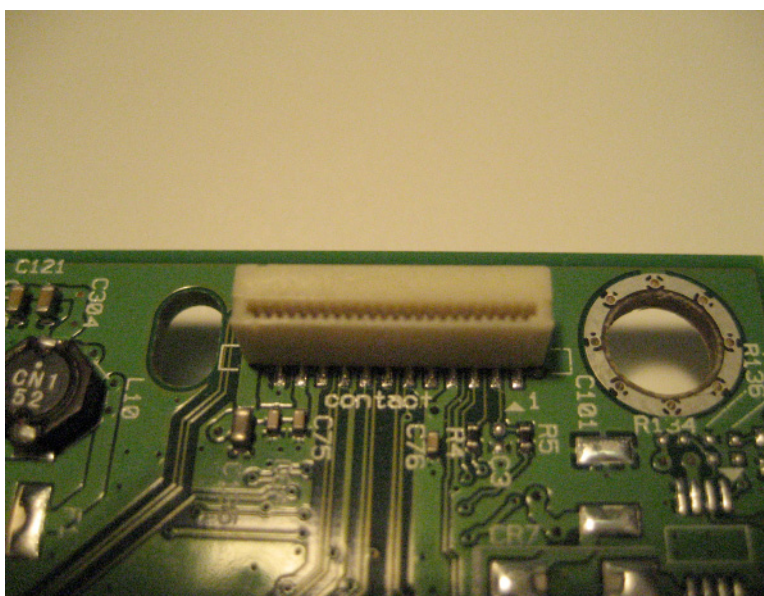
2 Insert the cable squarely into the connector.

Note: Verify that the cable is installed straight into the connector. If the cable is not installed properly, then intermittent failures could occur.

Parts removal

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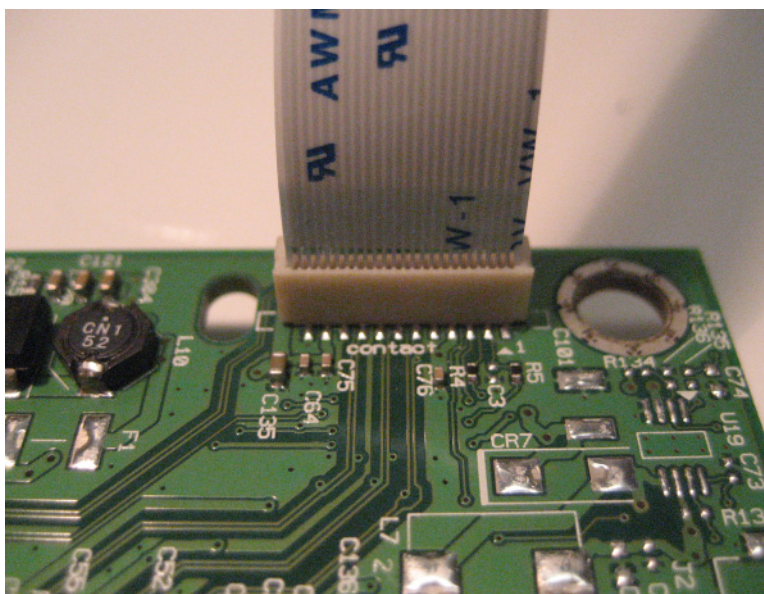
Adjustments

Registration adjustment

Image misalignments can occur after printhead replacement. Perform this procedure to correct the position of the image relative to the paper edges.

Note: You cannot perform mechanical registration or skew adjustments on this printhead.

Before performing the procedure, make sure that the tray guides are properly set and the paper settings on the printer match the paper size loaded in the tray.

Adjusting the skew

The skew adjustment changes the angle of the horizontal lines so that the lines can be aligned with the leading edge of the page. As the skew setting is changed, the top line on the test page stays in place at the left end, while its right end tilts up or down. All horizontal lines on the page will tilt at that same angle while the vertical lines will remain vertical. Changing the skew setting moves the right edge of the page up and down, and changes the angle of the top and bottom lines. If the skew is properly adjusted, the horizontal lines at the top of the page will be parallel to the leading edge of the page.

To check for skew:

1 Enter the Diagnostics menu, and then navigate to:

   Printer diagnostics & adjustments > **Registration adjust**

2 Select **Quick Test**, and then press **OK** or touch **Start**.

   The printer prints a test page.

Normal   Skewed

Parts removal
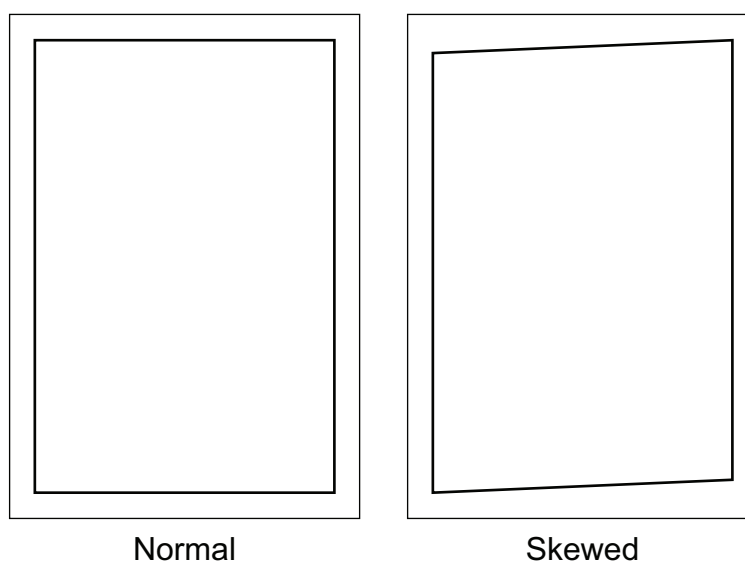
Note: If there is no skew on the page, go to Adjusting the margins. See **"Adjusting the margins" on page 285**.

To adjust the skew:

1 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Registration adjust** > **Skew**

2 Specify the value. The value range is from -100 to 100.

Notes:

- Raising the value of the skew rotates the horizontal lines clockwise. The left end of the line remains in the same place and the right end moves downward.
- Decreasing the value of the skew rotates the horizontal lines counterclockwise. The left end of the line remains in the same place and the right end moves upward.

3 Select **OK**.

4 Print a Quick test page to verify the change.

5 Repeat steps 1 to 4 until the horizontal line is properly aligned with the leading edge of the page.

6 Check for proper margin alignment. See **"Adjusting the margins" on page 285**.

Adjusting the margins

To check for proper margin alignment:

1 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Registration adjust**

2 Select **Quick Test**, and then press **OK** or touch **Start**.

The printer prints a test page.

3 Check the top and bottom margins of the test page for proper alignment.
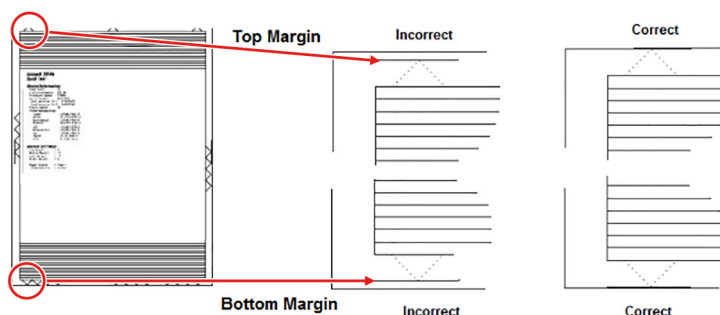
To adjust the margins:

1 Refer to the test page, and then check the arrows along the margins.

Notes:

- The arrows should be completely visible along the edges.

Parts removal

- The tip of the arrows should point to the edges of the paper.

2 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Registration adjust**

3 Select the field of the margin to adjust.

4 Specify value. The value range is from -80 to 80.

Notes:

- Raising the value of the top margin setting pushes the top edge of the image downward.
- Raising the value of the bottom margin setting pushes the bottom edge of the image upward.
- Raising the value of the left margin setting pushes the left margin to the right.
- Raising the value of the right margin setting pushes the right margin to the left.

5 Select **OK**.

6 Print a Quick test page to verify the change.

7 Repeat step 3 through to step 6 until the margins are properly adjusted.

8 Check for proper color alignment. See .

Adjusting the color alignment

1 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Color alignment adjust**

On the AA Adjustment row, press **OK** or touch **Start**.

Note: The Color alignment procedure is performed on the cyan, magenta, and yellow colors.

2 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Color alignment adjust** > **Cyan** > **Quick test**

Check the alignment markings on the test page generated. Follow the instructions on the test page to correct the color misalignment.

3 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Color alignment adjust** > **Yellow** > **Quick test**

Check the alignment markings on the test page generated. Follow the instructions on the test page to correct the color misalignment.

4 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Color alignment adjust** > **Magenta** > **Quick test**

Check the alignment markings on the test page generated. Follow the instructions on the test page to correct the color misalignment.

5 If color misalignment still occurs, then repeat step 1 through to step 4.

Scanner Manual Registration

Use this setting to register the flatbed and ADF on the scanner. Perform a registration adjustment whenever the ADF, flatbed, or controller board is replaced.

Note: This setting does not appear if the Disable Scanner setting is set to Auto Disabled.

For more information on adjusting the scanner registration, see **"ADF registration adjustment" on page 287** and **"Flatbed registration adjustment" on page 287**.

ADF registration adjustment

1 From the home screen, navigate to **Settings** > **Device** > **Maintenance** > **Configuration Menu** > **Scanner Configuration** > **Scanner Manual Registration**.

2 From the Print Quick Test section, press **OK** or touch **Start**.

3 Place the test page faceup on the ADF, and then select **Front ADF Registration**.

4 From the Copy Quick Test section, press **OK** or touch **Start**.

5 Compare the pages from the print quick and copy quick tests.

6 Adjust the value of the horizontal adjust, top margin, horizontal magnification, and vertical magnification settings.

7 Apply the changes.

8 Repeat step 2 through to step 7 to make further adjustments.

9 From the Print Quick Test section, press **OK** or touch **Start**.

10 Place the quick test page facedown on the ADF, and then select **Rear ADF Registration**.

11 From the Copy Quick Test section, press **OK** or touch **Start**.

12 Compare the pages from the print quick and copy quick tests.

13 Adjust the value of the horizontal adjust, top margin, horizontal magnification, and vertical magnification settings.

14 Apply the changes.

15 Repeat step 2 through to step 14 to make further adjustments.

Flatbed registration adjustment

1 From the home screen, navigate to:

Settings > **Device** > **Maintenance** > **Configuration Menu** > **Scanner Configuration** > **Scanner Manual Registration**

2 From the Print Quick Test section, press **OK** or touch **Start**.

3 Place the test page on the flatbed, and then select **Flatbed Registration**.

4 From the Copy Quick Test section, press **OK** or touch **Start**.

5 Compare the pages from the print quick and copy quick tests.

6 Adjust the value of the horizontal adjust, top margin, horizontal magnification, and vertical magnification settings.

7 Apply the changes.

8 Repeat step 2 through to step 7 to make further adjustments.

Parts removal

Entering the TPS characterization data

After installing the new left or right TPS, access the Diagnostics menu to enter the 40-character string for the left or right sensor.

To enter the Diagnostics menu, press *** * 3 6**.

For 7-inch and 4.3-inch control panels

1 Enter the Diagnostics menu, and then navigate to:

Printer setup > **EP setup** > **Toner patch sensor adjust**

2 Touch **Right TPS calibration data** or **Left TPS calibration data**.

3 Enter the 40-character string for the sensor, and then touch **OK**.

For 2.4-inch control panel

1 Enter the Diagnostics menu, and then navigate to:

Printer setup > **EP setup** > **Toner patch sensor adjust**

2 Select **Right TPS calibration data** or **Left TPS calibration data**, and then press **OK**.

3 Press the backspace button to clear the field.

4 Enter the 40-character string for the sensor, and then press **OK**.

Removal procedures

Keep the following tips in mind as you replace parts:

- Some removal procedures require removing cable ties. You must replace cable ties during reassembly to avoid pinching wires, obstructing the paper path, or restricting mechanical movement.
- Remove the toner cartridges, imaging kit, and trays before removing other printer parts. The imaging kit must be carefully set on a clean, smooth, and flat surface. It should also be protected from light while out of the device.
- Disconnect all external cables from the printer to prevent possible damage during service.
- Unless otherwise stated, reinstall the parts in reverse order of removal.
- When reinstalling a part held with several screws, start all screws before the final tightening.
- For printers that have a soft power switch, make sure to unplug the power cord after powering off.

Left side removals

Left cover removal

1 Remove the two screws (A).
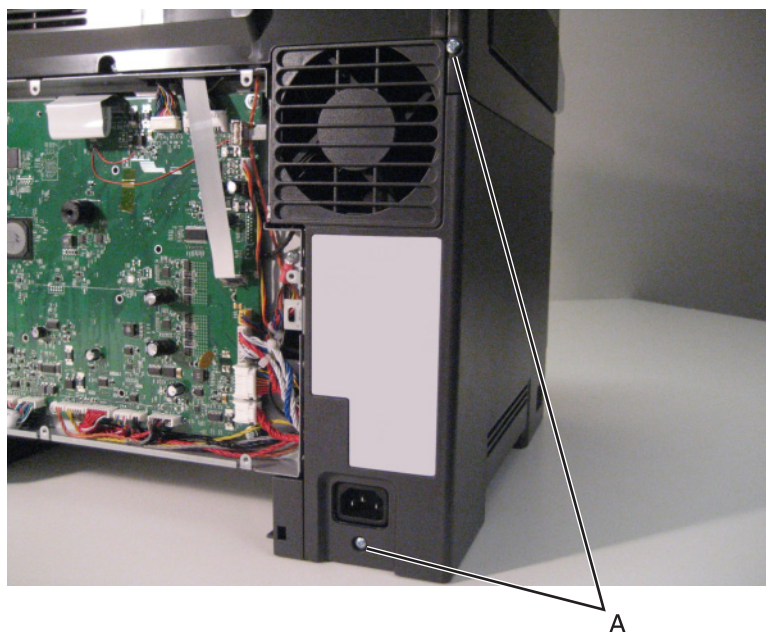
2 Remove the screw (B).

3 Place the left side of the printer on the edge of the table, and then remove the cover.
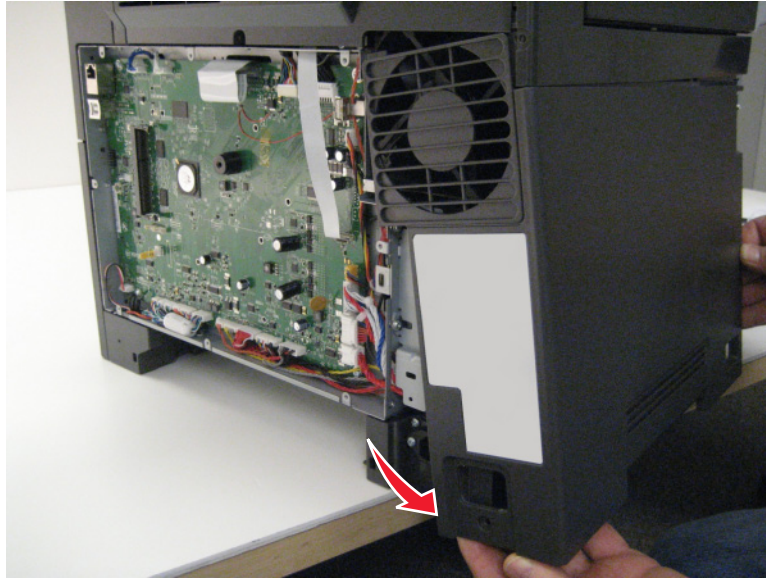
Installation note: When replacing the left cover, flex the cover slightly to engage the tab near the power switch.

Motor (drive unit) removal

Note: The EP motors must be replaced in pairs.

1 Remove the left cover. See **"Left cover removal" on page 289**.

2 Disconnect the cable (A), remove the four screws (B), and then remove the motor.
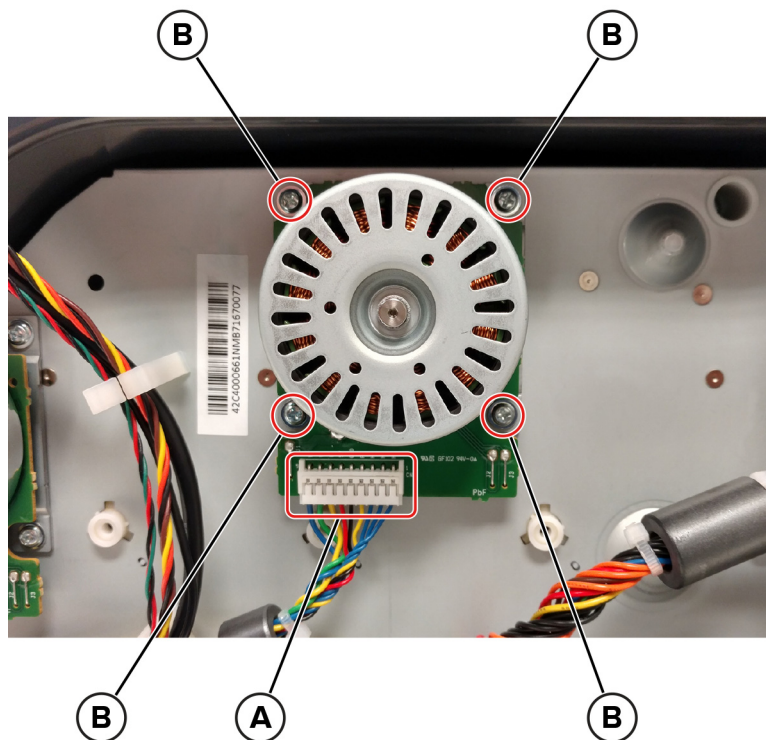
EP drive assembly removal

1 Remove the left cover. See **"Left cover removal" on page 289**.

2 Remove the transfer module. See **"Transfer module removal" on page 312**.

3 Disconnect the cable (A).
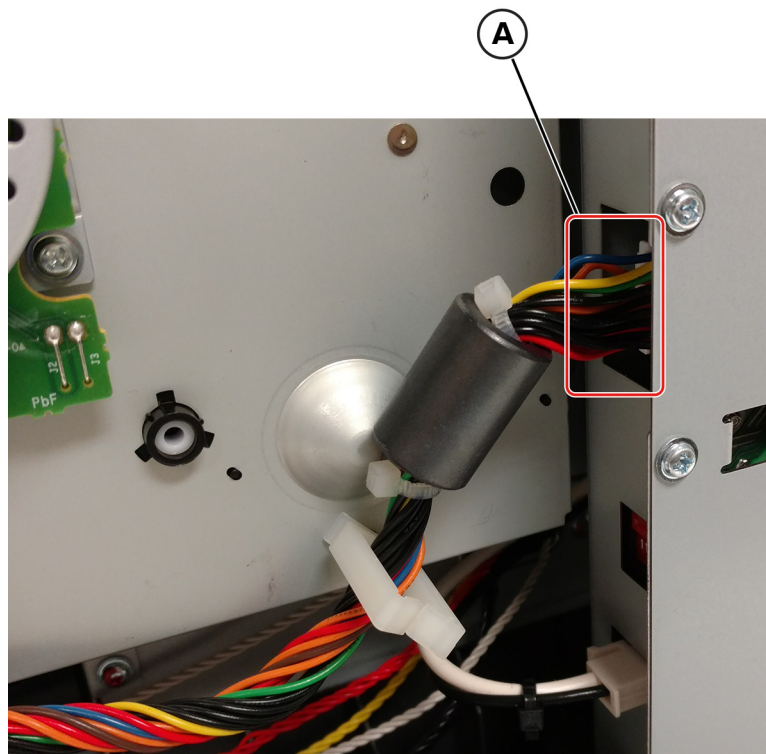
4 Disconnect the two cables from the motor (drive unit).

5 Remove the cables from the clips on the EP drive assembly, and then remove the two screws (B).
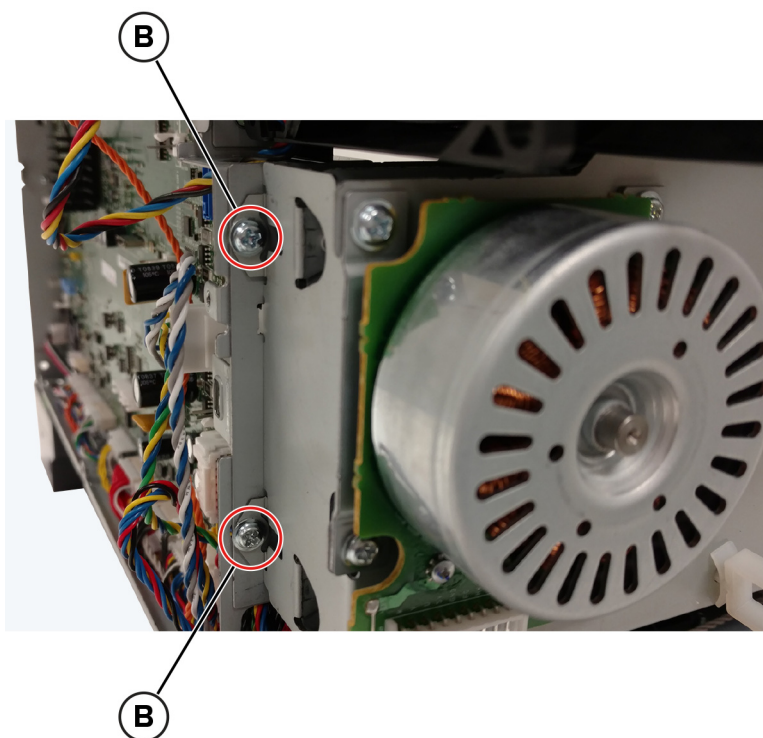
Parts removal

6 Remove the screw (C).
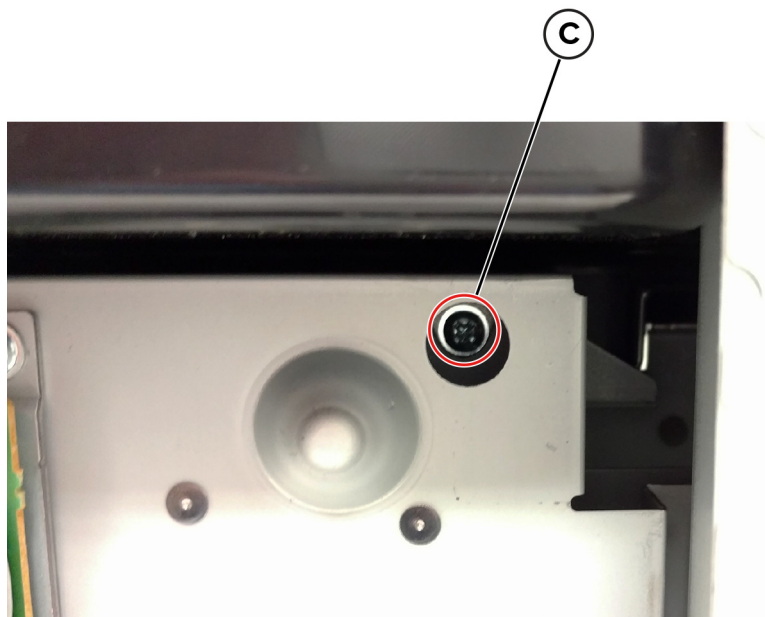
7 Remove the two screws (D).
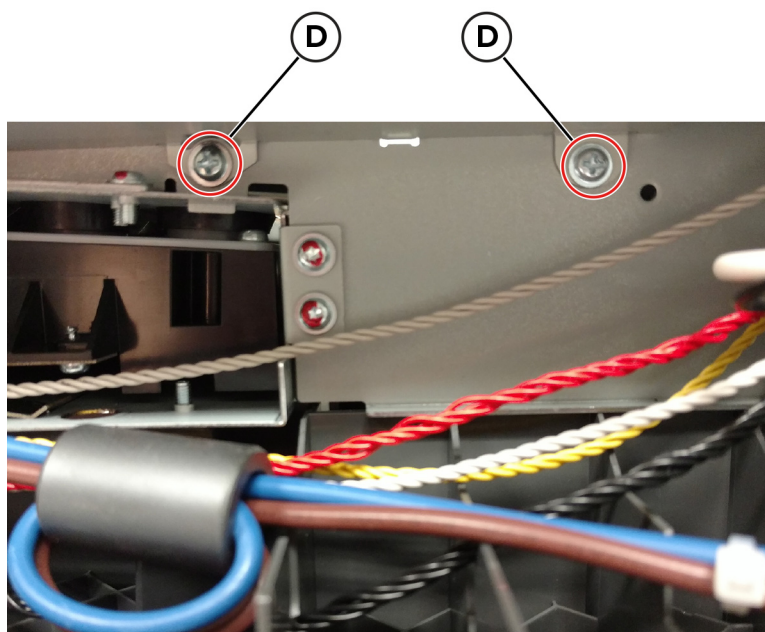
8 Remove the EP drive assembly.
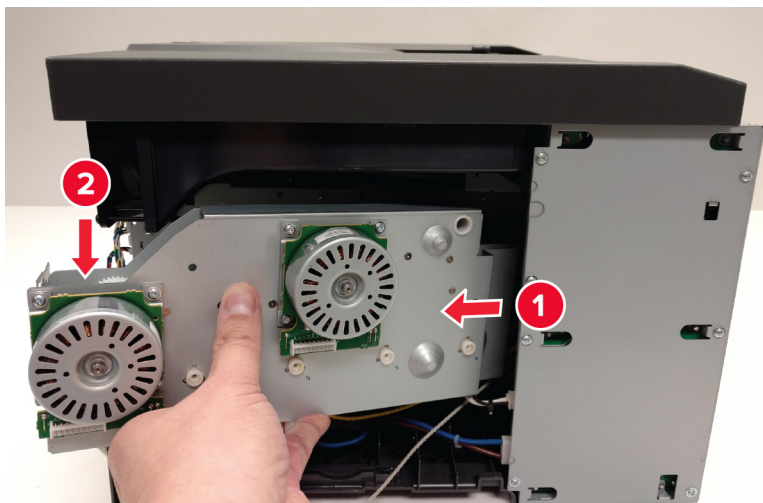
LVPS removal

⚠️ **CAUTION—SHOCK HAZARD:** The LVPS may have residual voltage present. To avoid the risk of electrical shock, do not touch its circuit components. Only handle it by its housing or outer edges.

1 Turn off the printer, and then unplug the power cord.

2 Remove the left cover. See **"Left cover removal" on page 289**.

3 Disconnect the three cables (A).
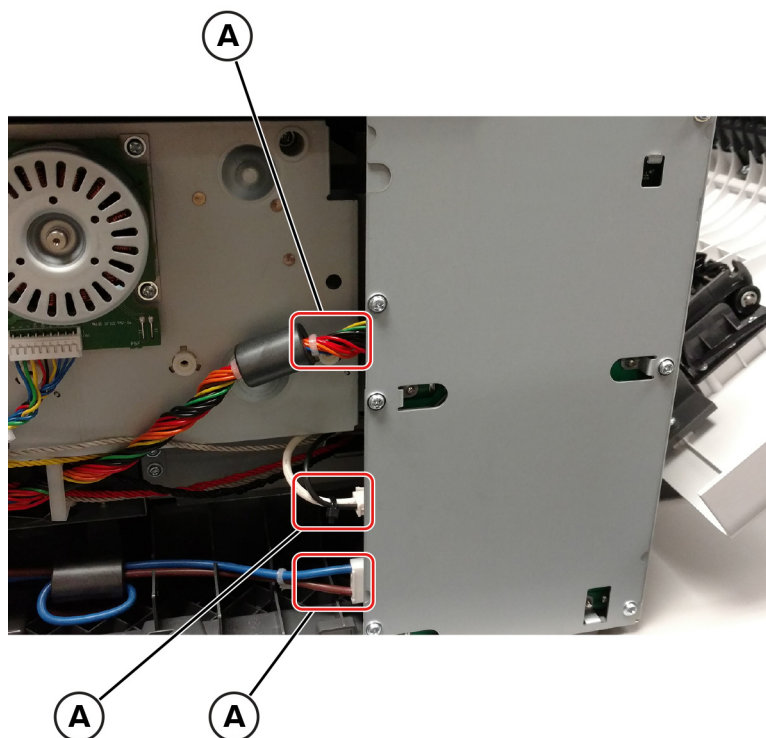
4 Remove the seven screws (B), and then remove the LVPS.

Parts removal

⚠️ **CAUTION—SHOCK HAZARD:** Do not touch the PCBA. Handle the old LVPS on the metal plate.
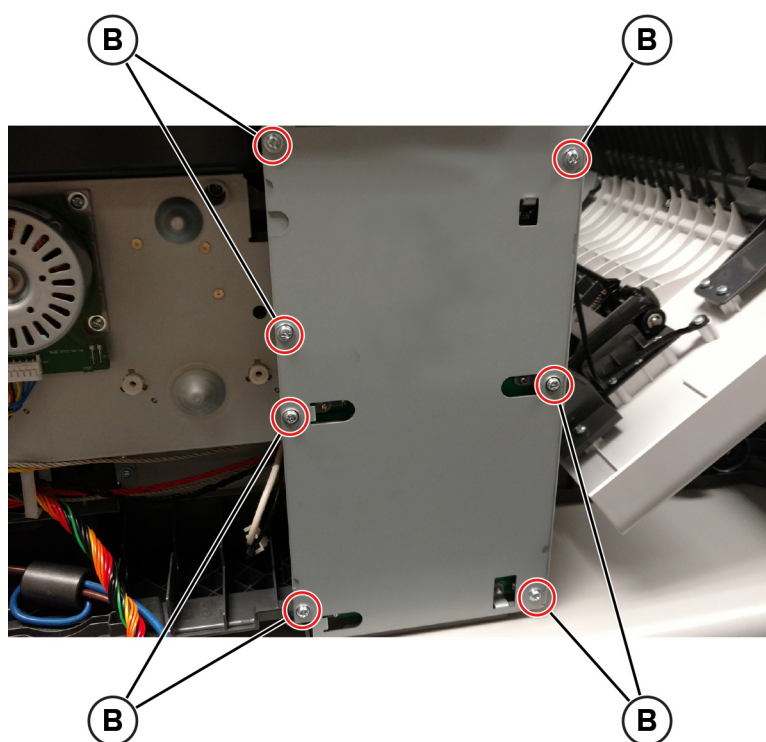
Warning—Potential Damage: Make sure to set the switch to the correct setting for your voltage requirements before installing the LVPS. The switch can be set to either 115 V or 230 V.
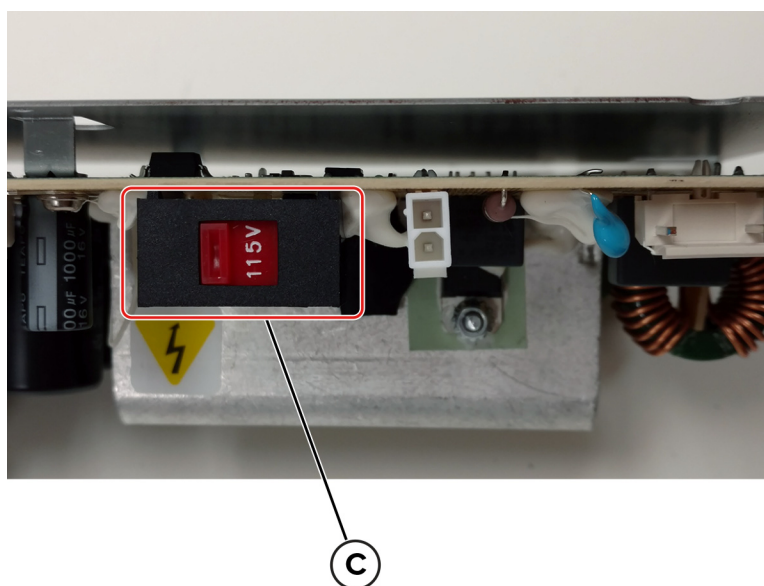
Parts removal

Sensor (fuser exit) removal

1 Remove the left cover. See **"Left cover removal" on page 289**.

2 Remove the cable (A) from its retainer (B).
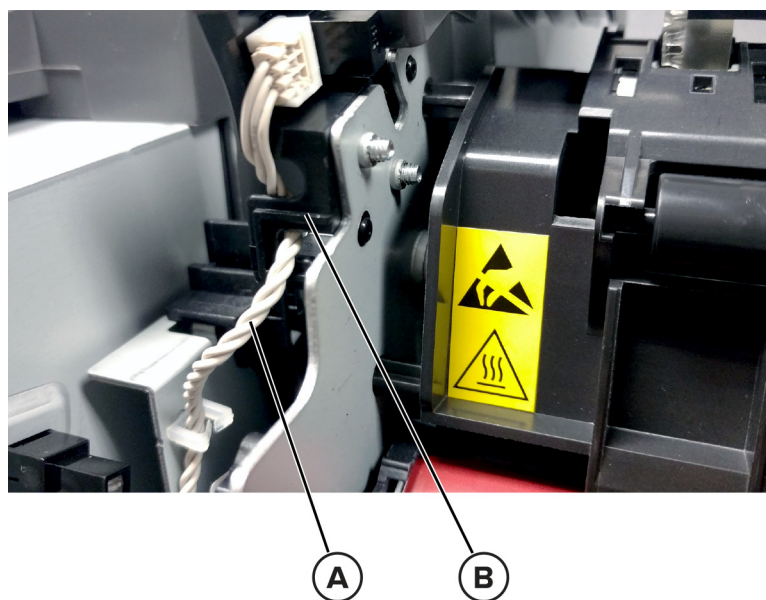
3 Disconnect the cable (C).
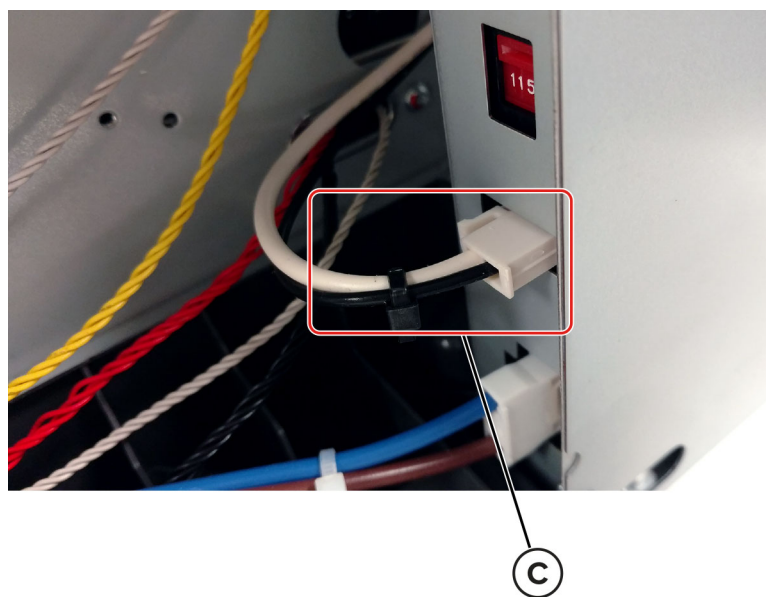
4 Disconnect the cable (D).
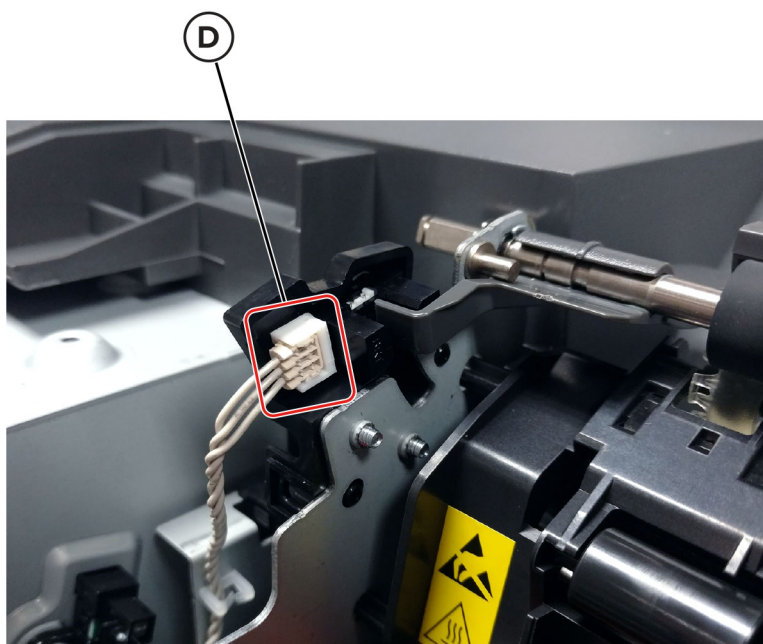
5 Unhook the two springs (E) from both sides of the fuser.
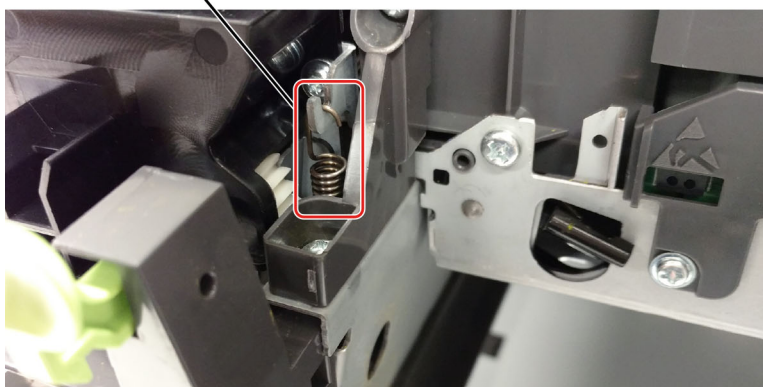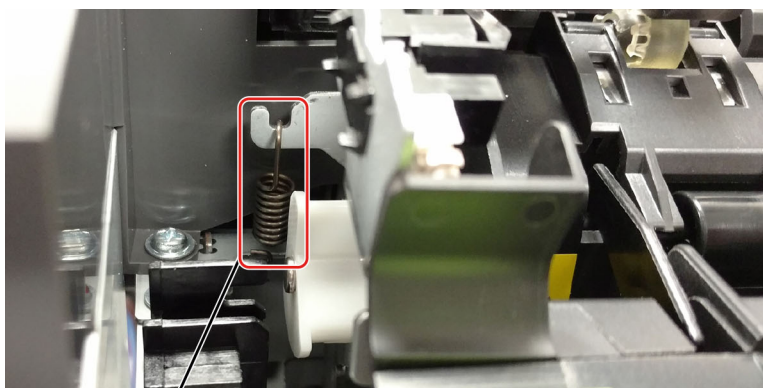
Parts removal

6 Disconnect the two thermistor cables (F), and then remove the screw (G).
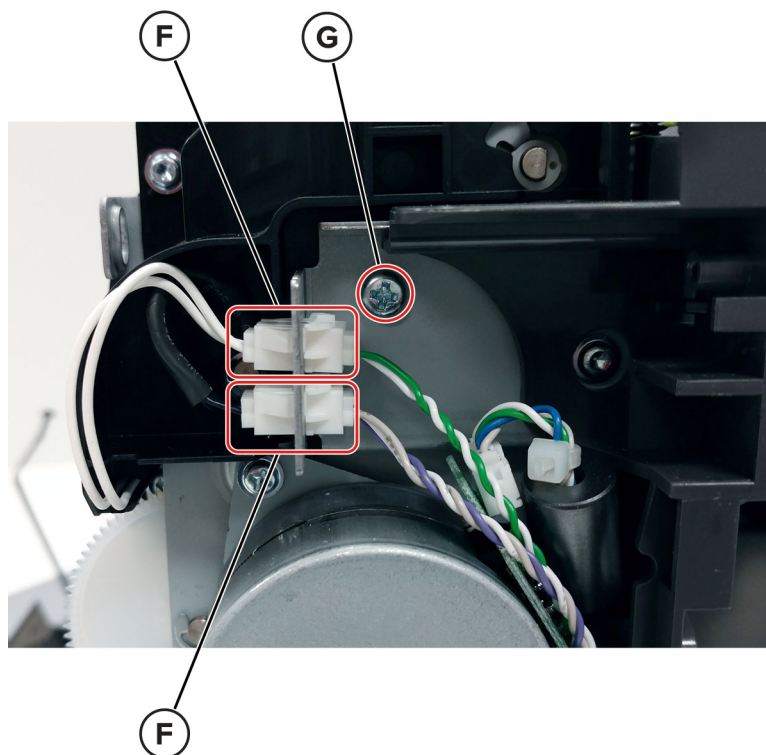
7 If the printer is an MFP, then remove the belt (H) from the pulley.

Parts removal
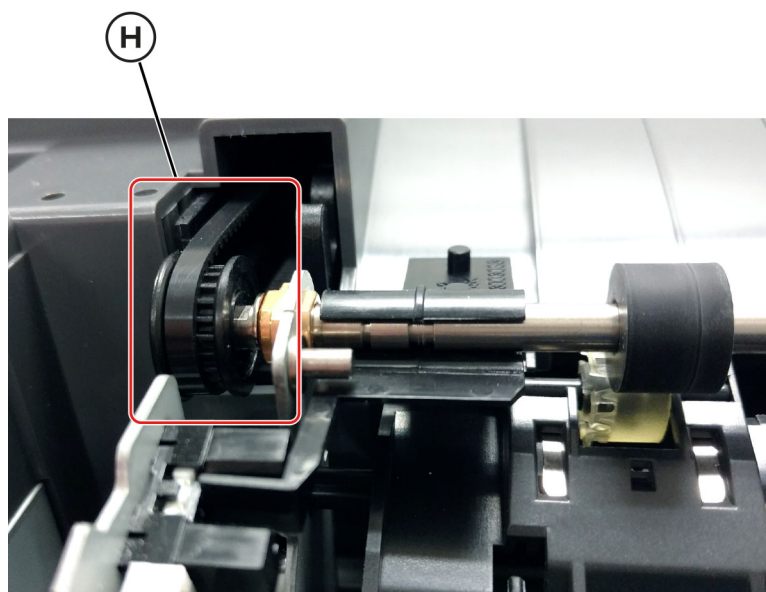
8 Rotate the fuser towards the front, disconnect the cable (I), and then remove the screw (J).
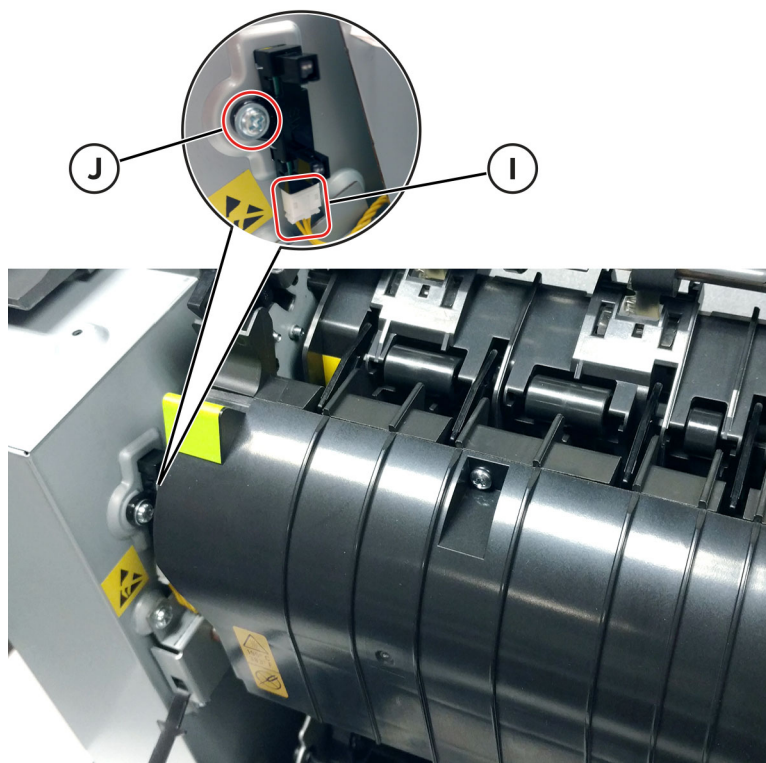
9 Using a flat-head screwdriver, remove the lower end of the sensor, and then gently pull the sensor from the frame.

Right side removals

Right cover removal

1 Open the toner supply door.

2 Open the front door.

3 Release the two latches (A), and then remove the cover.

A
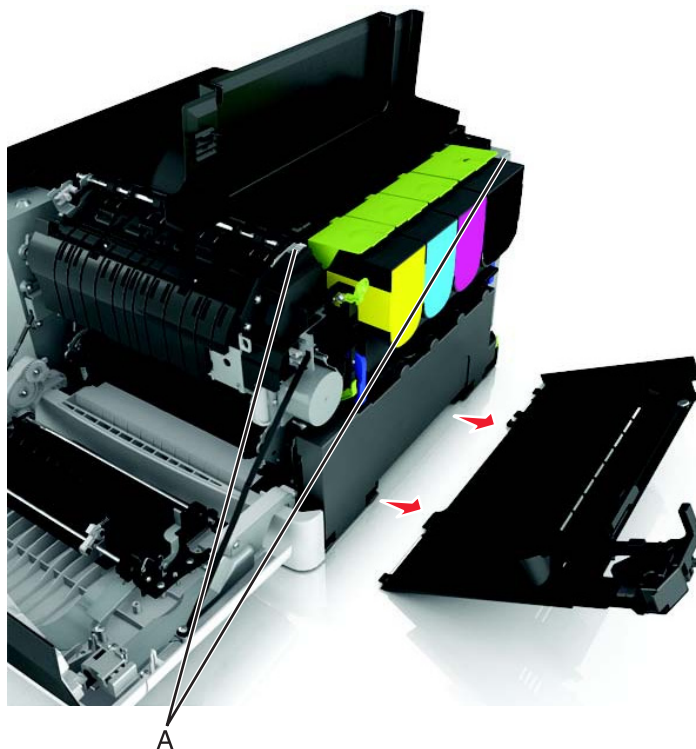
Motor (fuser drive) removal

1 Remove the right cover. See **"Right cover removal" on page 299**.

2 Disconnect the cable (A).

A
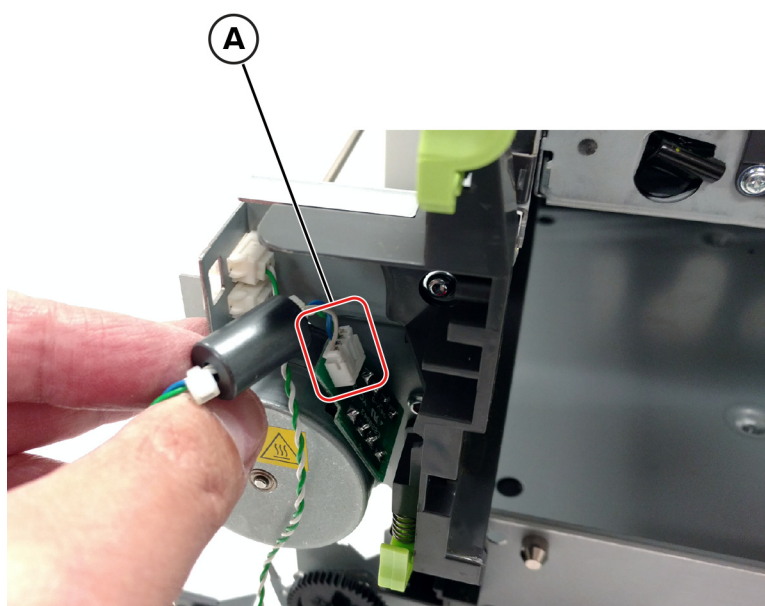
3 Remove the two screws (B), and then remove the motor.

TMC card removal

1 Remove the imaging kit. See .

2 Remove the rear cover. See .

3 Disconnect the cable (A), and then push the TMC card cable through the frame opening.

> **Note:** Pay attention to the cable routing.
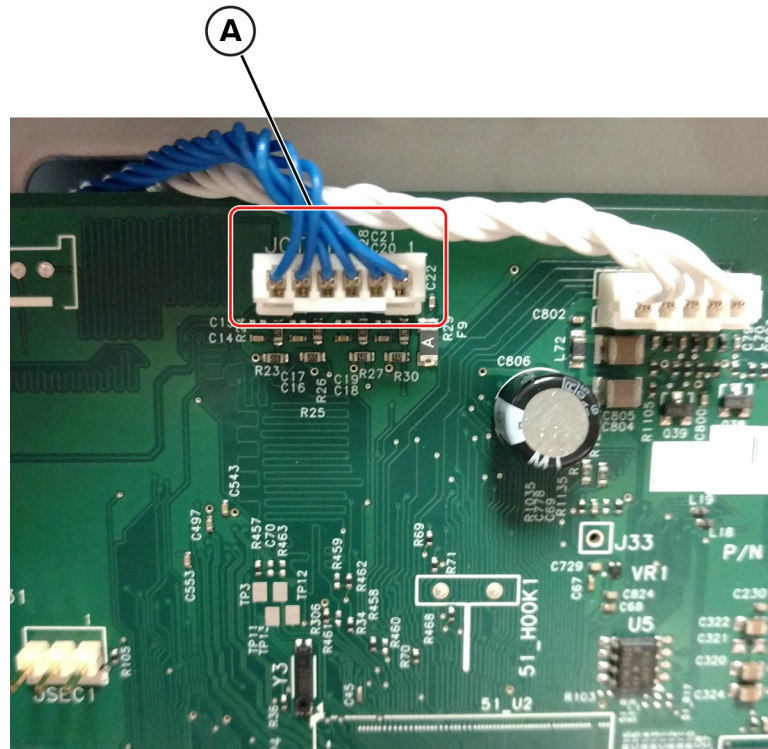
4 Remove the four screws (B).
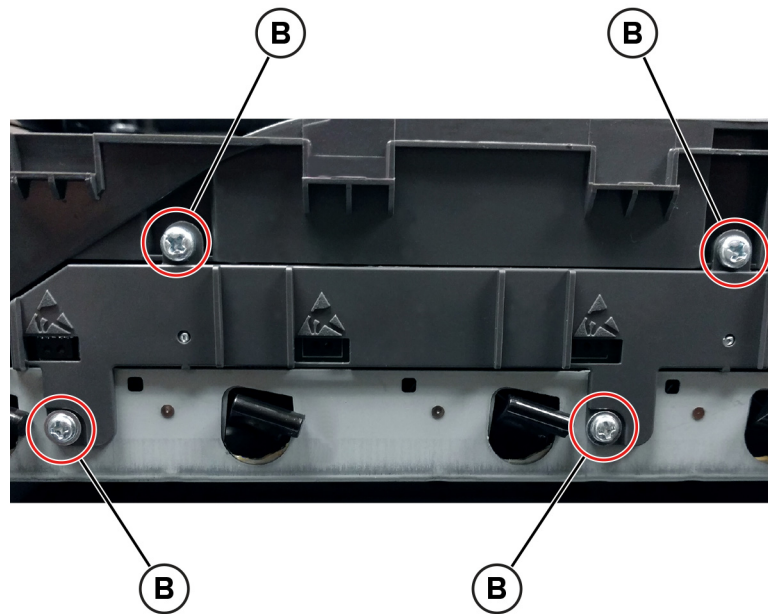
5 Insert a flat-head screwdriver into the left side of the frame, and then pry the card loose to remove it.
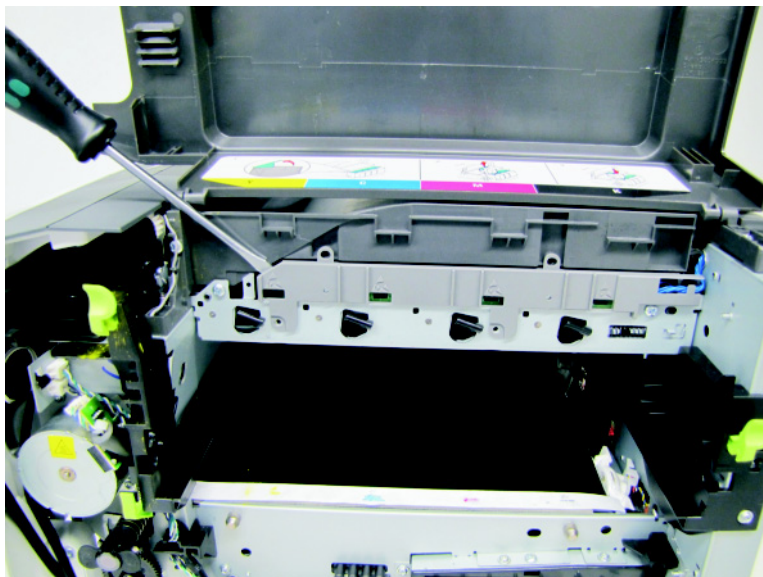
Installation notes:

- Make sure to run the cable (C) through the retainer.
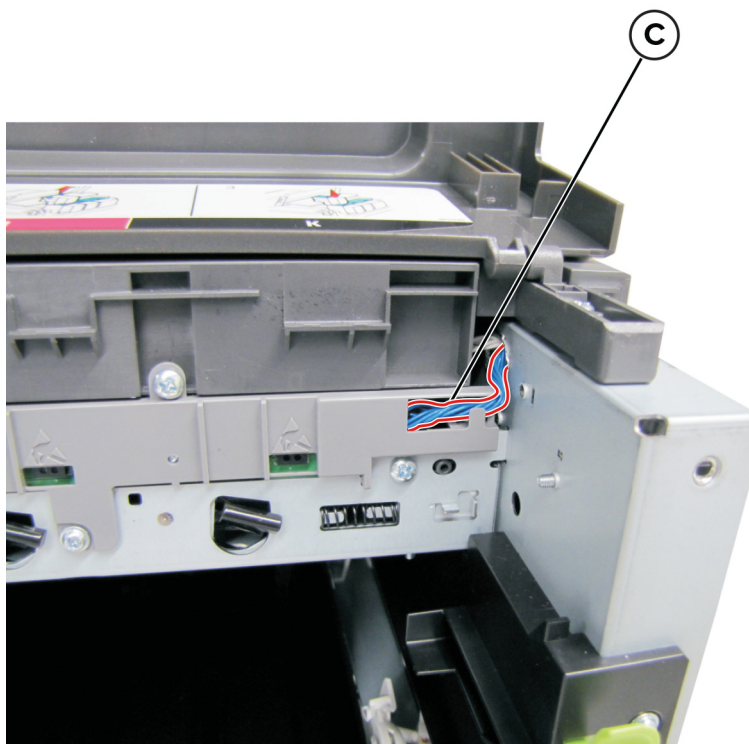
- The TMC card is a tight fit. Insert the bottom edge inside the frame first, and then push down on the top edge to clear the top cover.

Sensors (toner patch) removal

Note: The left and right sensors are separate FRUs.

1 Remove the transfer module. See **"Transfer module removal" on page 312**.

2 Remove the rear cover. See **"Rear cover removal" on page 373**.

3 Disconnect the three cables (A) from the controller board.
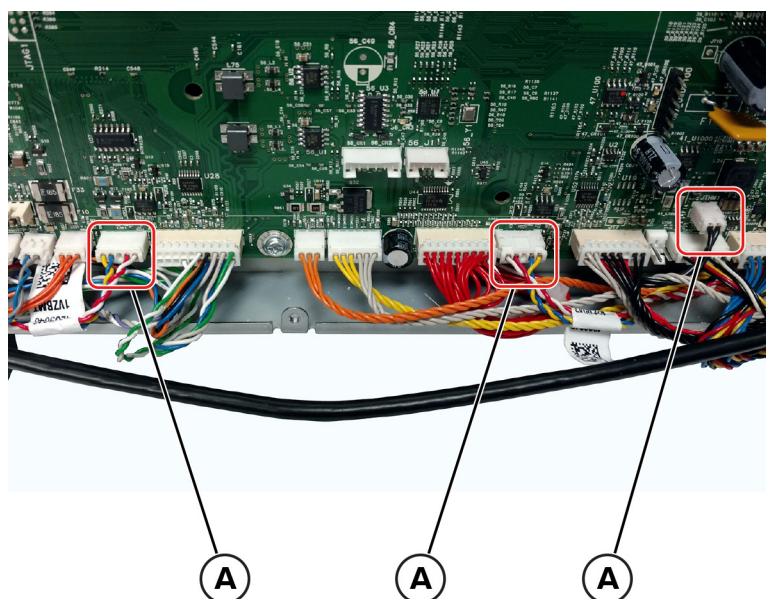
Notes:

- If you are removing the sensor (right toner patch), then disconnect the JTPS1 cable on the controller board.
- If you are removing the sensor (left toner patch), then disconnect the JTPS2 cable on the controller board.
- Pay attention to the cable routing.

4 Remove the screws at the bottom of the controller board to provide clearance for the cables.

5 Remove the two screws (B) from the left or right sensors.

Note: Only remove the screws from the sensor to be replaced.
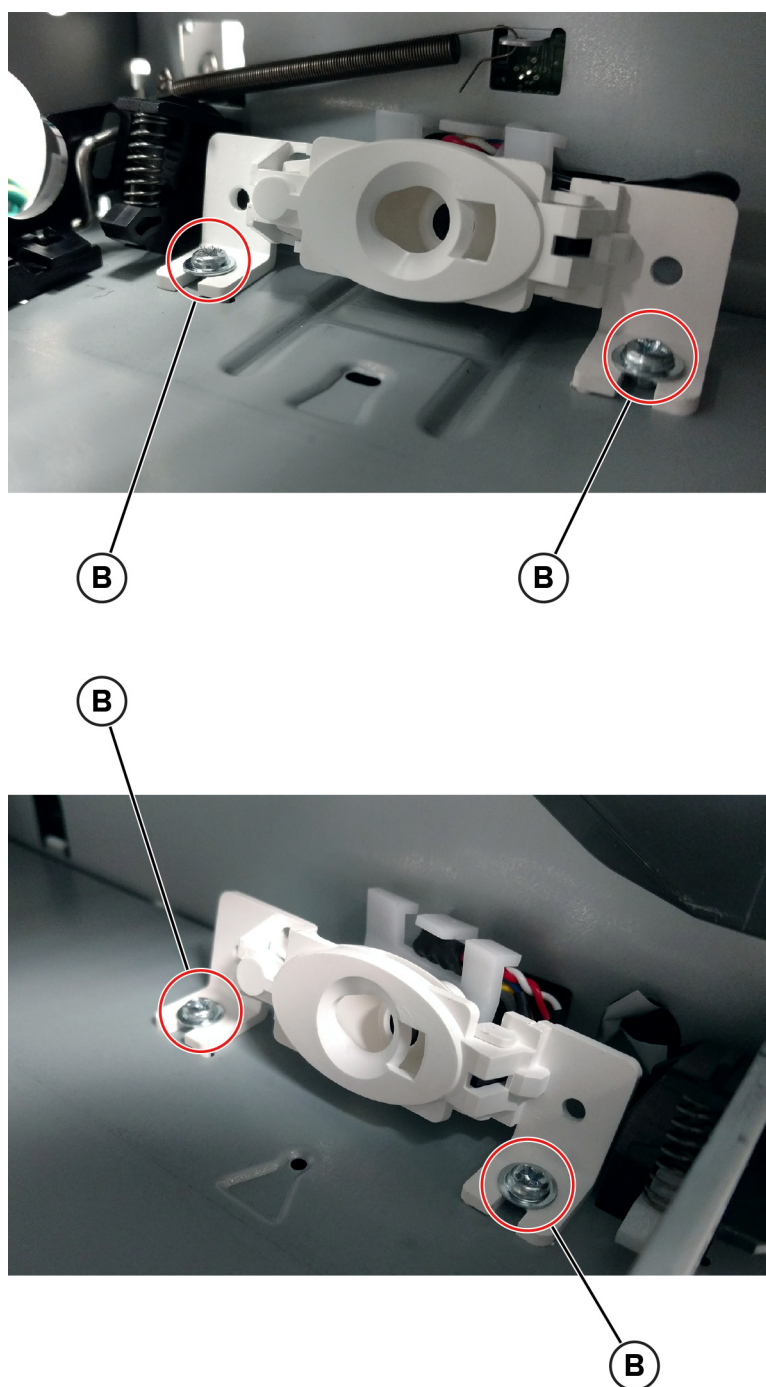
6 Remove the sensor while carefully routing the cables through the rear of the controller board cage.

Installation note: After installing the new sensors, make sure to enter the TPS characterization data. See **"Entering the TPS characterization data" on page 288**.

Developer unit removal

Note: This is not a FRU.

1 Open the toner access door.

2 Remove the toner cartridges.
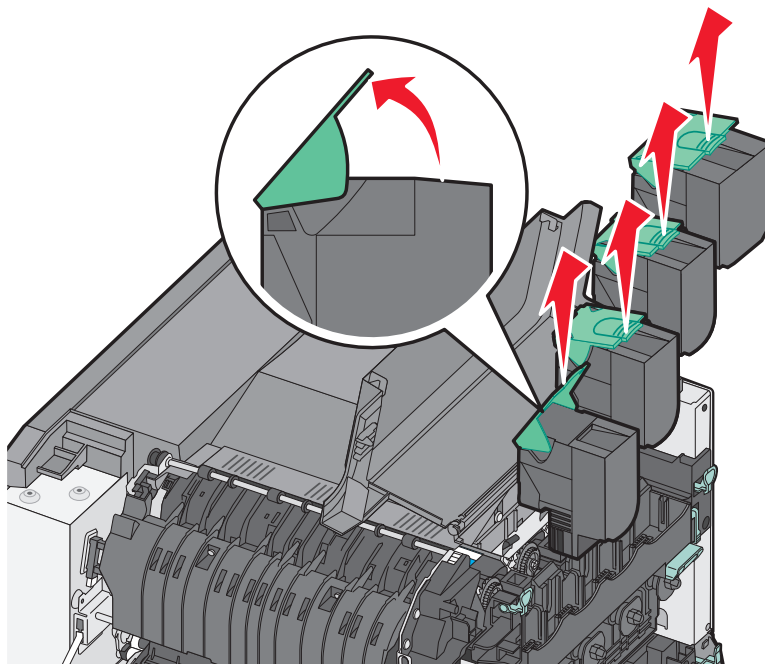
3 Remove the imaging kit. See **"Imaging kit removal" on page 316**.

Warning—Potential Damage: Do not touch the underside of the imaging kit.

4 Remove the developer unit.
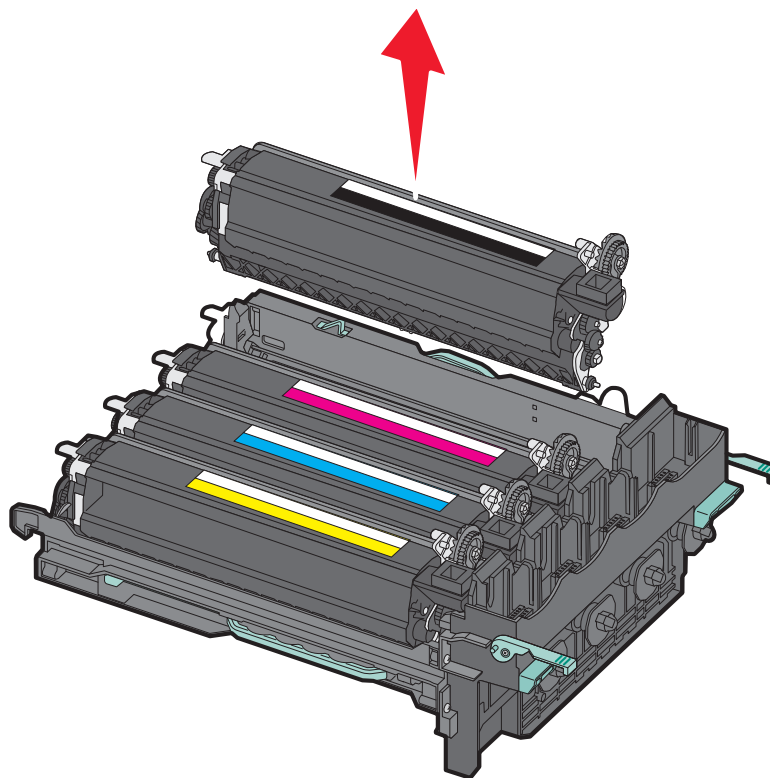
HVPS removal

⚠️ **CAUTION—SHOCK HAZARD:** The HVPS may have residual voltage present. To avoid the risk of electrical shock, do not touch its circuit components. Only handle it by its outer edges.

1 Turn off the printer, and then unplug the power cord.

2 Remove the rear cover. See **"Rear cover removal" on page 373**.

3 Remove the cable cover (A), and then disconnect the cable (B).
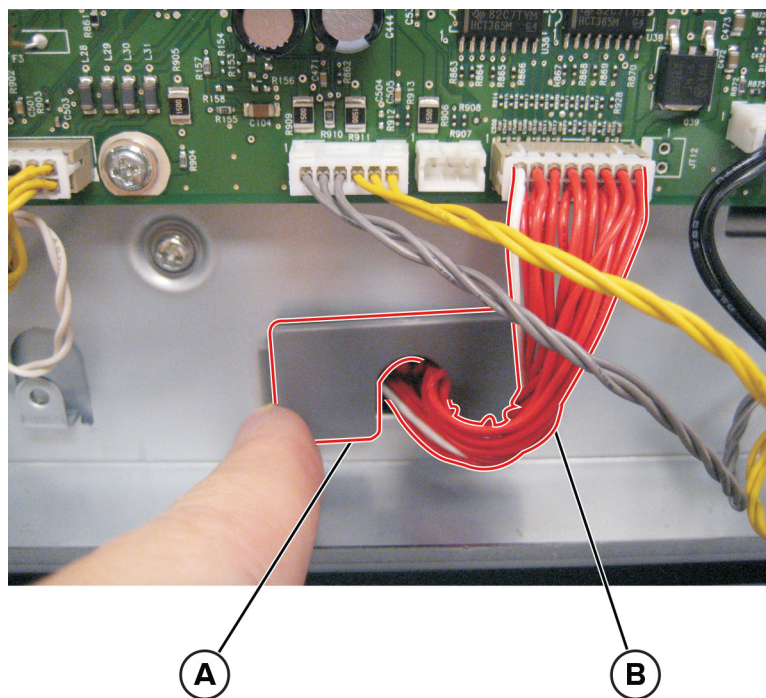
4 Tuck the HVPS cable inside the frame.

5 Remove the transfer module. See .

6 Remove the screw (C).
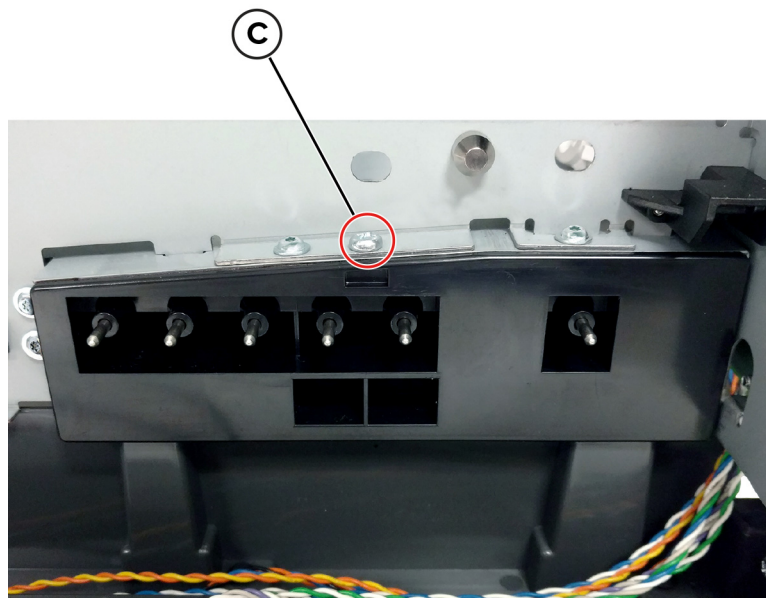
7 Remove the left cover. See **"Left cover removal" on page 289**.

8 Press down and hold the three transfer module contacts.

Parts removal

9 While pressing down on the contacts, press down on the spring mount, and then carefully slide out the HVPS by pulling from one side and pushing from the other.
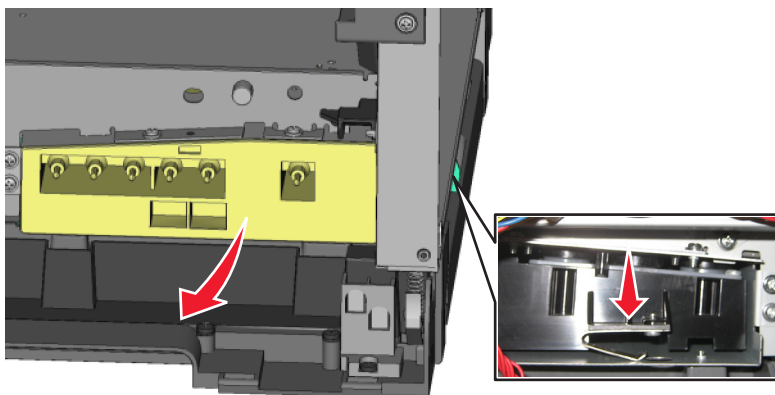
10 Release the pressure on the spring mount, and then pull and slide out the HVPS to remove.

11 Disconnect the cable (D) from the HVPS board.

> ⚠ **CAUTION—SHOCK HAZARD:** After disconnecting the HVPS cable from the controller board, make sure that the HVPS connector is not damaged.

D
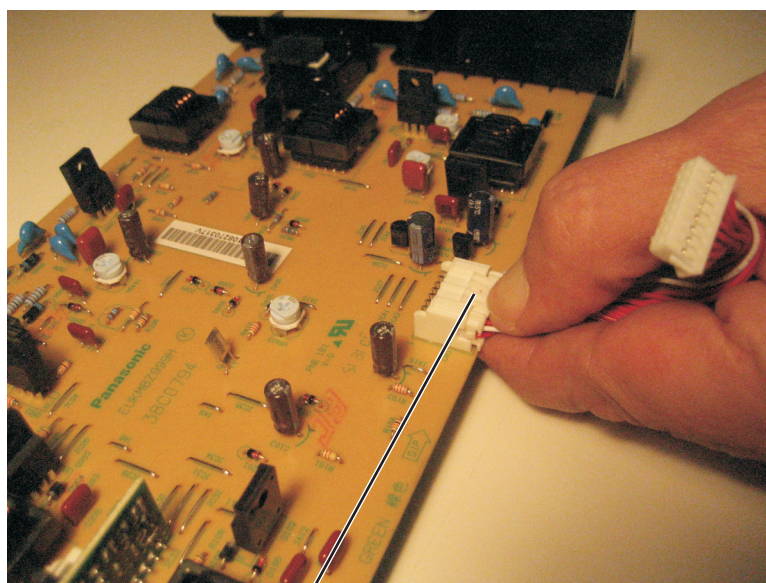
Installation notes:

a To install the new HVPS board, insert the spring end of the HVPS board while compressing the spring.
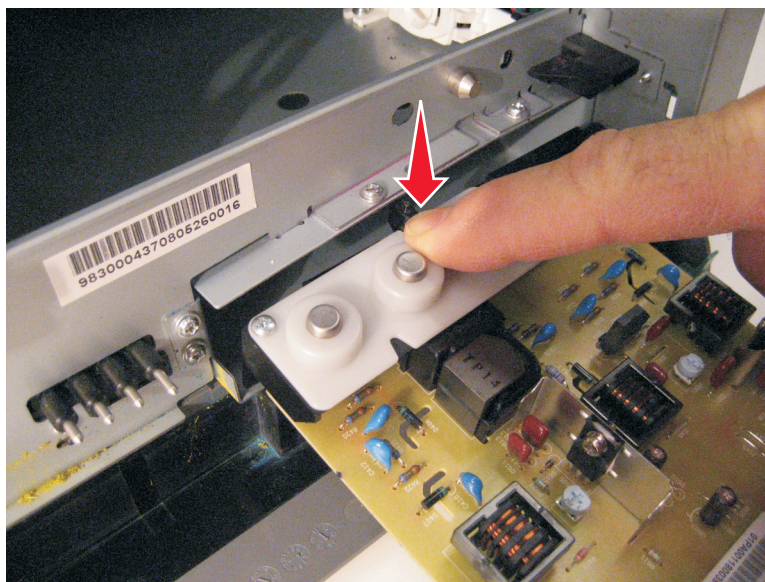
b Hold the HVPS on both sides, and then slide it into position.

Warning—Potential Damage: Do not flex the HVPS board, and do not let it touch the cage.
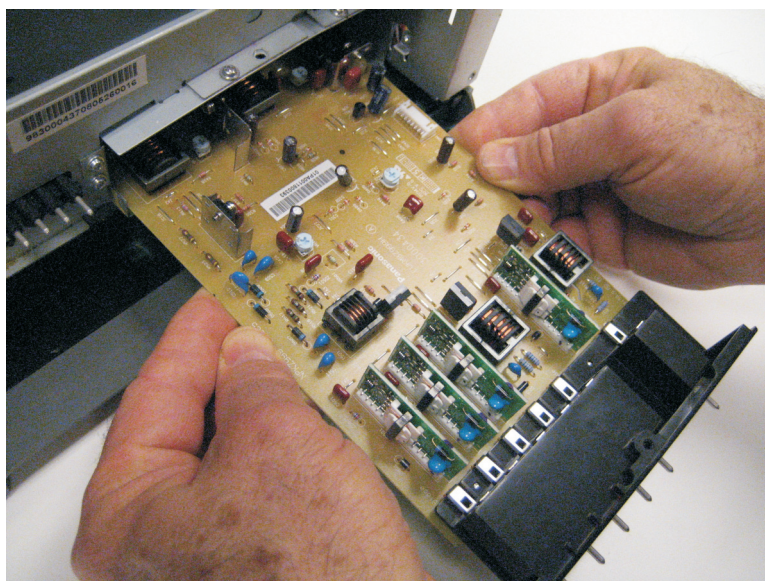
c Hold the HVPS below the contacts, and then slide it in.
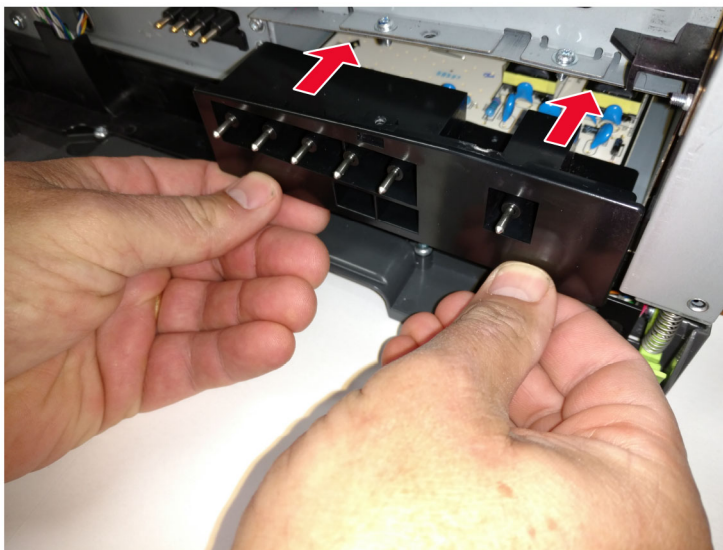
d Check the position of the card on the left side of the printer. Make sure that the small vertical post (E) is aligned with the hole above it.
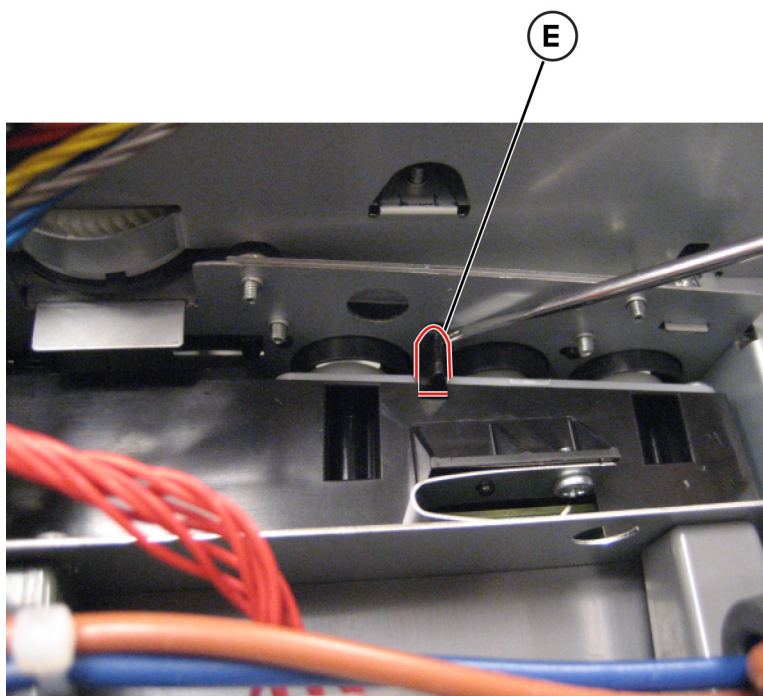
e Install the new cable.

Note: Make sure that the cable connector is locked into position on the HVPS board.

Transfer module removal

1 Remove the right cover. See .

2 Remove the waste toner bottle. See .

3 Remove the imaging kit. See **"Imaging kit removal" on page 316**.

4 Disconnect the spring (A) on the right side.
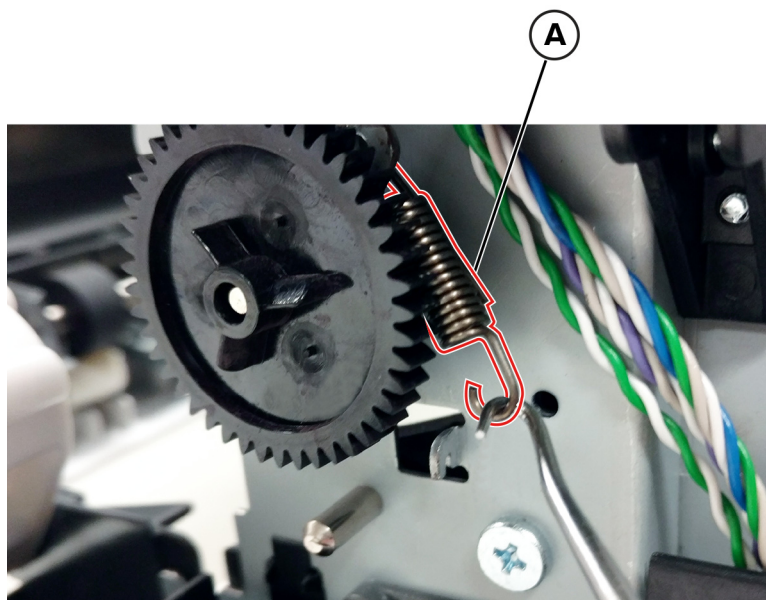
5 Release the left and right door straps (B).
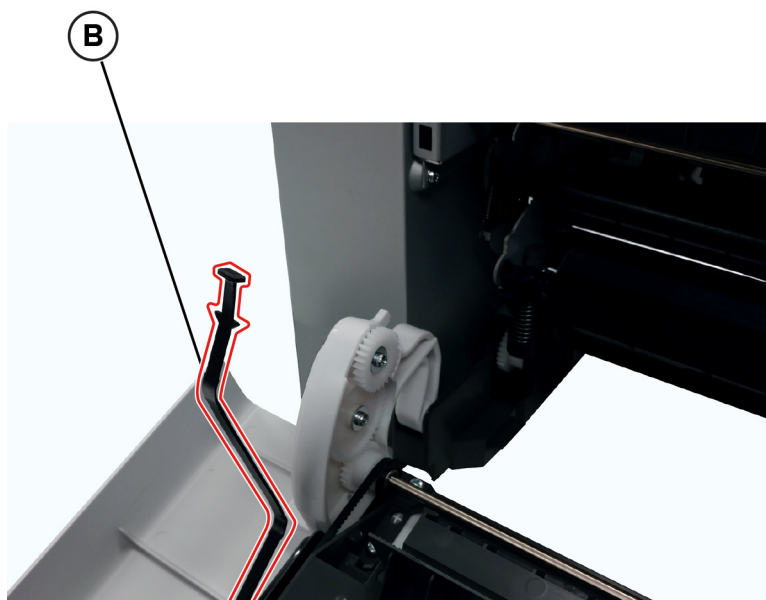
6 Disconnect the spring (C).
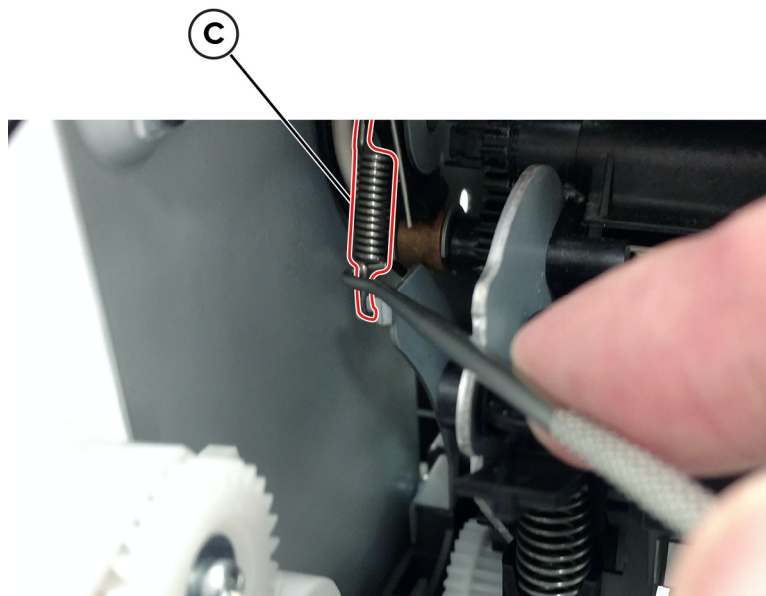
7 Raise the cam (D) and spring (E).
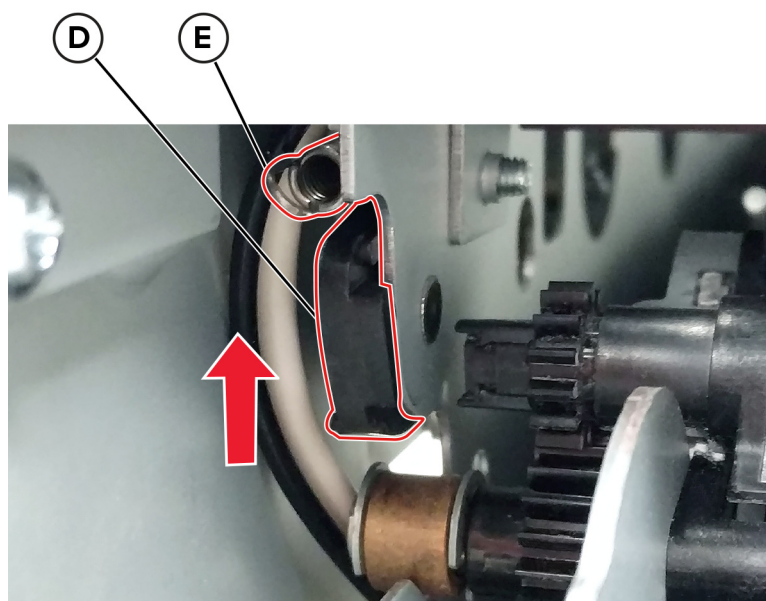
8 Place the tip of a flat-head screwdriver in between the release lever (F) and the frame, and then rotate the screwdriver to rotate the release lever and decouple the transfer module while pulling it toward the front.

Warning—Potential Damage: Make sure that the lever is in the fully released position before removing the transfer module.
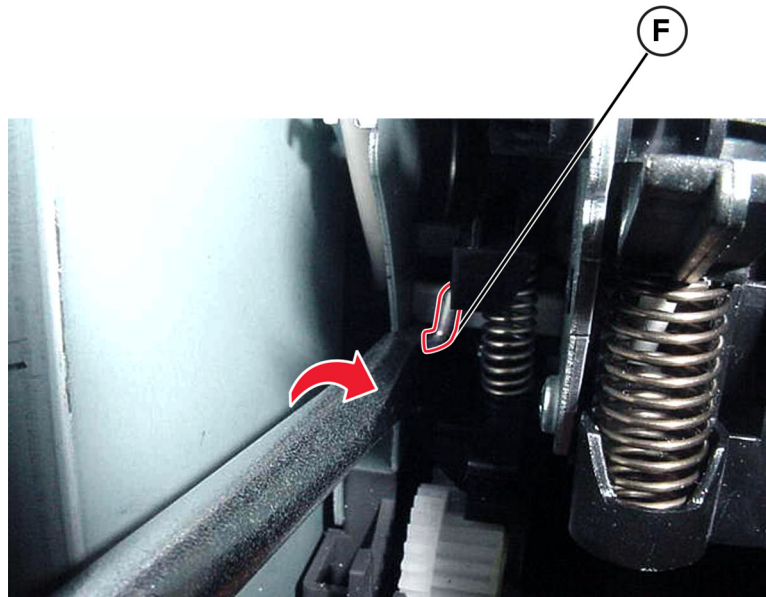
9 Hold the release lever as you pull out the transfer module for the first four inches (100 mm). A quick and firm pull should overcome the latch at this point.

10 Remove the transfer module.
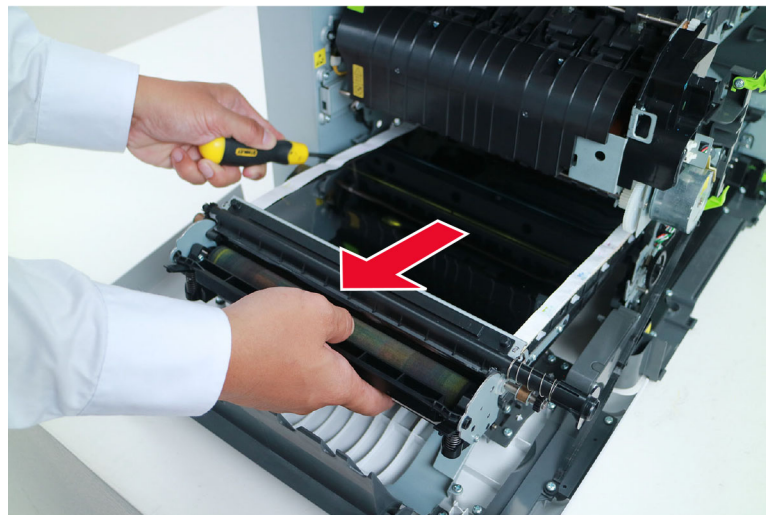
Installation notes:

1 Do not rotate the release lever again to install the new transfer module. Doing so could cause the transfer module to be seated incorrectly. The coupler is rotated out of the way as the transfer module slides in.

2 Rotate the right side spring clamp (G) and left side cam back to their original positions, and then rehook the springs.
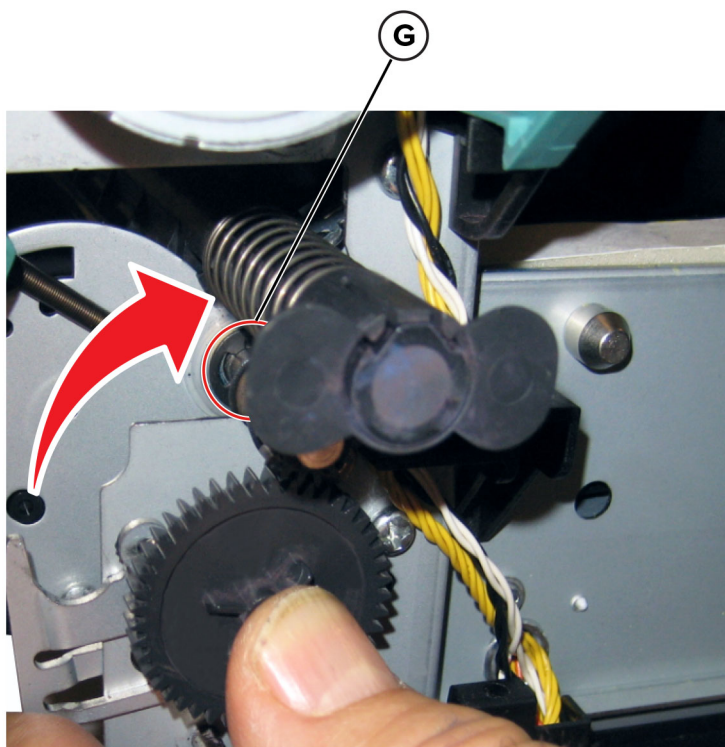
3 Make sure to reset the ITM counter after installing the new transfer module.

Enter the diagnostics menu and navigate to:

Printer diagnostics & adjustments > **Supply reset** > **ITM reset**

Imaging kit removal

Note: This is not a FRU.

Installation note: The imaging kit contains the photoconductor unit and developer units. When you replace the imaging kit, you are replacing the photoconductor unit and developer units.

1 Remove the waste toner bottle. See .

2 Remove the toner cartridges.

3 Lift the two latches (A) to unlock the imaging kit.
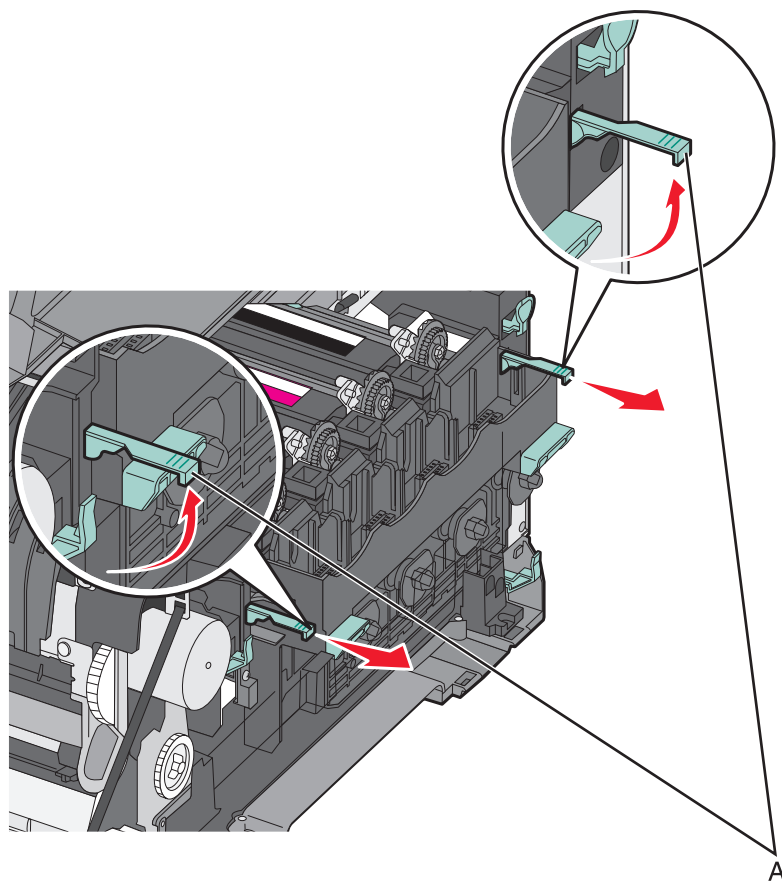
4 Pull the two latches.
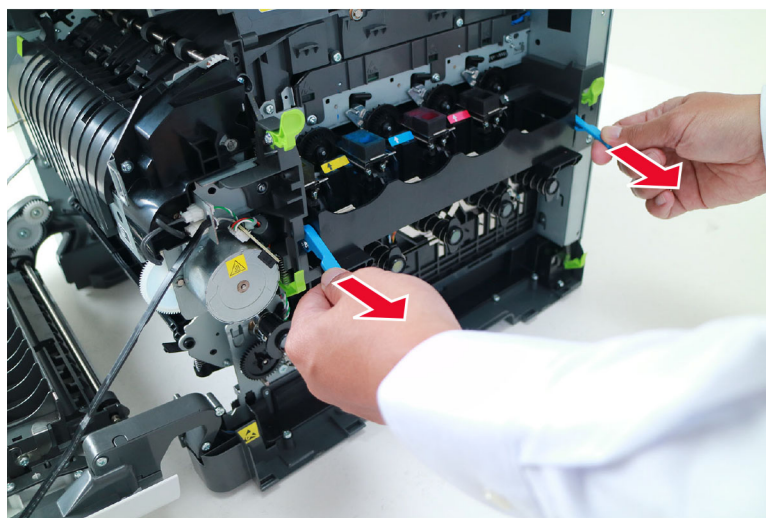
5 Press and hold the two handles (B) and the latch (C), and then pull the imaging kit to remove.

Note: Do not touch the underside of the imaging kit.
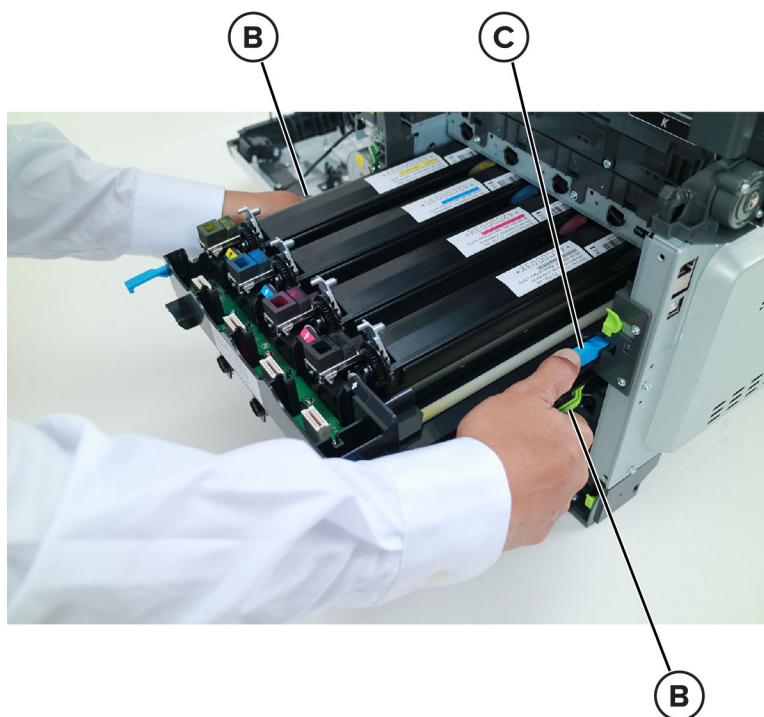
Toner cartridge contacts removal

1 Remove the right cover. See **"Right cover removal" on page 299**.

2 Remove the waste toner bottle. See **"Waste toner bottle removal" on page 320**.

3 Remove the imaging kit. See **"Imaging kit removal" on page 316**.

4 Remove the rear cover. See **"Rear cover removal" on page 373**.

5 Remove the screw (A) to allow access to the cable cover.

   Note: Do not remove the waste toner bottle contact block.

6 Remove the four screws (B), and then remove the cable cover.
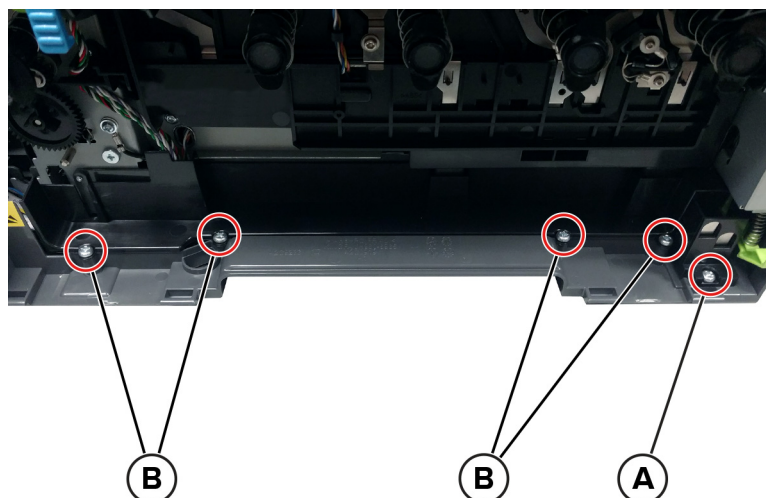
7 Place the printer on its left side.

8 Remove the screw (C), and then release the two tabs (D).
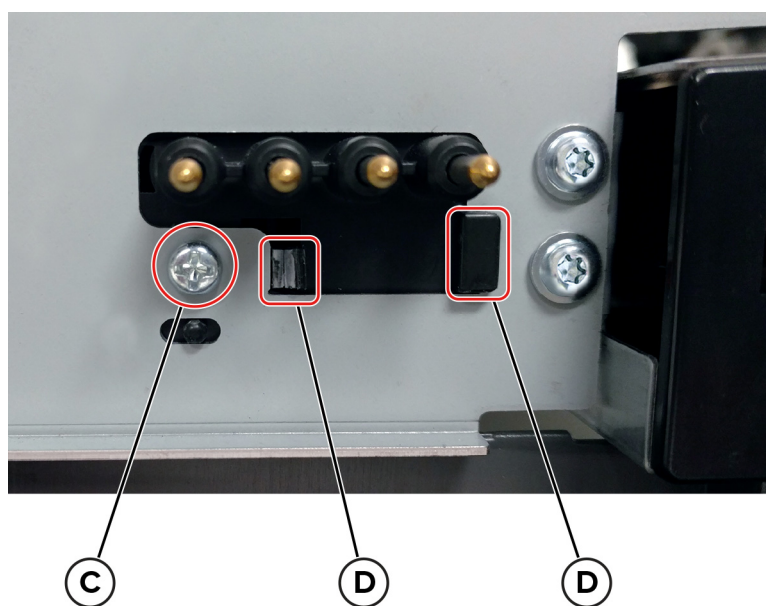
9 Slide the toner cartridge contacts to the left to remove it.

Parts removal

10 Disconnect the cable (E) from the controller board.
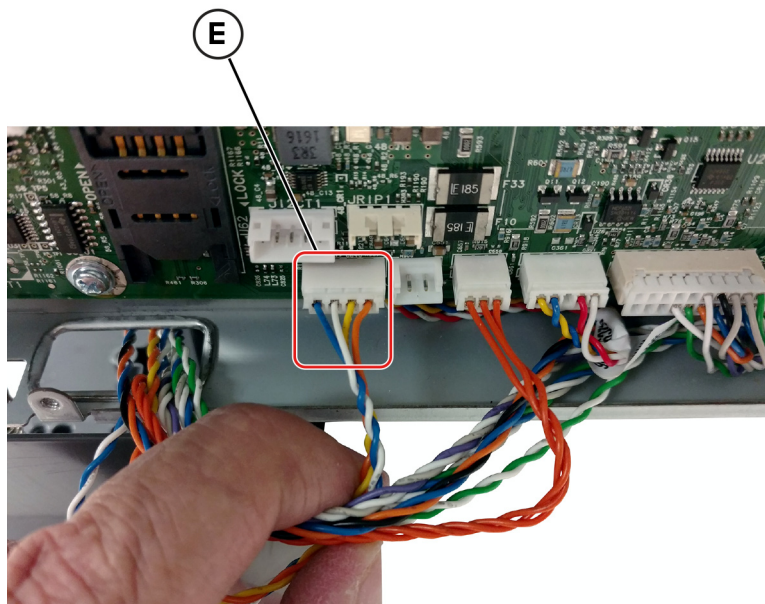
Installation note: If used, pay attention to the assembly of the cable and toroid.

11 Remove the cable from its retainer at the bottom of the printer.

12 Extract the cable through the frame, and then remove the cable with the spring contacts.

Note: If the cable has a toroid, unwrap the cable from the toroid, and then make sure to use the same number of wraps on the new cable.

Waste toner bottle removal

Note: This is not a FRU.

1 Remove the right cover. See **"Right cover removal" on page 299**.

2 Press the two tabs (A) to release the waste toner bottle.
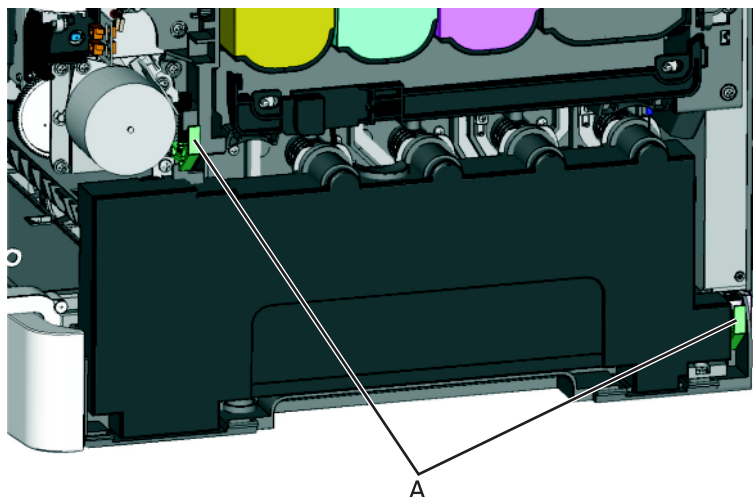
Parts removal

Waste toner bottle contact block removal

Note: The waste toner bottle is not a FRU.

1 Remove the waste toner bottle. See .

2 Remove the rear cover. See .

3 Remove the screw (A).
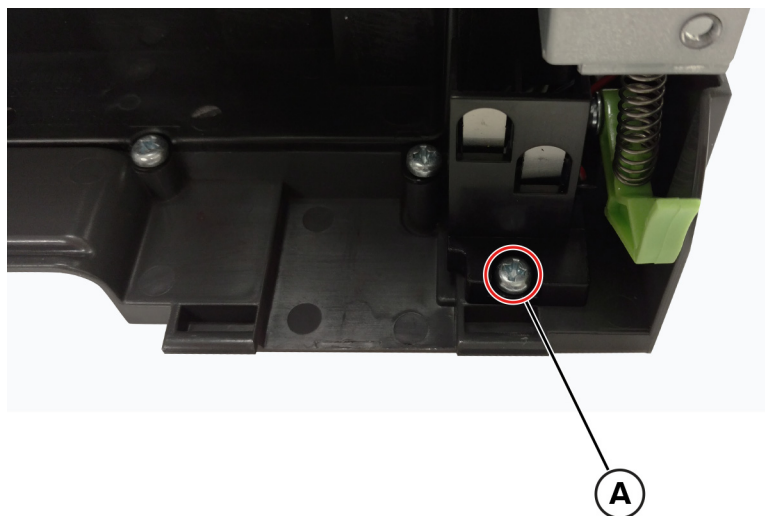
4 Disconnect the cable (B) from the controller board, and then remove the toroid from the cable.

   Installation note: Use the toroid on the new waste toner bottle contact block.
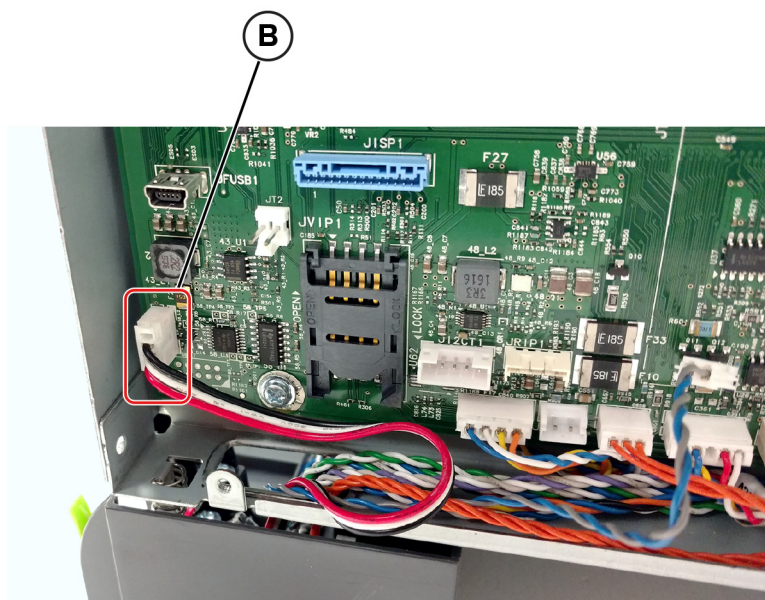
5 Remove the waste toner bottle contact block.
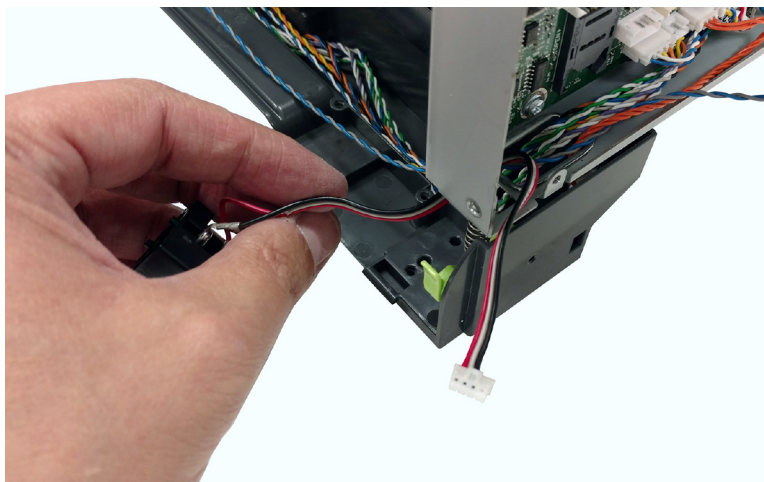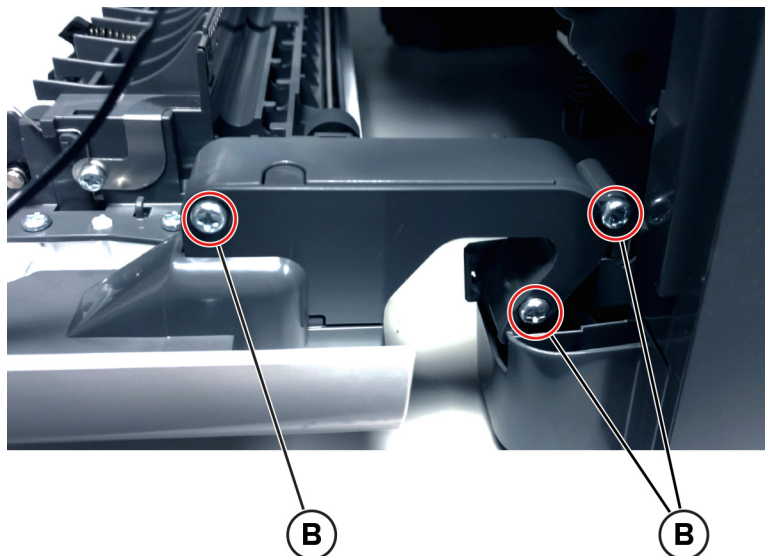
Front removals

Front door removal

1 Remove the tray insert.

2 Open the front door.

3 Remove the six screws (A).
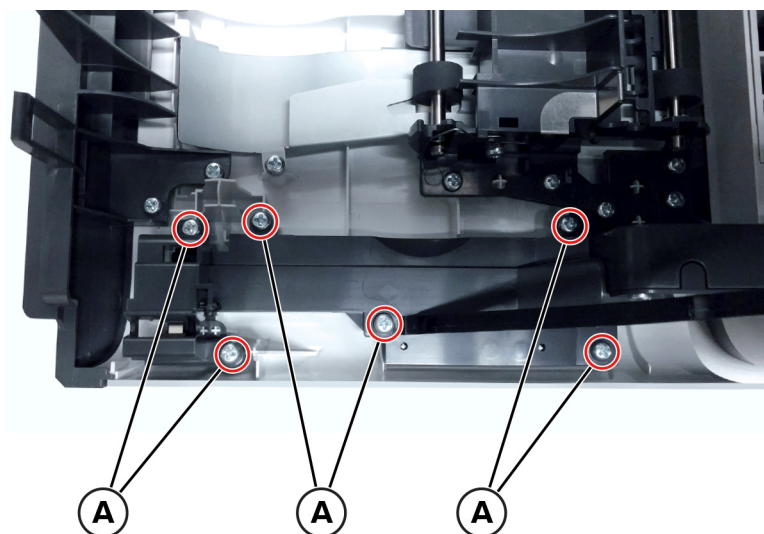
4 Remove the three screws (B).

5 Release the left and right door straps.
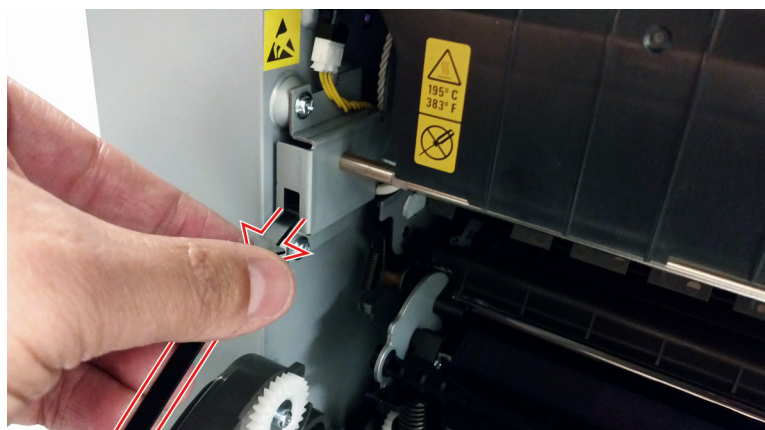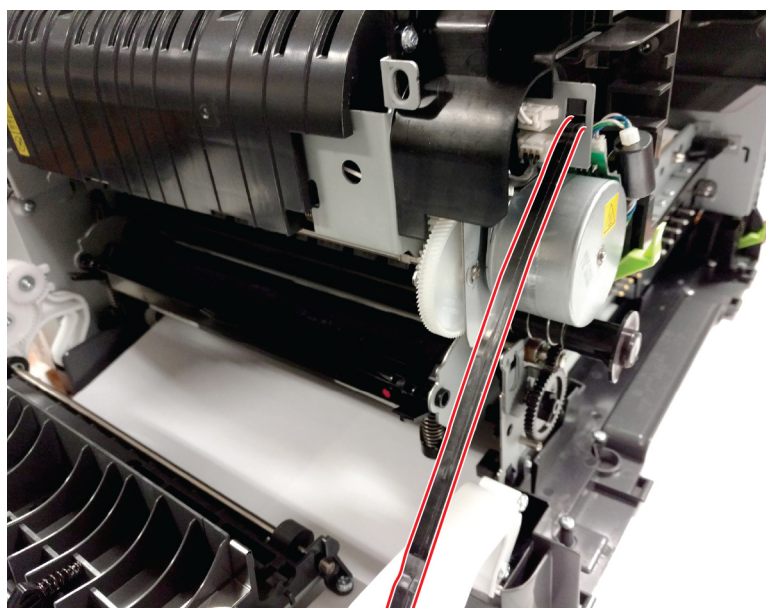
6 Remove the wireless card. See **"Wireless card removal" on page 341**.

7 Route the interlock switch cover assembly (C) away from the door.

C
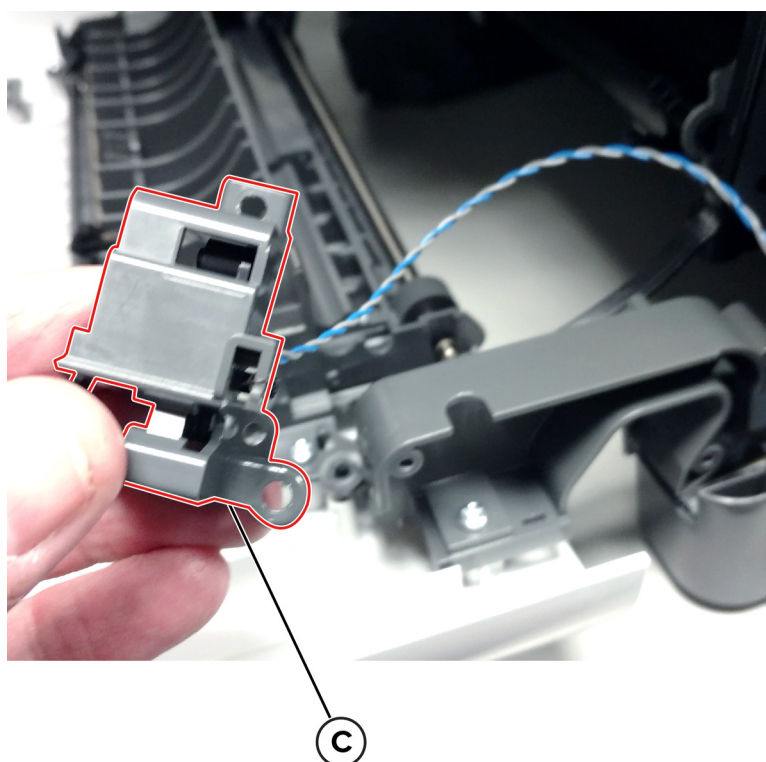
8 Remove the left hinge (D) from the left subframe.
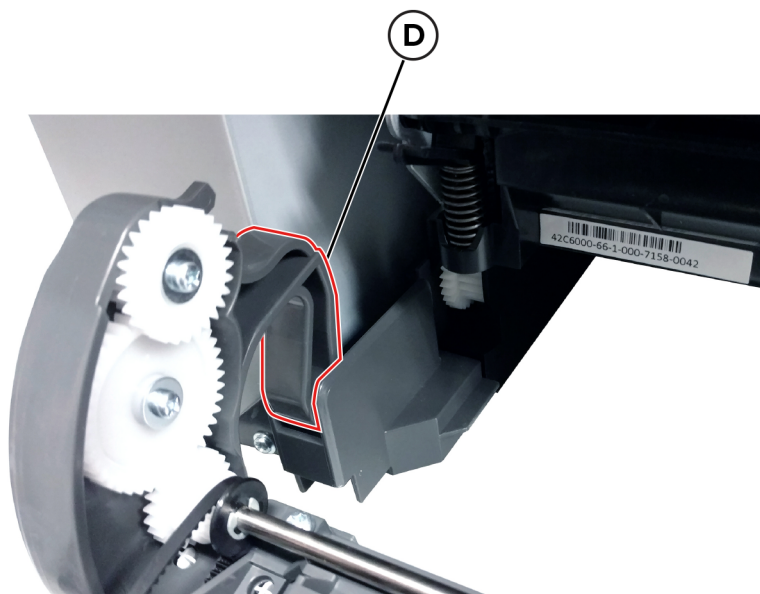
9 Remove the right hinge (E) from the right subframe.
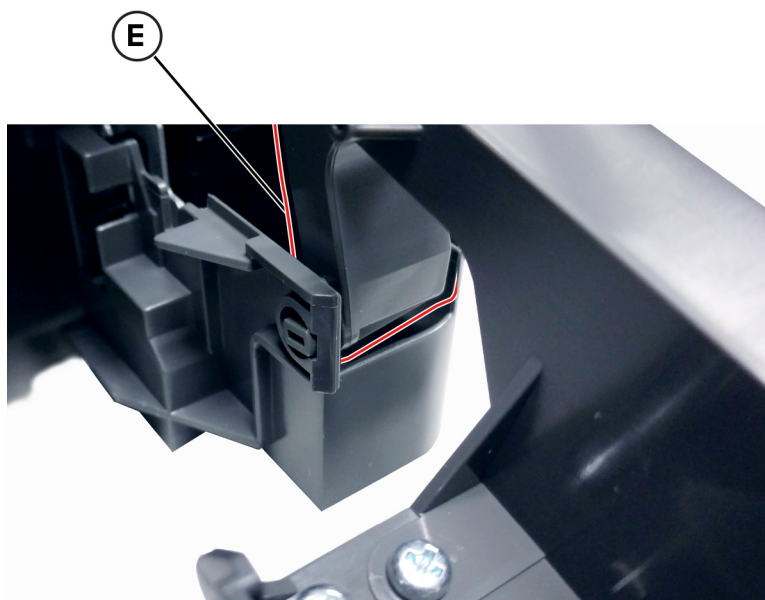
10 Remove the front middle cover. See .

Front middle cover removal

1 Open the front door.

2 Remove the six screws (A), and then remove the cover.
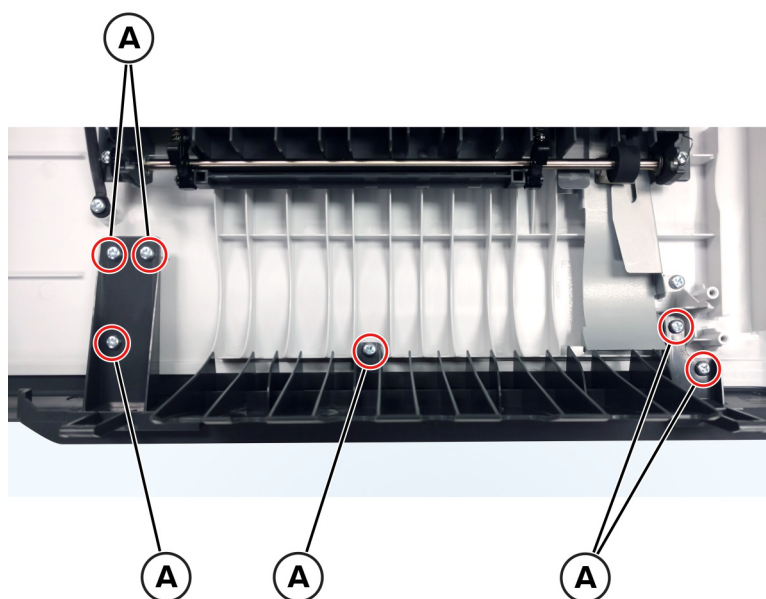
Interlock switch cover assembly removal

1 Remove the tray insert.

2 Open the front door.

3 Remove the six screws (A).
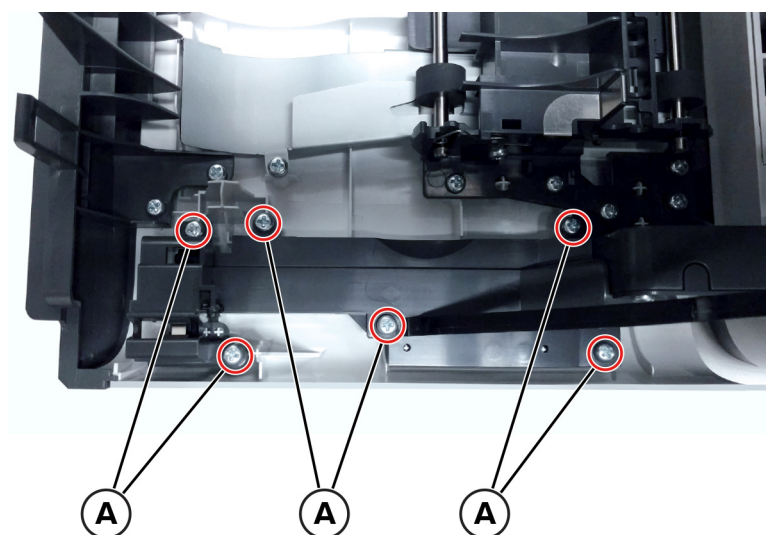
4 Remove the three screws (B).

5 Remove the right cover. See **"Right cover removal" on page 299**.

6 Remove the waste toner bottle. See **"Waste toner bottle removal" on page 320**.

7 Remove the rear cover. See **"Rear cover removal" on page 373**.

8 Remove the waste toner bottle contact block. See **"Waste toner bottle contact block removal" on page 321**.

9 Remove the cable cover.

10 Disconnect the cable (C).
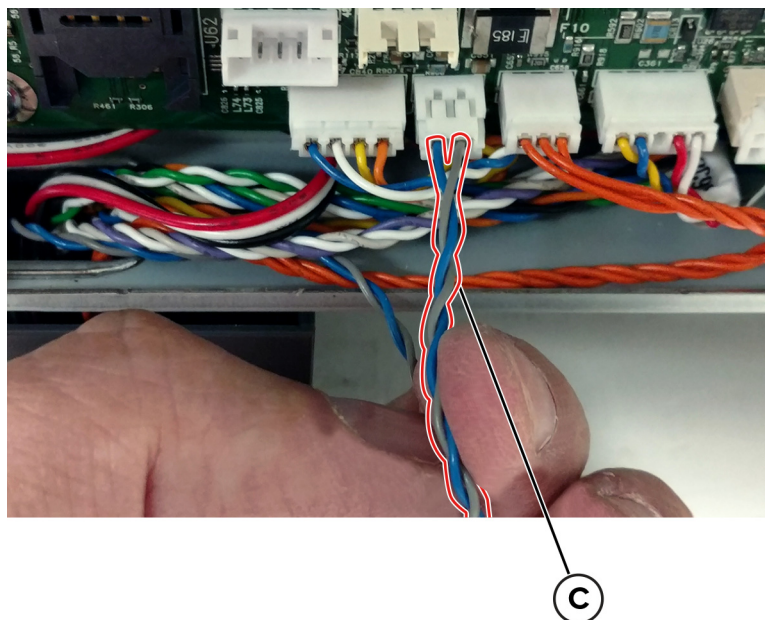
11 Route the interlock switch cover assembly out of the frame.

2.4-inch control panel badge cover removal

1 Remove the badge cover from the control panel top cover.

2

4.3-inch control panel badge cover removal

1 Remove the badge cover from the control panel bezel.

2

7-inch control panel badge cover removal

1 Remove the badge cover from the control panel bezel.

2

4.3-inch control panel bezel removal

1 Remove the badge cover. See .

2 Remove the bezel (A) from the control panel base cover.

> **Warning—Potential Damage:** Do not damage the tabs under the bezel.

> **Installation note:** Before installing the new bezel, make sure that the control panel display is properly seated in the tabs (B).

7-inch control panel bezel removal

1 Remove the badge cover. See **"7-inch control panel badge cover removal" on page 329**.

2 Remove the bezel from the control panel base.

> **Warning—Potential Damage:** Do not damage the tabs under the bezel.

2.4-inch control panel top cover and control panel removal

1 Remove the badge cover. See **"2.4-inch control panel badge cover removal" on page 328**.

2 Remove the screw (A).
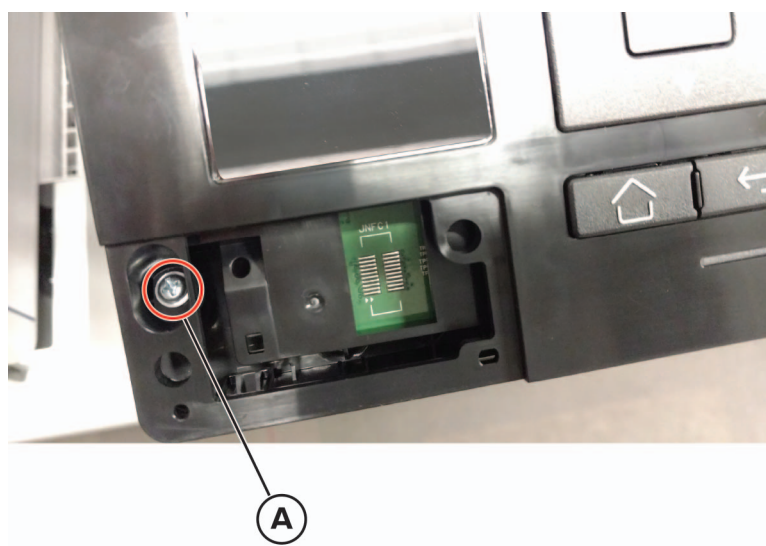
3 Raise the scanner assembly, and then remove the screw (B).

4 Detach the lift from the toner cover.

5 Put the toner cover in the down position.

6 Press the release lever, and then lower the scanner assembly.

Parts removal

7 Open the front door, and then remove the two screws (C).
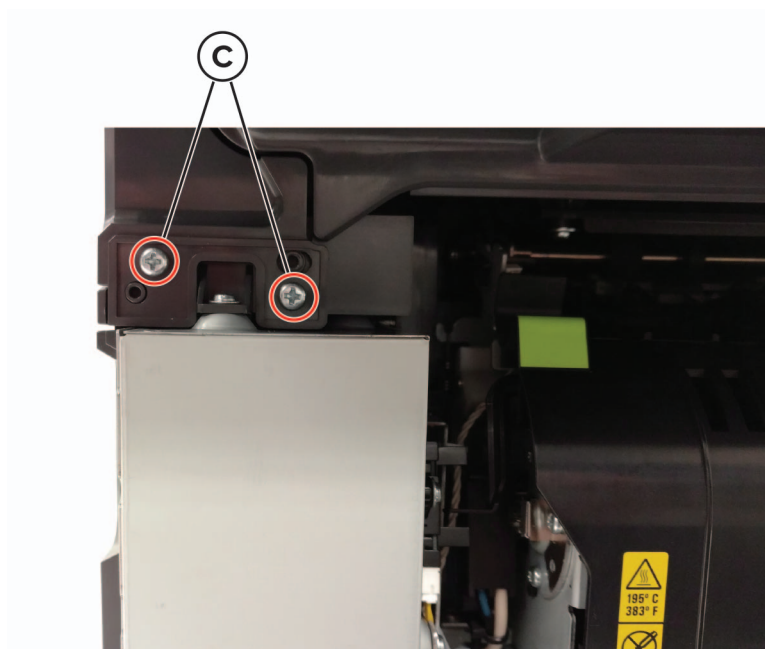
8 Pull the front flatbed pivot away from the flatbed.

9 Gently push the scanner assembly forward.

Parts removal

10 Slightly lift the scanner assembly, and then remove the two screws (D).
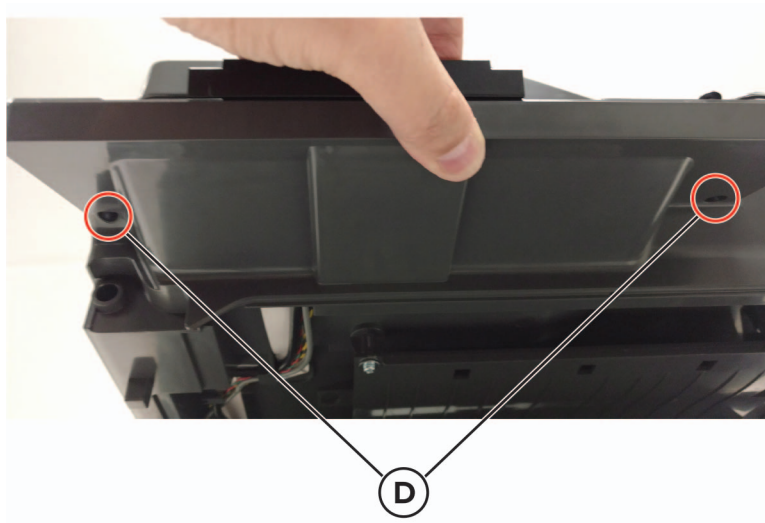
11 Remove the control panel top cover from the flatbed assembly.

   Warning—Potential Damage: Do not damage the tabs on the top cover.

12 Disconnect the ribbon cable (E).
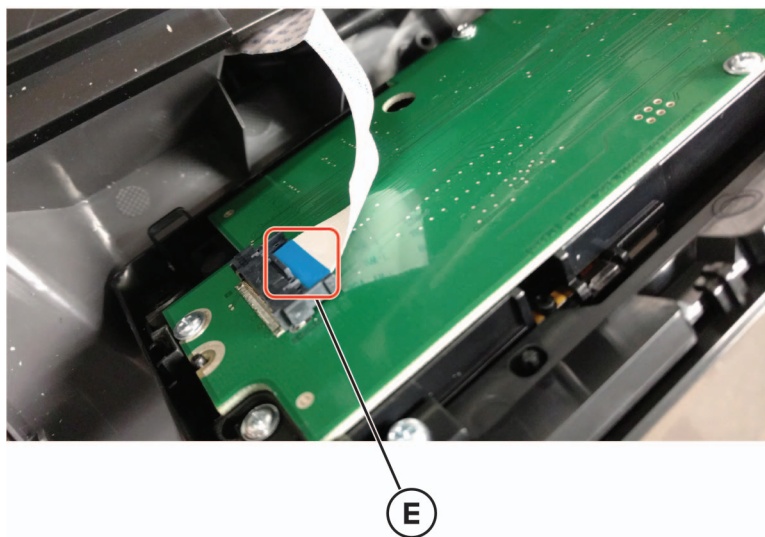
13 Remove the six screws (F), and then remove the control panel from the control panel top cover.
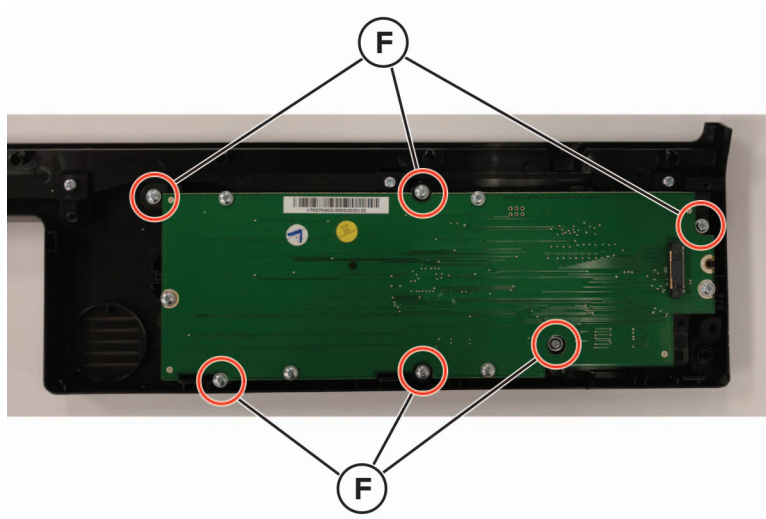
4.3-inch control panel removal

1 Remove the control panel bezel. See **"4.3-inch control panel bezel removal" on page 329**.

2 Remove the six screws (A).
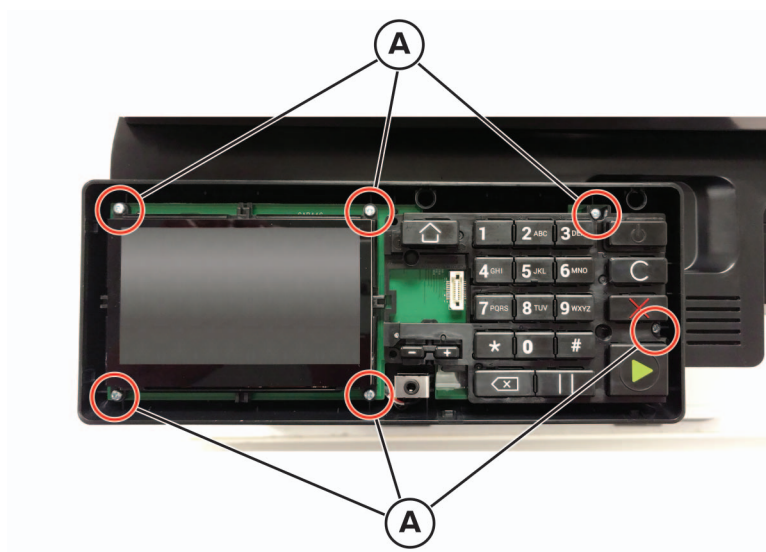
3 Disconnect the two cables (B) from the control panel.
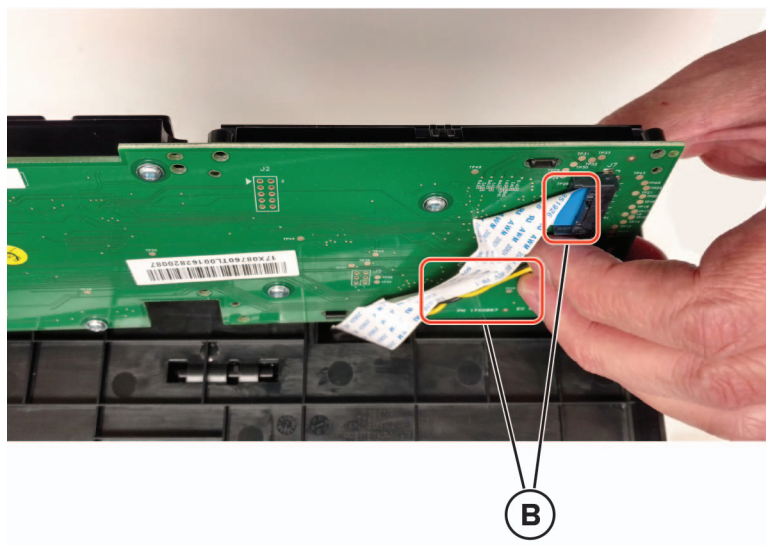
7-inch control panel removal

1 Remove the control panel bezel. See **"7-inch control panel bezel removal" on page 330**.

2 Remove the four screws (A).
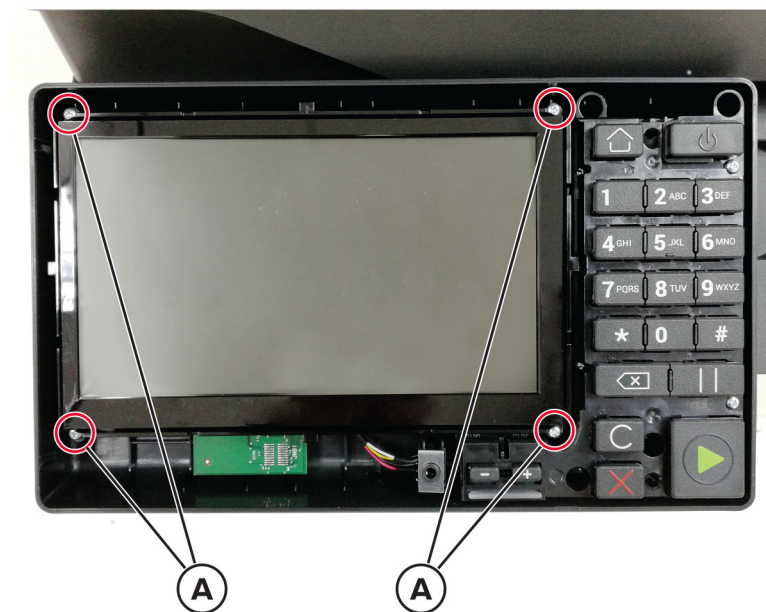
3 Disconnect all the cables from the control panel.

Front bracket cover removal

1 Remove the scanner front cover. See **"Scanner front cover removal" on page 405**.

2 Remove the two screws (A), and then remove the cover.
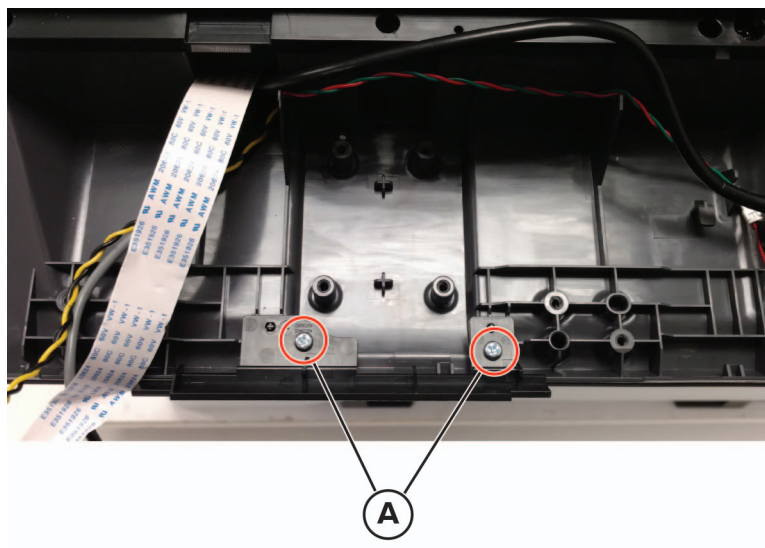
Speaker (MC2325, CX421, MC2425) removal

1 Remove the left cover. See **"Left cover removal" on page 289**.

2 Disconnect the cable (A), and then remove the two screws (B).

Parts removal

337
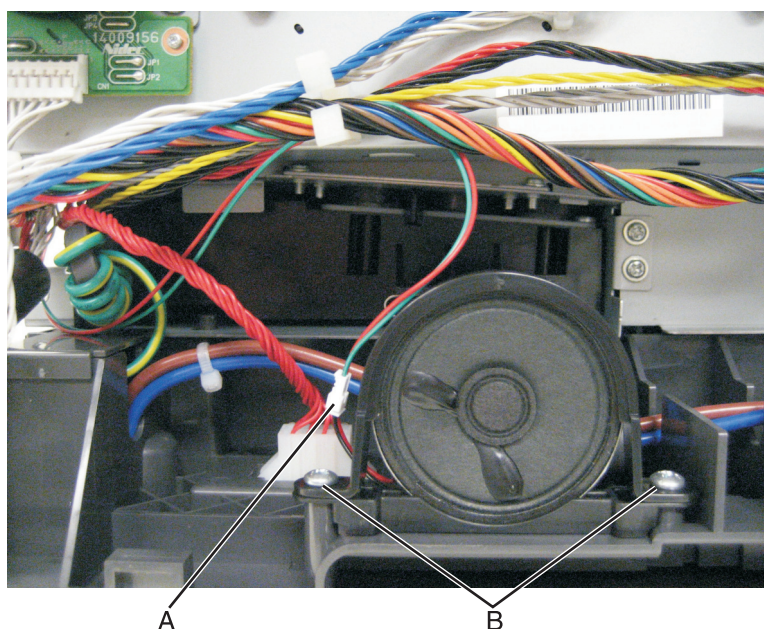
Speaker (CX522, CX622, CX625, XC2235, XC4240, MC2535, MC2640) removal

1 Remove the scanner front cover. See **"Scanner front cover removal" on page 405**.

2 Disconnect the cable (A), and then remove the two screws (B).
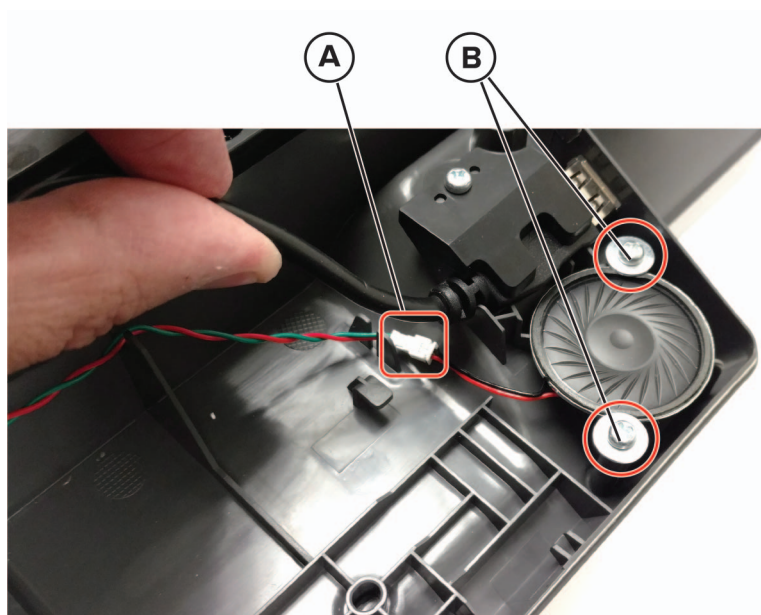
Weather station removal

1 Remove the right cover. See **"Right cover removal" on page 299**.

2 Remove the waste toner bottle. See **"Waste toner bottle removal" on page 320**.

3 Remove the five screws (A), and then remove the cover (B).
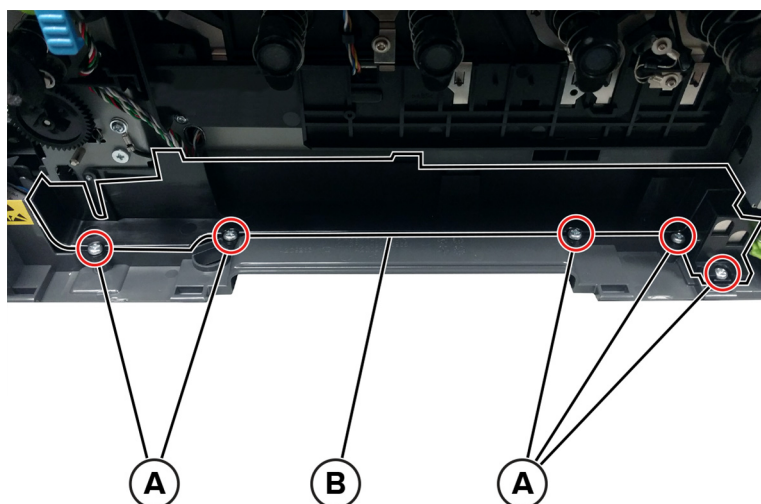
4 Open the front door.

5 Release the left and right door straps.
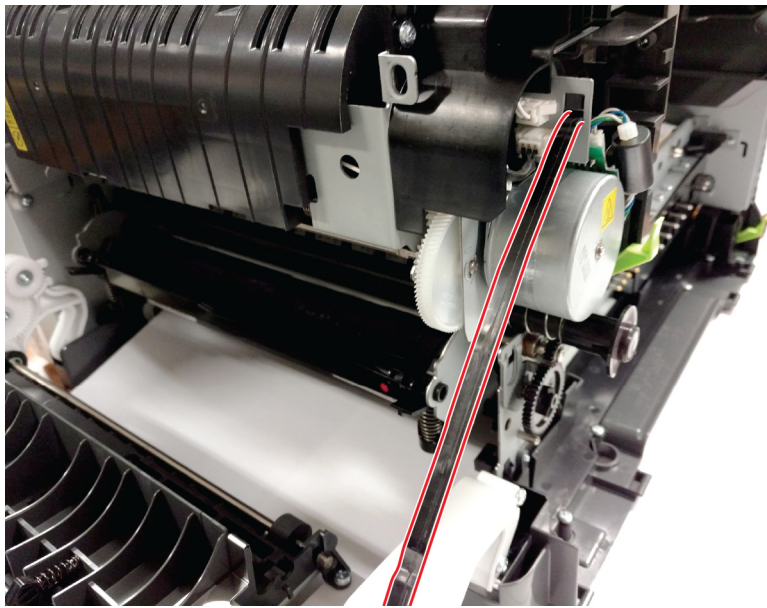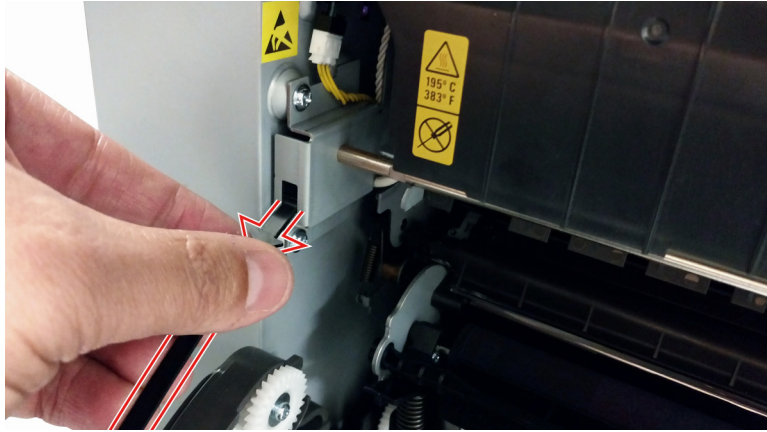
6 Remove the left hinge (C) from the left subframe.
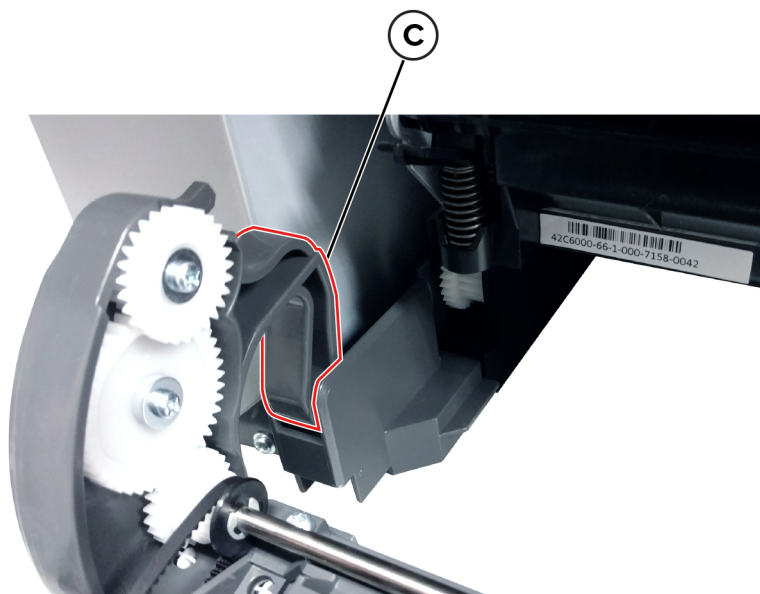
7 Remove the right hinge (D) from the right subframe.
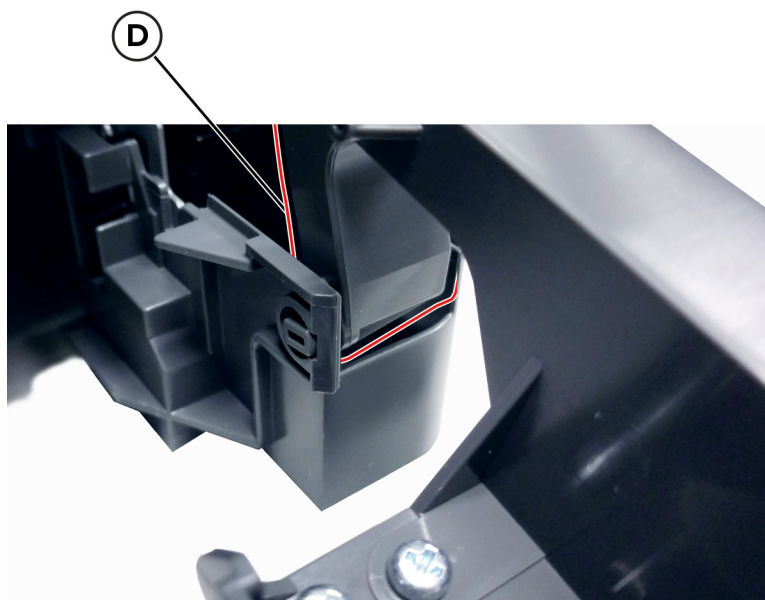
8 Remove the screw (E), and then disconnect the cable (F) from the sensor.
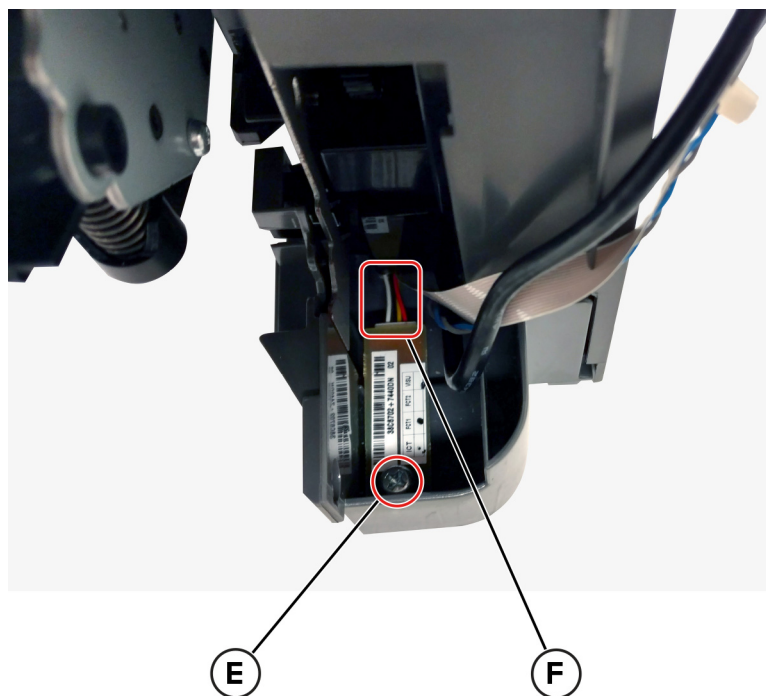
Wireless card removal

1 Remove the tray.

2 Remove the six screws (A).
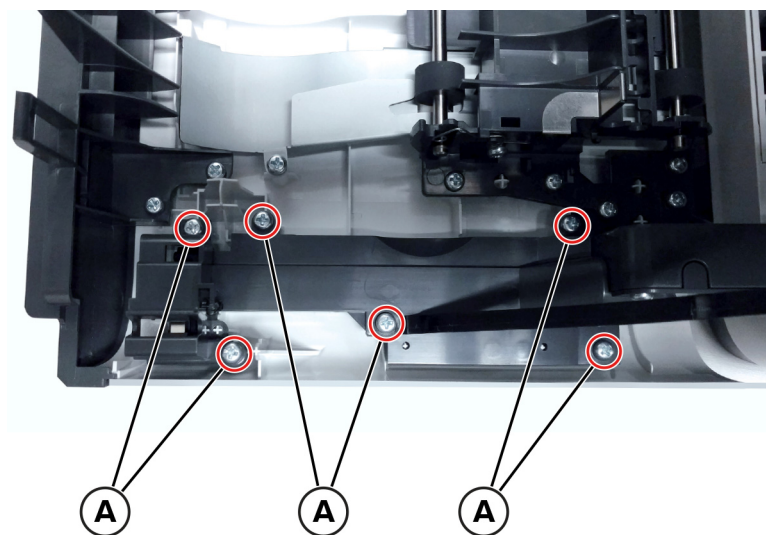
3 Remove the three screws (B).
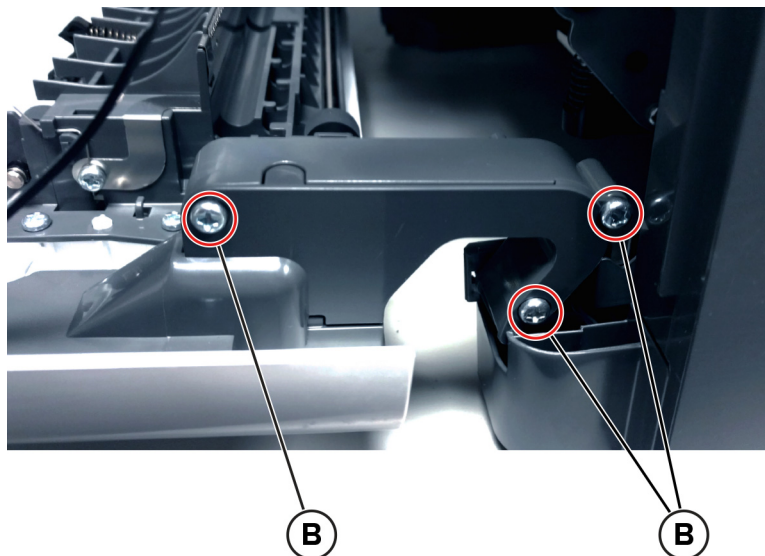
4 Disconnect the cable from the wireless card (C).
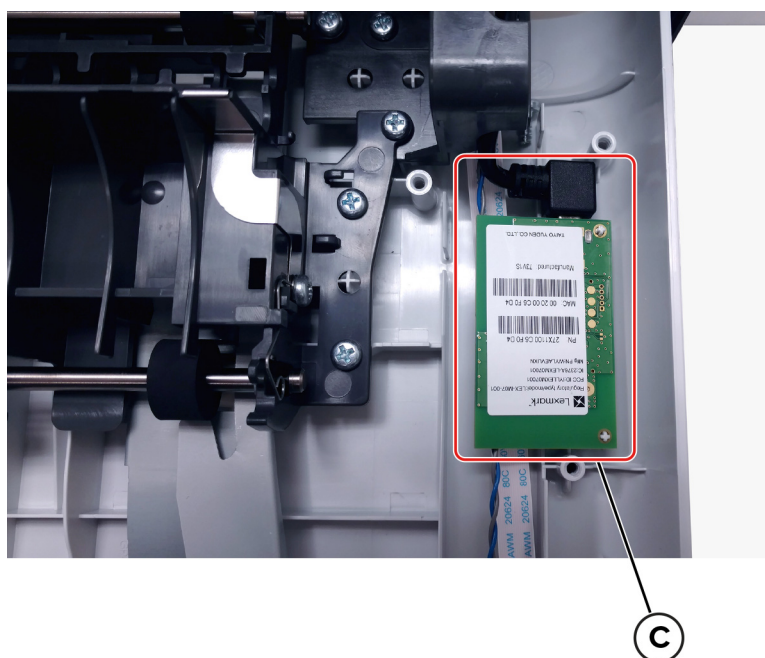
Fuser removal

1 Remove the right cover. See **"Right cover removal" on page 299**.

2 Remove the left cover. See **"Left cover removal" on page 289**.

3 Disconnect the cable (A) from the LVPS.

4 Position the fuser cable so that it can be pulled through from the front of the printer, and then guide the cable through the front.

Warning—Potential Damage: Do not pull the cable too hard or cut the cable insulation.

A
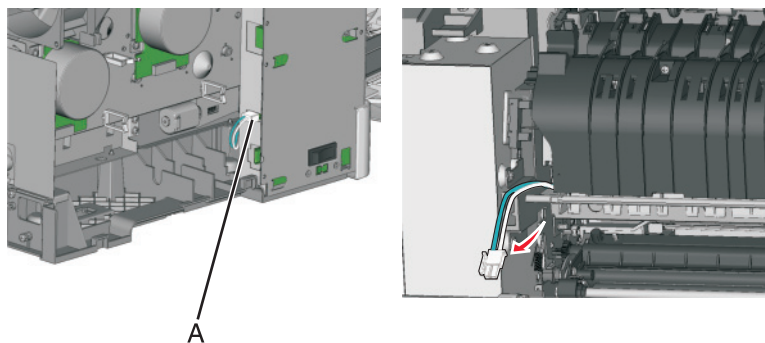
5 Remove the redrive belt (B) from the redrive pulley.

B
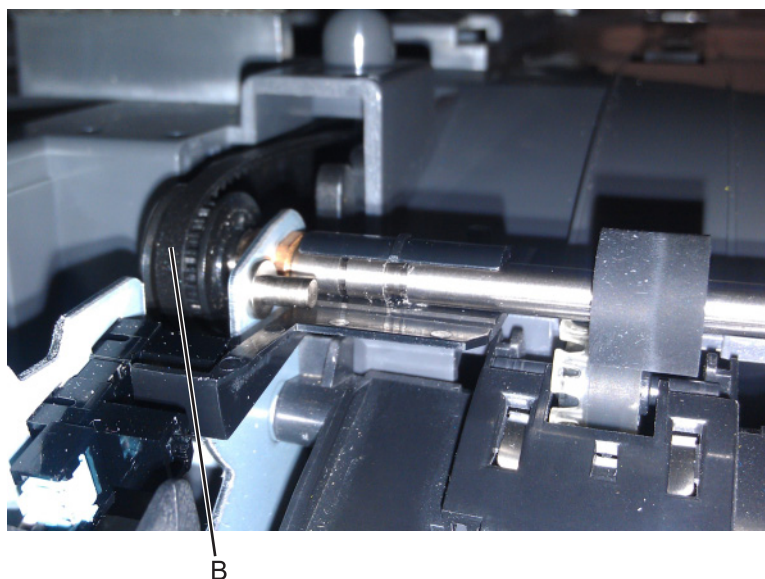
6 Remove the bin full/narrow media sensor flag. See **"Narrow media sensor flag removal" on page 388**.

7 Remove the right output bin deflector. See **"Right output bin deflector removal" on page 392**.

8 Disconnect the cable (C), and then remove it from its retainer.

C
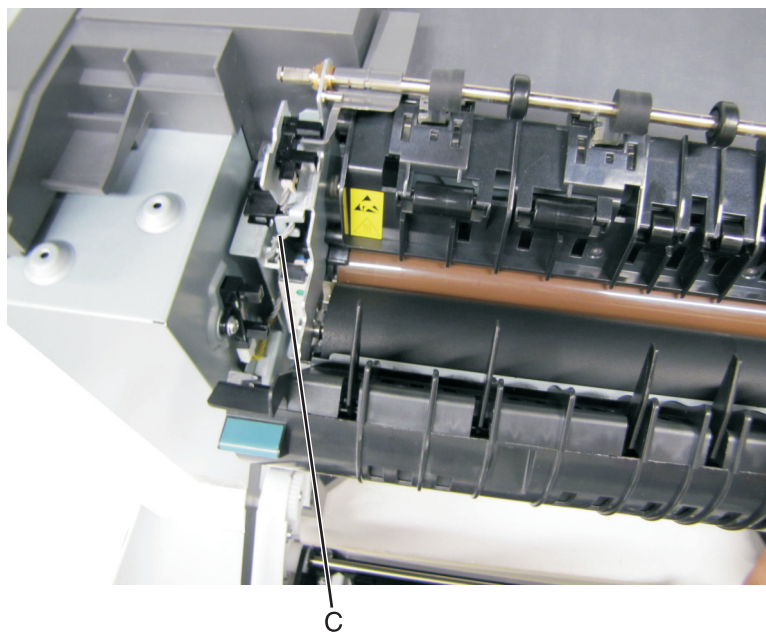
9 Unhook the two springs (D) from both sides of the fuser.

D   D
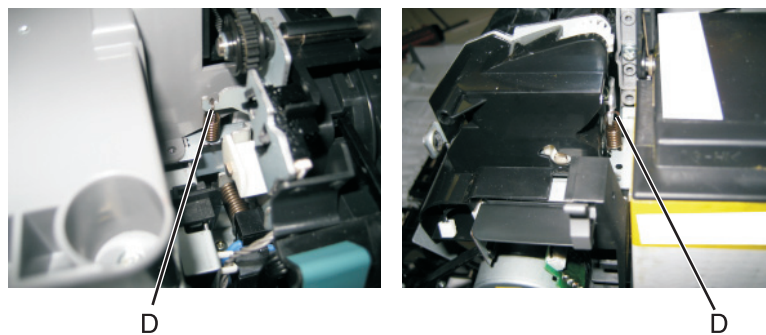
10 Disconnect the two cables (E), and then pull them over the retainer.

11 Remove the screw (F).
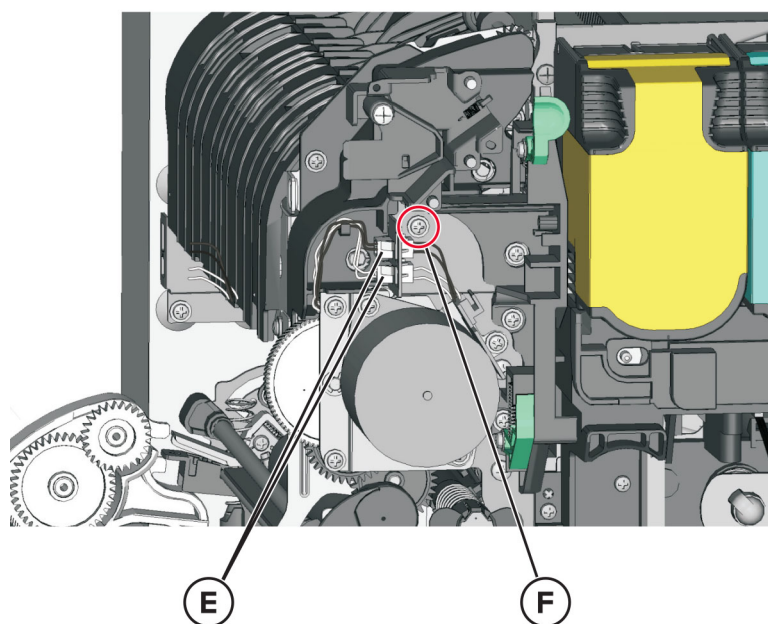
Note: Do not lose the grounding washer.

12 Rotate the top of the fuser toward the front, and then slide the fuser to the left to align the fuser side frames with the flat area of the shaft.

Warning—Potential Damage: Do not damage the sensor (fuser exit) on the left of the fuser when rotating.

13 Lift, and then remove the fuser.

Installation notes:

a Install the flags (A) from the old fuser into the new fuser.
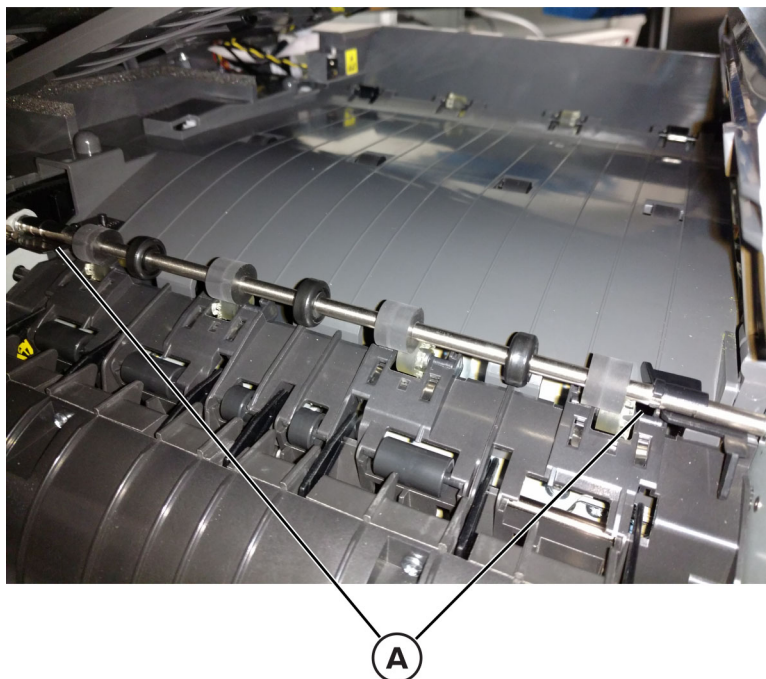
b Enter the Diagnostics menu, and then navigate to:
   Printer diagnostics & adjustments > **Supply Reset** > **Fuser Reset**

c Select **Start**.

d Make sure that the fuser exit redrive belt (B) is properly seated and engaged to the pulley (C).
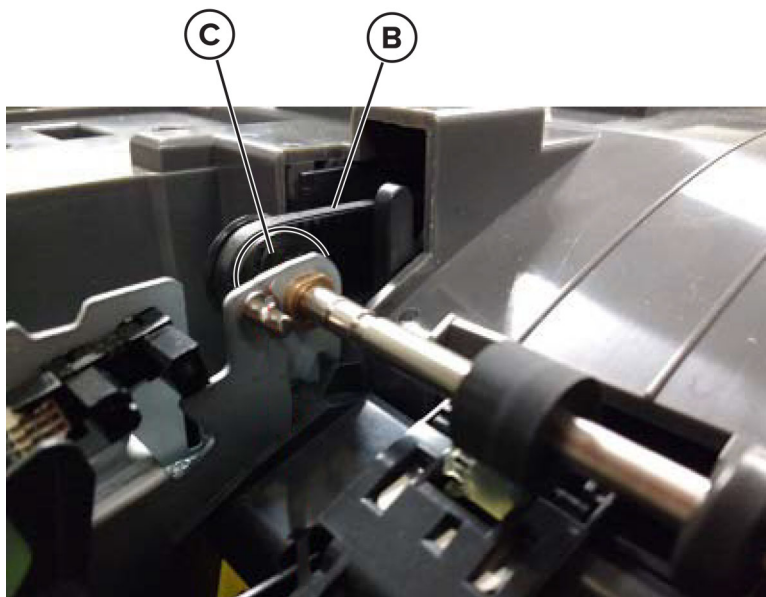
e Print approximately 15 test pages in simplex and duplex modes to make sure that the belt is properly working and the flags are properly installed.

f Pay attention to noise that may indicate an improper belt installation.

g If a `Remove media from output bin` or a 34.04 error appears, check the fuser flags for proper installation.

Bottom removals

Pick tires removal

Warning—Potential Damage: Remove only the rubber tires and not the paper pick tire assembly to avoid losing small parts.

1 Lower the paper pick motor drive assembly.

2 Remove the rubber tire (A) from the pick roll assembly (B). Repeat for the other tire.

B   A
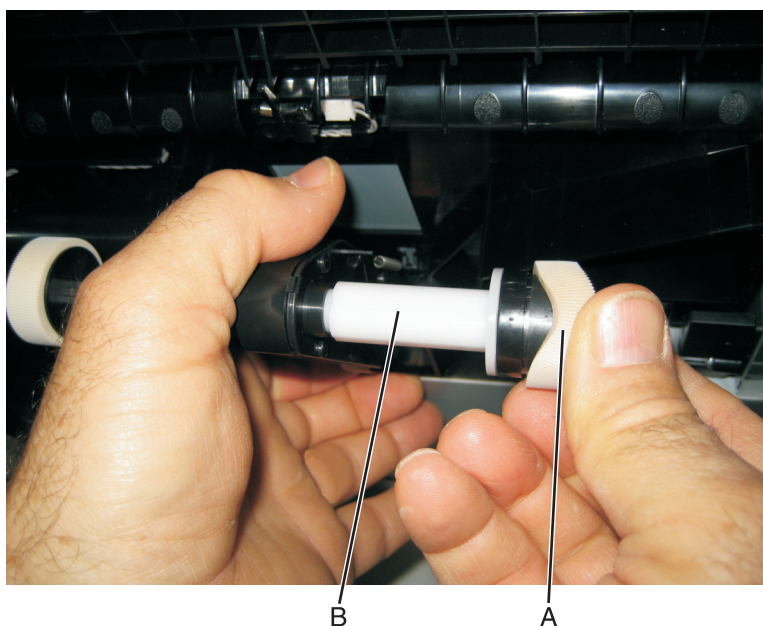
Installation note: Install the new rubber tires with the surface texture turning in the direction as shown in the following:
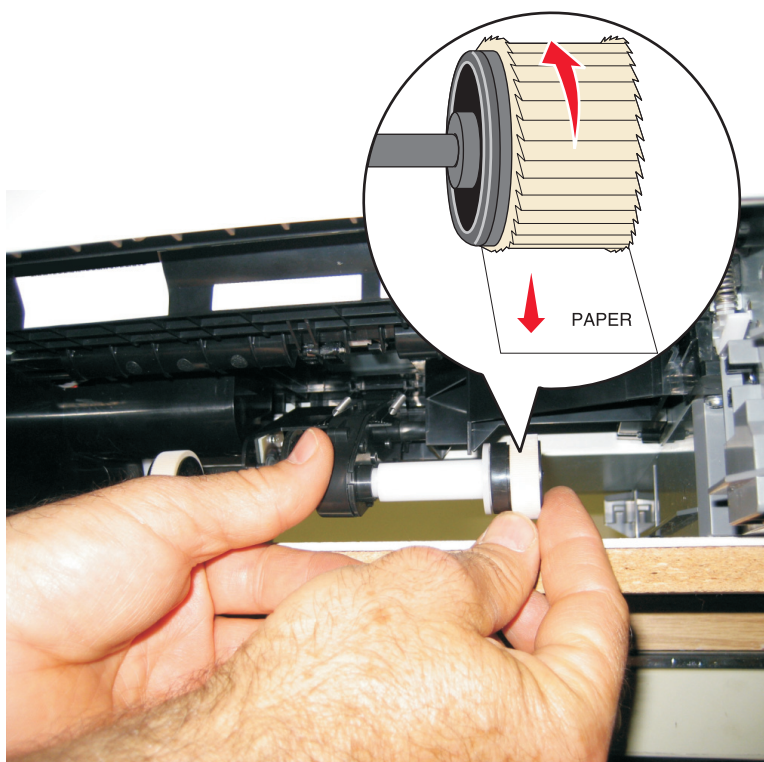
Note: Feel each rubber surface to verify that it turns in the proper direction. The smoother surface pushes the paper toward the front of the printer.

Lower left frame removal

Note: The lower left frame and lower right frame are in the same FRU.

1 Remove the tray insert.

2 Remove the screw (A).
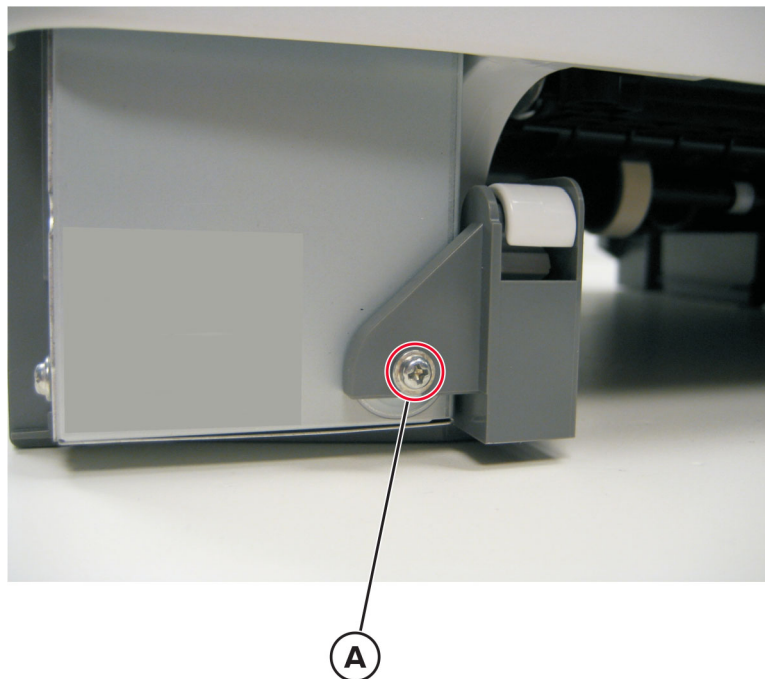
3 Remove the waste toner bottle. See **"Waste toner bottle removal" on page 320**.

4 Remove the imaging kit. See **"Imaging kit removal" on page 316**.

5 Remove the left cover. See **"Left cover removal" on page 289**.

6 Disconnect the three cables (B).
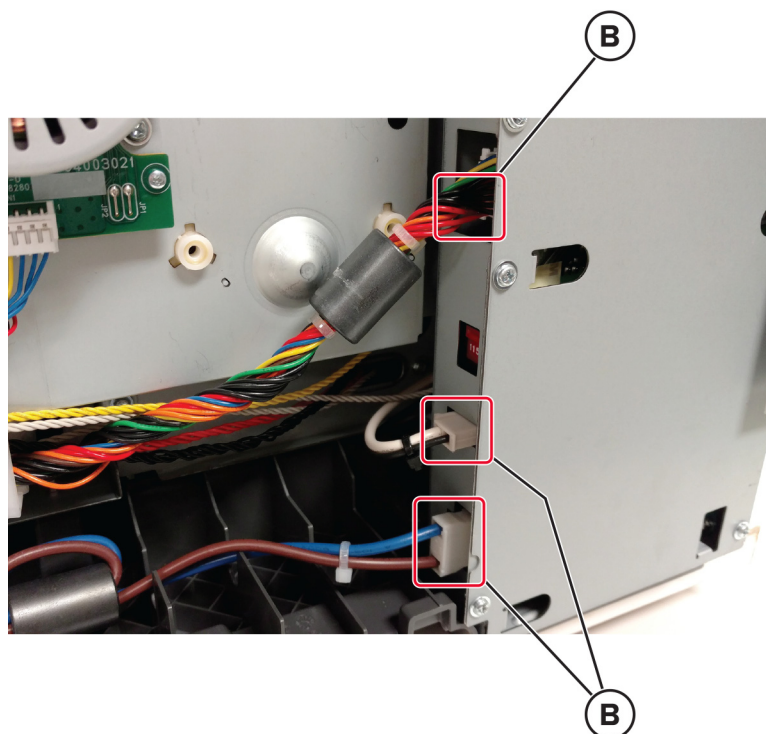
7 Remove the flatbed scanner assembly. See **"Flatbed scanner assembly removal" on page 409**.

8 Remove the five screws (C).
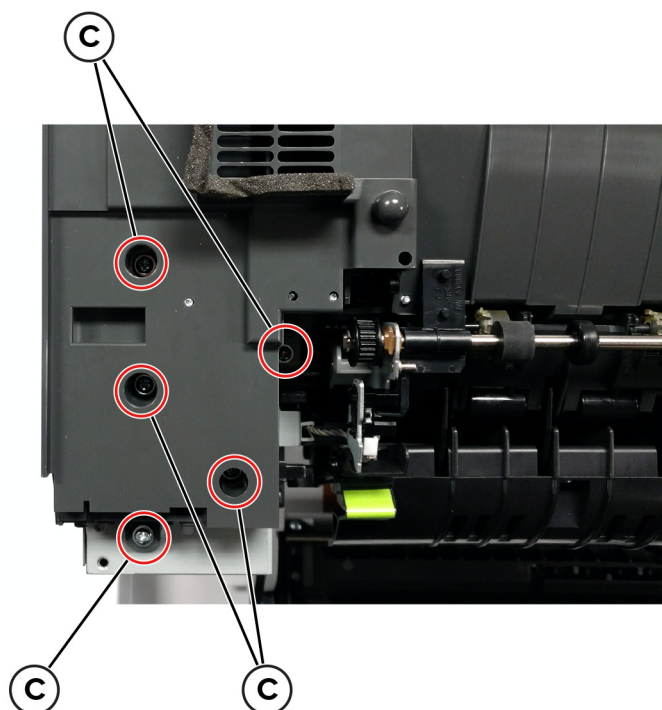
9 Position the fuser cable (D) so that it can be pulled through from the front of the printer, and then guide the cable through the front.

Warning—Potential Damage: Do not pull the cable too hard or cut the cable insulation.
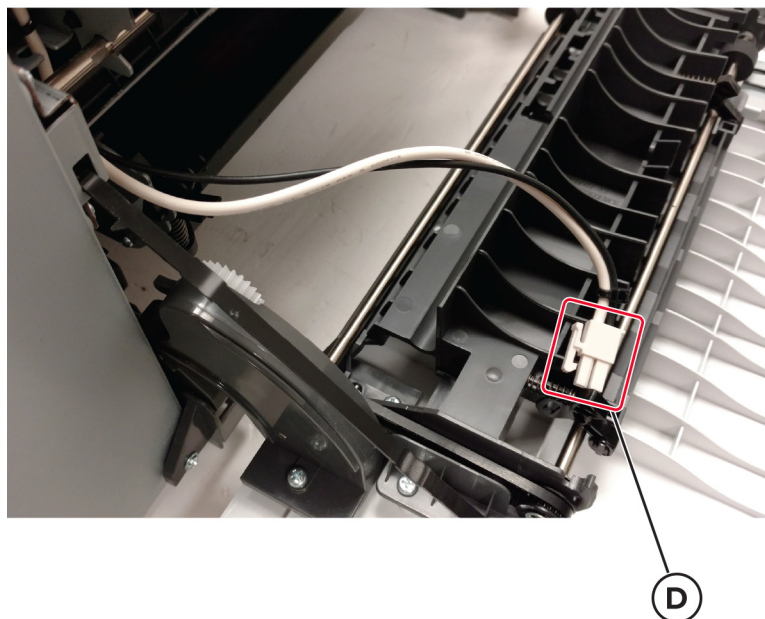
10 Remove the bin full/narrow media sensor flag. See **"Narrow media sensor flag removal" on page 388**.

11 Disconnect the cable (E), and then remove it from its retainer.

Parts removal
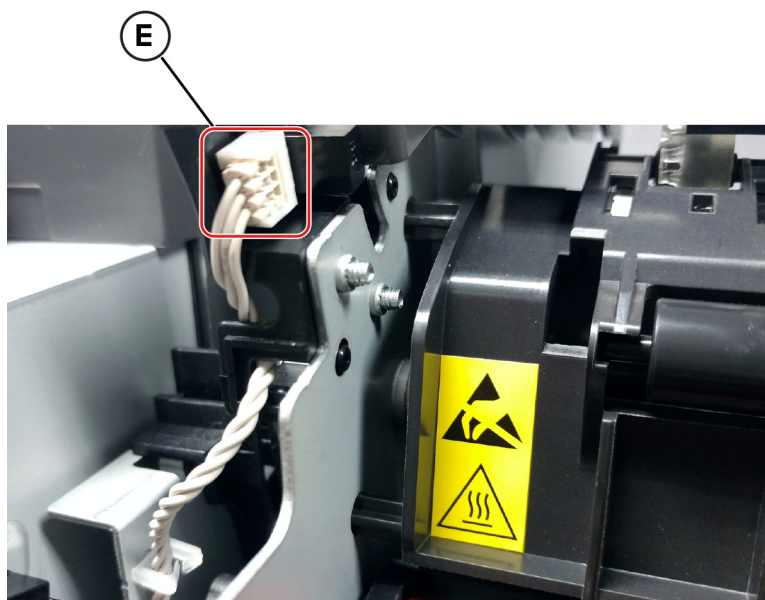
12 Unhook the two springs (F) from both sides of the fuser.
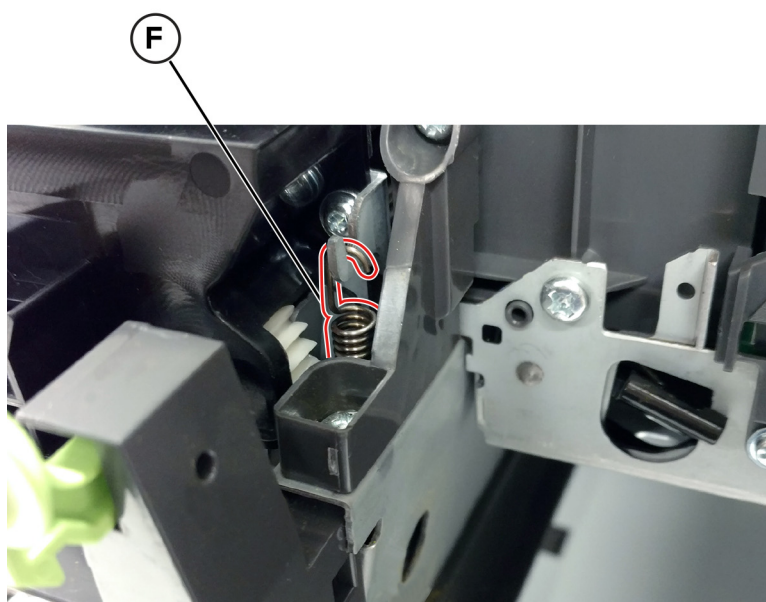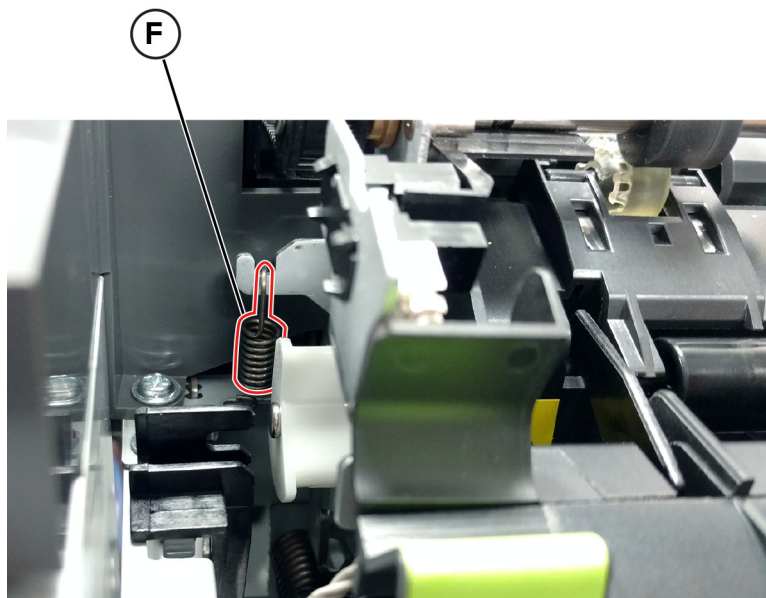
13 Disconnect the two cables (G), and then pull them over the retainer.

Parts removal

14 Remove the screw (H).
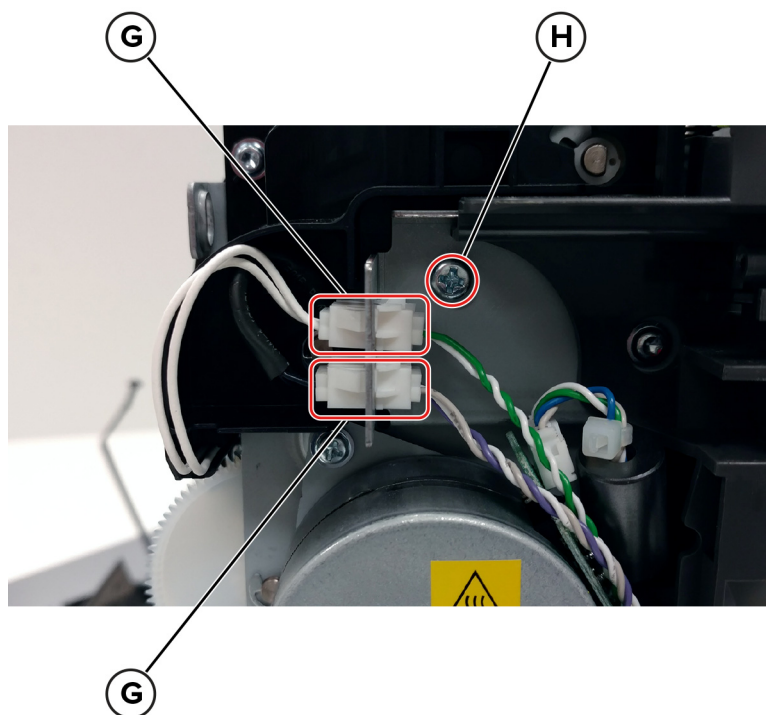
Note: Do not lose the grounding washer.

15 Remove the two screws (I).
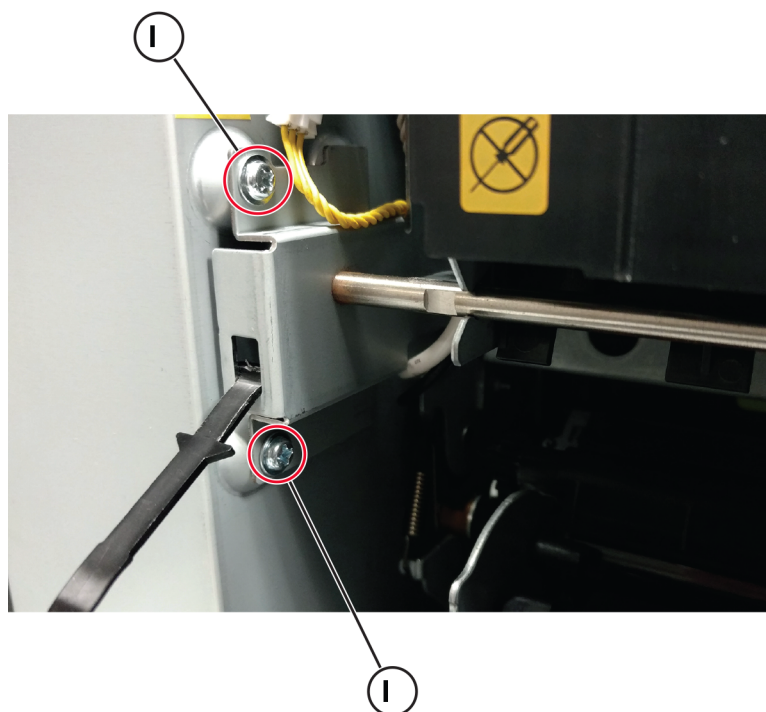
16 Rotate the top of the fuser toward the front, and then slide the fuser to the left to align the fuser side frames with the flat area of the shaft.

17 Disconnect the cable (J).

18 Lift the front left corner of the top cover, and then tilt the LVPS cage (K) to remove the cage.

Notes:

- At the bottom of the cage on the left side, disengage the two posts.
- Pay attention to the sensor (fuser exit) which remains on the cage.
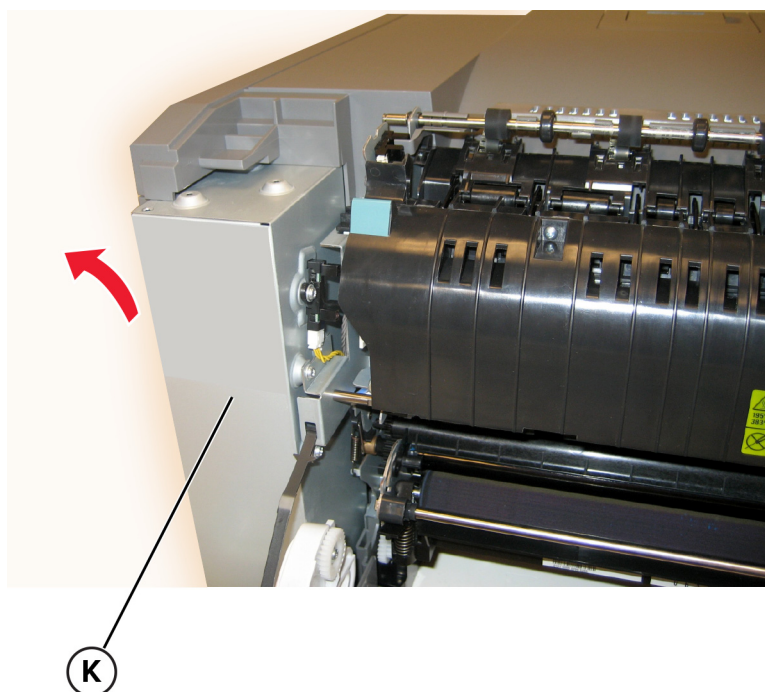
19 Place the printer on its right side.

20 Remove the connector (L).
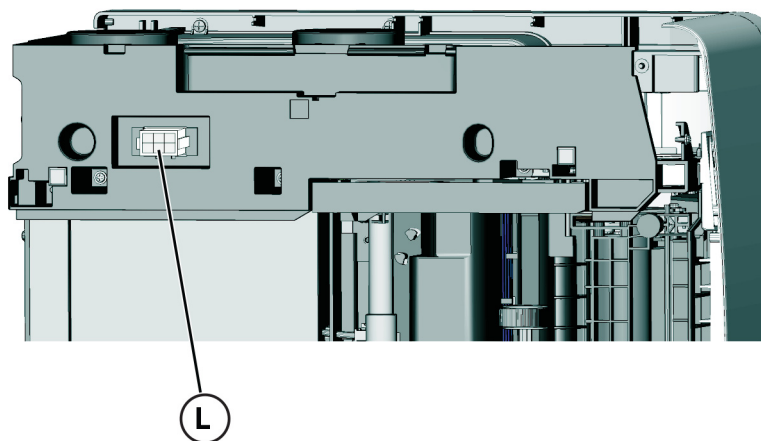
21 At the rear of the printer, remove the five screws (M).
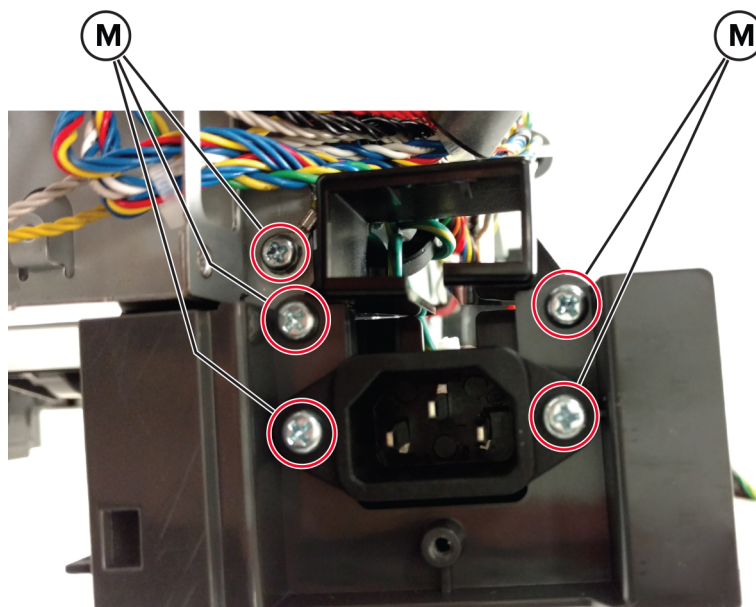
22 Remove the AC receptacle from the lower left frame.

23 Remove the three screws (N).
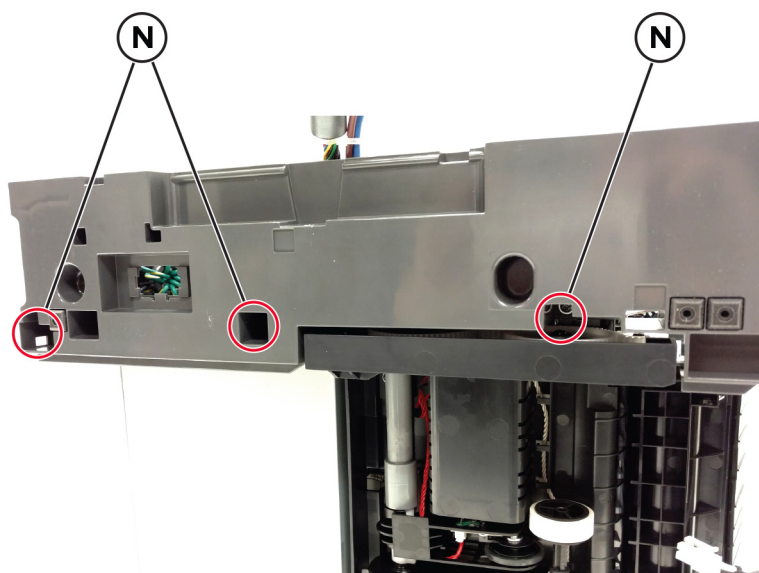
24 Tilt the front door down, detach the door from the frame, and then remove the screw (O).
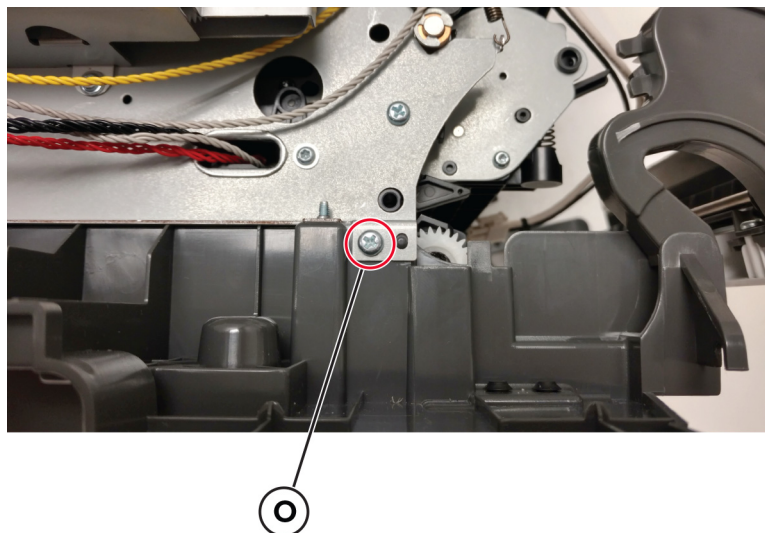
25 Swing the lower left frame away from the printer to remove it.
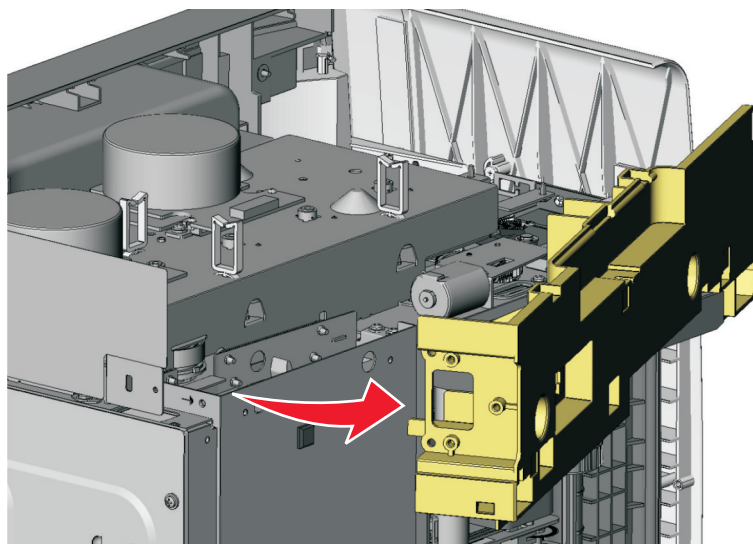
Lower right frame removal

1 Remove the tray insert.

2 Remove the waste toner bottle. See **"Waste toner bottle removal" on page 320**.

3 Remove the imaging kit. See **"Imaging kit removal" on page 316**.

4 Remove the screw (A), and then remove the four screws (B).
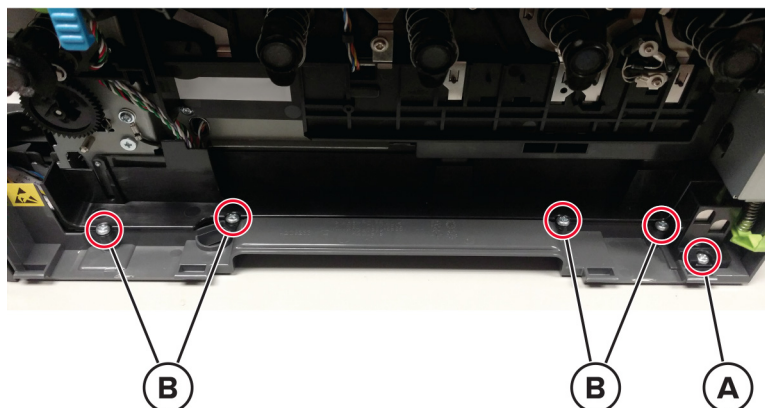
Notes:

- Do not unplug the waste toner bottle sensor contact.
- The cable cover is part of the lower right frame.

5 Place the printer on its left side.

6 Remove the four screws (C).
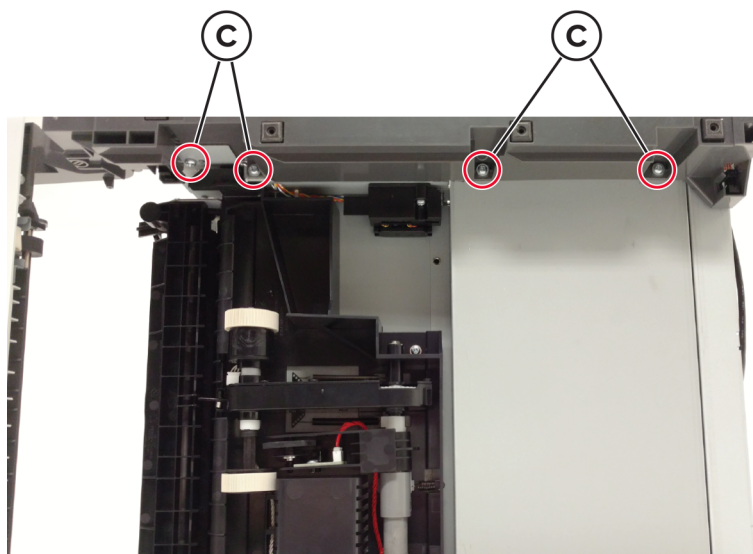
7 Lift the lower right frame pin (D) out of the hole on the printer frame.
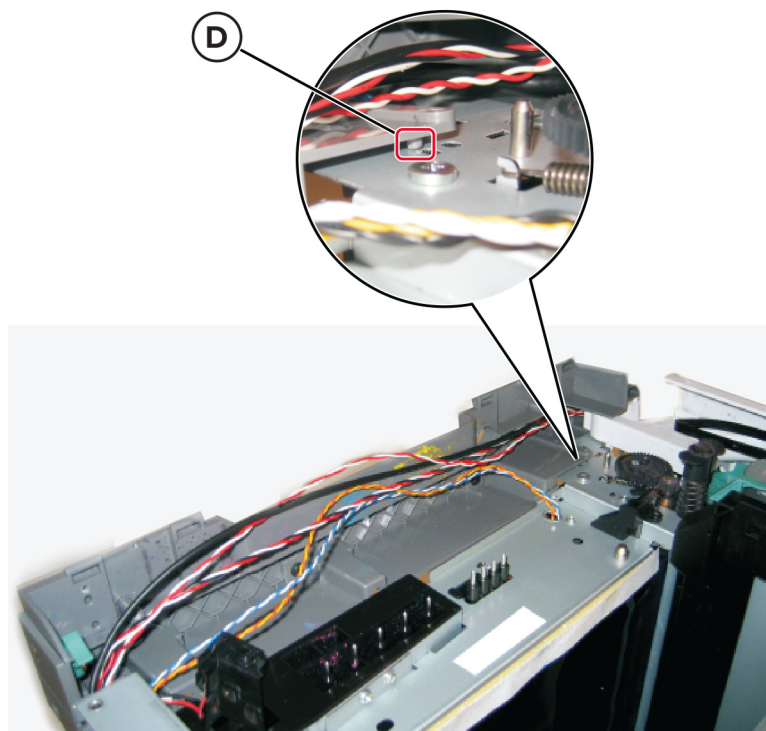
8 Remove the sensor retainer plate (E).
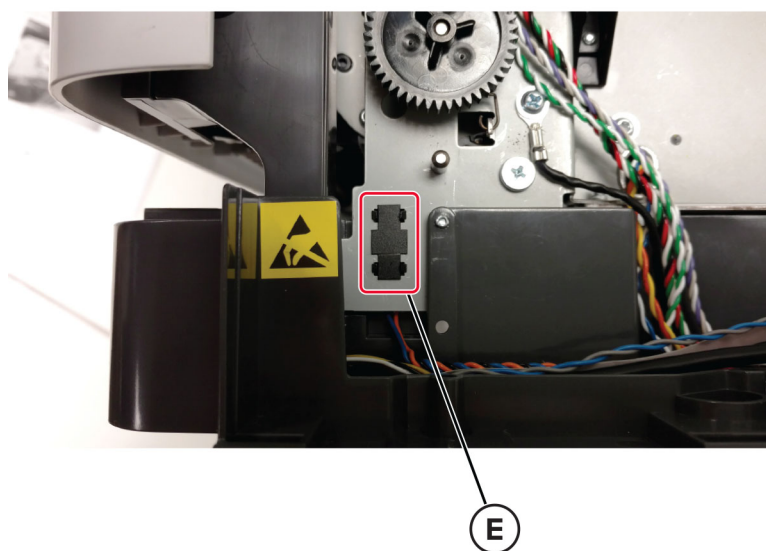
9 Remove the sensor, and then disconnect the cable (F).
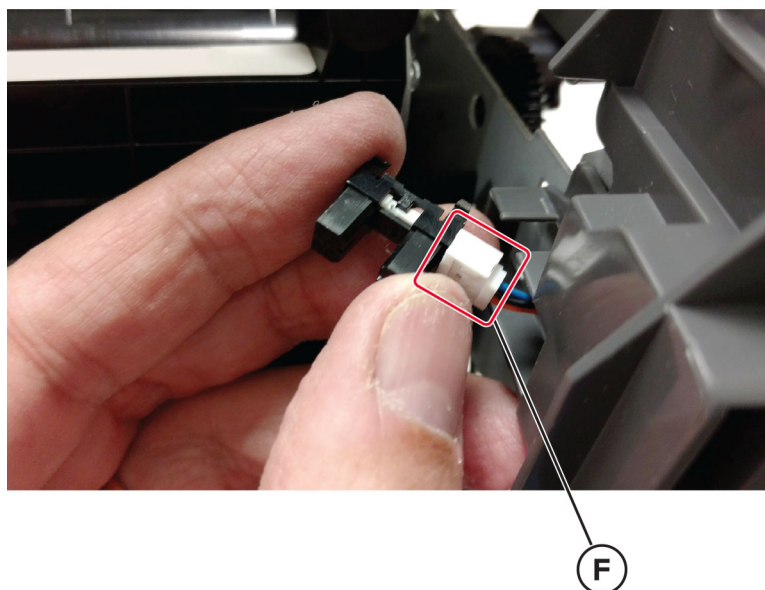
10 Swing the rear part away from the printer, and then remove the spring (G).
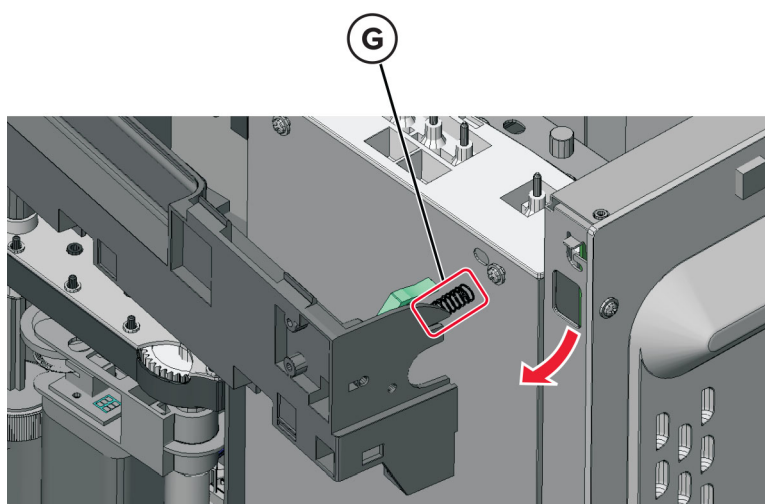
11 Disconnect the cable (H).
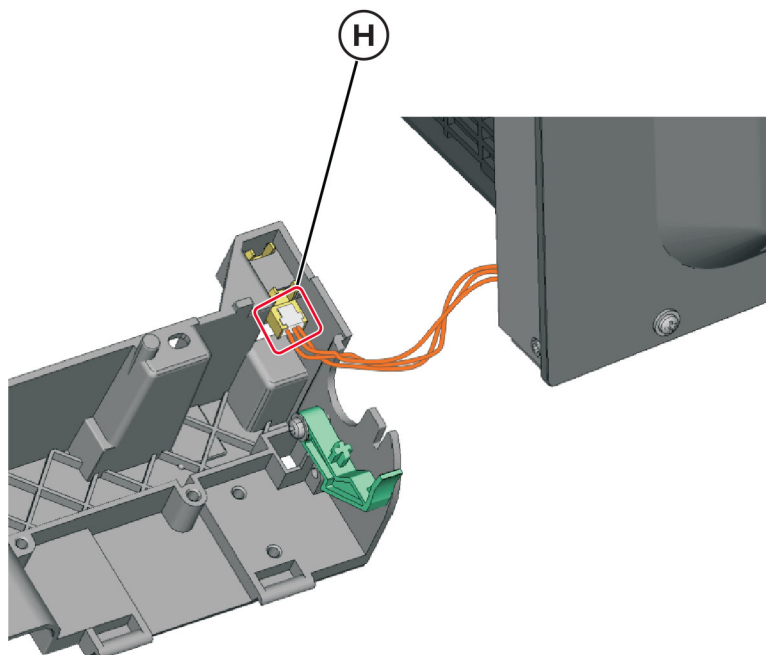
12 Swing the rear of the lower right frame away from the printer to remove it.

13 From inside the lower right frame, remove the screw (I), and then remove the spring bracket.

Parts removal
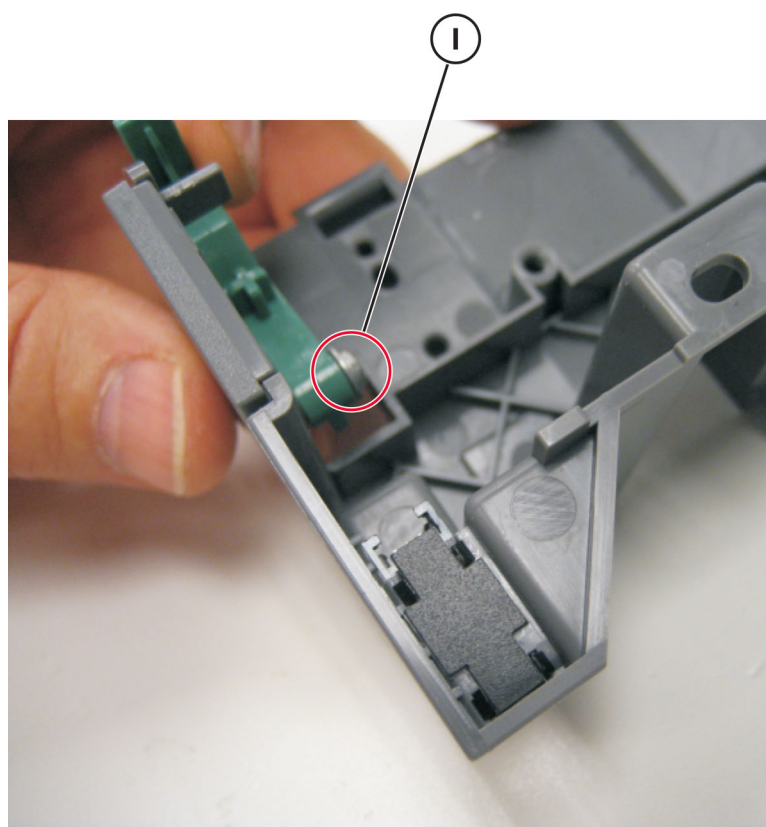
14 Disconnect the cable (J), remove the screw (K), and then remove the sensor (L).
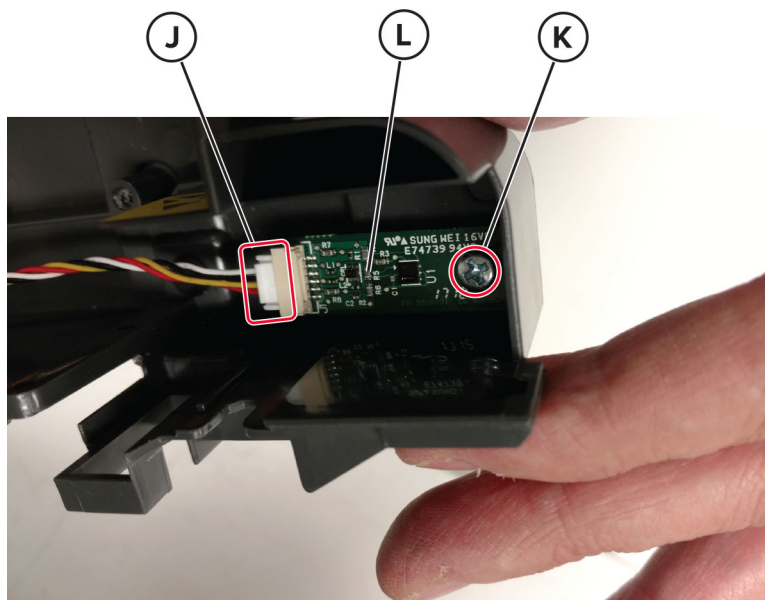
Installation notes:

a Reinstall the spring bracket and the weather station.

b Before installing the lower right frame, connect the cable to the sensor (tray present), and then put the spring in place.

c Install the weather station on the new lower right frame.

Sensor (duplex) removal

1 Remove the imaging kit. See **"Imaging kit removal" on page 316**.

2 Remove the two screws (A).
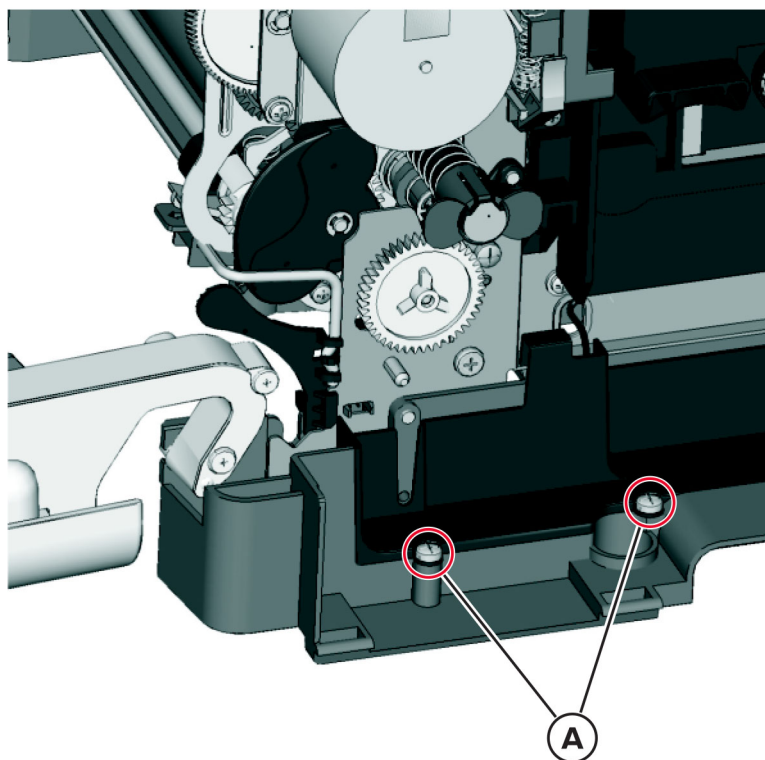
3 Pull the corner of the cable cover (B) away from the right side to access the two sensor posts (C).
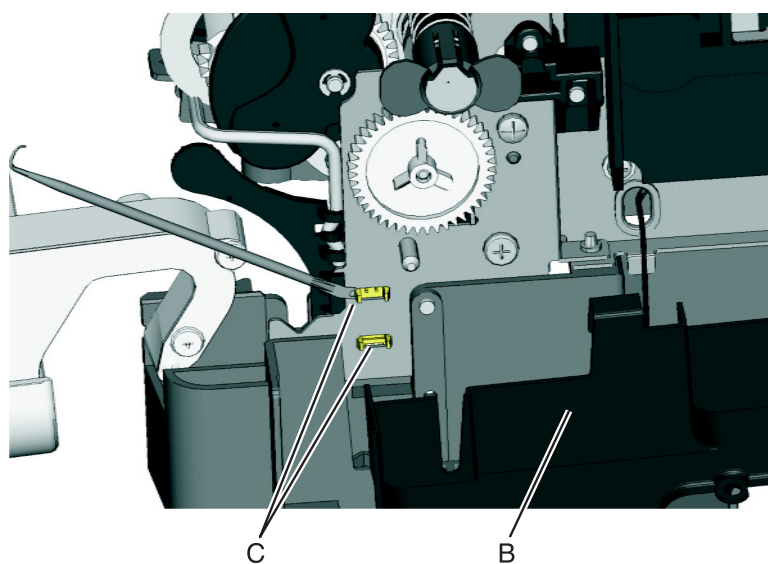
4 Remove the sensor plate (D).

D
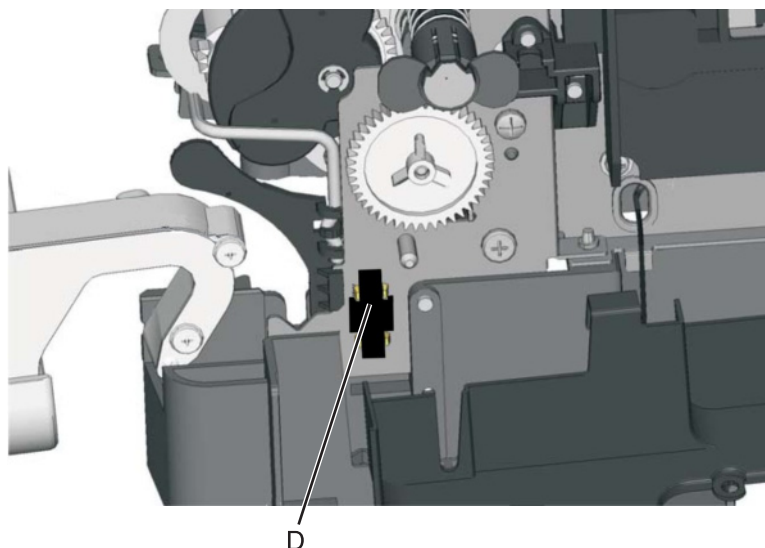
5 Press on the latches to detach the sensor from the printer frame.

6 Disconnect the cable (E).
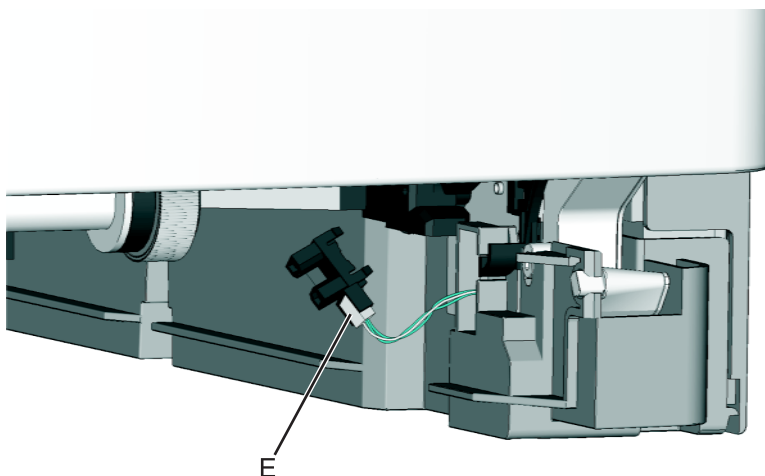
E

Installation notes:

a Clean the contact surface where the sensor retaining plate was removed before installing the new sensor.

Note: Make sure that the clamps on the sensor legs are securely attached to the printer frame.

b Remove the backing from the new sensor retaining plate, and then place the plate on the surface between the sensor mounting latches.

Transfer module guide removal

1 Remove the tray insert.

2 Remove the right cover. See **"Right cover removal" on page 299**.

3 Remove the waste toner bottle. See **"Waste toner bottle removal" on page 320**.

4 Remove the imaging kit. See **"Imaging kit removal" on page 316**.

5 Remove the transfer module. See **"Transfer module removal" on page 312**.

6 Remove the fuser. See **"Fuser removal" on page 342**.

7 Remove the left cover. See **"Left cover removal" on page 289**.

8 Remove the LVPS. See **"LVPS removal" on page 294**.

9 Remove the lower right frame. See **"Lower right frame removal" on page 357**.

10 Remove the screw (A).
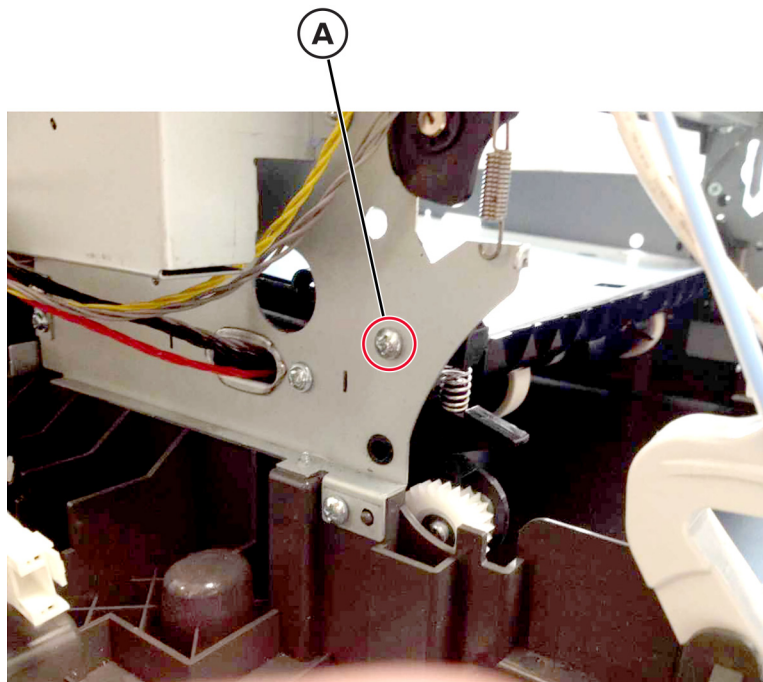
11 Remove the two screws securing the transfer module guide to the frame.

Note: Use either a short #2 Phillips or a right angle screwdriver.

12 Remove the spring (B).

> **Note:** Pay attention to how the spring is attached to the bail.
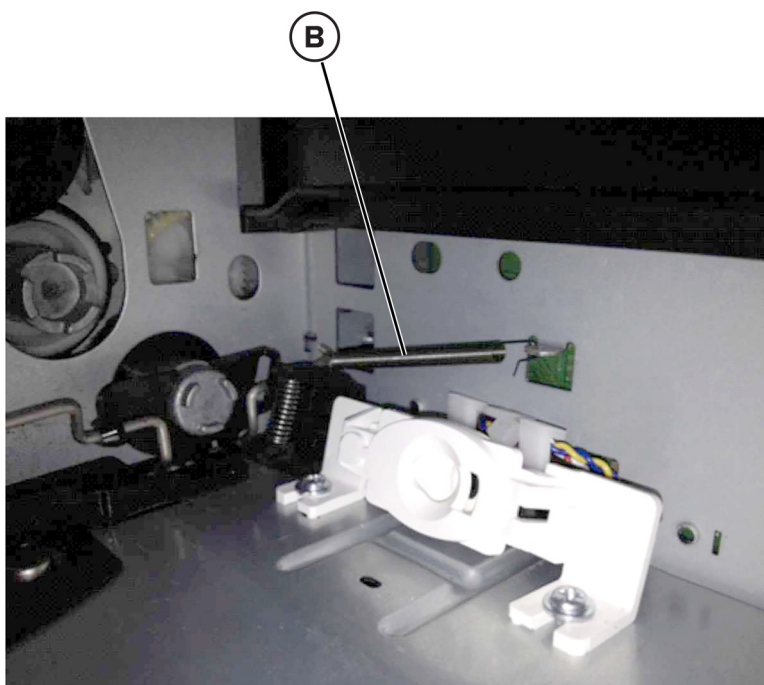
13 Using a spring hook or screwdriver, press and hold the transfer module drive coupling (C), and then tilt the guide up from the side with the screw holes to remove it.
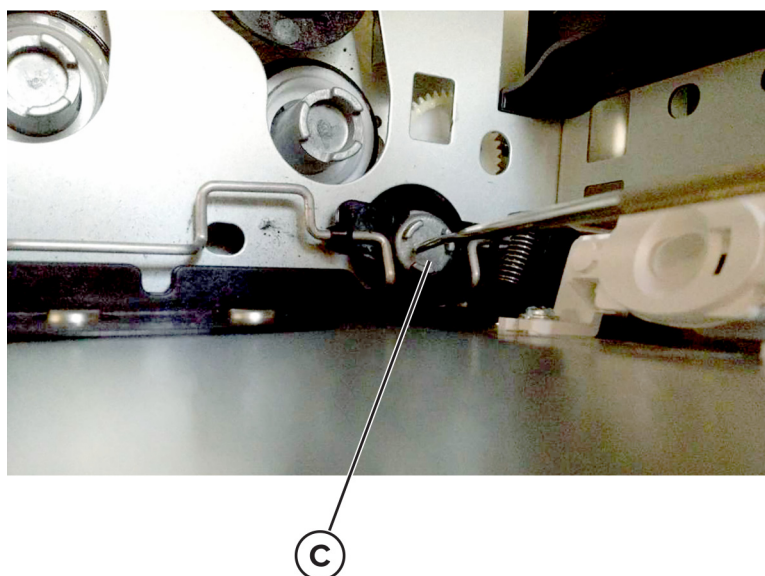
Sensor (tray present) removal

1 Remove the imaging kit. See **"Imaging kit removal" on page 316**.

2 Remove the screw (A) securing the waste toner bottle sensor contact to access the cable cover.

   Note: Do not unplug the waste toner bottle sensor contact.

3 Remove the four screws (B), and then remove the cable cover.
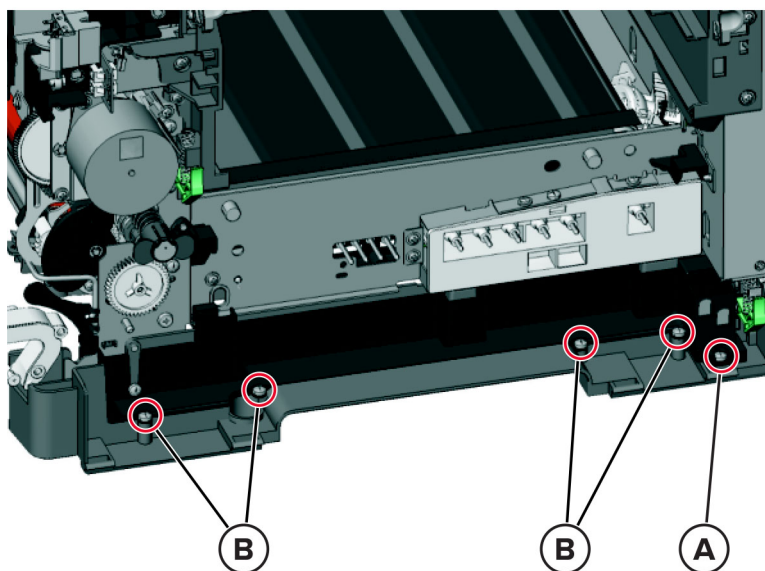
4 Remove the lower right frame. See **"Lower right frame removal" on page 357**.

5 Remove the sensor retaining plate (C), and then press on the latches together to remove the sensor.

C
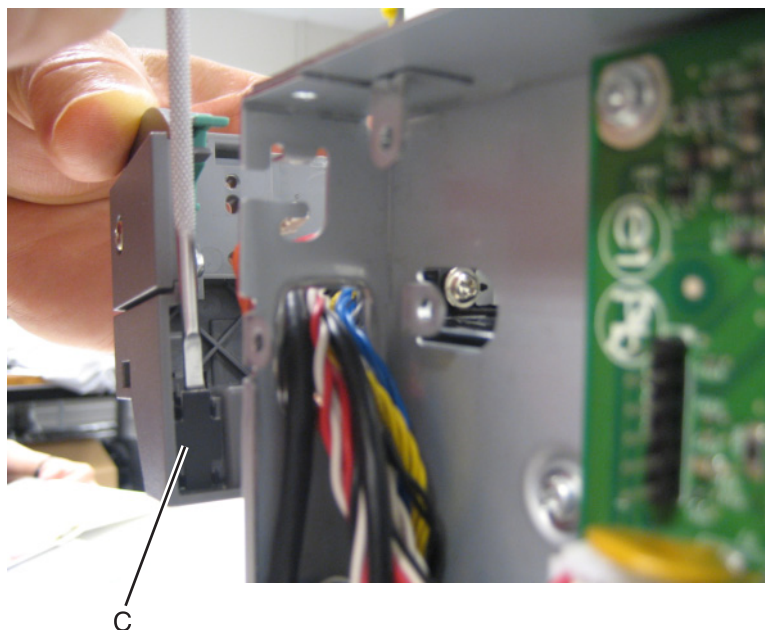
6 Disconnect the sensor cable.

Installation notes:

a Clean the contact surface where the sensor retaining plate was removed before installing the new sensor.

b Remove the backing from the new sensor retaining plate, and then place the plate on the surface between the sensor mounting latches.

c Connect the cable to the sensor.

d Replace the spring.

Tray 1 media feeder removal

1 Remove the waste toner bottle. See .

2 Remove the imaging kit. See .

3 Remove the left cover. See .

4 Remove the rear cover. See .

5 Disconnect the cable (A) from the JSP1 connector on the controller board.

6 Route the cable through the opening (B), and then remove the cable from its retainer (C).
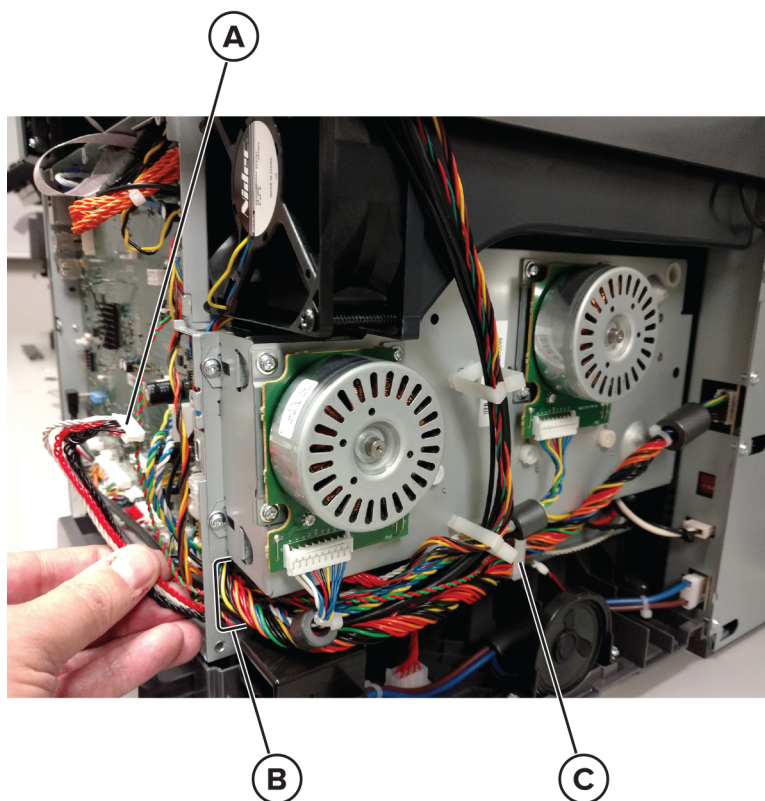
7 Partially reinstall the rear cover to protect the controller board.

8 Place the printer on its rear, and then remove the two screws (D).
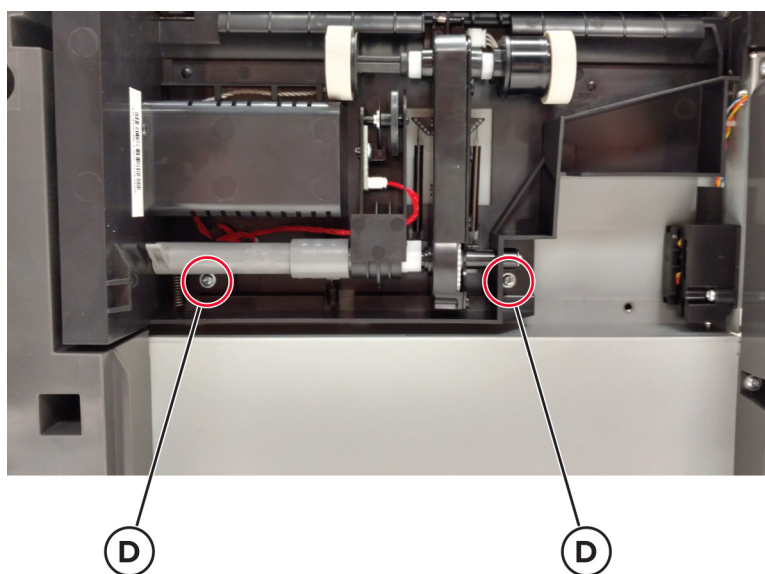
9 On the right side, loosen the screw (E) with a screwdriver, and then remove it while holding the paper feed roller assembly.
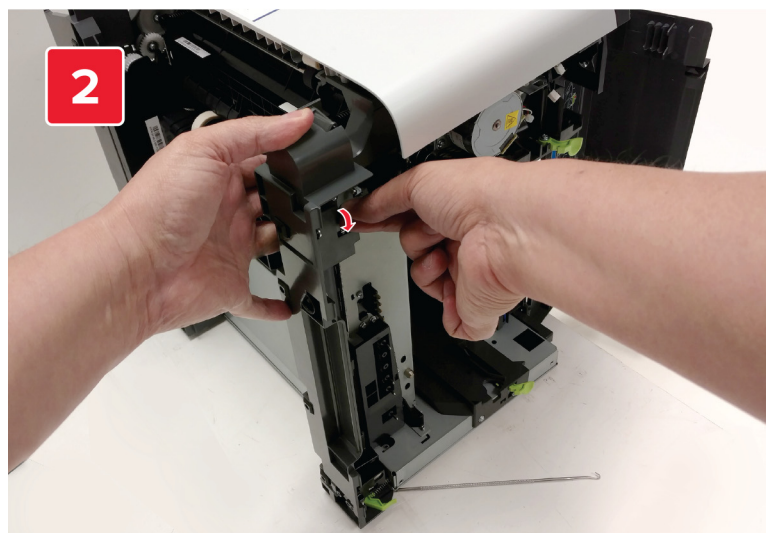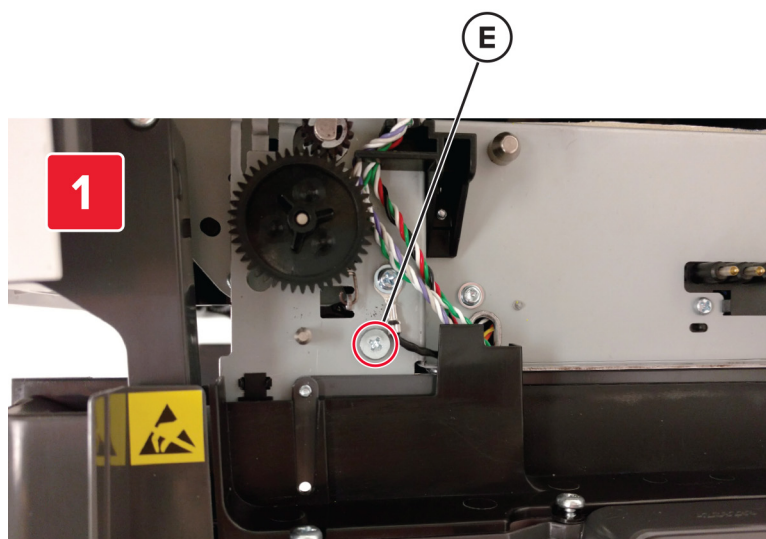
10 Move the right side of the paper feed roller assembly out to free the shaft from the opening in the frame.

Note: Pay attention to the location of the shaft and the opening in the frame.

11 Remove the paper feed roller assembly.

Installation notes:

a Place the left side of the paper feed roller assembly in the printer. Make sure that the shaft on the left side aligns with the hole in the frame.

b Reinstall the three screws holding the paper feed roller assembly to the printer.

c Place the printer on the upright position.

d Reroute the cable, and then make sure to secure the cable in its retainer on the left side.

e Remove the rear cover, and then reconnect the cable on the controller board.

f Replace the rear cover.

Rear side removals

MFP cable cover removal

1 Remove the two screws (A).
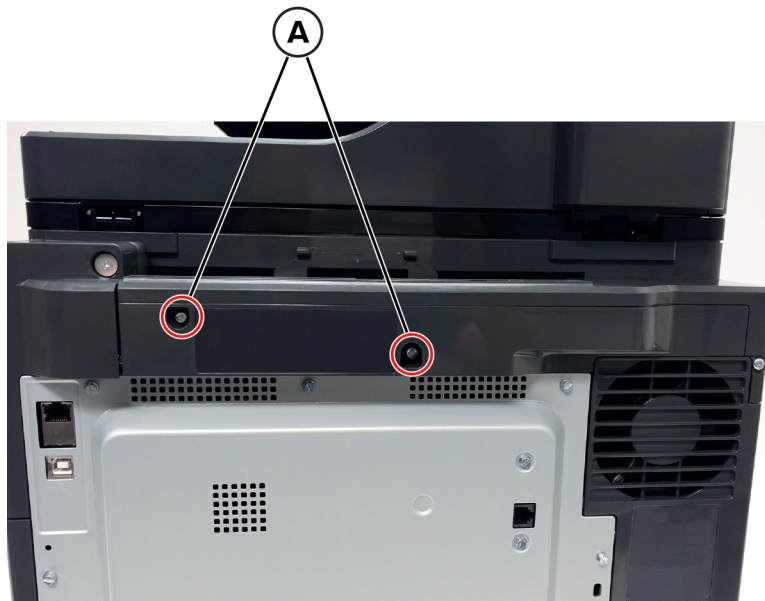
2 Gently pull the left side of the cable cover, and then slide it to the left to remove.

System fan removal

1 Remove the rear cover. See **"Rear cover removal" on page 373**.

2 Remove the left cover assembly. See **"Left cover removal" on page 289**.

3 Remove the MFP cable cover. See **"MFP cable cover removal" on page 371**.

4 Disconnect the system fan cable from the controller board.

5 Remove the two screws (A).
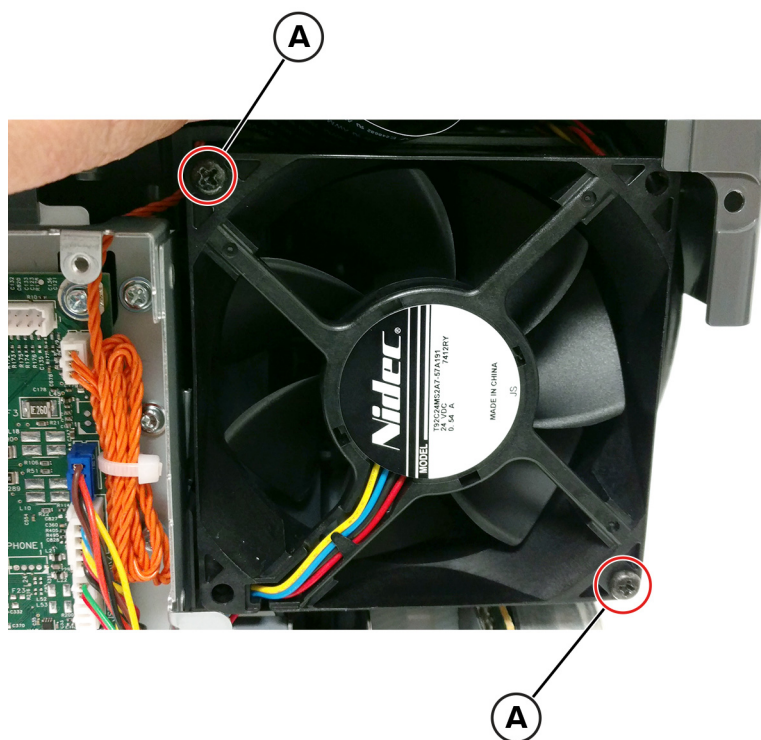
6 Detach the fan.
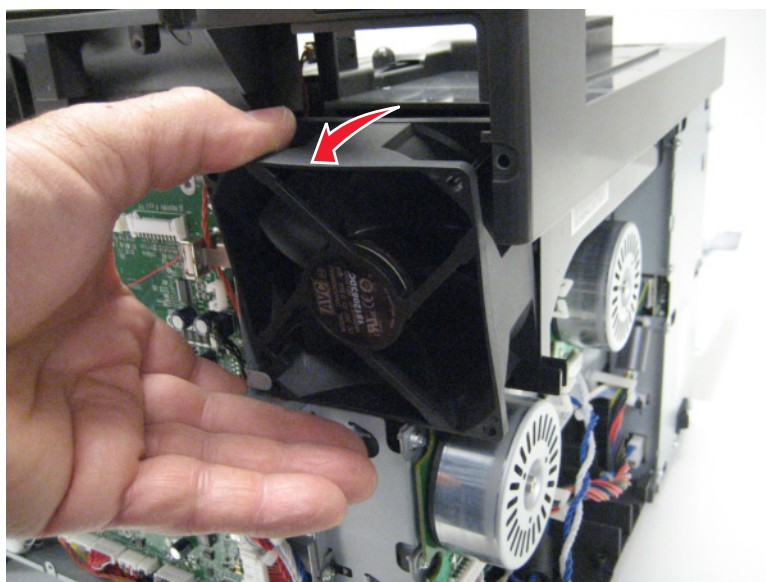
Rear cover removal

1 Remove the eight screws (A).
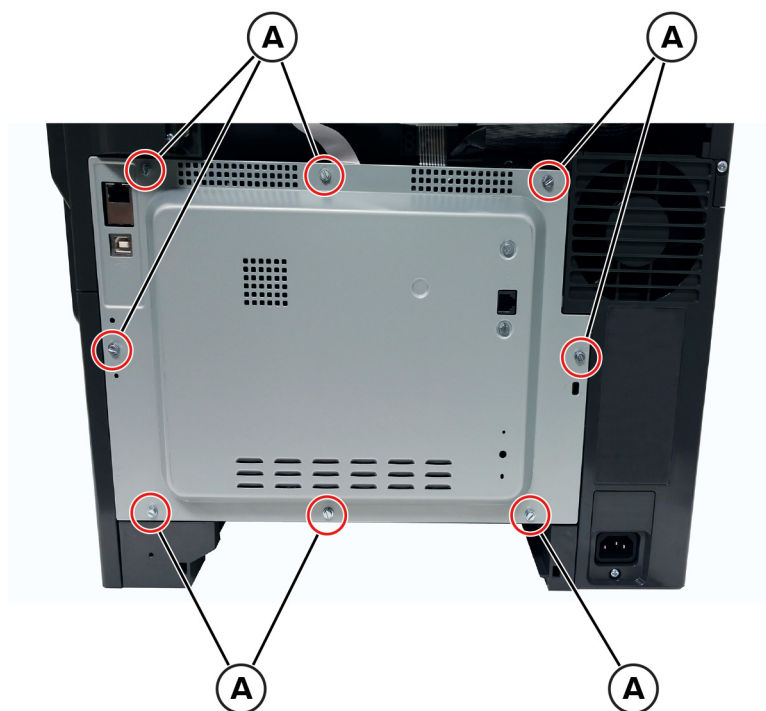
2 Slowly tilt back the cover to avoid damaging the fax card, cable, or controller board.

3 Disconnect the cable (B).

4 Remove the two screws (C), and then remove the fax card from the cover.

Parts removal

374
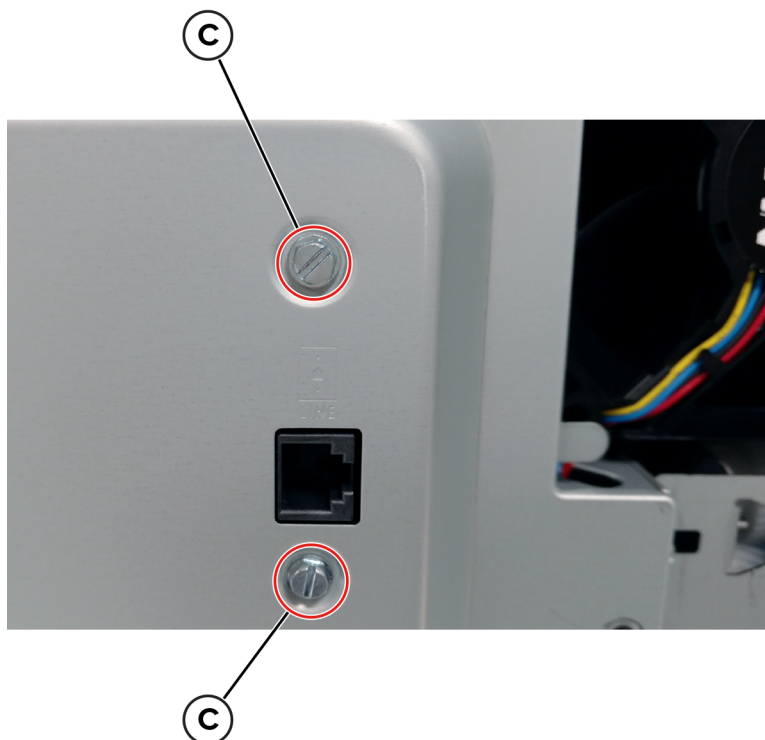
Controller board removal

Note: Back up the eSF solutions and settings before replacing the controller board. See **"Backing up eSF solutions and settings" on page 270**.

⚠️ **CAUTION—SHOCK HAZARD:** After disconnecting the HVPS cable from the controller board, make sure that the HVPS connector is not damaged.

Warning—Potential Damage: Observe all precautions when handling ESD-sensitive parts. See **"Handling ESD-sensitive parts" on page 264**.

Warning—Potential Damage: Perform a POR after replacing one of the following components. Do not replace both components without performing a POR after installing each one.

- UICC
- Controller board

Warning—Potential Damage: Do not install and remove the components listed above as a method of troubleshooting components. After one of these components is installed in the printer and the printer is powered on, the component cannot be used in another printer. The component must be returned to the manufacturer.

1 Remove the rear cover. See **"Rear cover removal" on page 373**.

2 Remove the screw (A).

3 Disconnect all the cables from the controller board.
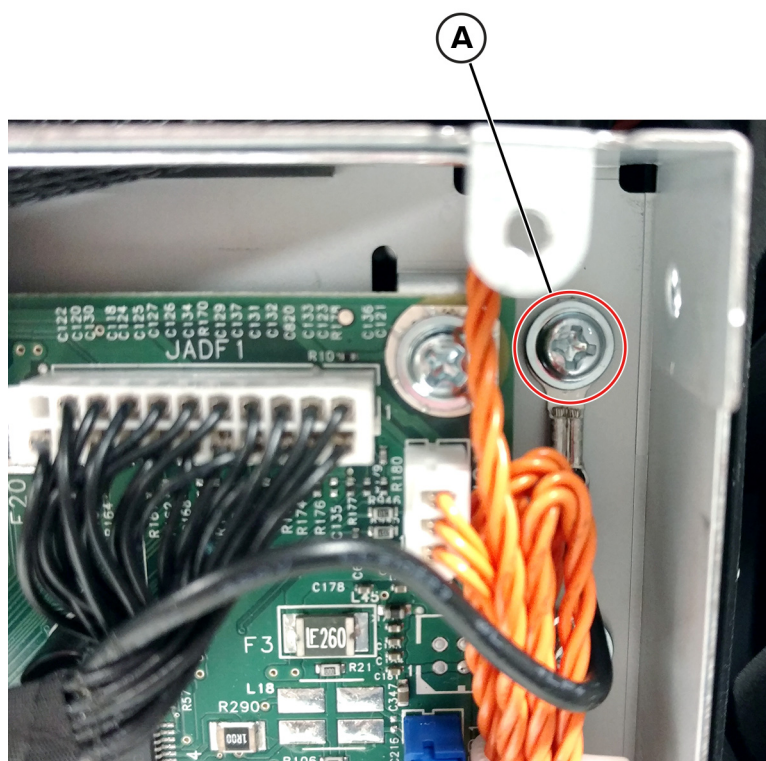
4 Remove the six screws (B).
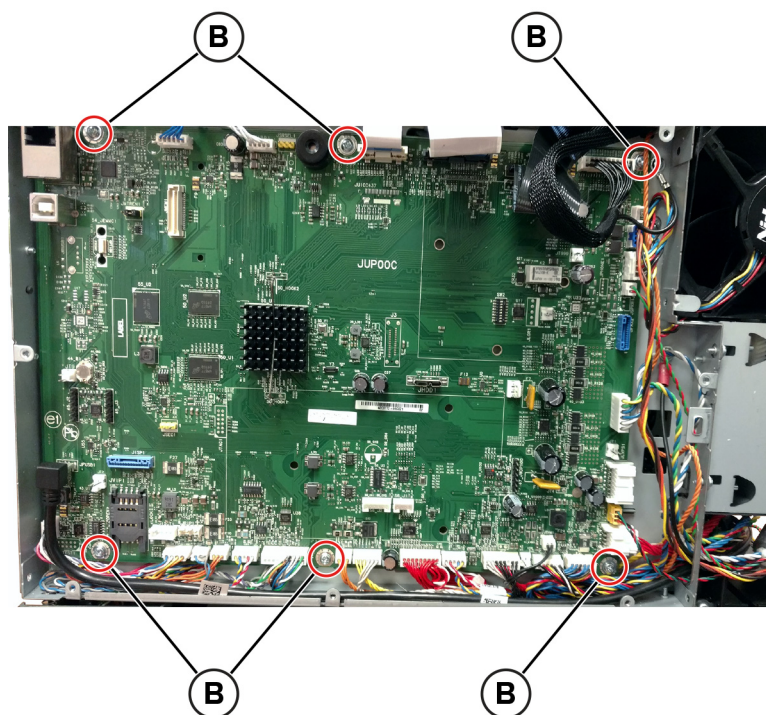
5 Remove all USB ground clips (C) from the USB connectors, and then remove the controller board.

Note: Do not lose the ground clips. They will be used on the new controller board.
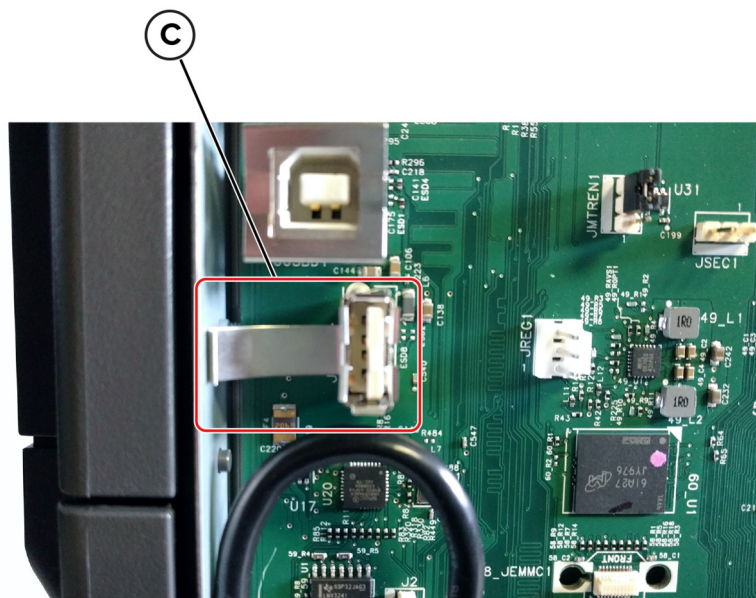
Installation note: After replacing the controller board, restore the printer configuration, and then perform the printhead registration and alignment. See **"Restoring the printer configuration after replacing the controller board" on page 265** and **"Registration adjustment" on page 284**.

Top side removals

Top cover removal

1 Remove the rear cover. See **"Rear cover removal" on page 373**.

2 Remove the flatbed scanner assembly. See **"Flatbed scanner assembly removal" on page 409**.

3 Remove the two screws (A).
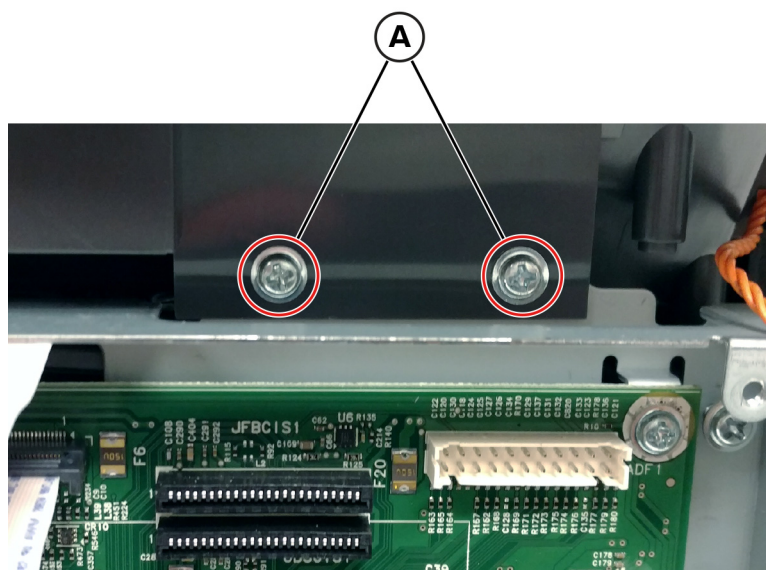
4 Remove the five screws (B).
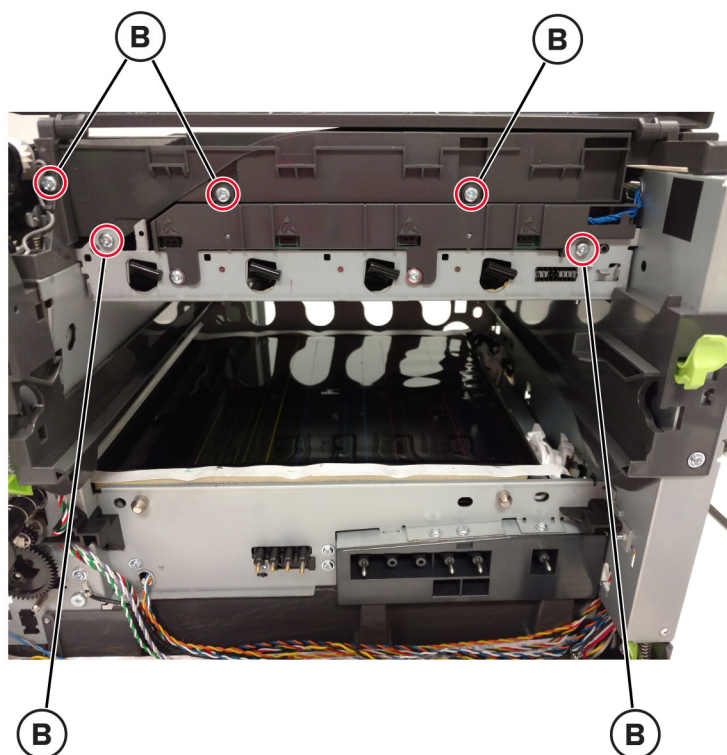
5 Remove the belt (C).
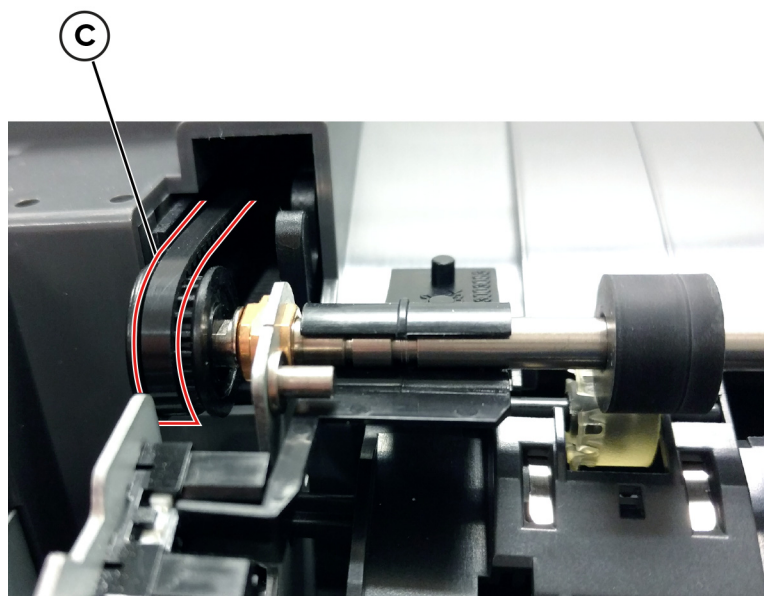
6 Remove the two screws (D), and then remove the fan.

7 Disconnect the bin full sensor cable from the JBIN2 connector on the controller board.

8 Remove the screw (E).

Parts removal
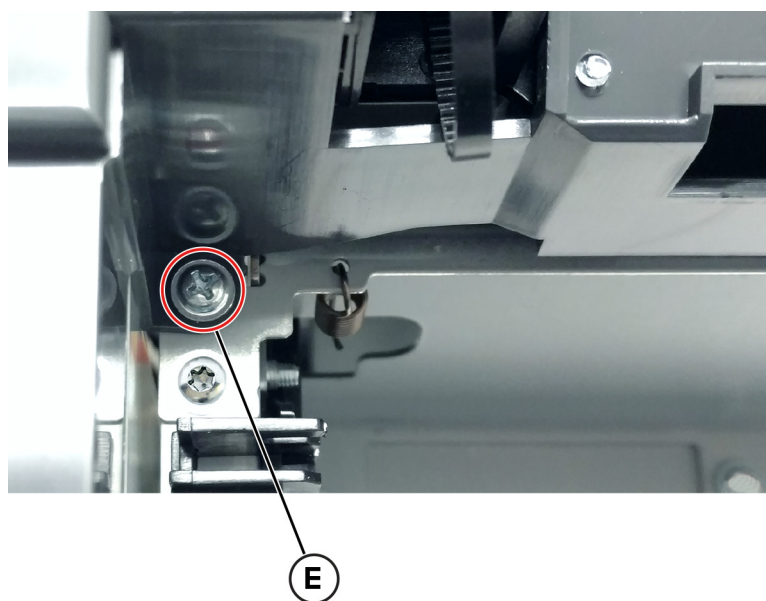
9 Remove the four screws (F).
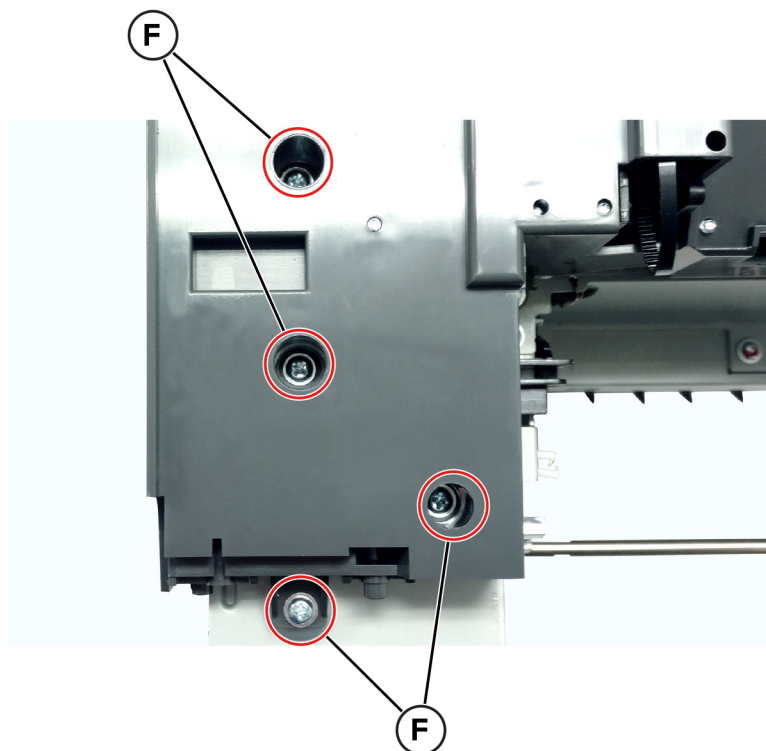
10 Remove the screw (G), and then remove the cover.
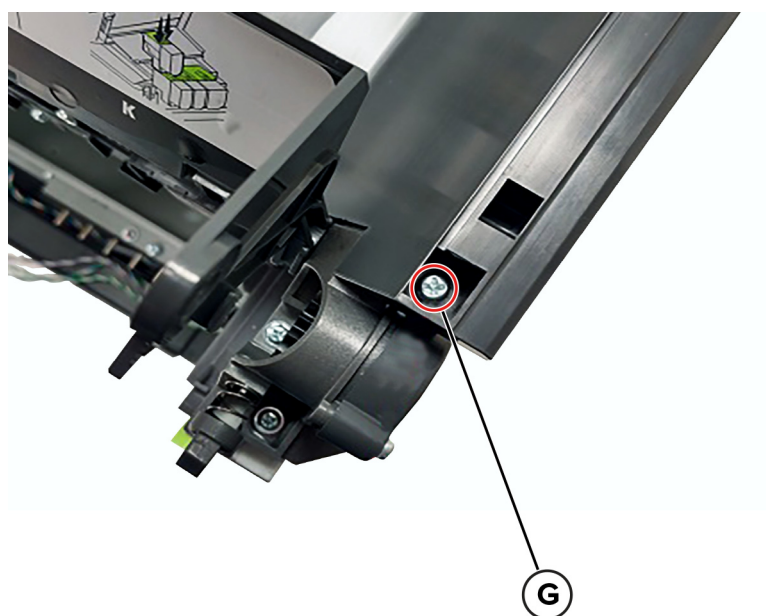
Output bin and paper bail removal

1 Rotate the output bin forward.

2 Lift, and then pull out the bin to remove.
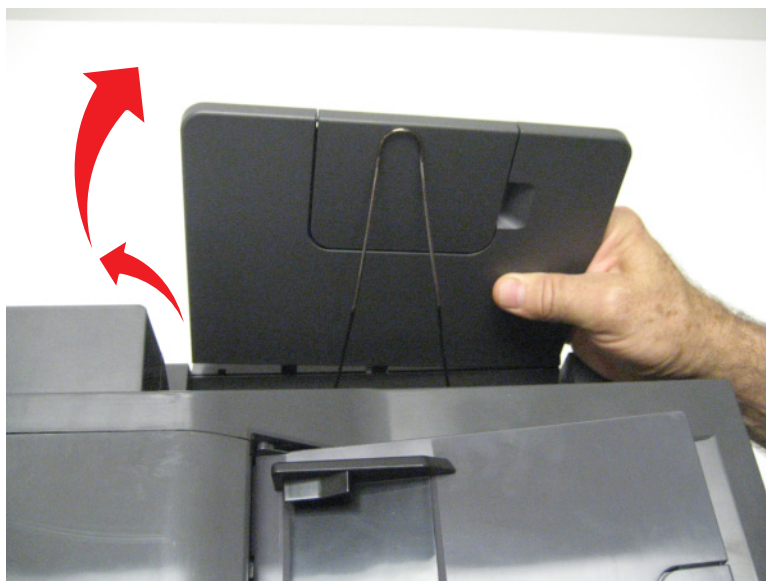
3 Pull apart the legs of the paper bail, and then lift to remove.
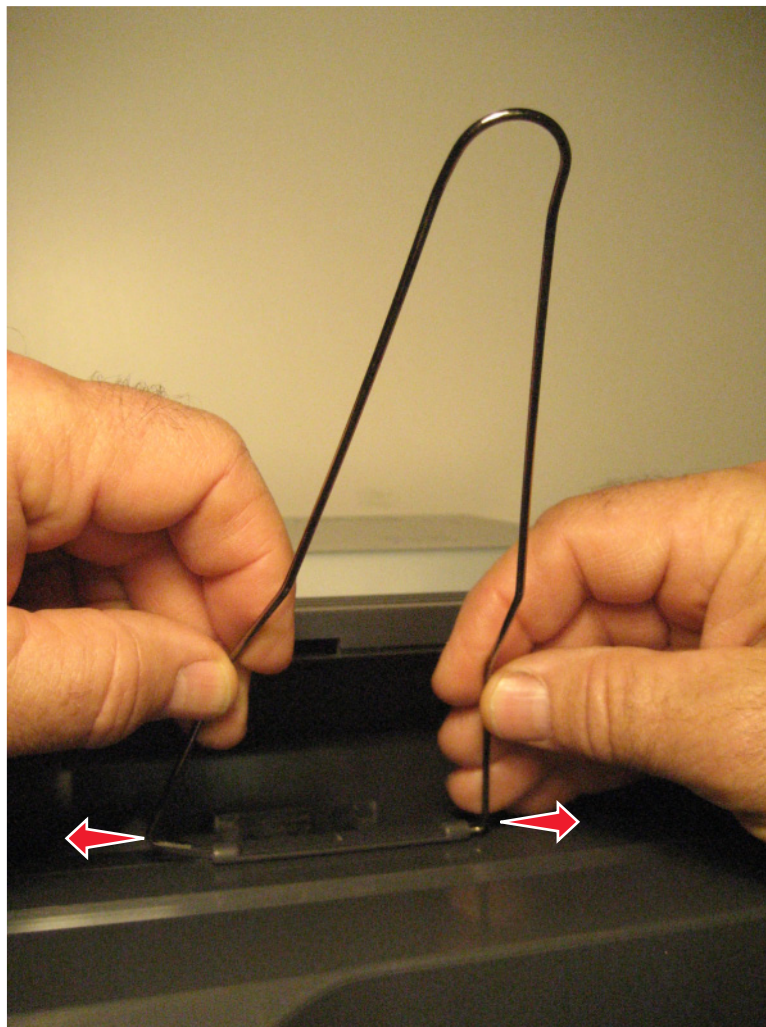
MFP toner cover removal

1 Remove the top cover. See **"Top cover removal" on page 377**.

2 Remove the two screws (A).
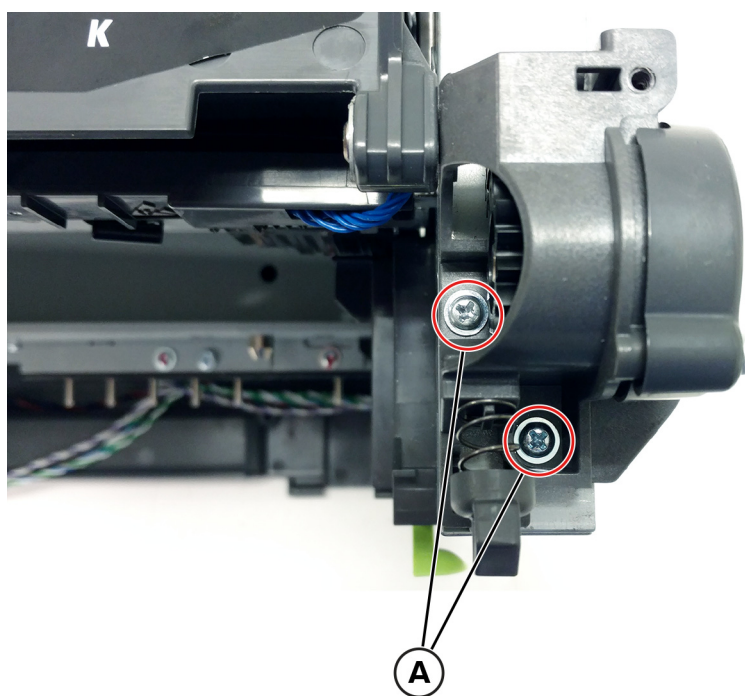
3 Remove the toner cover.
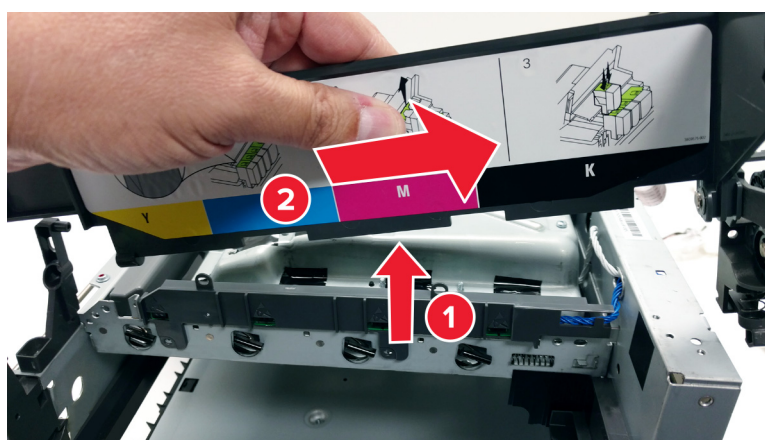
MFP link removal

1 Raise the flatbed, and then remove the screw (A).
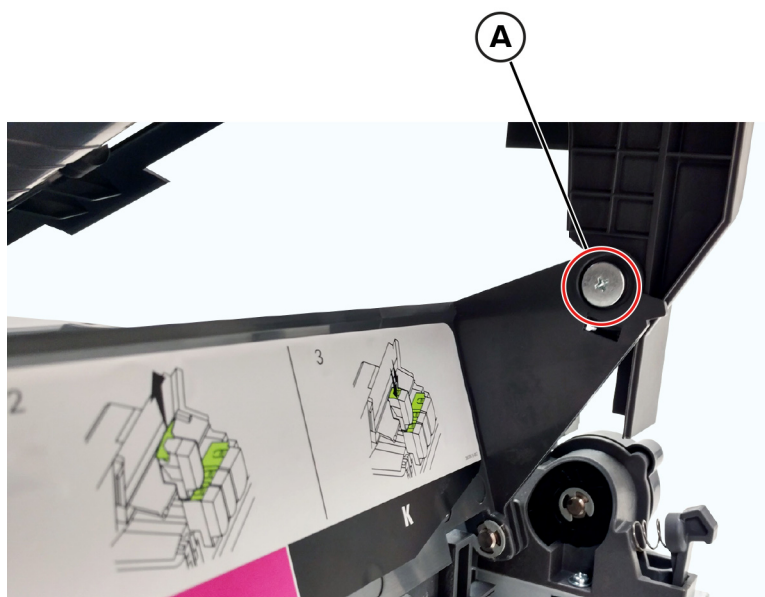
2 Return the flatbed to the down position, remove the screw (B), and then remove the AIO link.
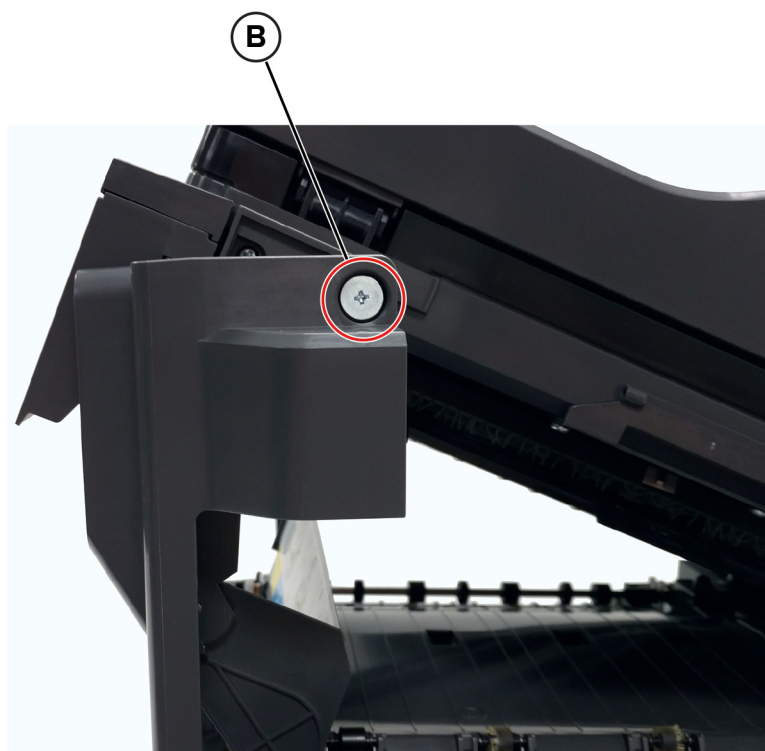
Release lever removal

1 Remove the right scanner cover. See **"Scanner right cover removal" on page 408**.

2 Remove the screw (A).
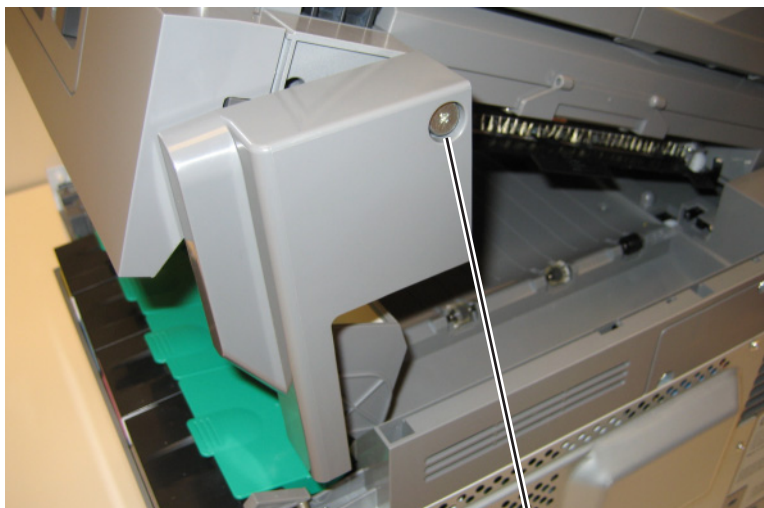
A

3 Disengage the AIO link from the flatbed unit.

4 Remove the screw (B).
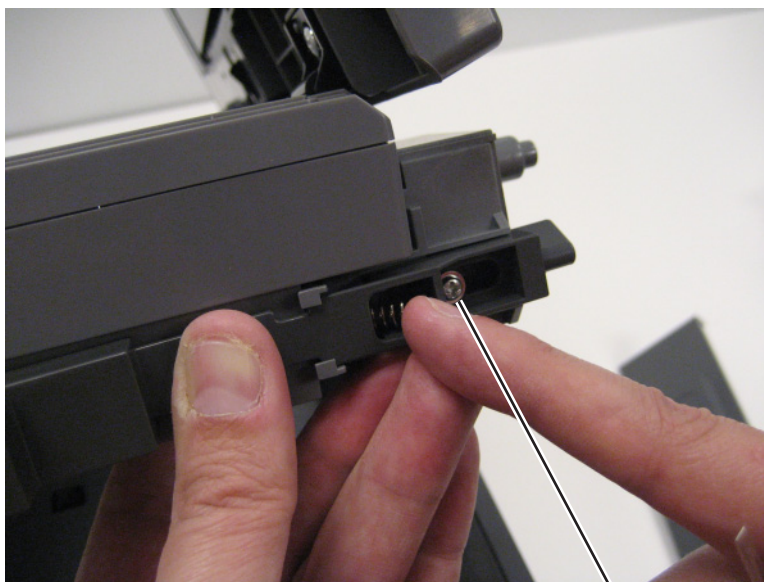
B

5 Slide the lever to the rear of the flatbed.

6 Remove the spring, and then remove the lever.

> **Installation note:** When reinstalling the lever, place the lever on the flatbed, and then insert the spring before replacing the screw.

Bin full flag removal

1 Raise the flatbed.

2 Disconnect the three latches (A) from the rear shaft of the redrive unit, and then remove the flag.
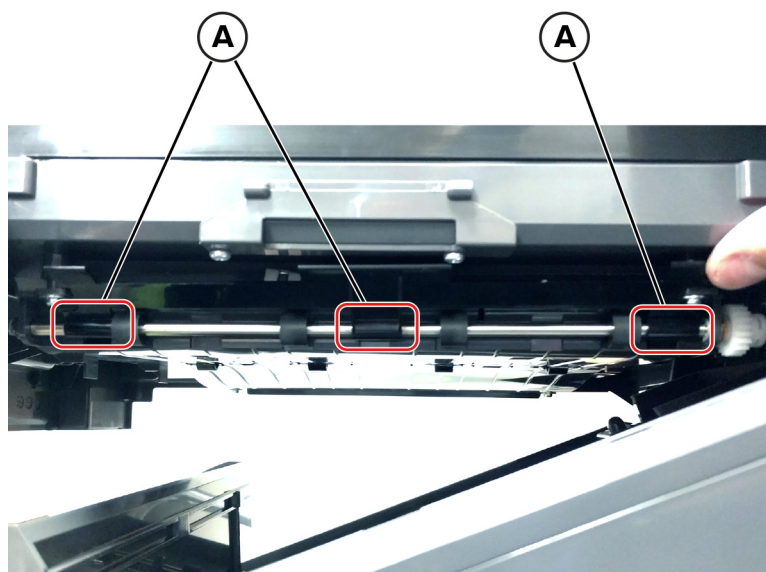
Installation note: Install the latch on the left side first.

MFP fuser deflector flag removal

1 Open the front door.

2 Remove the MFP fuser deflector flag (A) from the shaft.

Sensor (narrow media) removal

1 Open the front door.

2 Remove the cable (A) from its retainer, and then disconnect it.

    Installation note: Pay attention to the cable routing.
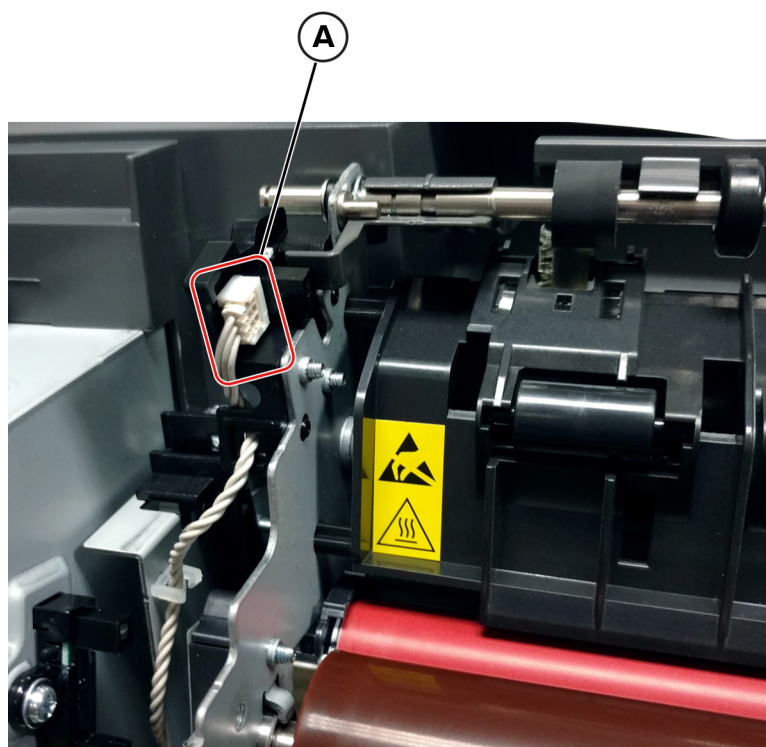
3 Remove the sensor retaining plate (B), and then pinch the four latches (C) to remove the sensor.
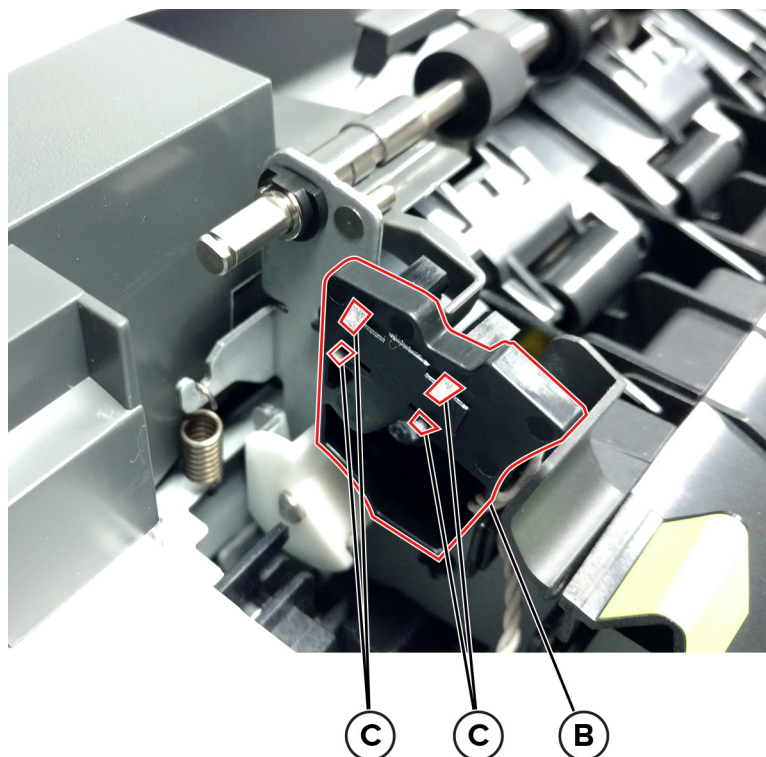
Installation notes:

- Clean the contact surface where the sensor retaining plate was removed before installing the new sensor.
- Guide the latches that hold the sensor to the bracket.
- Squeeze the latches together until they latch to the frame.
- Remove the backing from the new sensor retaining plate, and then place the plate on the surface between the sensor mounting legs.
- Reconnect the cable, and then guide the cable through its retainer.

Narrow media sensor flag removal

1 Raise the scanner assembly.

2 Open the front door.

3 Push up on the tab to release the flag, and then remove it.
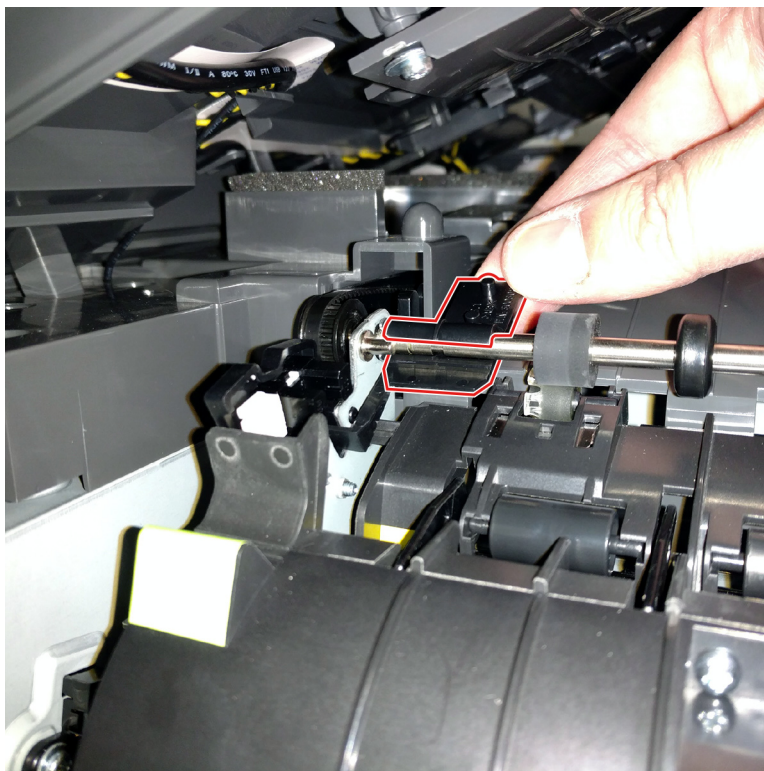
Note: Be careful not to dislodge the sensor. The flag must be installed on the fuser while the fuser is out.

Printhead removal

1 Remove the rear cover. See **"Rear cover removal" on page 373**.

2 Remove the top cover. See **"Top cover removal" on page 377**.

3 Disconnect the two cables (A).
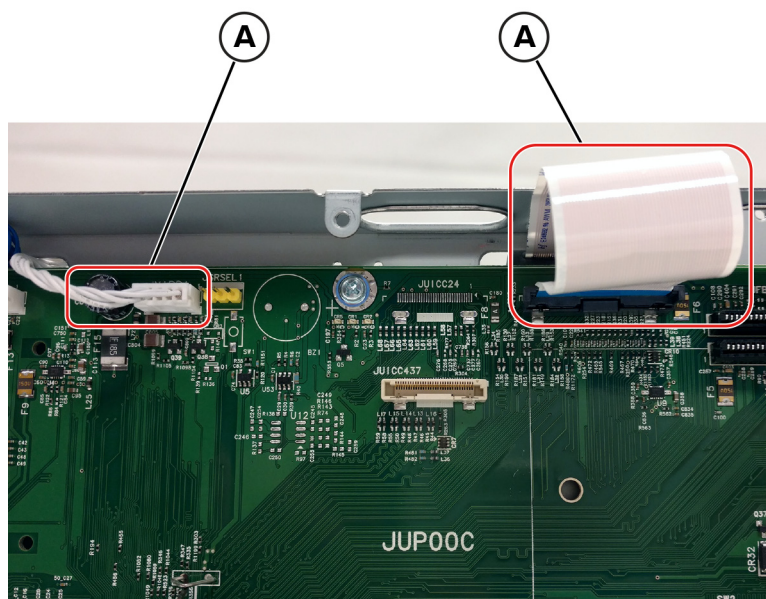
4 Remove the three screws (B), and then remove the printhead.
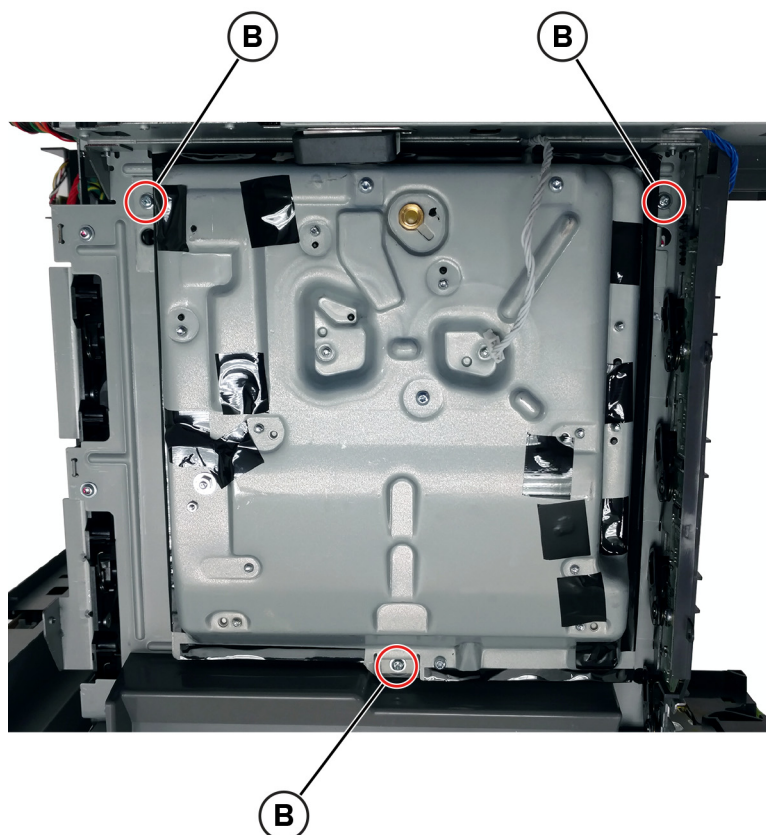
Installation note: Make sure to perform the registration adjustments after replacing the printhead. See **"Registration adjustment" on page 284**.

Redrive unit removal

1 Remove the flatbed scanner assembly. See **"Flatbed scanner assembly removal" on page 409**.

2 Place the flatbed facedown.

3 Remove the cable cover plate (A), and then remove the four screws (B).
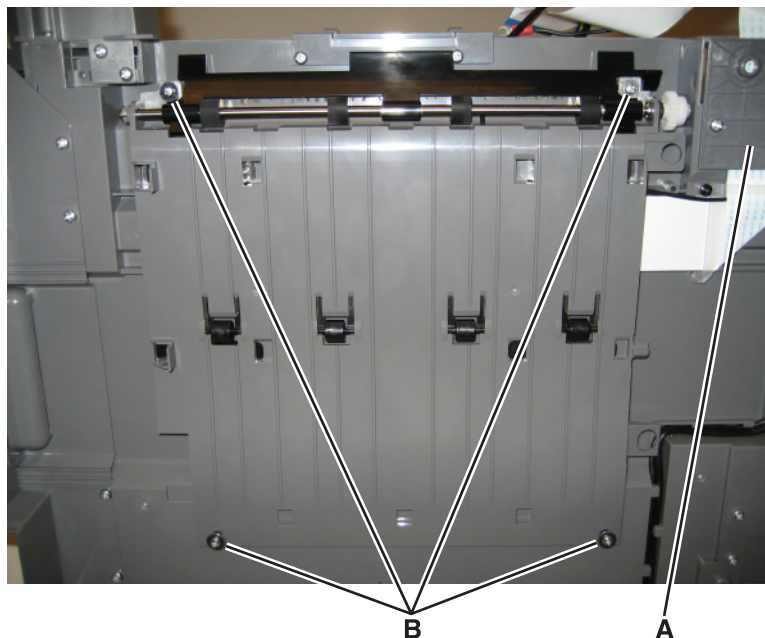
4 Remove the bin full sensor flag from the rear shaft.
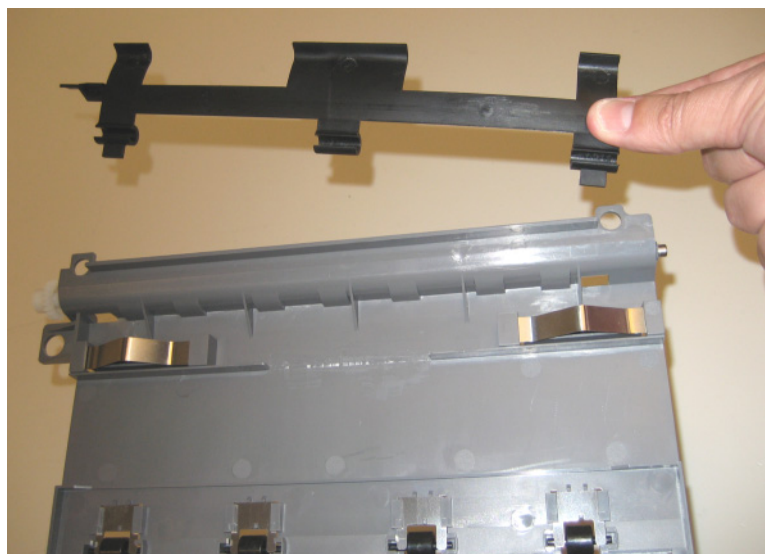
Installation notes:

- Using a short #2 Phillips screwdriver, the redrive unit can be replaced by disconnecting the AIO link at the flatbed and lifting the flatbed just enough to access the left side screws.
- Be careful not to stress the cables in the left rear hinge.

Right output bin deflector removal

1 Open the front door.

2 Remove the deflector (A).

A
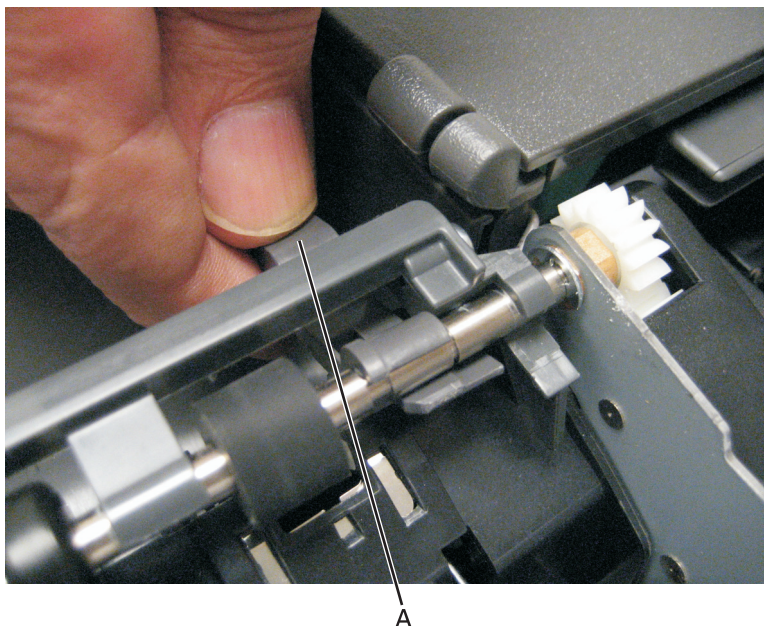
ADF/scanner removals

ADF assembly removal (SADF/RADF)

1 Remove the output bin. See **"Output bin and paper bail removal" on page 381**.

2 Remove the rear cover. See **"Rear cover removal" on page 373**.

3 Remove the AIO cable cover. See **"MFP cable cover removal" on page 371**.

4 Remove the screw (A).

5 Disconnect the JADF1 cable from the controller board.

6 Remove the two screws (B), and then set the fan below the cable path.

Parts removal
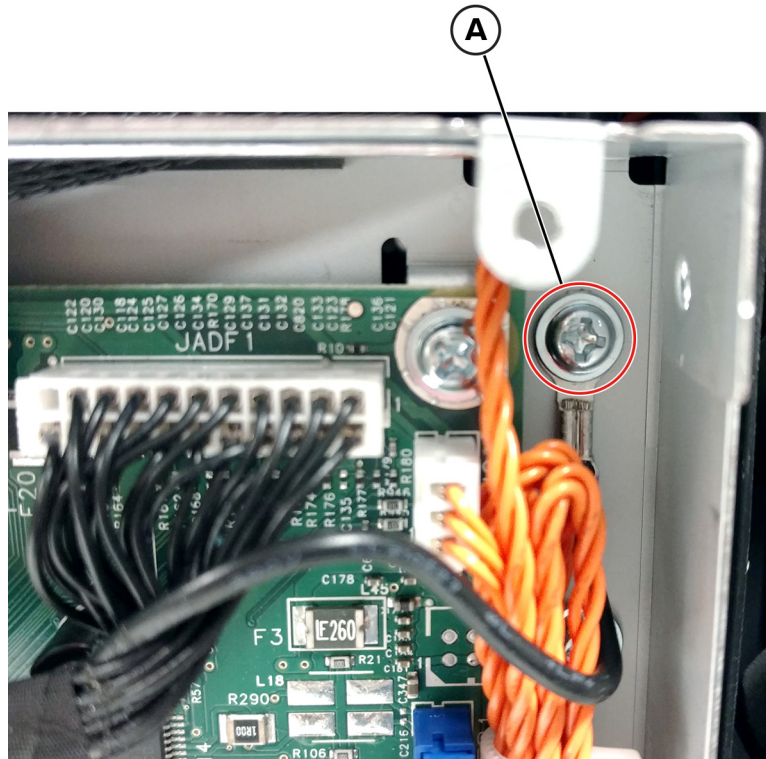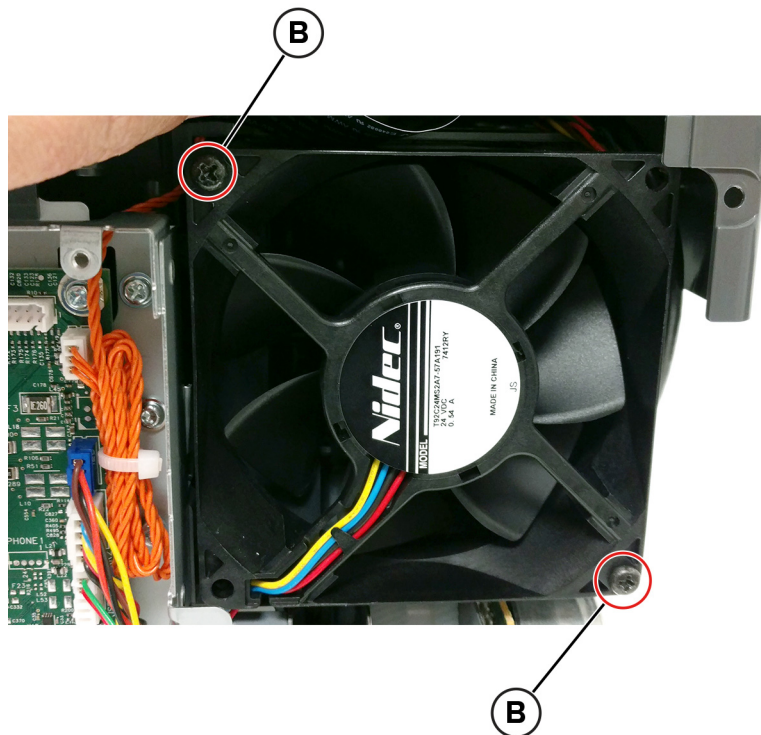
7 Lift the ADF assembly, and then thread the ADF cable (C) to create some slack.
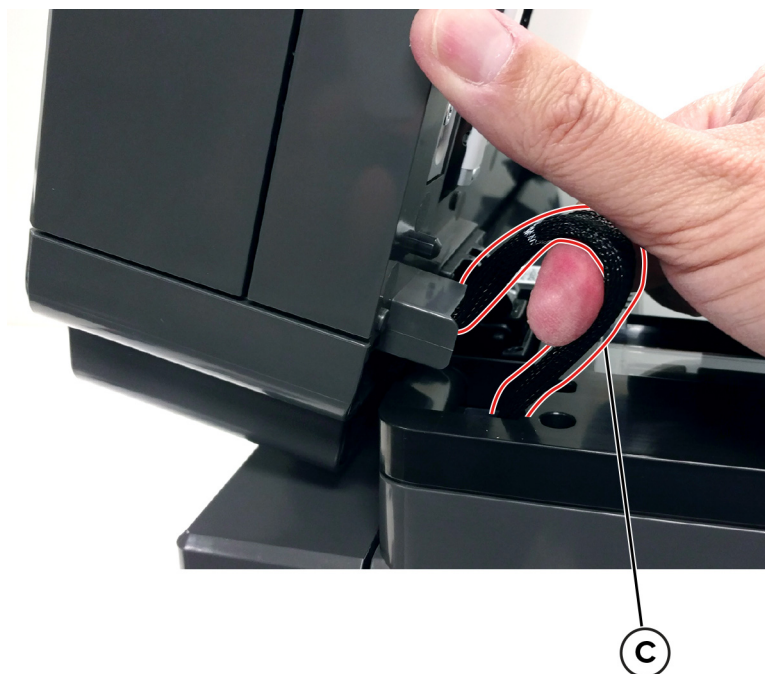
8 Carefully lift the ADF hinges out of the flatbed, and then set the ADF on the flatbed.
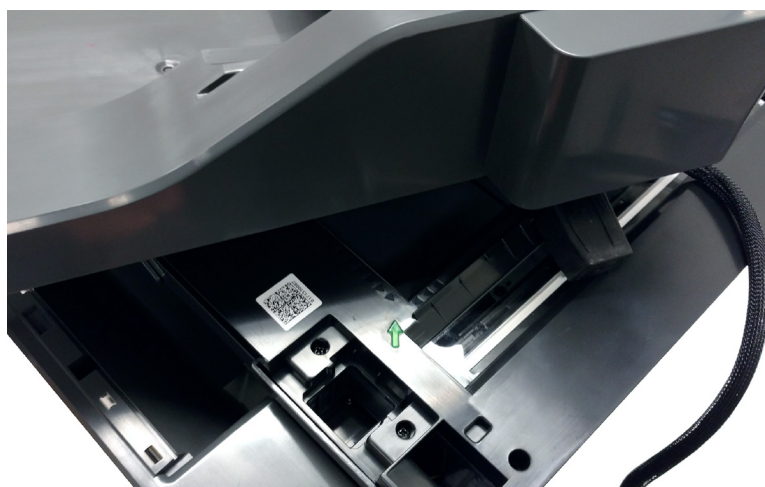
9 Feed the ADF cable (D) through the top cover and flatbed.
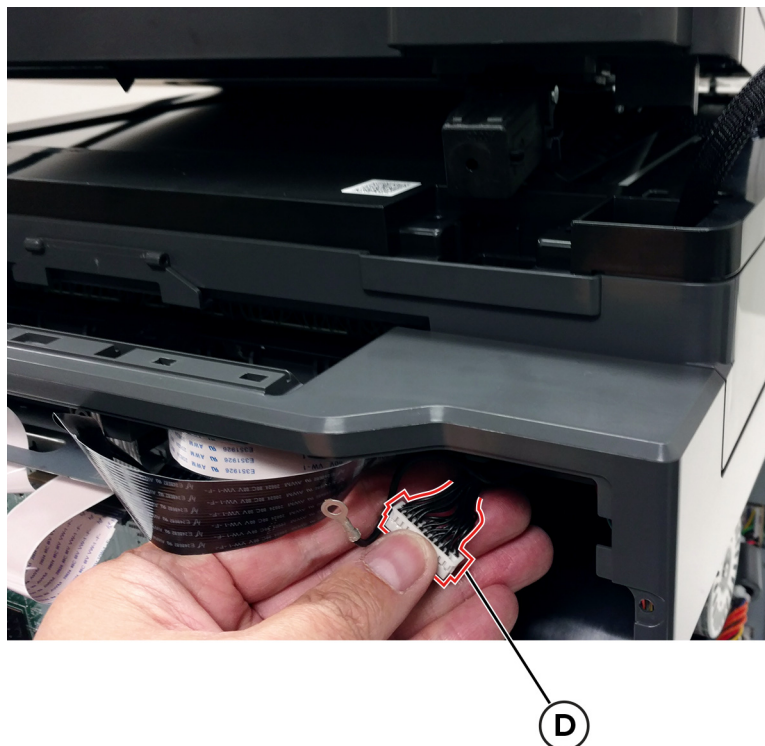
10 Lift, and then remove the ADF assembly.

Installation note: After replacing the ADF assembly, perform the scanner manual registration, ADF registration adjustment, and scanner calibration reset. See **"Scanner Manual Registration" on page 286**, **"ADF registration adjustment" on page 287**, and **"Scanner Calibration Reset" on page 251**.

ADF assembly removal (DADF)

1 Remove the output bin. See **"Output bin and paper bail removal" on page 381**.

2 Remove the rear cover. See **"Rear cover removal" on page 373**.

3 Remove the AIO cable cover. See **"MFP cable cover removal" on page 371**.

4 Remove the screw (A).

5 Disconnect the JADF1 cable from the controller board.

6 Remove the two screws (B), and then set the fan below the cable path.

Parts removal

7 Disconnect the cable (C), route it through the top of the controller board cage, and then move it out of the way to access to the CIS cable.
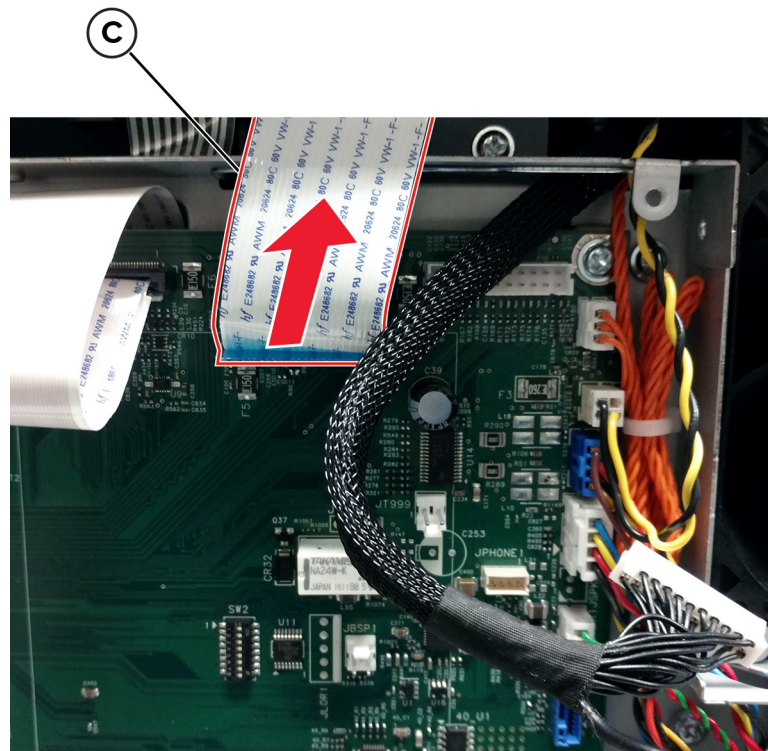
8 Disconnect the cable (D), and then route it through the top of the controller board cage.

Parts removal
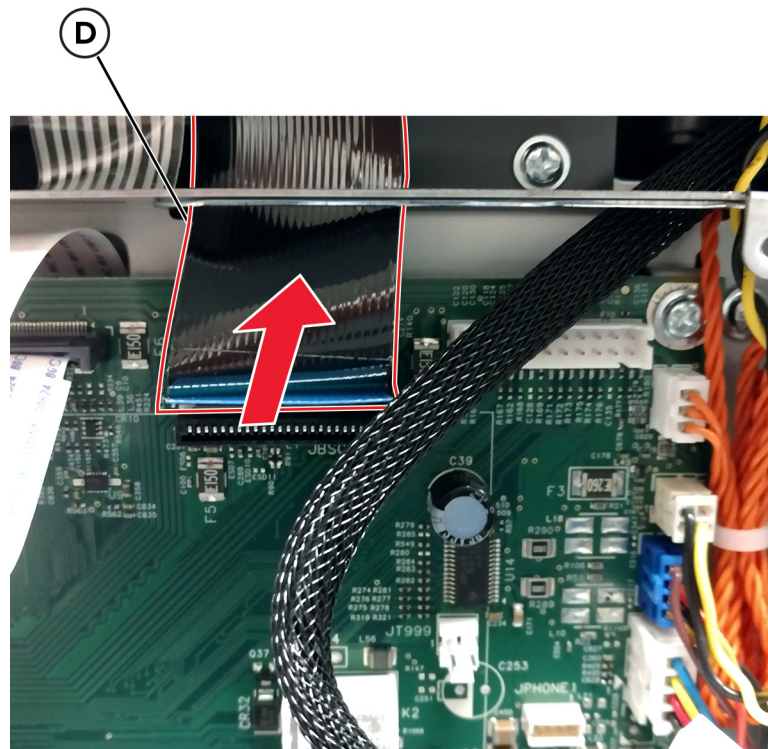
9 Tilt the ADF module up, and then slowly lift it up from the flatbed module until there is resistance from the left and right flatbed hinges.

10 Hold the ADF module at the lower corner and at the CIS cable guide, and then pull up on the module to disengage the left and right ADF hinges.

11 Set the ADF module on the flatbed, and then route the CIS cable (E) through the flatbed.
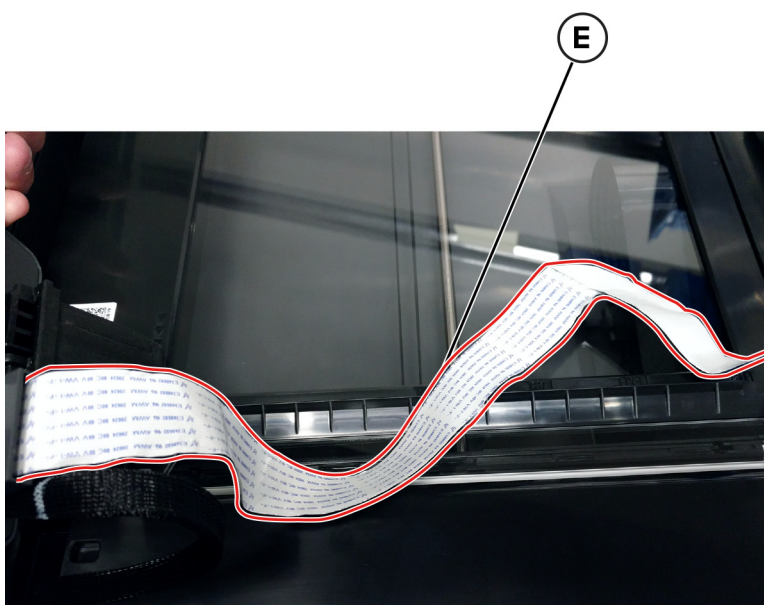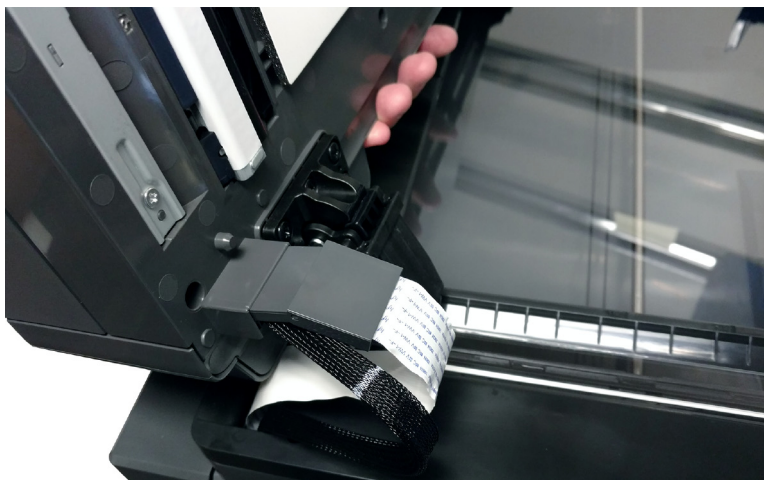
12 Route the cable (F) through the flatbed.
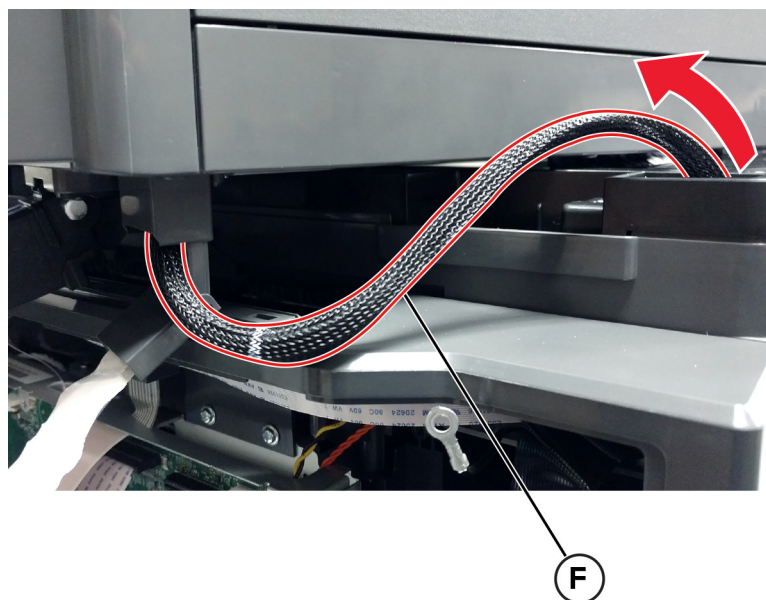
Installation notes:

a Install the black CIS cable into the top connector first, and then install the white flatbed cable into the bottom connector.

b After replacing the ADF assembly, perform the scanner manual registration, ADF registration adjustment, and scanner calibration reset. See **"Scanner Manual Registration" on page 286**, **"ADF registration adjustment" on page 287**, and **"Scanner Calibration Reset" on page 251**.

ADF tray removal

1 Open the ADF top cover.

2 Release the left latch, and then remove the tray.

ADF separator roller removal

1 Open the ADF top cover.

2 Pinch the two latches.
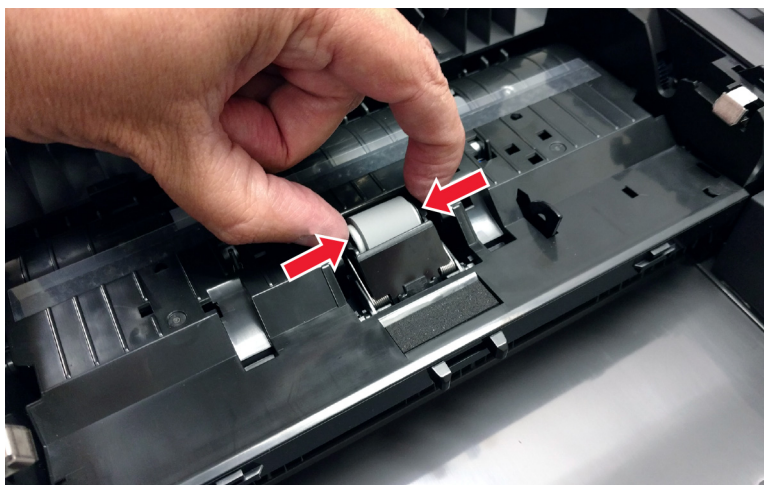
3 Rotate the roller (A) upward to align its housing with the slots, and then remove it.

Ⓐ

Parts removal

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ADF separator pad removal

1 Open the ADF top cover.

2 Pinch the retaining tabs (A), and then rotate the ADF separator roller to the vertical position.

A
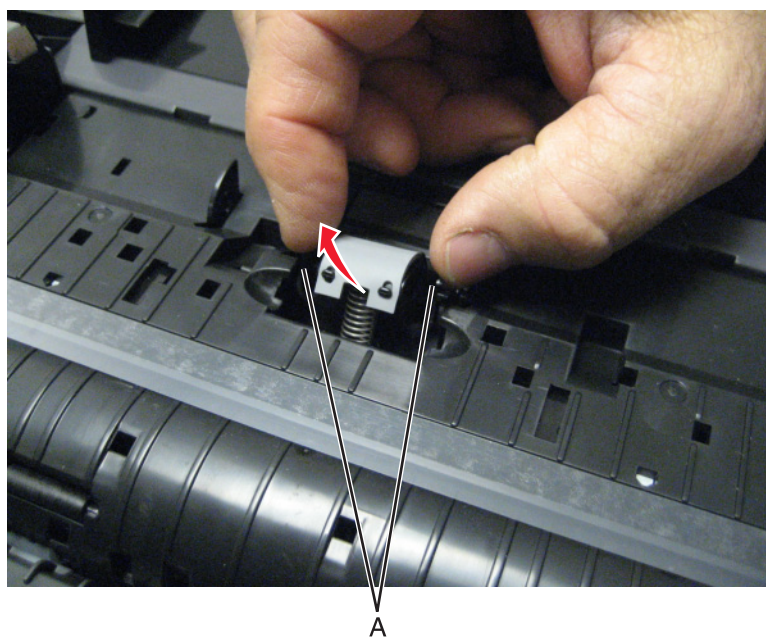
3 Detach the two tabs (B), and then remove the separator pad.

B
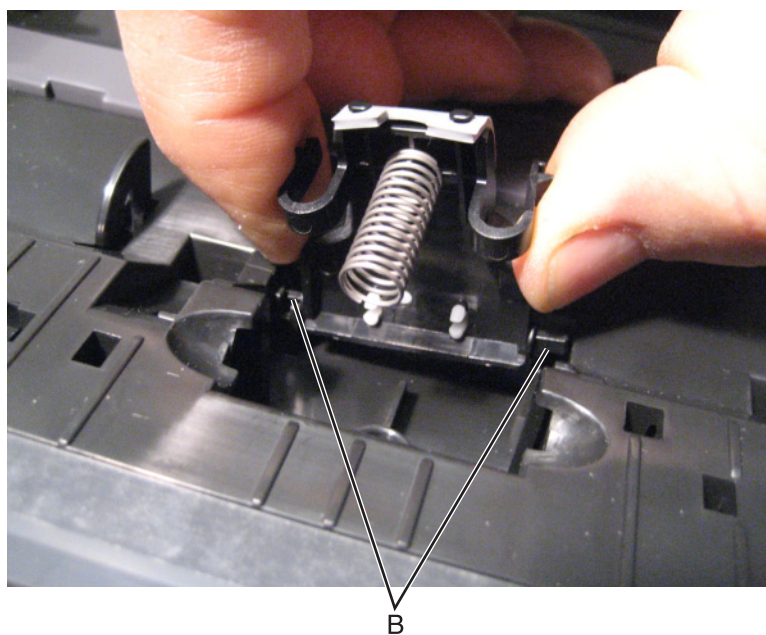
ADF top cover removal

1 Detach the ADF top cover.
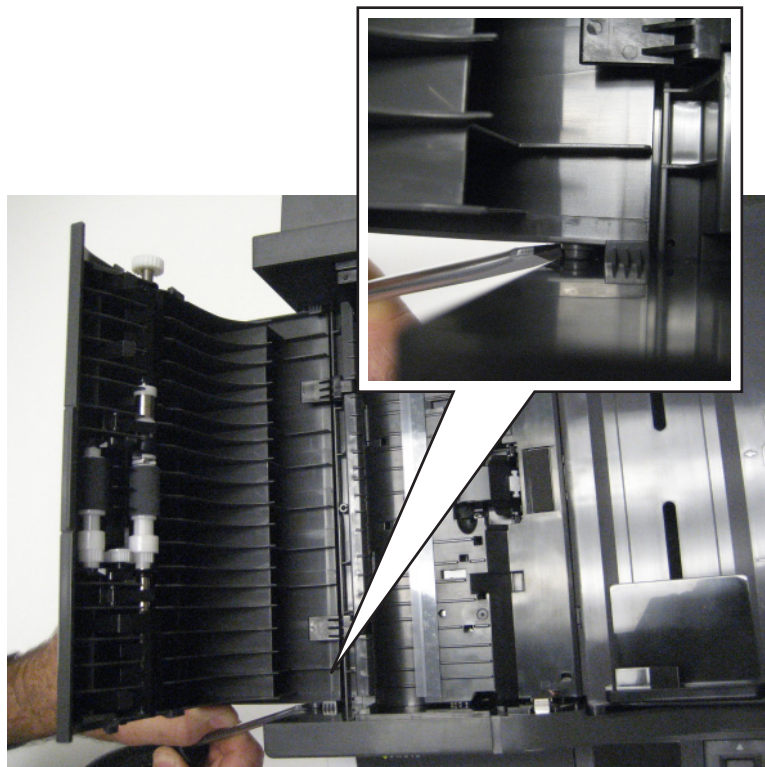
2 Remove the ADF top cover.
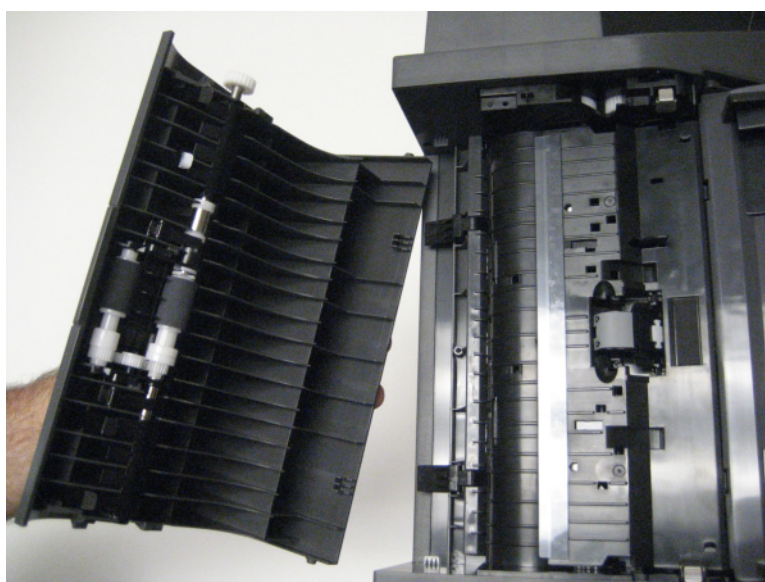
Scanner front cover removal

1 Open the front door.

2 Remove the two screws (A).
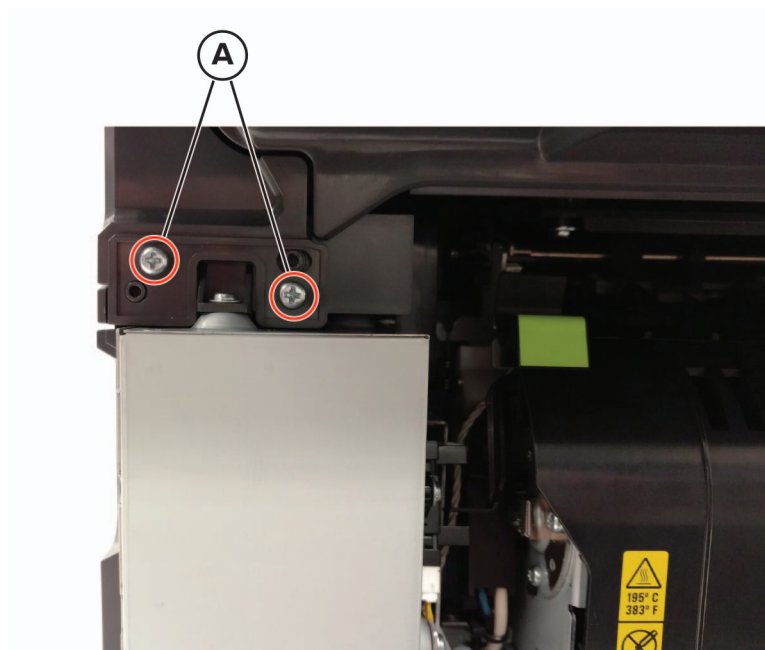
3 Raise the flatbed, and then remove the screw (B).

4 Detach the MFP link from the MFP toner cover.

5 Put the MFP toner cover in the down position.

6 Press the release button, move the MFP link to the scanner in the down position, and then lower the scanner.

7 Push the scanner assembly forward.

8 Remove the two screws (C), and then remove the cover.

Warning—Potential Damage: Be careful not to damage the tabs on the cover.
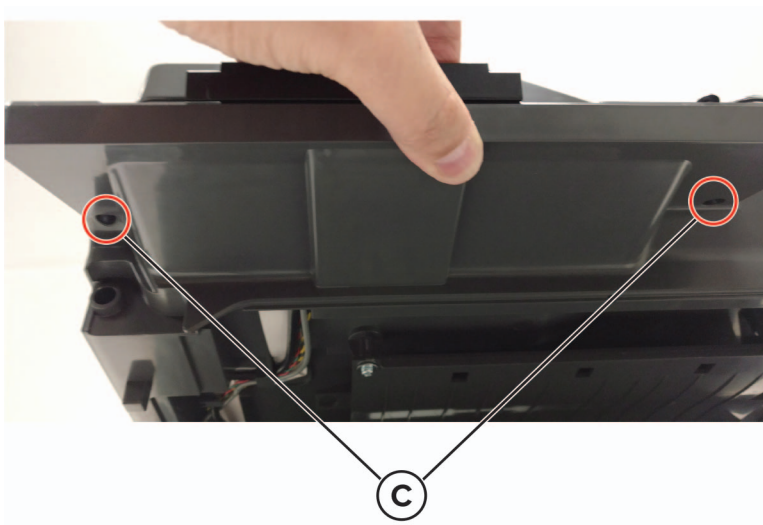
Scanner right cover removal

1 Remove the imaging kit. See **"Imaging kit removal" on page 316**.

2 Raise the flatbed, and then remove the four screws (A).
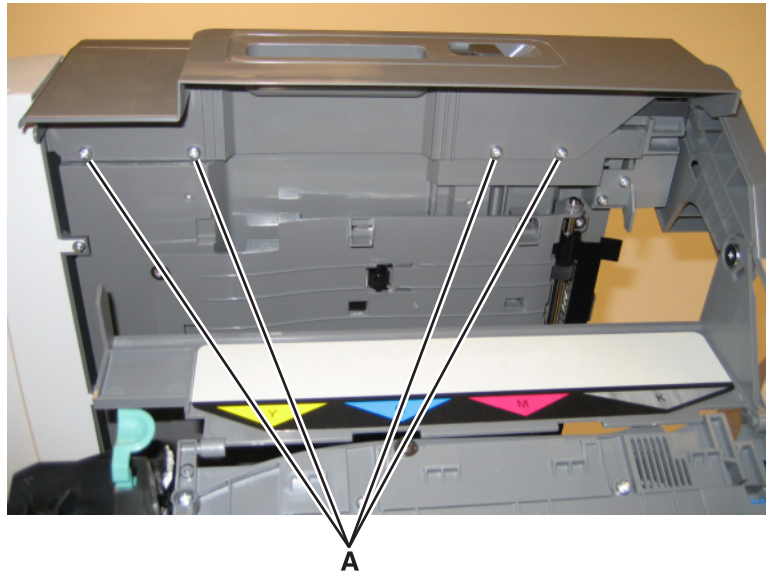
3 Place the flatbed in the down position, raise the ADF, and then remove the scanner right cover.

Flatbed scanner assembly removal

1 Remove the MFP cable cover. See **"MFP cable cover removal" on page 371**.

2 Remove the rear cover. See **"Rear cover removal" on page 373**.

3 Remove the left cover. See **"Left cover removal" on page 289**.

4 Remove the ADF assembly. See **"ADF assembly removal (DADF)" on page 395** or **"ADF assembly removal (SADF/RADF)" on page 392**.

5 Remove the flatbed ground screw (A).
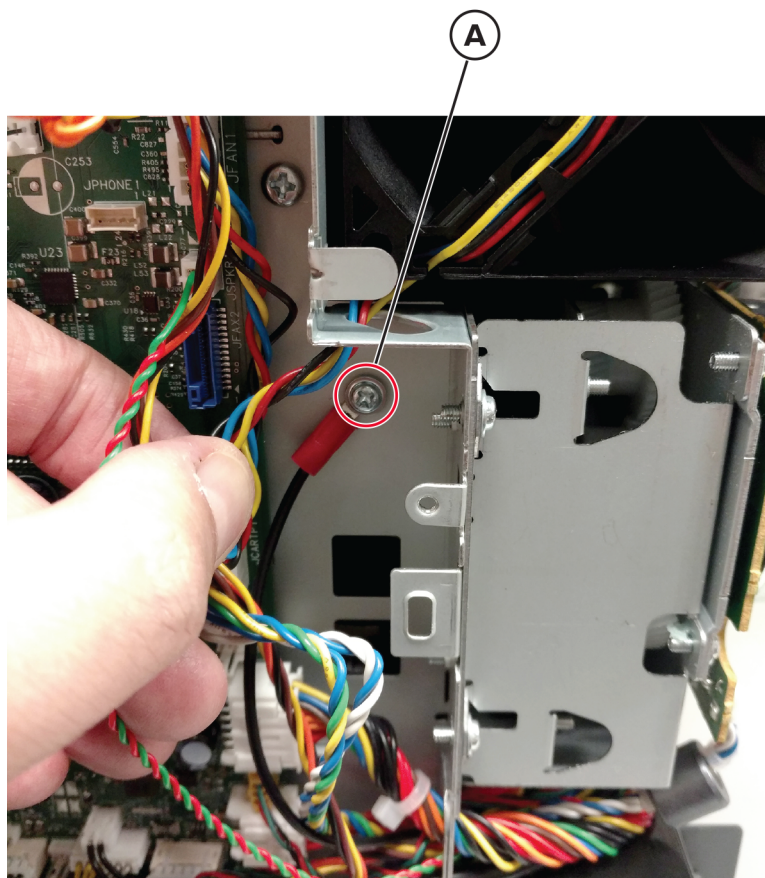
6 Disconnect the following cables from the controller board:

- CIS ribbon cable (JFBCIS1)
- USB cable (JFUSB1)
- Control pane cable (JUICC24 and JUICC43)
- Flatbed motor cable (JFB1)
- Rear output bin full cable (JBIN2)
- Flatbed home sensor cable (JHS1)

7 Remove the two screws securing the fan, and then place the fan on the side.

8 Route the flatbed cables to the left side of the printer.

9 Raise the flatbed, and then remove the screw (B).
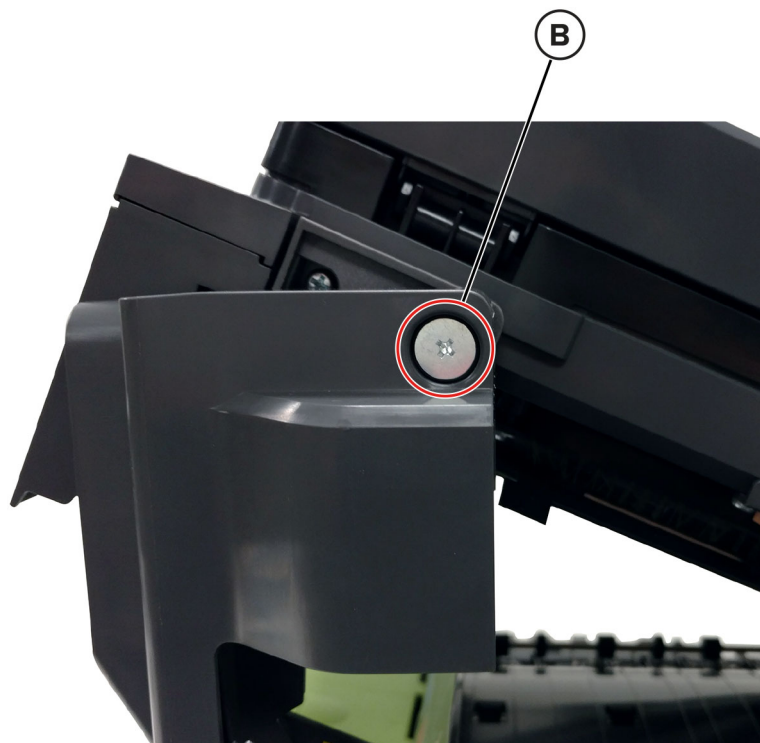
10 Remove the flatbed pivot link (front left). See .

11 Push the scanner assembly forward.

12 Raise the flatbed, route the cables through the top cover, and then remove the flatbed.

13 Remove the three screws (C).
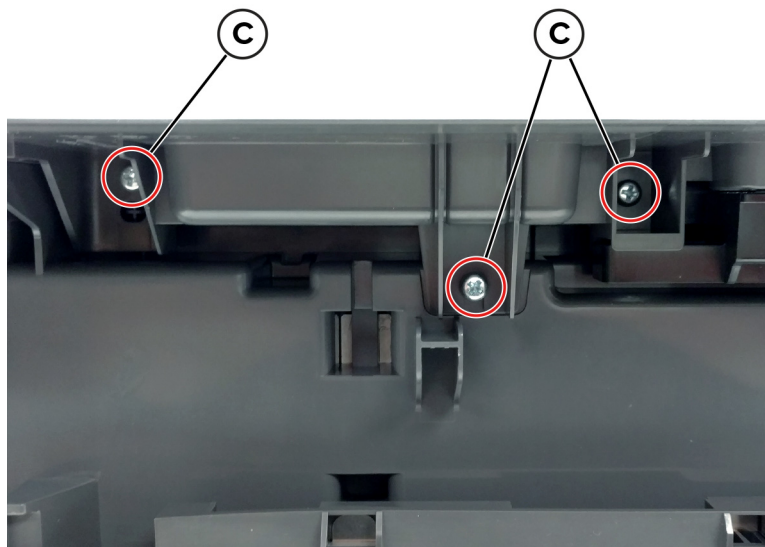
14 Remove the screw (D), and then slide the right scanner cover down.
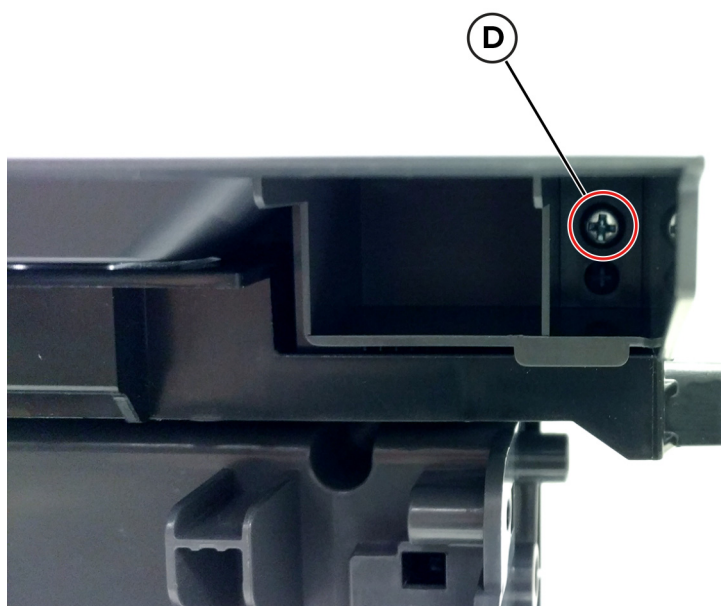
15 Remove the three screws (E).
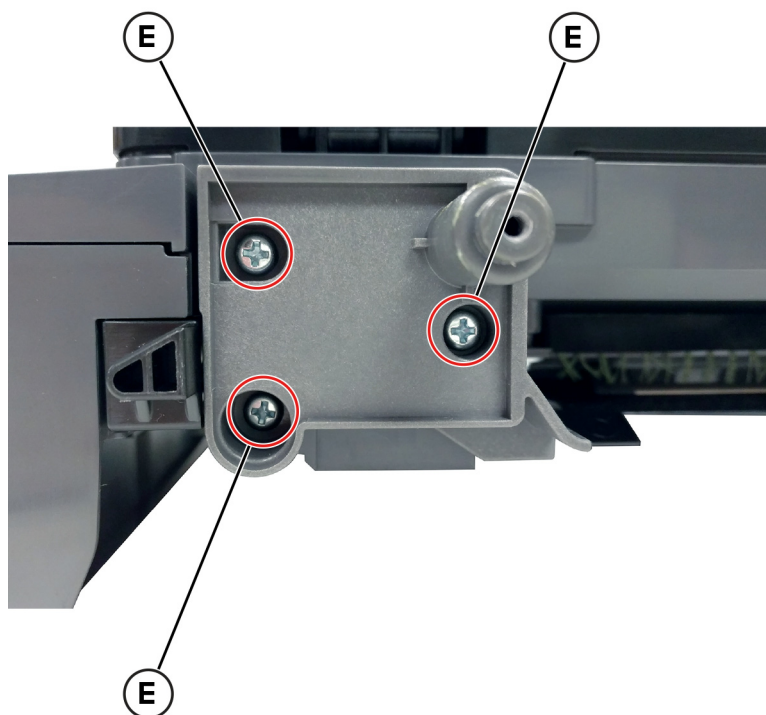
16 With the scanner glass at the bottom, place the flatbed on a flat surface.

17 Remove the screw (F).
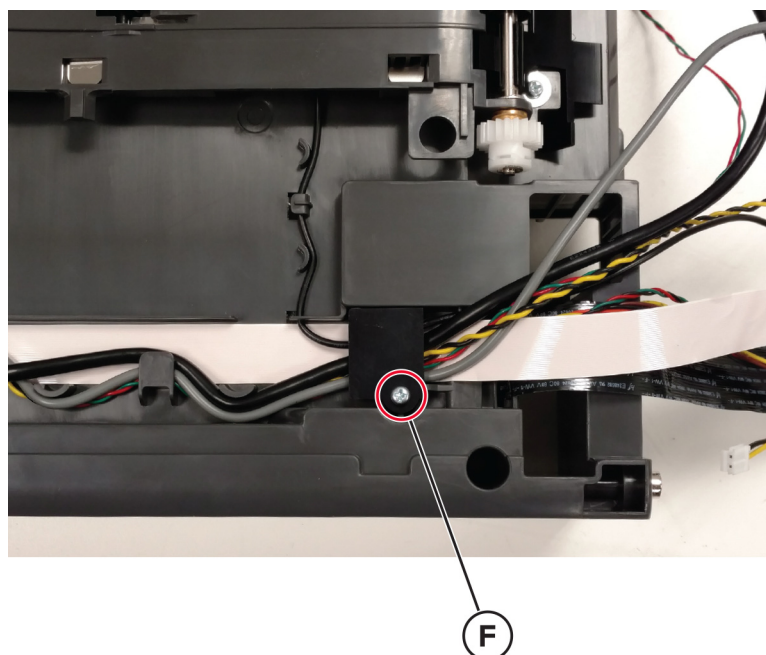
18 Remove the two screws (G).
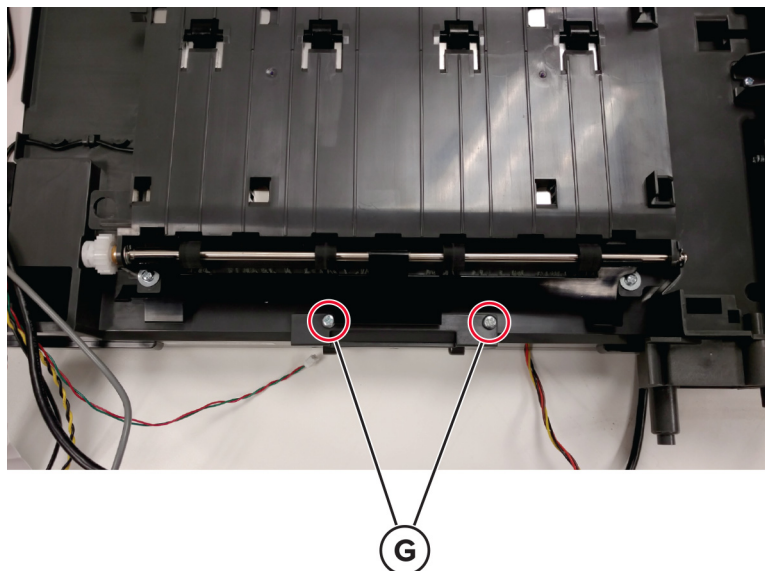
19 Remove the control panel assembly cables and covers.

Installation note: After replacing the flatbed scanner assembly, perform the flatbed registration adjustment. See **"Flatbed registration adjustment" on page 287**.

Flatbed pivot link (rear right) removal

1 Remove the MFP link. See **"MFP link removal" on page 384**.

2 Remove the scanner right cover. See **"Scanner right cover removal" on page 408**.

3 Remove the MFP release lever. See **"Release lever removal" on page 385**.
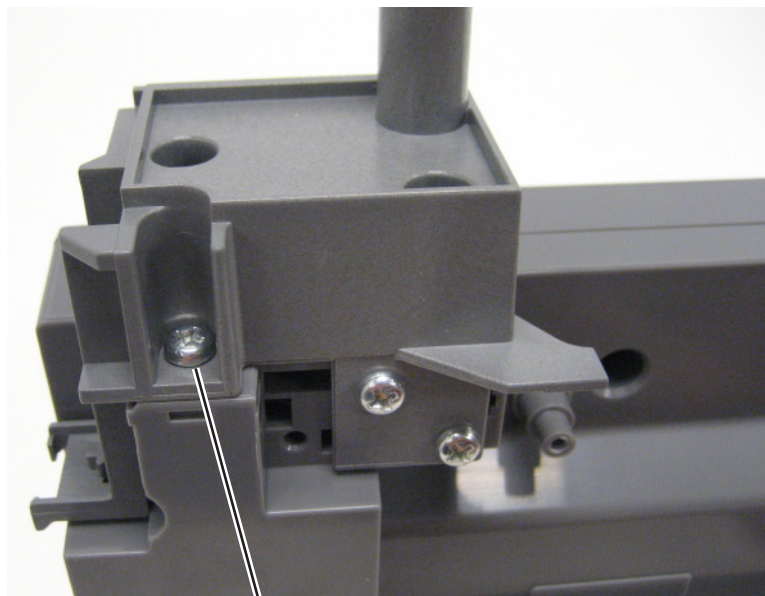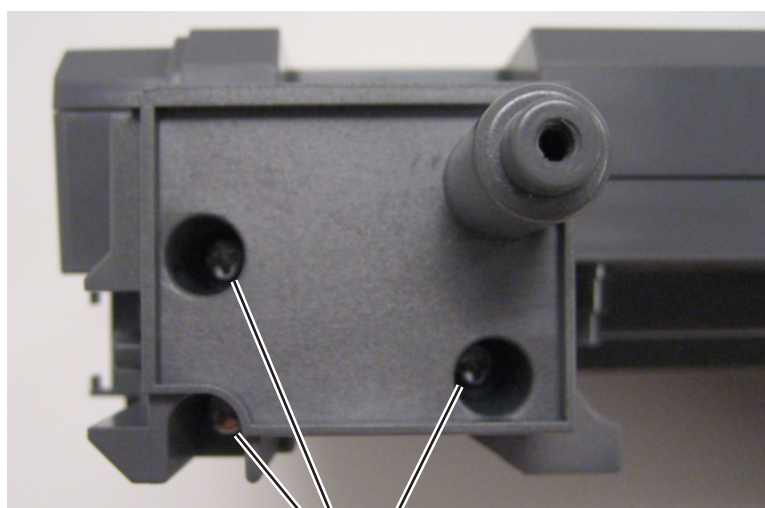
4 Remove the four screws (A).

5 Remove the pivot link.

Flatbed pivot link (front left) removal

1 Open the front door.

2 Raise the flatbed scanner assembly.

3 Remove the two screws (A).
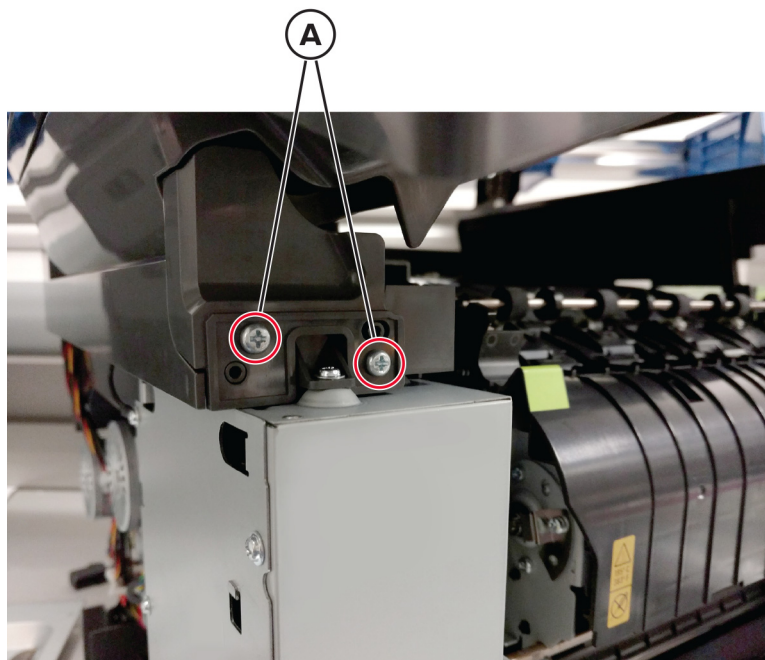
4 While holding the scanner, remove the pivot link (B).
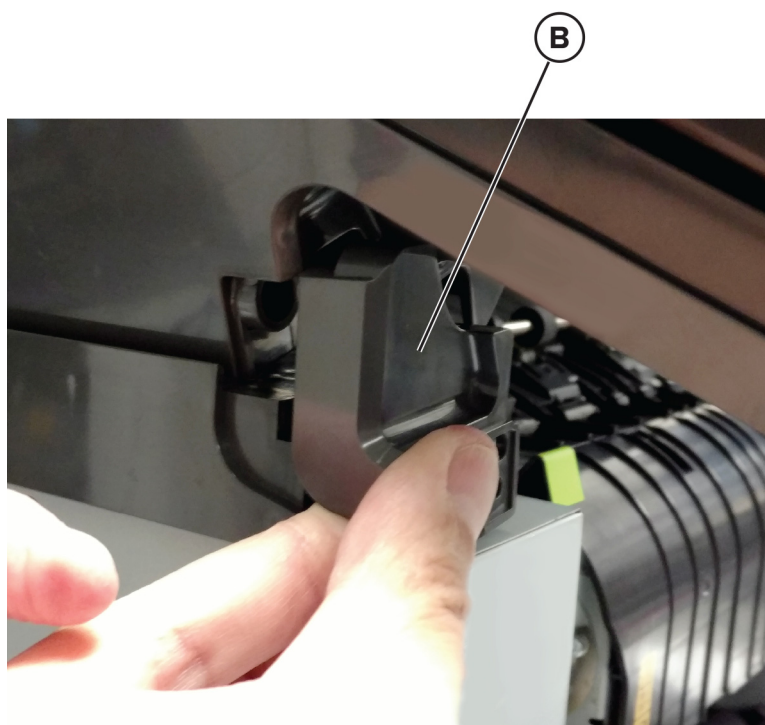
Options removals

- **"Dust cover removal" on page 419**
- **"Pick tire removal" on page 420**

650-sheet duo tray insert removal

1 Pull out to remove the tray insert.

2

650-sheet duo tray removal

Warning—Potential Damage: Make sure that the printer is turned off before removing the tray.

1 Carefully lift the printer, and set it aside on a flat surface.

2 Remove the tray.

Dust cover removal

1 Slightly raise the dust cover.

2 Pull the dust cover to remove.
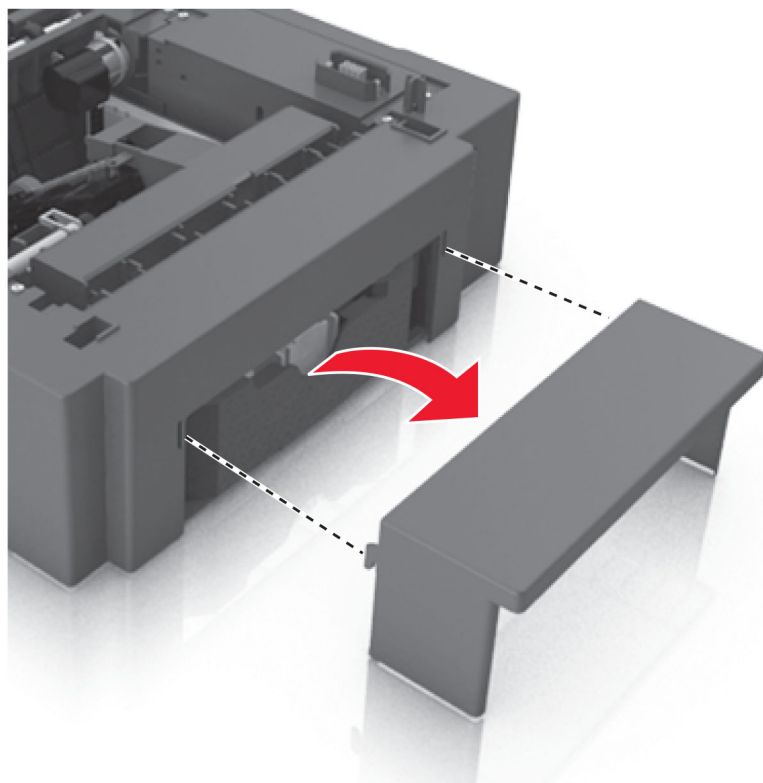
Pick tire removal

1 Remove the drawer tray insert.

2 Lower the auto compensator mechanism (A).
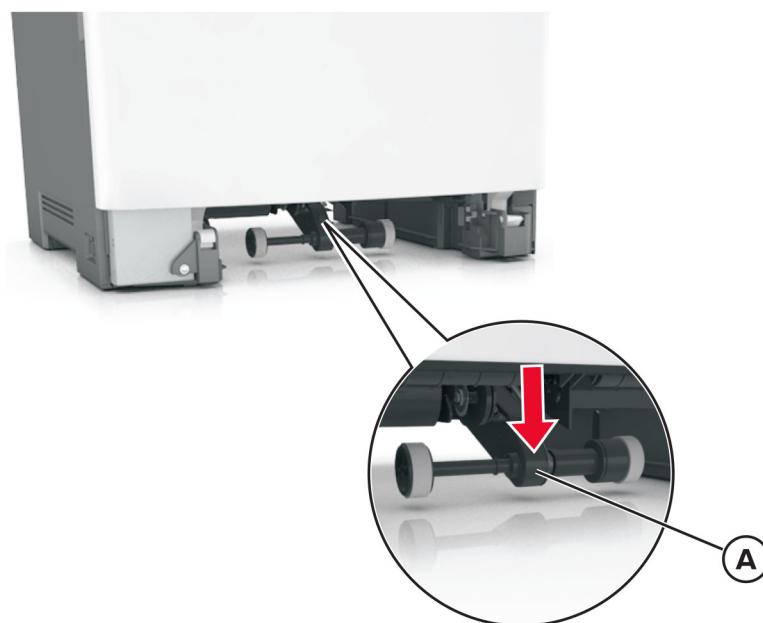
3 Remove the rubber tires (B) from the pick roll assembly (C). Repeat for the other tire (D).
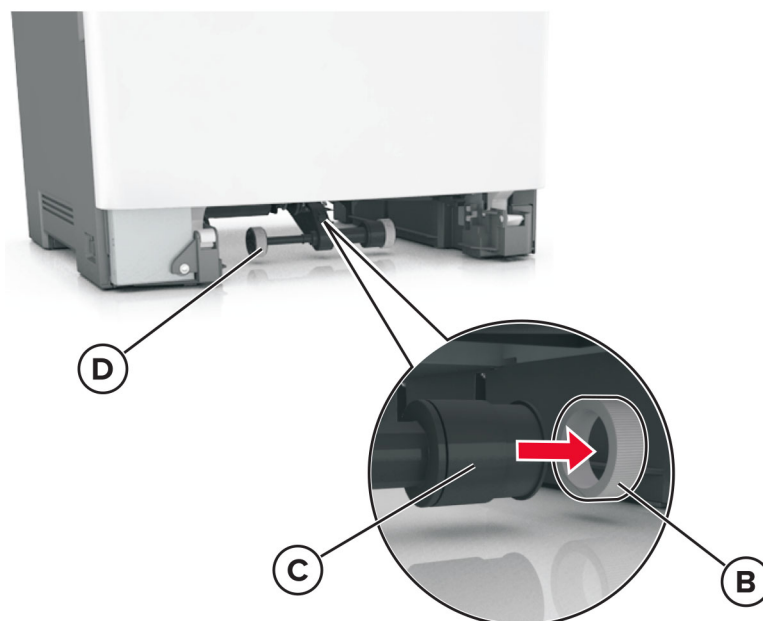
Installation note: Install the new rubber tire with its surface texture turning in the direction as shown.
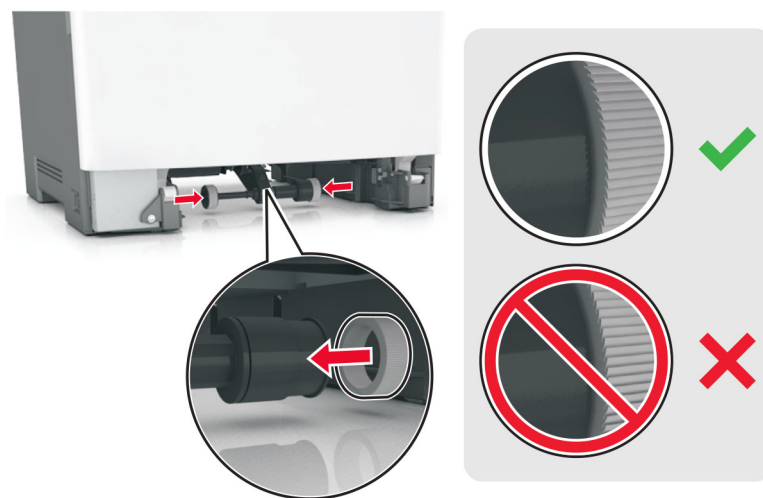
Note: Feel each rubber surface to verify it turns properly in the direction shown.

Component locations

Printer configurations

⚠ **CAUTION—TIPPING HAZARD:** Installing one or more options on your printer or MFP may require a caster base, furniture, or other feature to prevent instability causing possible injury. For more information on supported configurations, see **www.lexmark.com/multifunctionprinters**.

⚠ **CAUTION—TIPPING HAZARD:** To reduce the risk of equipment instability, load each tray separately. Keep all other trays closed until needed.

You can configure your printer by adding an optional 650-sheet duo tray or a 550-sheet tray. For more information, see .

1	Automatic document feeder (ADF)
2	ADF tray
3	Standard bin
4	ADF bin
5	Standard 250-sheet tray

6	Optional 650-sheet duo tray
	Note: This tray is available only in some printer models.
7	Optional 550-sheet tray
	Note: This tray is available only in some printer models.
8	Manual feeder
9	Control panel
	Note: The appearance may vary depending on your printer model.

Controller board connectors

Connector	Connects to	Pin no.	Signal
JCTM1	Cartridge toner metering card	1	+5V_SW
		2	Cartridge Meter C
		3	Cartridge Meter M
		4	Cartridge Meter Y
		5	Cartridge Meter K
		6	GND
JMIRR1	Printhead mirror motor card	1	Mirror Mtr REF Clock
		2	Mirror Mtr Lock Signal
		3	Mirror Mtr Start Signal
		4	GND
		5	+25V

Connector	Connects to	Pin no.	Signal
JUICC24	2.4-inch control panel	1	LED_DRV_YLW
		2	+6.5V
		3	GSPI_TXD
		4	MIR_SPI_CS-
		5	PWR_BUTTON
		6	NFC_nCS
		7	SRDYBLE
		8	GSPI_RDX
		9	+5VL
		10	GSPI_CLK
		11	GND
		12	I2C1_DATA
		13	I2C1_CLK
		14	+5VL
		15	UI_RESET-
		16	UI_IRQ-
		17	GND
		18	LCD_LVDS_D3+
		19	LCD_LVDS_D3-
		20	+5VL
		21	LCD_LVDS_CLK+
		22	LCD_LVDS_CLK-
		23	GND
		24	LCD_LVDS_D2+
		25	LCD_LVDS_D2-
		26	+5VL
		27	LCD_LVDS_D1+
		28	LCD_LVDS_D1-
		29	GND
		30	LCD_LVDS_D0+
		31	LCD_LVDS_D0-
		32	+5VL

Component locations

Connector	Connects to	Pin no.	Signal
JUICC43	4.3-inch control panel	1	LED_DRV_YLW
		2	+6.5V
		3	GSPI_TXD
		4	MIR_SPI_CS-
		5	PWR_BUTTON
		6	LCD_RS
		7	LCD_TE
		8	GSPI_RDX
		9	SRDYBLE
		10	GSPI_CLK
		11	GND
		12	I2C1_DATA
		13	I2C1_CLK
		14	NFC_nCS
		15	UI_RESET-
		16	UI_IRQ-
		17	GND
		18	LCD_WR
		19	LCD_RD
		20	+5VL
		21	LCD_D0
		22	LCD_D1
		23	GND
		24	LCD_D2
		25	LCD_D3
		26	+5VL
		27	LCD_D4
		28	LCD_D5
		29	GND
		30	LCD_D6
		31	LCD_D7
		32	+5VL

Component locations

Connector	Connects to	Pin no.	Signal
JPH1	Printhead laser card	1	LADJ_D4
		2	I2C Data
		3	+3.3V
		4	I2C Clock
		5	GND
		6	SHADE_Y
		7	LADJ_D2
		8	SHADE_C
		9	LENA_CMY-
		10	LPOW_Y
		11	GND
		12	LPOW_C
		13	BOOST
		14	SHADE_M
		15	LADJ_D1
		16	SHADE_K
		17	+5V_PH
		18	LPOW_M
		19	GND
		20	LPOW_K
		21	LENA_K-
		22	Printhead Thermistor
		23	GND
		24	HSYNC
		25	+5V_PH

Connector	Connects to	Pin no.	Signal
JPH1	Printhead laser card	26	Y_DATA2-
		27	Y_DATA2+
		28	GND
		29	Y_DATA1-
		30	Y_DATA1+
		31	GND
		32	M_DATA2-
		33	M_DATA2+
		34	GND
		35	M_DATA1-
		36	M_DATA1+
		37	GND
		38	C_DATA2-
		39	C_DATA2+
		40	GND
		41	C_DATA1-
		42	C_DATA1+
		43	GND
		44	K_DATA2-
		45	K_DATA2+
		46	GND
		47	K_DATA1-
		48	K_DATA1+
		49	GND
		50	LADJ_D3

Component locations

Connector	Connects to	Pin no.	Signal
JFBCIS1	Scanner with JFBCIS1 black FFC	1	GND
		2	FB_AFE_SH_CN
		3	+5V_SCAN_SW
		4	FB_AFE_SDIO_CN
		5	+3.4V_SCAN_LDO
		6	FB_AFE_SCLK_CN
		7	+3.4V_SCAN_LDO
		8	FB_AFE_SEN_CN
		9	GND
		10	FB0_MCLK_P
		11	FB0_MCLK_N
		12	GND
		13	FB0_RXDCLK_P
		14	FB0_RXDCLK_N
		15	GND
		16	FB_RXIN0_P
		17	FB_RXIN0_N
		18	GND
		19	FB_RXIN1_P
		20	FB_RXIN1_N
		21	GND
		22	FB_RXIN2_P
		23	FB_RXIN2_N
		24	GND

Connector	Connects to	Pin no.	Signal
JBSCIS1	Scanner with BSCIS1 white FFC	1	GND
		2	BS_AFE_SH_CN
		3	+5V_SCAN_SW
		4	BS_AFE_SDIO_CN
		5	+3.4V_SCAN_LDO
		6	BS_AFE_SCLK_CN
		7	+3.4V_SCAN_LDO
		8	BS_AFE_SEN_CN
		9	GND
		10	BS1_MCLK_P
		11	BS1_MCLK_N
		12	GND
		13	BS1_RXDCLK_P
		14	BS1_RXDCLK_N
		15	GND
		16	BS_RXIN0_P
		17	BS_RXIN0_N
		18	GND
		19	BS_RXIN1_P
		20	BS_RXIN1_N
		21	GND
		22	BS_RXIN2_P
		23	BS_RXIN2_N
		24	GND

Component locations

Connector	Connects to	Pin no.	Signal
JADF1	Scanner	1	ADF Paper Present Signal
		2	ADF FEED Direction
		3	ADF Stage Signal
		4	ADF FEED PWM
		5	Frontside Feed Signal
		6	ADF TP_Home Vref
		7	ADF TP_Feed Dplx Signal
		8	ADF PICK Direction
		9	Flatbed Cover Open/Close
		10	ADF PICK PWM
		11	ADF Cover Open/Close
		12	ADF PICK ENCY
		13	Deskew Clutch PWM
		14	+25V
		15	+3.3V_SCAN_SW
		16	GND
		17	+3.3V_SCAN_PULSE
		18	GND
		19	ADF PICK ENCX
		20	ADF FEED ENCY
		21	ADF FEED ENCX
		22	No Connect
JBIN2	MFP bin full optical sensor	1	MFP BinFull Sensor Anode
		2	MFP BinFull Sense Voltage
		3	GND
JUIPWR1	Control panel card	1	1. +5VL
		2	GND
JFB1	Flatbed stepper motor in the scanner	1	FB Stepper Mtr Phase B-
		2	FB Stepper Mtr Phase B+
		3	FB Stepper Mtr Phase A+
		4	FB Stepper Mtr Phase A-

Component locations

Connector	Connects to	Pin no.	Signal
JFAN1	Fan	1	GND
		2	+25V
		3	Fan Tach
		4	Fan PWM
JSPKR2	Speaker from audio amp	1	Speaker +
		2	Speaker -
JSPKR1	Speaker from audio DAC	1	Speaker +
		2	Speaker -
JFAX2	Fax card	1	Fax Tone
		2	+3.3V
		3	+3.3V
		4	Fax POR
		5	+5V
		6	Fax IRQ-
		7	GND
		8	BSPI CLK
		9	GND
		10	BSPI TXD
		11	GND
		12	BSPI RXD
		13	GND
		14	Fax SPI CS-
JCARTP1	K/ITM BLDC motor and CMY BLDC motor	1	K/ITM Winding W
		2	K/ITM Winding V
		3	K/ITM Winding U
		4	CMY Winding W
		5	CMY Winding V
		6	CMY Winding U

Connector	Connects to	Pin no.	Signal
JLVPS1	LVPS	1	+6.5V
		2	GND
		3	+6.5V
		4	GND
		5	+6.5V
		6	GND
		7	+25V
		8	GND
		9	+25V
		10	GND
		11	+25V
		12	GND
		13	AC Relay On/Off
		14	Zero-Xing
		15	Fuser On/Off
		16	25V On/Off
JSH1	Flatbed optical home sensor	1	FB Home Sensor Anode
		2	GND
		3	FB Home Sensor Sense Voltage
JOPT1	Tray option connector	1	Printer TXD
		2	GND
		3	GND
		4	Printer RXD
		5	+25V
		6	GND
		7	+5VH
		8	Input (S2) Signal
		9	GND
		10	GND

Component locations

Connector	Connects to	Pin no.	Signal
JCARTS1	K/ITM BLDC motor and CMY BLDC motor	1	K/ITM Hall_U
		2	K/ITM Hall_V
		3	K/ITM Hall_W
		4	K/ITM FG
		5	GND
		6	+5V_SW
		7	CMY Hall_U
		8	CMY Hall_V
		9	CMY Hall_W
		10	CMY FG
		11	GND
		12	+5V_SW
JTHM1	TPS thermistor	1	TPS Thermistor
		2	GND
JBIN1	Fuser exit optical sensor and bin-full/narrow media optical sensor	1	BF/NM Sensor Anode
		2	BF/NM Sense Voltage
		3	GND
		4	Fsr Exist Sensor Anode
		5	Fsr Exist Sense Voltage
		6	GND

Component locations

Connector	Connects to	Pin no.	Signal
JSP1	Autocomp assembly	1	Quad Encdr LED Anode
		2	Pick Mtr(+)
		3	Quad Encdr LED Cathode
		4	Pick Mtr(-)
		5	+5V_SW
		6	GND
		7	GND
		8	GND
		9	Encoder Signal A
		10	Pick Mtr Encdr Sense Voltage
		11	Encoder Signal B
		12	Pick Mtr Encdr Anode
		13	GND
		14	Input (S2) Sensor Anode
		15	Input (S2) Sense Voltage
		16	GND
JTPS2	Left side TPS sensor	1	Sensor Anode
		2	Sensor Cathode
		3	GND
		4	LED Anode
		5	LED GND

Connector	Connects to	Pin no.	Signal
JHVPS1	HVPS	1	+5V from HVPS
		2	GND
		3	M_Developer PWM
		4	K-Developer PWM
		5	C_Developer PWM
		6	CMY_Charge PWM
		7	Y_Developer PWM
		8	K_Charge PWM
		9	K_Transfer PWM
		10	CMY_Transfer PWM
		11	ITM_Transfer PWM
		12	GND
		13	CMY Analog Servo Voltage
		14	K Analog Servo Voltage
		15	ITM Analog Servo Voltage
		16	HVPS ID Voltage
		17	+25V after PFET (Q32)
		18	GND
JWS1	Weather station card	1	GND
		2	I2C_Clock
		3	GND
		4	I2C_Data
		5	+3.3V
		6	GND

Connector	Connects to	Pin no.	Signal
JFUSES1	Fuser, duplex/MPF optical sensor, and bubble optical sensor	1	Fuser Stepper-Mtr PhaseA1
		2	Fuser Stepper-Mtr PhaseA2
		3	Fuser Stepper-Mtr PhaseB1
		4	Fuser Stepper-Mtr PhaseB2
		5	Fuser Hot-Roll Thermistor
		6	GND
		7	Dplx/MPF Sensor Anode
		8	GND
		9	Dplx/MPF Sense Votage
		10	Fuser Belt Thermistor
		11	GND
		12	GND
		13	Fuser Belt ID Voltage
		14	Bubble Sensor Anode
		15	Bubble Sense Voltage
		16	GND
		17	GND
		18	GND
		19	GND
		20	GND
JTPS1	Right side TPS sensor	1	Sensor Anode
		2	Sensor Cathode
		3	GND
		4	LED Current Source
		5	LED GND
JTRAY1	Tray 1 present optical sensor	1	Sensor Anode
		2	Sense Voltage
		3	GND
JCVR1	Cover switch	1	25V Source
		2	25V Safety
JSC1	Image basket card	1	+3.3V_SCHIP
		2	I2C_Data
		3	I2C_Clock
		4	GND

Component locations

Connector	Connects to	Pin no.	Signal
JRIP1	Firmwware debug (LB-Trace) port	1	GND
		2	RXD
		3	TXD
		4	+3.3V
JVIP1	Socket for viper card	1	GSPI TXD
		2	+3.3V
		3	GSPI CLK
		4	GND
		5	GSPI CS-
		6	GSPI RXD
58_JWT1	Waste toner bottle	1	GND
		2	AC Supply Voltage
		3	Ref. Voltage
		4	Sense Voltage
JFUSB1	Front USB host connector	N/A	N/A
JIPS1	Internal network adapters (INA) and wireless card	1	GND
		2	No Connect
		3	No Connect
		4	GND
		5	ISP_USB_P
		6	ISP_USB_N
		7	GND
		8	+3.3V
		9	ISP_RESET-
		10	+5V_ISP
		11	I2C2_DATA
		12	+5V_ISP
		13	I2C2_CLCK
		14	+5V_ISP
JSEC1	Security jumper	1	Security Jumper Signal
		2	GND
		3	GND
JRUSB1	Rear USB host connector	N/A	N/A
JUSB1	USB device connector	N/A	N/A

Component locations

Connector	Connects to	Pin no.	Signal
JETH1	Ethernet connector .01/.1/1Gb	N/A	N/A
JMEM1	Socket for the expanded memory card	N/A	N/A
JADF	ADF	1	PAP_PRES_ADFR
		2	FEED_DIR_ADFR
		3	STAGE_ADFR
		4	FEED_PWM_ADFR
		5	FRONTSIDE_FEED_R
		6	TPHOME_VREF_ADFR
		7	TPFEED_DPLX_ADFR
		8	PICK_DIR_ADFR
		9	COVER_FBR
		10	PICK_PWM_ADFR
		11	COVER_ADFR
		12	PICK_ENCY_ADFR
		13	DSKW_CLTCH_PWMR
		14	+24V_ADF
		15	+3.3V_SCAN_SW
		16	GND
		17	+3.3V_SCAN_PULSE
		18	GND
		19	PICK_ENCX_ADFR
		20	FEED_ECY_ADFR
		21	FEED_ECX_ADFR
		22	NC_JADF22

Component locations

Connector	Connects to	Pin no.	Signal
JBCIS1	Back side CIS	1	GND
		2	BS_AFE_SH_CN
		3	+5V_SCAN_SW
		4	BS_AFE_SDIO_CN
		5	+3.4V_SCAN_LDO
		6	BS_AFE_SCK_CN
		7	+3.4V_SCAN_LDO
		8	BS_AFE_SEN_CN
		9	GND
		10	BS1_MCLK_P_C
		11	BS1_MCLK_N_C
		12	GND
		13	BS1_RXCLK_P
		14	BS1_RXCLK_N
		15	GND
		16	BS_RXIN0_P
		17	BS_RXIN0_N
		18	GND
		19	BS_RXIN1_P
		20	BS_RXIN1_N
		21	GND
		22	BS_RXIN2_P
		23	BS_RXIN2_N
		24	GND

Component locations

Connector	Connects to	Pin no.	Signal
JFBCIS1	Front side CIS	1	GND
		2	FB_AFE_SH_CN
		3	+5V_SCAN_SW
		4	FB_AFE_SDIO_CN
		5	+3.4V_SCAN_LDO
		6	FB_AFE_SCK_CN
		7	+3.4V_SCAN_LDO
		8	FB_AFE_SEN_CN
		9	GND
		10	FB1_MCLK_P_C
		11	FB1_MCLK_N_C
		12	GND
		13	FB1_RXCLK_P
		14	FB1_RXCLK_N
		15	GND
		16	FB_RXIN0_P
		17	FB_RXIN0_N
		18	GND
		19	FB_RXIN1_P
		20	FB_RXIN1_N
		21	GND
		22	FB_RXIN2_P
		23	FB_RXIN2_N
		24	GND
JBIN2	Rear bin full sensor	1	+5V_SLP
		2	GR_BIN2_FULL
		3	GND
JFB1	Flatbed motor	1	FBM_A-
		2	FBM_A+
		3	FBM_B+
		4	FBM_B-
JHS1	Home sensor	1	+3.3v
		2	GND
		3	HOME_FBR

Component locations
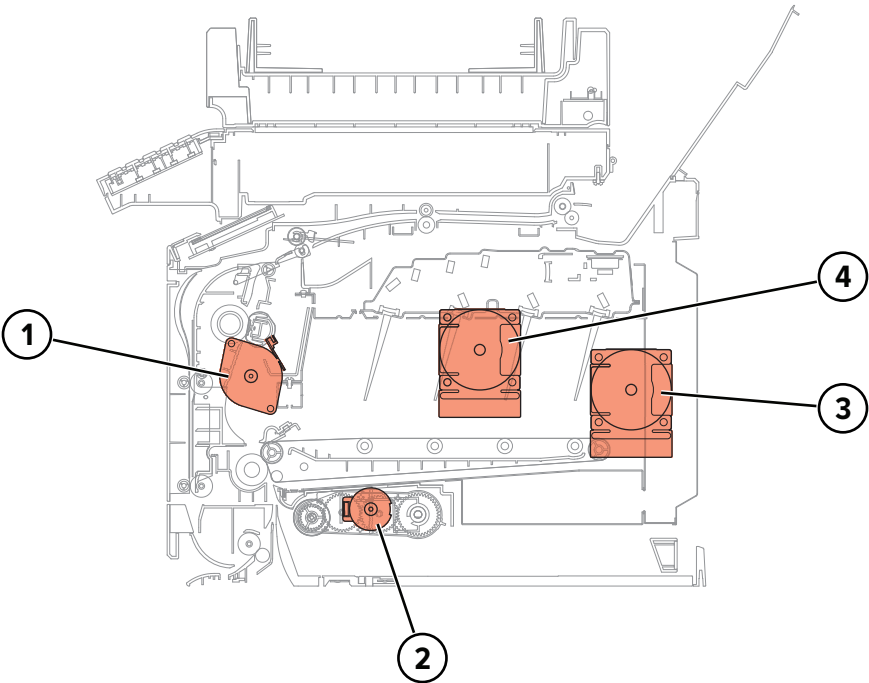
Motor locations

Part	Description
1	Motor (fuser)
2	Motor (tray 1 pick)
3	Motor (CMY drive unit)
4	Motor (K drive unit)

Sensor locations
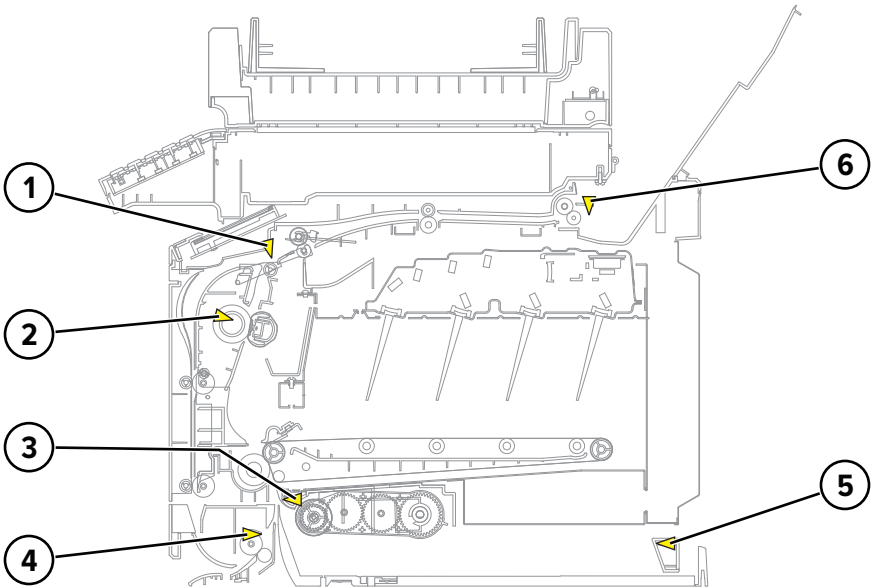
Part	Description
1	Sensor (narrow media)
2	Sensor (fuser exit)
3	Sensor (input)
4	Sensor (redrive/duplex path 1)
5	Sensor (tray present)
6	Sensor (bin full)

Component locations

ADF sensor locations
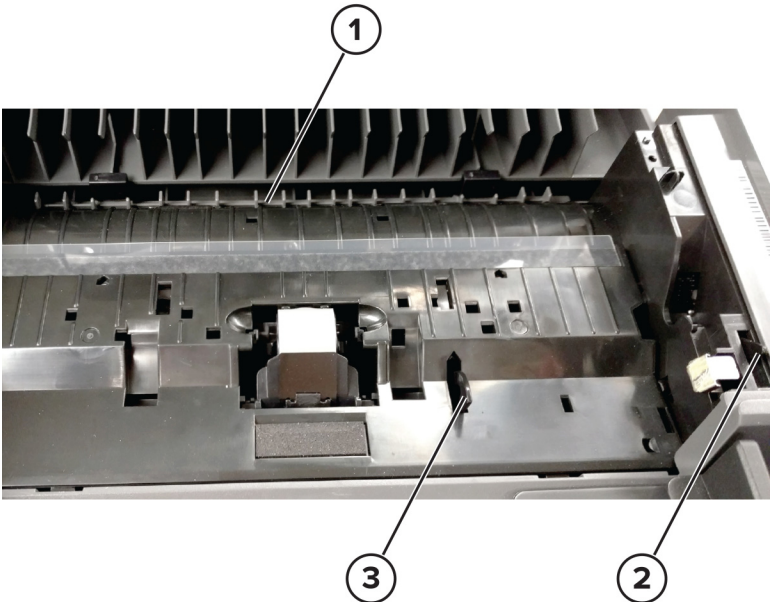
Part	Description	Associated error codes
1	Sensor (ADF first scan)	• 280.11 • 280.13 • 280.15 • 295.01
2	Sensor (ADF top door interlock)	N/A
3	Sensor (ADF media present)	• 283.11 • 283.13 • 283.15 • 680.20
NS	Sensor (ADF closed)	N/A

Part	Description	Associated error codes
1	Sensor (ADF first scan)	280.11 280.13 280.15 295.01
2	Sensor (ADF top door interlock)	N/A
3	Sensor (ADF paper present)	283.11 283.13 283.15 680.20
4	Sensor (ADF pick)	281.11 281.15 281.16
5	Sensor (ADF skew)	283.11 283.13 283.15
NS	Sensor (ADF duplex)	284.11 284.13 284.15
NS	Sensor (ADF closed)	N/A

Component locations

Part	Description	Associated error codes
1	Sensor (ADF first scan)	• 280.11 • 280.13 • 280.15 • 295.01
2	Sensor (ADF top door interlock)	N/A
3	Sensor (ADF paper present)	• 283.11 • 283.13 • 283.15 • 680.20
4	Sensor (ADF pick)	• 281.11 • 281.15 • 281.16
5	Sensor (ADF skew)	• 283.11 • 283.13 • 283.15
6	Sensor (ADF second scan)	• 284.11 • 284.13 • 284.15
NS	Sensor (ADF closed)	N/A

Notes:

- The sensor (ADF duplex) is triggered by feeding a sheet of paper into the exit of the recirculating ADF.
- The sensor (ADF closed) is triggered by lifting the flatbed cover up.

Component locations

Maintenance

Inspection guide

Use this guide in identifying the parts that must be inspected, cleaned, or replaced based on the page count.

If any unsafe condition exists, find out how serious the hazard is and if you can continue before you correct the hazard.

As you service the machine, check for the following:

- Damaged, missing, or altered parts, especially in the area of the power switch and the power supply
- Damaged, missing, or altered covers, especially in the area of the top cover and power supply cover
- Possible safety exposure from any non-Lexmark components

Use the following table to determine when to inspect the following parts.

Lexmark CX421, CX522, CX622, CX625, MC2325, MC2425, MC2535, MC2640, XC2235, XC4240	Every service call	Every 125K	Notes
Tray - All			
Tray side guides	Inspect		Check for correct positioning.
Tray length guides	Inspect		Check for correct positioning.
Transfer module	Inspect	NA	Ensure correct installation.
Fuser	Inspect	Replace	Ensure correct installation.
Pick tires - All			
Tray pick tires	Inspect and clean if needed.		Clean with a damp cloth.
MPF pick tires	Inspect and clean if needed.		Clean with a damp cloth.
Paper path			
Duplex path rollers	Inspect		- Check for paper fragments and tears. - Check for excessive toner build up on white rollers. - Clean with a damp cloth if needed.
Miscellaneous			
Toner spillage	Clean		Use a toner vacuum and cloth to remove the spillage.

Scheduled maintenance

The control panel displays an **80.xx** error when it reaches certain page counts. It is necessary to replace the appropriate maintenance kit to maintain print quality and printer reliability.

Note: When replacing the maintenance kit, install all the parts that are included in the box, and then reset the maintenance counter.

Maintenance kits

After 125K printed pages (sides) a maintenance kit replacement may be required. Install the correct fuser maintenance kit to match the type of fuser that is installed in the printer.

Notes:

- You can continue to run past the rated life of the fuser.
- The fuser has no hard stop and should not typically wear out with use.
- Use the Embedded Web Server to turn off the notifications for fuser life warnings.

The following error codes indicate that the fuser is nearing its end of life and requires a maintenance kit replacement.

Error code	Description
80.0x	The maintenance kit is nearly low.
80.1x	The maintenance kit is low.
80.2x	The maintenance kit is very low. Only 2000 estimated pages remain.
80.3x	The maintenance kit is low. 0 estimated pages remain.
80.4x	The maintenance kit is very low. 0 estimated pages remain.

Part number and kit	Contents	Maintenance interval
41X2095—100 V fuser maintenance kit	• 41X1299—Fuser 100 V • 40X5168—Pick roller	125K
41X2096—110 V fuser maintenance kit	• 41X1041—Fuser 110 V • 40X5168—Pick roller	125K
41X2097—220 V fuser maintenance kit	• 41X1300—Fuser 220 V • 40X5168—Pick roller	125K

When performing the scheduled maintenance procedure, clean the following areas of paper dust and toner contamination:

- Trays
- Photoconductor cartridge area
- Developer unit housing area
- Transfer roller area
- Duplex area
- Standard bin

- Bridge unit area (if equipped)
- Finisher bins (if equipped)

Resetting the maintenance counter

1 Enter the Diagnostics menu, and then navigate to:

Printer diagnostics & adjustments > **Supply Reset** > **Maintenance kit reset**

2 Press **OK** or touch **Start**.

Cleaning printer parts

Cleaning the printer

⚠️ **CAUTION—SHOCK HAZARD:** To avoid the risk of electrical shock when cleaning the exterior of the printer, unplug the power cord from the electrical outlet and disconnect all cables from the printer before proceeding.

Notes:

- Perform this task after every few months.
- Damage to the printer caused by improper handling is not covered by the printer warranty.

1 Turn off the printer, and then unplug the power cord from the electrical outlet.

2 Remove paper from the standard bin and multipurpose feeder.

3 Remove any dust, lint, and pieces of paper around the printer using a soft brush or vacuum.

4 Wipe the outside of the printer with a damp, soft, lint-free cloth.

Notes:

- Do not use household cleaners or detergents, as they may damage the finish of the printer.
- Make sure that all areas of the printer are dry after cleaning.

5 Connect the power cord to the electrical outlet, and then turn on the printer.

⚠️ **CAUTION—POTENTIAL INJURY:** To avoid the risk of fire or electrical shock, connect the power cord to an appropriately rated and properly grounded electrical outlet that is near the product and easily accessible.

Cleaning the scanner

1 Open the scanner cover.

2 Using a damp, soft, lint-free cloth, wipe the following areas:

- ADF glass

- ADF glass pad
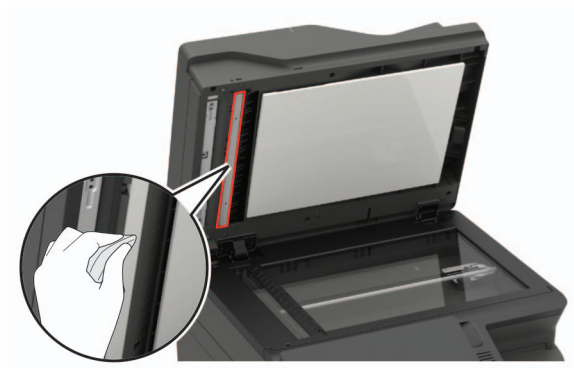
- Scanner glass

- Scanner glass pad
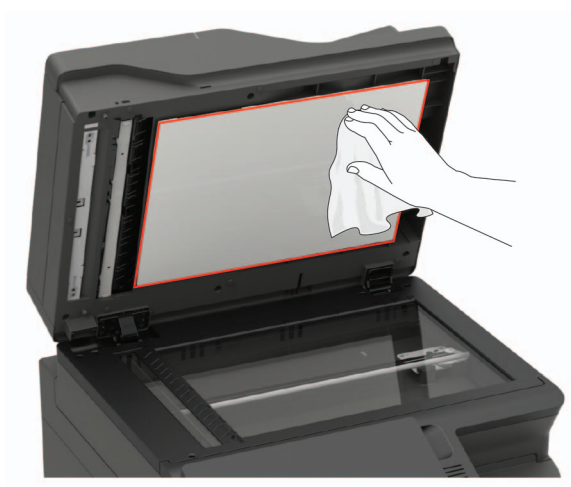
3 Close the scanner cover.

If your printer has another ADF glass inside door C, then continue with the following steps.

4 Open door C.
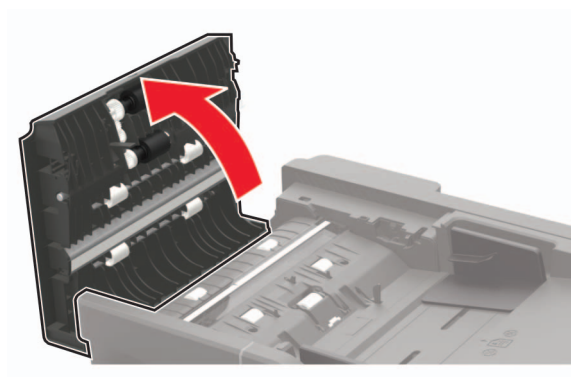
5 Using a damp, soft, lint-free cloth, wipe the following areas:

- ADF glass pad in door C
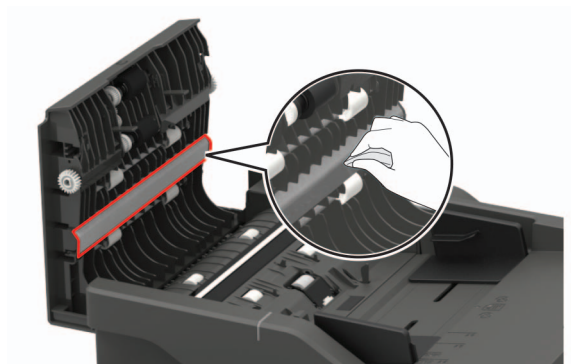
- ADF glass in door C
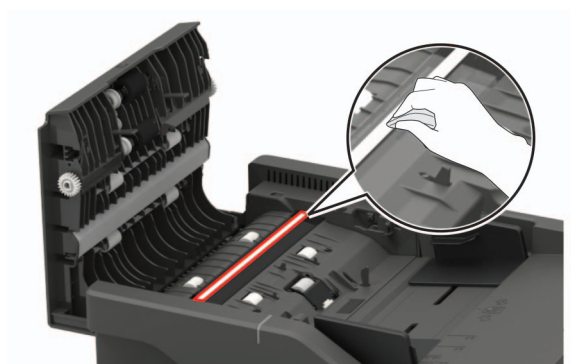
6 Close the door.

Cleaning the printhead lenses

1 Remove the waste toner bottle. See **"Waste toner bottle removal" on page 320**.

2 Remove the imaging kit. See **"Imaging kit removal" on page 316**.

3 Using a damp, soft, lint-free cloth, wipe the printhead lenses (A).
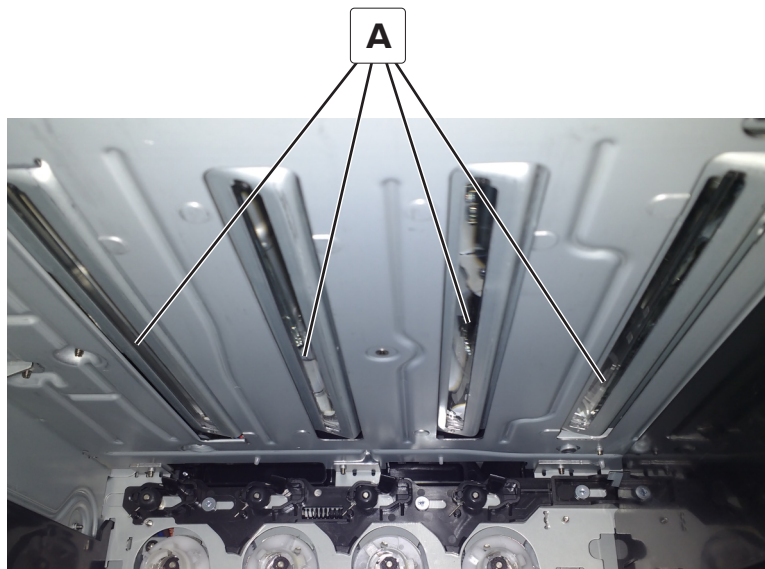
Parts catalog

Legend

The following column headings are used in the parts catalog:

- **Asm-index**—Identifies the item in the illustration

- **P/N**—Identifies the part number of a FRU

- **Units/mach**—Refers to the number of units in a printer

- **Units/opt**—Refers to the number of units in an option

- **Units/FRU**—Refers to the number of units in a FRU

- **Description**—A brief description of the part

The following abbreviations are used in the parts catalog:

- **NS** (not shown) in the Asm-index column indicates that the part is procurable but is not shown in the illustration.
- **PP** (parts packet) in the Description column indicates that the part is contained in a parts packet.

Assembly 1: 2.4-inch control panel
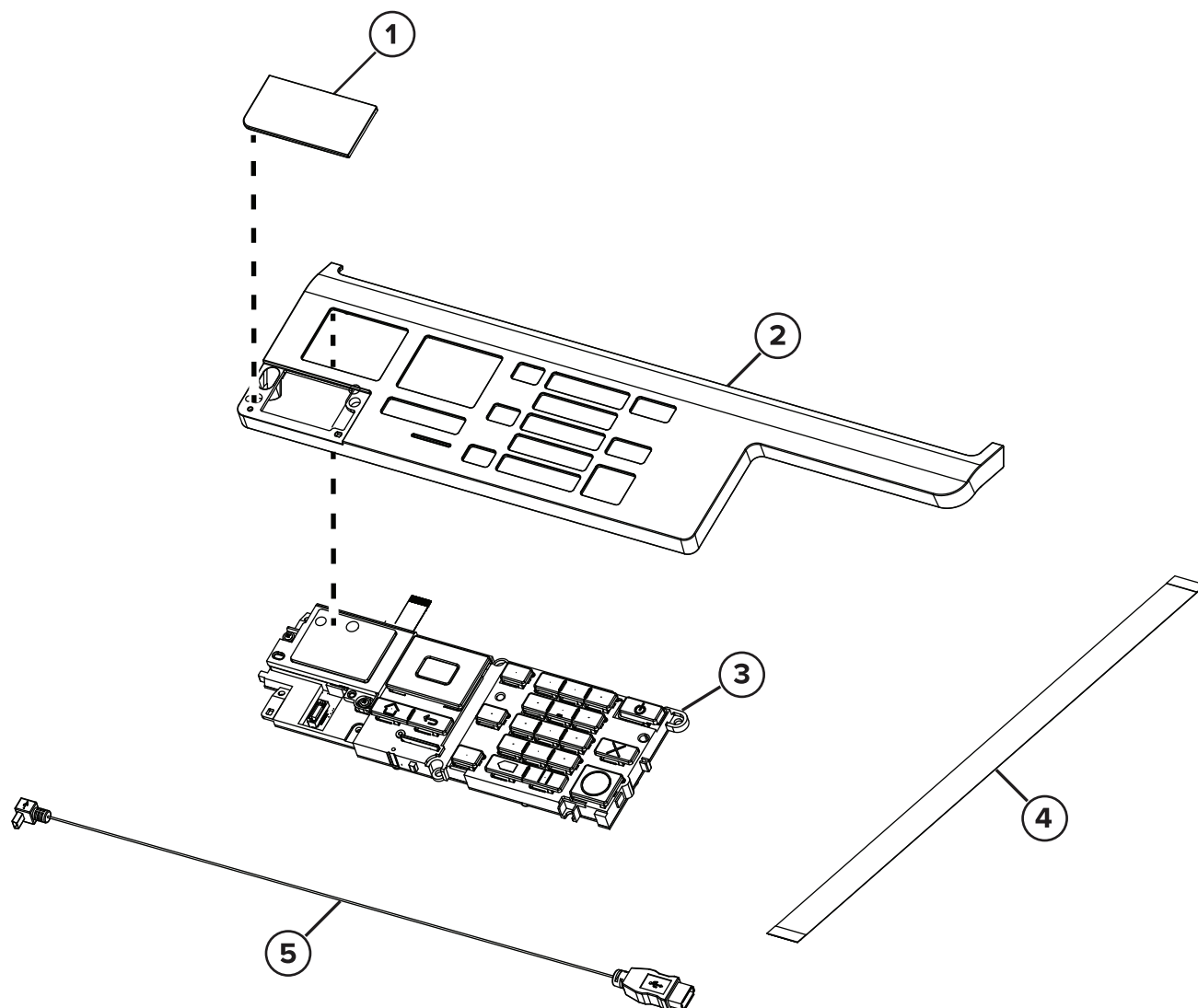
Assembly 1: 2.4-inch control panel

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
1	41X2056	1	1	MC2325 control panel badge cover	**"2.4-inch control panel badge cover removal" on page 328**
1	41X2131	1	1	MC2425 control panel badge cover	**"2.4-inch control panel badge cover removal" on page 328**
1	41X2057	1	1	CX321 control panel badge cover	**"2.4-inch control panel badge cover removal" on page 328**
1	41X2065	1	1	CX421 control panel badge cover	**"2.4-inch control panel badge cover removal" on page 328**
2	41X1044	1	1	2.4-inch control panel top cover	**"2.4-inch control panel top cover and control panel removal" on page 331**
3	41X1368	1	1	2.4-inch control panel assembly	**"2.4-inch control panel top cover and control panel removal" on page 331**
4	41X2024	1	1	2.4-inch control panel ribbon cable	**"2.4-inch control panel top cover and control panel removal" on page 331**
5	41X2023	1	1	USB cable	--

Assembly 2: 4.3-inch and 7-inch control panel
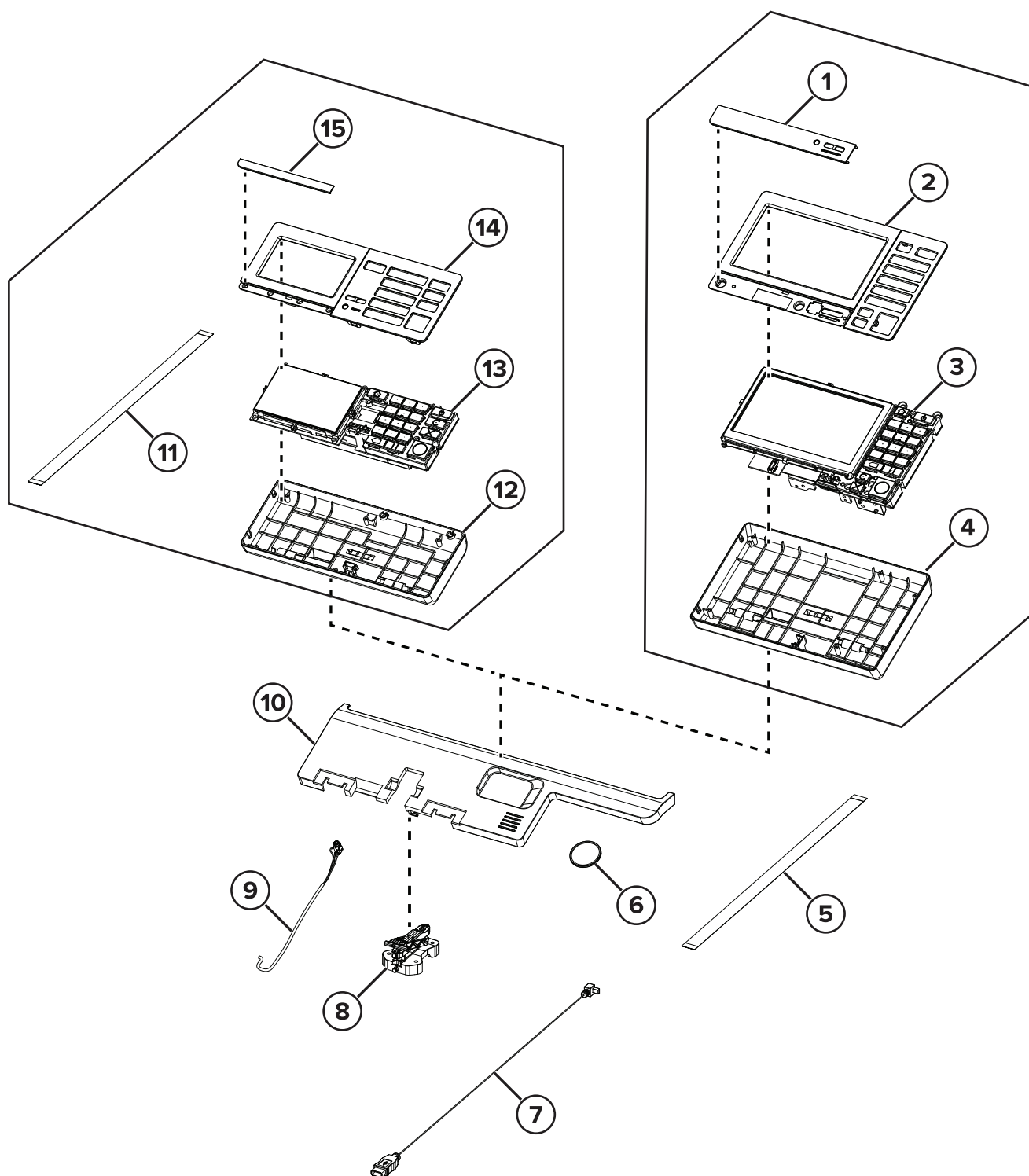
Assembly 2: 4.3-inch and 7-inch control panel

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
1	41X2128	1	1	CX625 control panel badge cover	**"7-inch control panel badge cover removal" on page 329**
1	41X2129	1	1	XC4240 control panel badge cover	**"7-inch control panel badge cover removal" on page 329**
2	41X0543	1	1	7-inch control panel bezel (CX625 and XC2420)	**"7-inch control panel bezel removal" on page 330**
3	41X0051	1	1	7-inch control panel assembly (CX625 and XC2420)	**"7-inch control panel removal" on page 336**
4	41X1048	1	1	7-inch control panel base cover (CX625 and XC2420)	**"7-inch control panel removal" on page 336**
5	41X2025	1	1	7-inch control panel ribbon cable (CX625 and XC2420)	**"7-inch control panel removal" on page 336**
6	40X6517	1	1	Speaker (MC2325, CX421, and MC2425)	**"Speaker (MC2325, CX421, MC2425) removal" on page 337**
6	41X1311	1	1	Speaker (CX522, CX622, CX625, XC2235, XC4240, MC2325, MC2425, MC2535, and MC2640)	**"Speaker (CX522, CX622, CX625, XC2235, XC4240, MC2535, MC2640) removal" on page 338**
7	41X2023	1	1	USB cable	--
8	41X1047	1	1	Control panel rotation arm	--
9	41X2306	1	1	Headphone cable with clip	--
10	41X1045	1	1	Scanner top front cover	--
11	41X2024	1	1	4.3-inch control panel ribbon cable (CX522, CX622, MC2535, and XC2235)	**"4.3-inch control panel removal" on page 335**
12	41X1046	1	1	4.3-inch control panel base cover (CX522, CX622, MC2535, and XC2235)	--
13	41X1359	1	1	4.3-inch control panel assembly (CX522, CX622, MC2535, and XC2235)	**"4.3-inch control panel removal" on page 335**
14	41X1727	1	1	4.3-inch control panel bezel (CX522, CX622, MC2535, and XC2235)	**"4.3-inch control panel bezel removal" on page 329**
15	41X2130	1	1	MC2535 control panel badge cover	**"4.3-inch control panel badge cover removal" on page 328**
15	41X2058	1	1	CX522 control panel badge cover	**"4.3-inch control panel badge cover removal" on page 328**

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
15	41X2059	1	1	XC2235 control panel badge cover	**"4.3-inch control panel badge cover removal" on page 328**
15	41X2067	1	1	CX622 control panel badge cover	**"4.3-inch control panel badge cover removal" on page 328**
NS	41X1731	1	1	Front bracket cover	**"Front bracket cover removal" on page 337**
NS	41X2022	1	1	Control panel power cable	--

Assembly 3: Covers
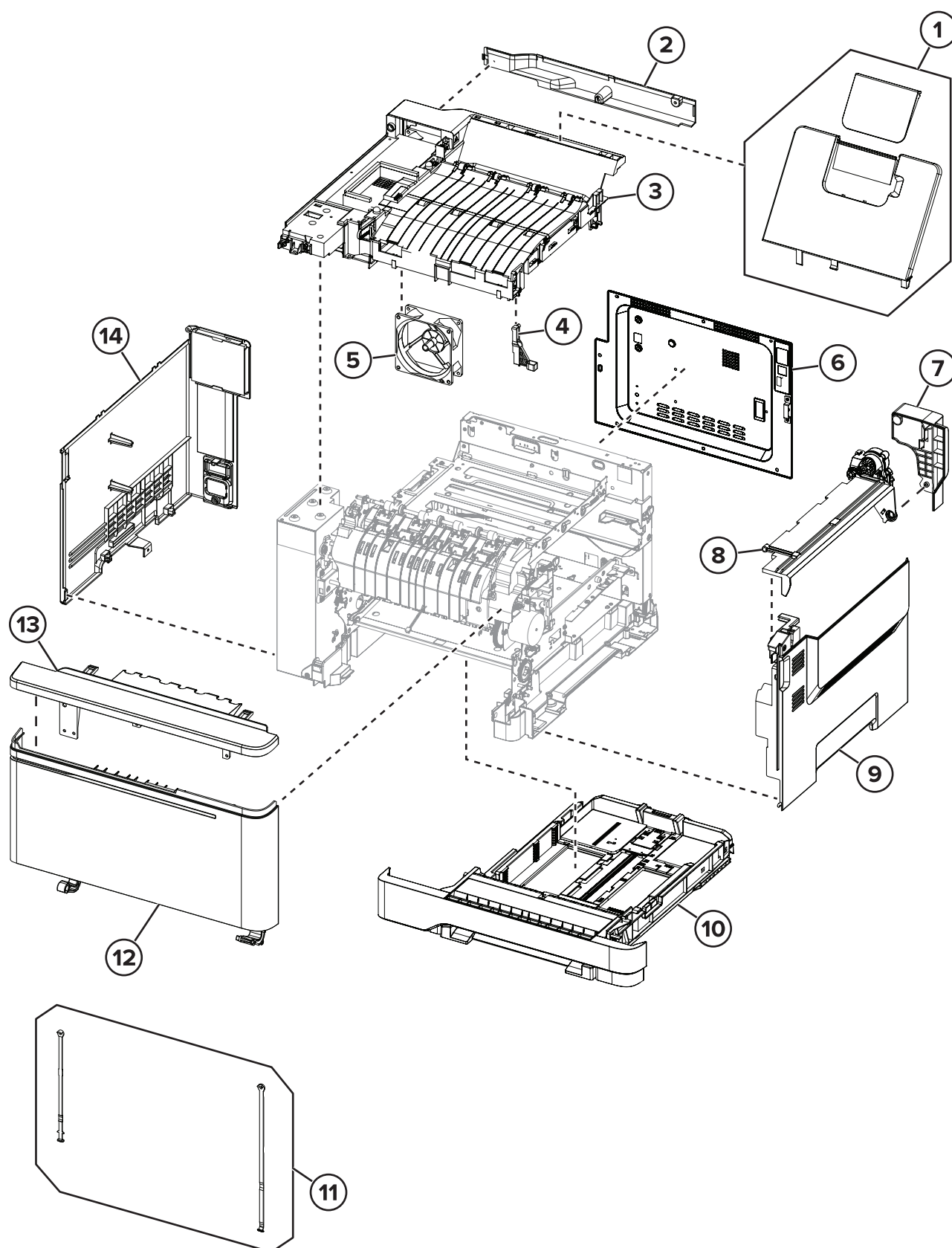
Assembly 3: Covers

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
1	41X1295	1	1	Output bin	**"Output bin and paper bail removal" on page 381**
2	41X1288	1	1	MFP cable cover	--
3	41X1284	1	1	Top cover with fan	**"Top cover removal" on page 377**
4	41X2114	1	1	Front toner door pivot bracket	**"Flatbed pivot link (front left) removal" on page 415**
5	41X0397	1	1	System fan	**"System fan removal" on page 371**
6	41X1787	1	1	Rear cover (CX622, CX625, MC2640, and XC4240)	**"Rear cover removal" on page 373**
6	41X2101	1	1	Rear cover (CX522 and MC2535)	**"Rear cover removal" on page 373**
6	41X2102	1	1	Rear cover (CX421 and MC2425)	**"Rear cover removal" on page 373**
6	41X2104	1	1	Rear cover (CX321 and MC2325)	**"Rear cover removal" on page 373**
7	41X1296	1	1	MFP link	**"MFP link removal" on page 384**
8	41X1049	1	1	Toner cover with damper	**"MFP toner cover removal" on page 383**
9	40X7823	1	1	Right cover	**"Right cover removal" on page 299**
10	41X1285	1	1	250-sheet tray	--
11	40X7619	1	2	Door straps	--
12	41X1286	1	1	Front door	**"Front door removal" on page 322**
13	41X1287	1	1	Front middle cover	**"Front middle cover removal" on page 326**
14	41X1291	1	1	Left cover	**"Left cover removal" on page 289**

Assembly 4: Paper path and frame
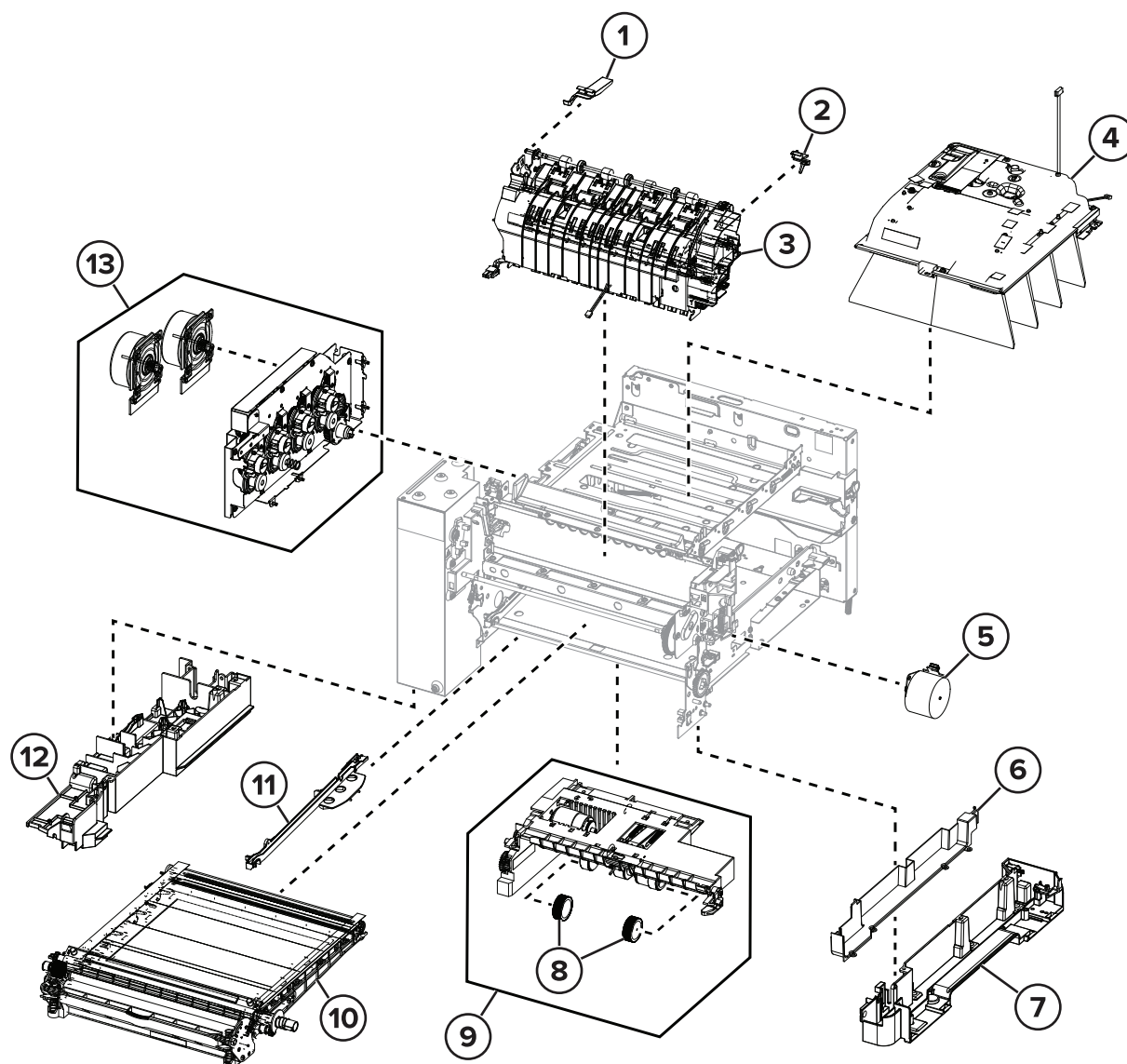
Assembly 4: Paper path and frame

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
1	41X2307	1	1	Narrow media sensor flag	**"Narrow media sensor flag removal" on page 388**
2	40X8819	1	1	Right fuser deflector	**"MFP fuser deflector flag removal" on page 386**
3	41X1041	1	1	110 V Fuser	**"Fuser removal" on page 342**
3	41X1300	1	1	220 V Fuser	**"Fuser removal" on page 342**
3	41X1299	1	1	100 V Fuser	**"Fuser removal" on page 342**
4	41X1040	1	1	Printhead	**"Printhead removal" on page 389**
5	40X7629	1	1	Motor (fuser drive)	**"Motor (fuser drive) removal" on page 300**
6	41X2327	1	1	Subframe cable cover	--
7	41X1312	1	1	Lower right subframe	**"Lower right frame removal" on page 357**
8	40X5168	2	2	Pick tires	**"Pick tires removal" on page 347**
9	41X1292	1	1	Media feeder	**"Tray 1 media feeder removal" on page 368**
10	41X1039	1	1	Transfer module	**"Transfer module removal" on page 312**
11	41X0580	1	1	Transfer module guide	**"Transfer module guide removal" on page 364**
12	41X2326	1	1	Lower left subframe	**"Lower left frame removal" on page 349**
13	41X1289	1	1	EP drive assembly	**"EP drive assembly removal" on page 291**
NS	41X2360	4	4	Sub-frame foot	--

Assembly 5: Electronics
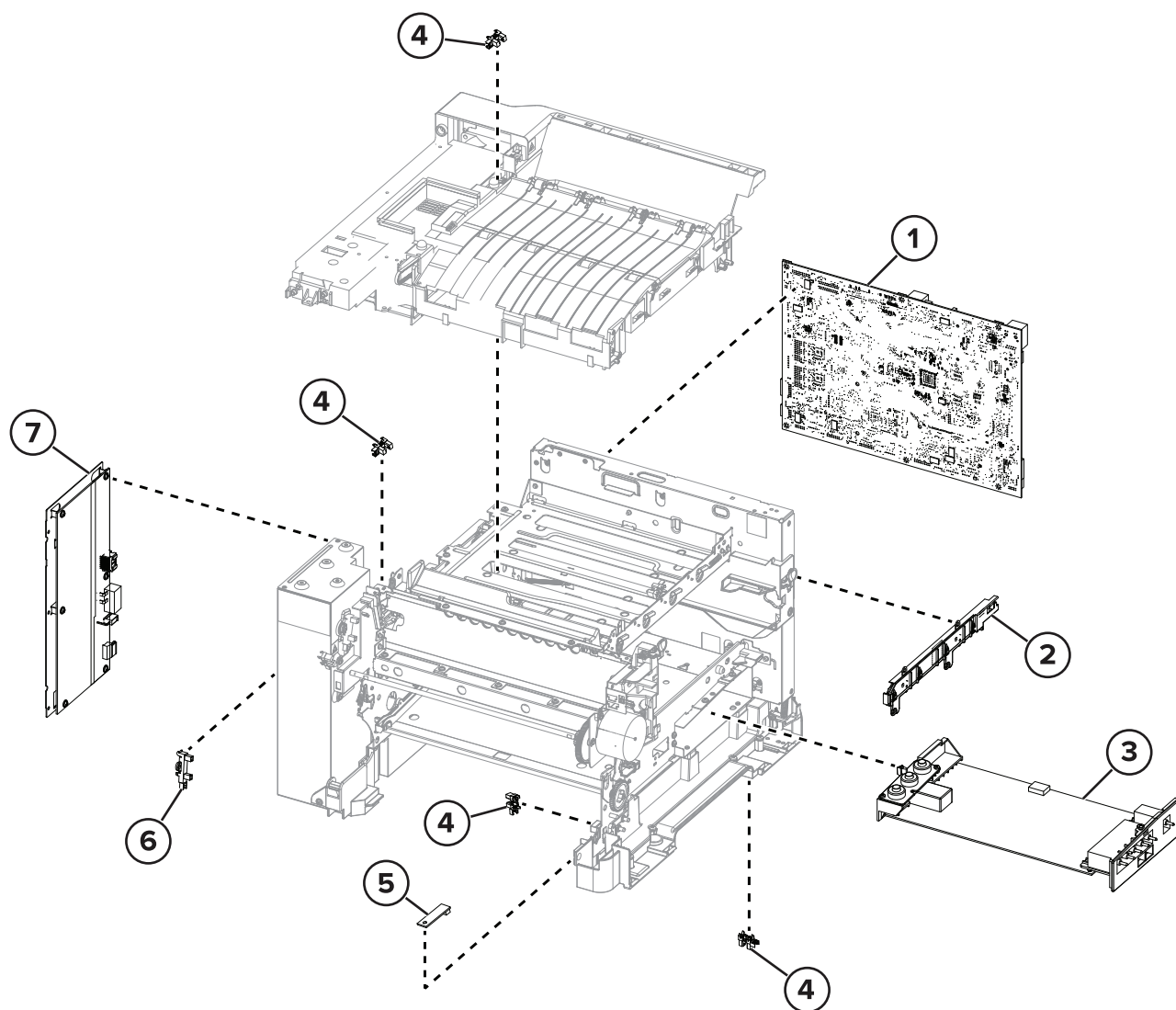
Assembly 5: Electronics

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
1	41X1785	1	1	Controller board (CX321, MC2325, CX421, and MC2425)	**"Controller board removal" on page 375**
1	41X2099	1	1	Controller board (CX522 and MC2535)	**"Controller board removal" on page 375**
1	41X1786	1	1	Controller board (CX622, CX625, MC2640, and XC4240)	**"Controller board removal" on page 375**
2	40X7620	1	1	Toner meter card	**"TMC card removal" on page 301**
3	41X1042	1	1	High-voltage power supply	**"HVPS removal" on page 307**
4	40X7301	4	1	Photo sensors: • Sensor (tray present) • Sensor (duplex) • Sensor (bin full/narrow media)	**"Sensor (tray present) removal" on page 367** **"Sensor (duplex) removal" on page 363** **"Sensor (narrow media) removal" on page 387**
5	41X1290	1	1	Weather station	**"Weather station removal" on page 338**
6	40X5413	1	1	Sensor (fuser exit)	**"Sensor (fuser exit) removal" on page 296**
7	41X1043	1	1	Low-voltage power supply (170 W)	**"LVPS removal" on page 294**

Assembly 6: Cables and sensors
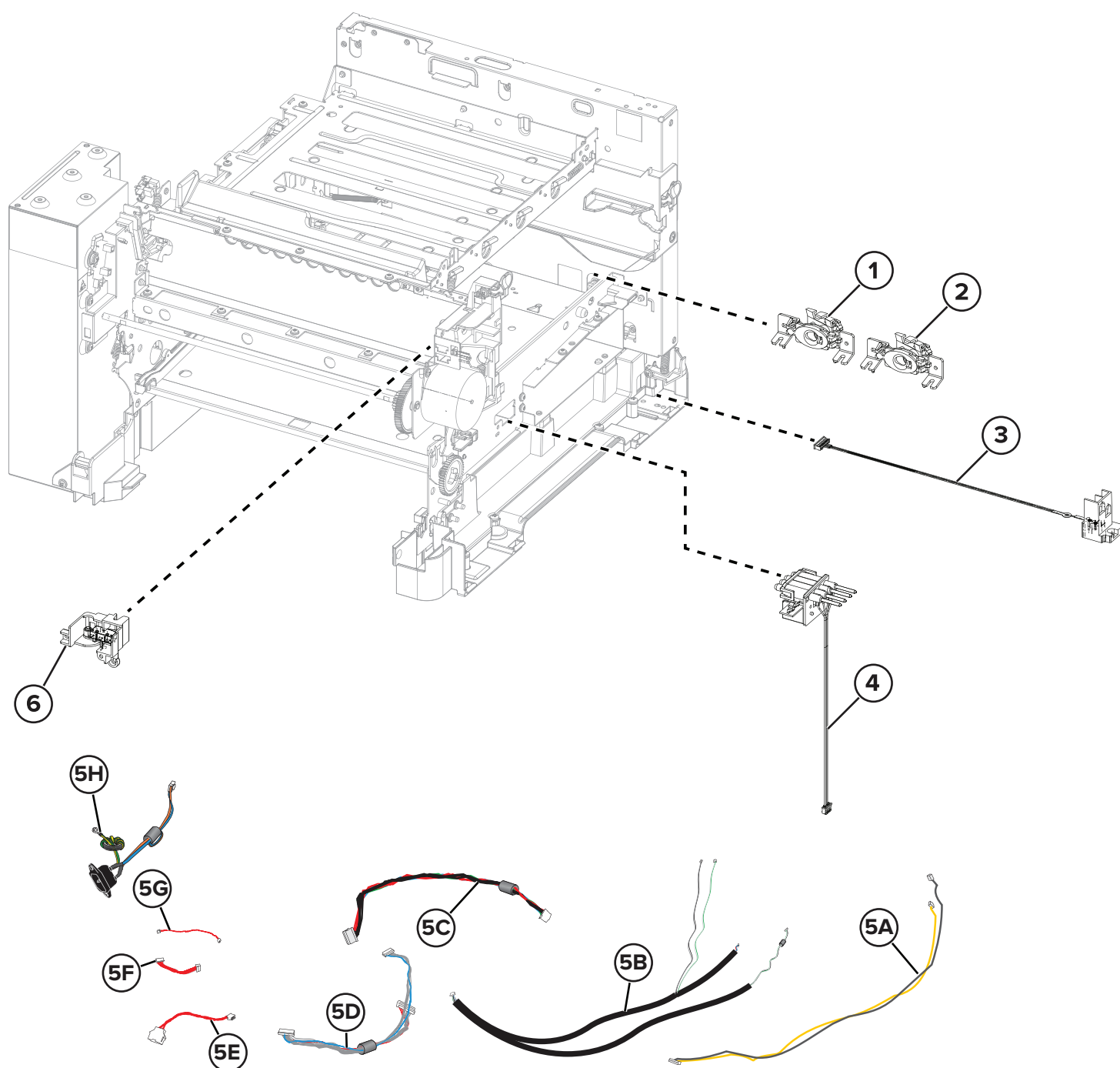
Assembly 6: Cables and sensors

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
1	41X1904	1	1	Sensor (left toner patch with thermistor)	**"Sensors (toner patch) removal" on page 304**
2	41X2348	1	1	Sensor (right toner patch with thermistor)	**"Sensors (toner patch) removal" on page 304**
3	41X1722	1	1	Waste toner bottle contact block	**"Waste toner bottle contact block removal" on page 321**
4	41X1723	4	1	Toner cartridge contact	**"Toner cartridge contacts removal" on page 318**
5A	41X2328	1	1	Fuser exit narrow media to controller board	--
5B	41X2329	1	1	Fuser/input sensor cable	--
5C	41X2332	1	1	LVPS to controller board cable	--
5D	41X2330	1	1	EP motor to controller board cable	--
5E	41X2335	1	1	Tray 2 to controller board cable	--
5F	41X2334	1	1	HVPS to controller board cable	--
5G	41X2336	1	1	Tray present sensor cable	--
5H	41X2331	1	1	AC power to LVPS cable	--
6	41X1561	1	1	Front and right side interlock switch cover assembly	**"Interlock switch cover assembly removal" on page 326**
NS	41X2333	1	1	Weather station cable	**"Weather station removal" on page 338**

Assembly 7: Scanner
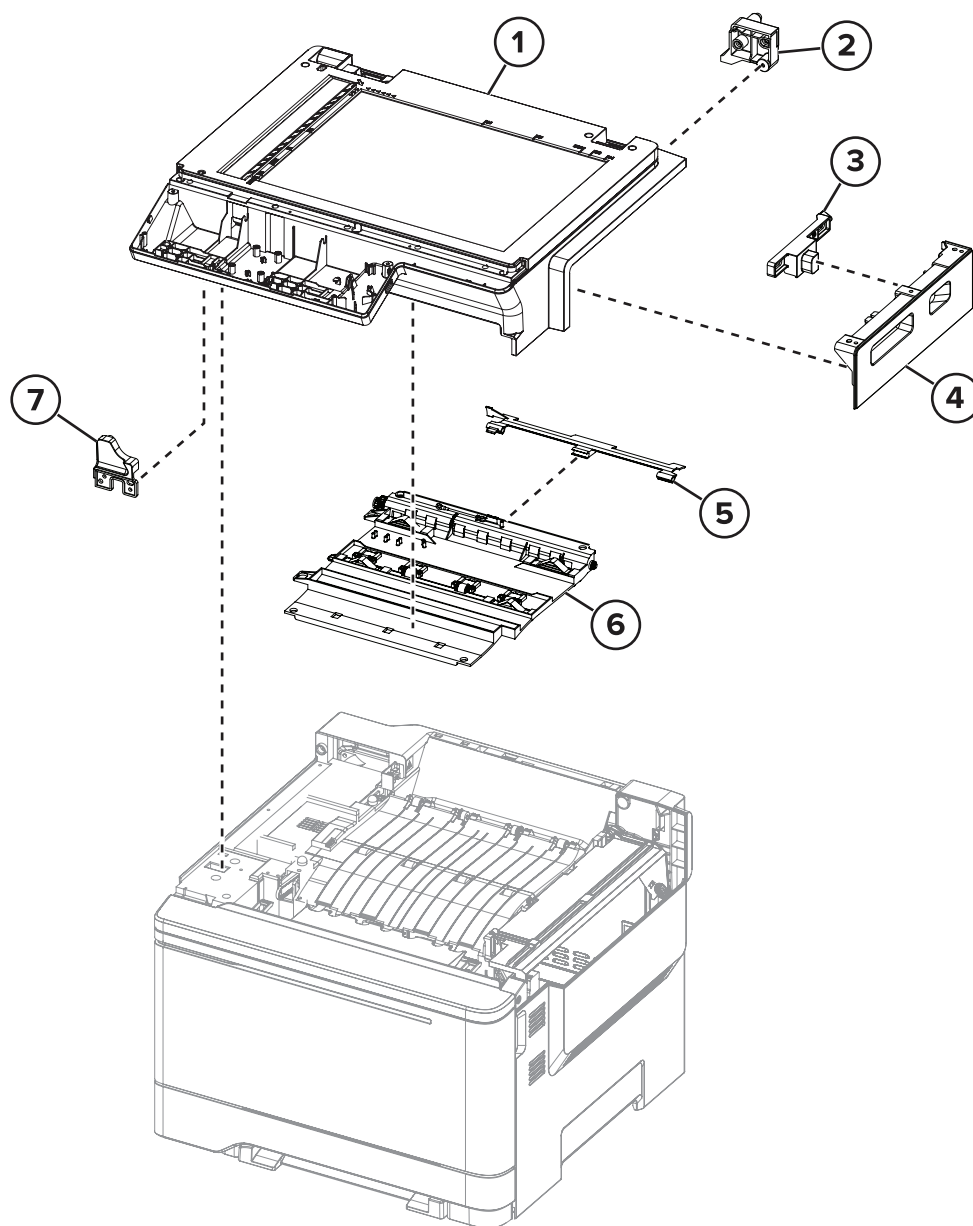
Assembly 7: Scanner

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
1	41X1294	1	1	Flatbed scanner assembly (CX321, MC2325, CX421, MC2425, CX522, and MC2535)	**"Flatbed scanner assembly removal" on page 409**
1	41X2071	1	1	Flatbed scanner assembly (CX622, CX625, MC2640, and XC4240)	**"Flatbed scanner assembly removal" on page 409**
2	41X1282	1	1	Flatbed pivot link (rear right)	**"Flatbed pivot link (rear right) removal" on page 414**
3	41X1560	1	1	Release lever	**"Release lever removal" on page 385**
4	41X1281	1	1	Scanner right cover	**"Scanner right cover removal" on page 408**
5	41X2126	1	1	Bin full flag	**"Bin full flag removal" on page 386**
6	41X1559	1	1	Redrive unit	**"Redrive unit removal" on page 391**
7	41X1283	1	1	Flatbed pivot link (front left)	**"Flatbed pivot link (front left) removal" on page 415**
NS	40X2252	2	2	Redrive spacer screws	--

Assembly 8: ADF
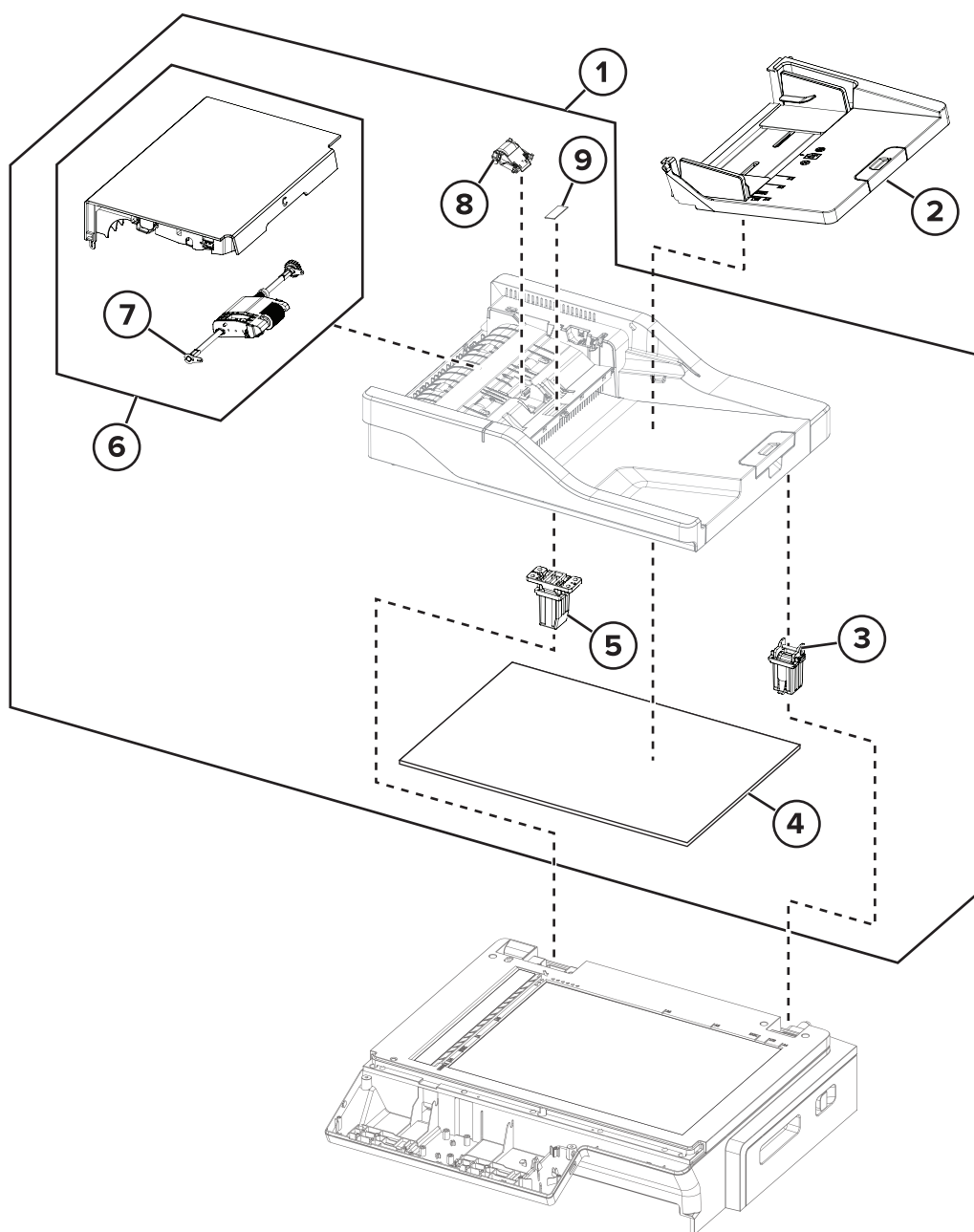
Assembly 8: ADF

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
1	41X1276	1	1	ADF assembly (CX421, MC2425, CX522, and MC2535)	**"ADF assembly removal (SADF/RADF)" on page 392**
1	41X1293	1	1	ADF assembly (CX622, CX625, MC2640, and XC4240)	**"ADF assembly removal (DADF)" on page 395**
1	41X1275	1	1	ADF assembly (CX321 and MC2325)	**"ADF assembly removal (SADF/RADF)" on page 392**
2	41X1333	1	1	ADF tray (CX321, MC2325, CX421, MC2425, CX522, and MC2535)	**"ADF tray removal" on page 401**
2	41X1335	1	1	ADF tray (CX622, CX625, MC2640, and XC4240)	**"ADF tray removal" on page 401**
3	40X8734	1	1	ADF right hinge	--
4	41X1974	1	1	Flatbed cushion	--
5	40X8735	1	1	ADF left hinge	--
6	41X2116	1	1	ADF top cover assembly (CX321 and MC2325)	**"ADF top cover removal" on page 404**
6	41X2117	1	1	ADF top cover assembly (CX622, CX625, MC2640, and XC4240)	**"ADF top cover removal" on page 404**
6	41X2118	1	1	ADF top cover assembly (CX421, MC2425, CX522, and MC2535)	**"ADF top cover removal" on page 404**
7	40X8736	1	1	ADF pick roller (CX321, MC2325, CX421, MC2425, CX522, and MC2535)	--
7	41X1326	1	1	ADF pick roller (CX622, CX625, MC2640, and XC4240)	--
8	40X6247	1	1	ADF separator pad (CX321 and MC2325)	**"ADF separator pad removal" on page 403**
8	41X0917	1	1	ADF separator roller (CX421, MC2425, CX522, and MC2535)	**"ADF separator roller removal" on page 402**
8	41X1325	1	1	ADF separator roller (CX622, CX625, MC2640, and XC4240)	**"ADF separator roller removal" on page 402**
9	41X1973	1	1	ADF restraint pad (CX321, MC2325, CX421, MC2425,CX522, and MC2535)	--
9	41X1322	1	1	ADF restraint pad (CX622, CX625, MC2640, and XC4240)	--
NS	41X2159	1	1	ADF FFC guide	--

Assembly 9: Option trays
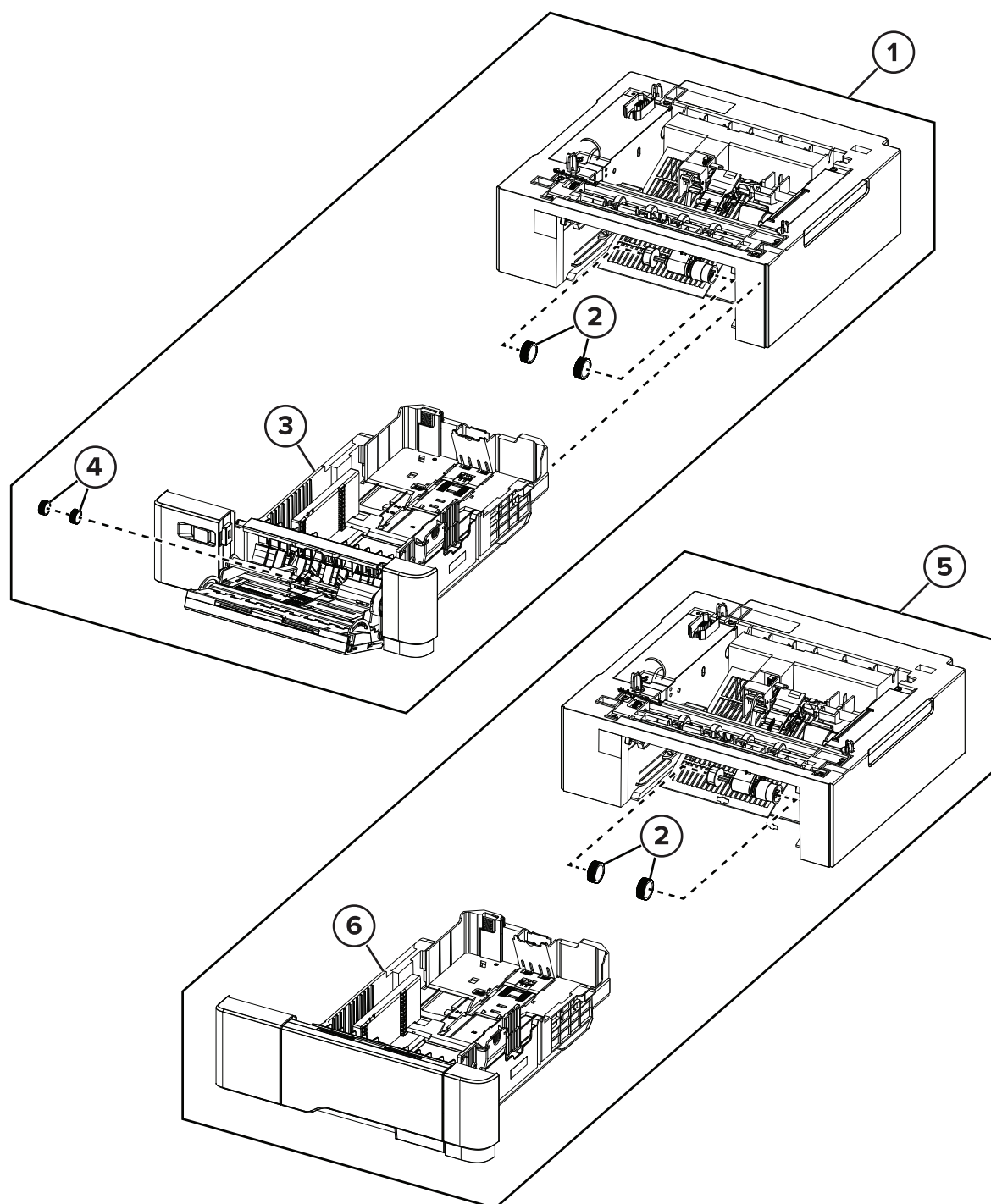
Assembly 9: Option trays

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
1	41X1783	1	1	Optional 650-sheet duo tray	**"650-sheet duo tray removal" on page 418**
2	40X5168	2	2	Pick tires	**"Pick tire removal" on page 420**
3	41X1784	1	1	650-sheet duo tray insert	**"650-sheet duo tray insert removal" on page 417**
4	40X7178	2	1	650-sheet duo tray MPF rollers	--
5	41X1780	1	1	550-sheet tray	--
6	41X1781	1	1	550-sheet tray insert	--

Assembly 10: Miscellaneous

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
NS	41X2096	1	1	115 V Fuser maintenance kit	--
NS	41X2097	1	1	230 V Fuser maintenance kit	--
NS	41X2095	1	1	100 V Fuser maintenance kit	--
NS	40X9934	1	1	320 GB SATA hard disk drive	--
NS	41X1373	1	1	SATA hard disk drive with FIPS	--
NS	41X1873	1	1	Wireless network card cardlet without cable	--
NS	41X1871	1	1	1 port vertical fax card	--
NS	40X4823	1	1	1284-B THCK parallel adapter	--
NS	41X1945	1	1	N8230 fiber ISP with side cover adapter	--
NS	41X1946	1	1	N8230 fiber ISP with backpack adapter	--
NS	41X1013	1	1	Simplified Chinese font card	--
NS	41X1014	1	1	Traditional Chinese font card	--
NS	41X1015	1	1	Korean font card	--
NS	41X1016	1	1	Japanese font card	--
NS	41X1010	1	1	256 MB flash card	--
NS	41X2055	1	1	Security element smart card with interconnect	--
NS	41X0020	1	1	Serial ISP with backpack adapter	--
NS	41X0997	1	1	Contact front solutions module	--
NS	41X0998	1	1	Contactless front solutions module	--
NS	41X0045	1	1	English keyboard	--
NS	41X0046	1	1	French keyboard	--
NS	41X0048	1	1	German keyboard	--
NS	41X0049	1	1	Spanish keyboard	--
NS	41X2033	1	1	PCIe 8 GB x32 DDP RAM card	--
NS	41X2302	1	1	Braille label kit	--
NS	41X0357	1	1	110 V surge protector	--
NS	41X0370	1	1	220 V surge protector	--
NS	40X1367	1	1	10 ft. parallel cable	--
NS	40X1368	1	1	USB cable	--
NS	40X7648	1	1	Screws parts pack	--
NS	40X7652	1	1	Spring kit	--

Asm-index	P/N	Units/mach	Units/FRU	Description	Removal procedure
NS	3085348	1	N/A	Software and document CD **Note:** This part number is for internal use only and is not available for order.	--
NS	41X2055	1	1	Smart card	--

Printer specifications

Power consumption

Product power consumption

The following table documents the power consumption characteristics of the product.

Note: Some modes may not apply to your product.

Mode	Description	Power consumption (Watts)
Printing	The product is generating hard-copy output from electronic inputs.	One-sided: 400 (CX421, MC2325, MC2425); 530 (CX522, MC2535, XC2235); 580 (CX622, MC2640); 580 (CX625, XC4240) Two-sided: 280 (CX421, MC2325, MC2425); 360 (CX522, MC2535, XC2235); 420 (CX622, MC2640); 420 (CX625, XC4240)
Copy	The product is generating hard-copy output from hard-copy original documents.	425 (CX421, MC2325, MC2425); 485 (CX522, MC2535, XC2235); 560 (CX622, MC2640); 540 (CX625, XC4240)
Scan	The product is scanning hard-copy documents.	25 (CX421, MC2325, MC2425); 28.5 (CX522, MC2535, XC2235); 29.5 (CX622, MC2640); 28 (CX625, XC4240)
Ready	The product is waiting for a print job.	38.5 (CX421, MC2325, MC2425); 35 (CX522, MC2535, XC2235); 37.5 (CX622, MC2640); 38 (CX625, XC4240)
Sleep Mode	The product is in a high-level energy-saving mode.	2.2 (CX421, MC2325, MC2425); 1.9 (CX522, MC2535, XC2235); 1.8 (CX622, MC2640); 1.8 (CX625, XC4240)
Hibernate	The product is in a low-level energy-saving mode.	0.2 (CX421, MC2325, MC2425); 0.2 (CX522, MC2535, XC2235); 0.2 (CX622, MC2640); 0.2 (CX625, XC4240)
Off	The product is plugged into an electrical outlet, but the power switch is turned off.	0.2 (CX421, MC2325, MC2425); 0.2 (CX522, MC2535, XC2235); 0.2 (CX622, MC2640); 0.2 (CX625, XC4240)

The power consumption levels listed in the previous table represent time-averaged measurements. Instantaneous power draws may be substantially higher than the average.

Values are subject to change. See **www.lexmark.com** for current values.

Sleep Mode

This product is designed with an energy-saving mode called *Sleep Mode*. The Sleep Mode saves energy by lowering power consumption during extended periods of inactivity. The Sleep Mode is automatically engaged after this product is not used for a specified period of time, called the *Sleep Mode Timeout*.

Factory default Sleep Mode Timeout for this product (in minutes):	15

By using the configuration menus, the Sleep Mode Timeout can be modified between 1 minute and 120 minutes. Setting the Sleep Mode Timeout to a low value reduces energy consumption, but may increase the response

time of the product. Setting the Sleep Mode Timeout to a high value maintains a fast response, but uses more energy.

Hibernate Mode

This product is designed with an ultra-low power operating mode called *Hibernate mode*. When operating in Hibernate Mode, all other systems and devices are powered down safely.

The Hibernate mode can be entered in any of the following methods:

- Using the Hibernate Timeout
- Using the Schedule Power modes

Factory default Hibernate Timeout for this product in all countries or regions	3 days

The amount of time the printer waits after a job is printed before it enters Hibernate mode can be modified between one hour and one month.

Off mode

If this product has an off mode which still consumes a small amount of power, then to completely stop product power consumption, disconnect the power supply cord from the electrical outlet.

Total energy usage

It is sometimes helpful to estimate the total product energy usage. Since power consumption claims are provided in power units of Watts, the power consumption should be multiplied by the time the product spends in each mode in order to calculate energy usage. The total product energy usage is the sum of each mode's energy usage.

Selecting a location for the printer

- Leave enough room to open trays, covers, and doors and to install hardware options.
- Set up the printer near an electrical outlet.

   ⚠ **CAUTION—POTENTIAL INJURY:** To avoid the risk of fire or electrical shock, connect the power cord to an appropriately rated and properly grounded electrical outlet that is near the product and easily accessible.

   ⚠ **CAUTION—SHOCK HAZARD:** To avoid the risk of electrical shock, do not place or use this product near water or wet locations.

- Make sure that airflow in the room meets the latest revision of the ASHRAE 62 standard or the CEN Technical Committee 156 standard.
- Provide a flat, sturdy, and stable surface.
- Keep the printer:
  - Clean, dry, and free of dust
  - Away from stray staples and paper clips
  - Away from the direct airflow of air conditioners, heaters, or ventilators
  - Free from direct sunlight and humidity extremes
- Observe the temperature range.

Operating temperature	10 to 32.2°C (50 to 90°F)

- Allow the following recommended amount of space around the printer for proper ventilation:
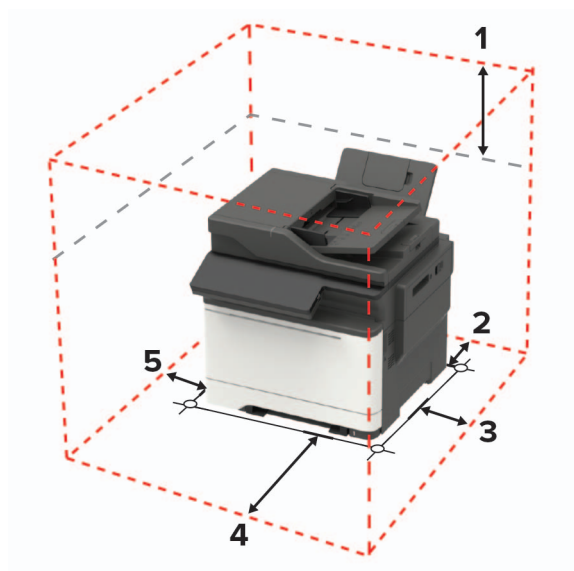
1	Top	305 mm (12 in.)
2	Rear	102 mm (4 in.)
3	Right side	76 mm (3 in.)
4	Front	508 mm (20 in.) **Note:** The minimum space needed in front of the machine is 76 mm (3 in.).
5	Left side	76 mm (3 in.)

Noise emission levels

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

Note: Some modes may not apply to your product.

1-meter average sound pressure, dBA	
Printing	53 (one-sided); 55 (two-sided)
Scanning	53
Copying	56
Ready	16

Values are subject to change. See **www.lexmark.com** for current values.

Temperature information

Operating temperature and relative humidity	10 to 32.2°C (50 to 90°F) and 15 to 80% RH
Printer / cartridge / imaging unit long-term storage[1]	15.3 to 32.2°C (60 to 90°F) and 8 to 80% RH Maximum wet bulb temperature[2]: 22.8°C (73°F) Non-condensing environment
Printer / cartridge / imaging unit short-term shipping	-40 to 43.3°C (-40 to 110°F)
[1] Supplies shelf life is approximately 2 years. This is based on storage in a standard office environment at 22°C (72°F) and 45% humidity. [2] Wet-bulb temperature is determined by the air temperature and the relative humidity.	

Enabling the security reset jumper

Notes:

- Before changing the security settings, ask for permission from your administrator.
- Resetting the printer deletes all security settings.
- For MFPs, replacing the controller board deletes all security settings.
- If LDAP is used to authenticate the copy function in MFPs, then the LDAP configuration and copy function are no longer protected.
- To prevent the tampering of the jumper, secure the controller board cage with a Kensington lock. To disable the effect of the jumper reset, select **No Effect** from the Security Reset Jumper Setting section in the Security menu.
- If Enable Audit is activated from the Security Audit Log in the Miscellaneous section of the Security menu, then the printer logs a message each time the jumper is reset.

To reset the jumper:

1 Turn off the printer.

2 Access the controller board.

3 Locate the jumper at the JSEC1 connector on the controller board.

4 Move the jumper to cover the middle and exposed prongs.

   Note: The movement of the jumper triggers the reset, not the jumper position.

5 Turn on the printer.

Options and features

Some of the options may not be available in every country or region.

Available internal options

- Memory cards
  - PCIe
  - DDR3 DRAM
  - Flash memory
- Optional cards
  - Font cards
  - Firmware cards
    - Forms and Bar Code
    - PRESCRIBE
- Printer hard disk (SATA)

Note: Some options are available only in some printer models.

Installing optional trays

Note: Depending on your printer model, you may install a 650-sheet duo tray or both the 650-sheet duo tray and 550-sheet tray.

⚠️ **CAUTION—SHOCK HAZARD:** To avoid the risk of electrical shock, if you are accessing the controller board or installing optional hardware or memory devices sometime after setting up the printer, then turn the printer off, and unplug the power cord from the electrical outlet before continuing. If you have any other devices attached to the printer, then turn them off as well, and unplug any cables going into the printer.

1 Turn off the printer.

2 Unplug the power cord from the electrical outlet, and then from the printer.

3 Unpack the optional tray, and then remove all packing material.

4 Align the printer with the optional tray, and then lower the printer into place.

⚠️ **CAUTION—POTENTIAL INJURY:** If the printer weight is greater than 18 kg (40 lb), then it requires two or more trained personnel to lift it safely.
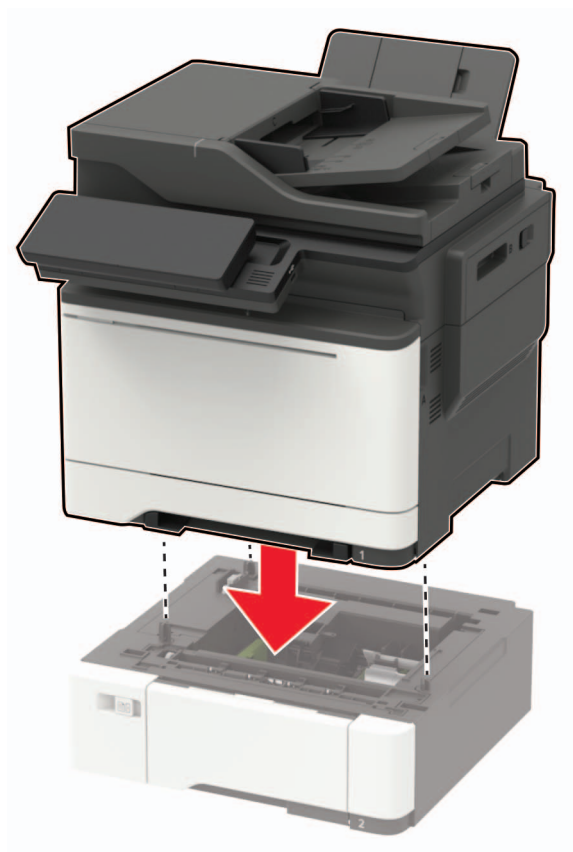
Note: If you are installing both the optional trays, then place the 550‑sheet tray below the 650‑sheet duo tray.

5 Connect the power cord to the printer, and then to the electrical outlet.

⚠️ **CAUTION—POTENTIAL INJURY:** To avoid the risk of fire or electrical shock, connect the power cord to an appropriately rated and properly grounded electrical outlet that is near the product and easily accessible.

6 Turn on the printer.

Add the tray in the print driver to make it available for print jobs. For more information, see **"Adding available options in the print driver" on page 484**.

Adding available options in the print driver

For Windows users

1 Open the printers folder.

2 Select the printer you want to update, and then do either of the following:

- For Windows 7 or later, select **Printer properties**.
- For earlier versions, select **Properties**.

3 Navigate to the Configuration tab, and then select **Update Now - Ask Printer**.

4 Apply the changes.

For Macintosh users

1 From System Preferences in the Apple menu, navigate to your printer, and then select **Options & Supplies**.

2 Navigate to the list of hardware options, and then add any installed options.

3 Apply the changes.

Input/output configurations and capacities

Input sources

Printer model	Number of standard trays	Maximum number of optional trays	Maximum number of trays
MC2325	2	0	2
CX421 and MC2425	2	1	3
CX522, MC2535, and XC2235	2	2	4
CX622, CX625, MC2640, and XC4240	2	2	4

Input capacities

Printer model	Standard tray	Manual slot	Multipurpose feeder capacity*	Total standard capacity	Maximum input capacity
MC2325	250	1	N/A	251	251
CX421 and MC2425	250	1	100	251	901
CX522 and MC2535	250	1	100	251	1451
CX622, CX625, and MC2640	250	1	100	251	1451
Paper capacity means 20-lb xerographic paper at ambient environment per sheet.					
* Available only when a 650-sheet duo tray is installed.					

Output capacities

Printer model	Standard output capacity	Maximum output capacity
MC2325	150	150
CX421 and MC2425	150	150
CX522 and MC2535	150	150
CX622, CX625, and MC2640	150	150
Paper capacity means 20-lb xerographic paper at ambient environment per sheet.		

Options and features

Theory of operation

Paper path and transport components

For an image to be printed, the paper or specialty media has to move from an input source (such as a tray) into the printer and eventually exit into an output source.

The most important component in this process is the paper itself. Old, damaged, or out-of-specification paper can cause feed and transport problems. If you encounter problems, then always check the paper first. In addition, check the printer and driver settings to see if the paper being used matches the user's settings.

The printer feed and transport components can fail and cause paper jams or other feed and transport problems. These components should be examined for damage or wear and replaced if necessary.

Paper path information

The printer has a simple C-shaped paper path. The tray 1 paper is shown in red and the optional 650-sheet duo tray paper path is not shown.

Paper is fed from the rear of the printer and travels upward through the front cover.

The duplex unit is built into the front cover and Tray 1.
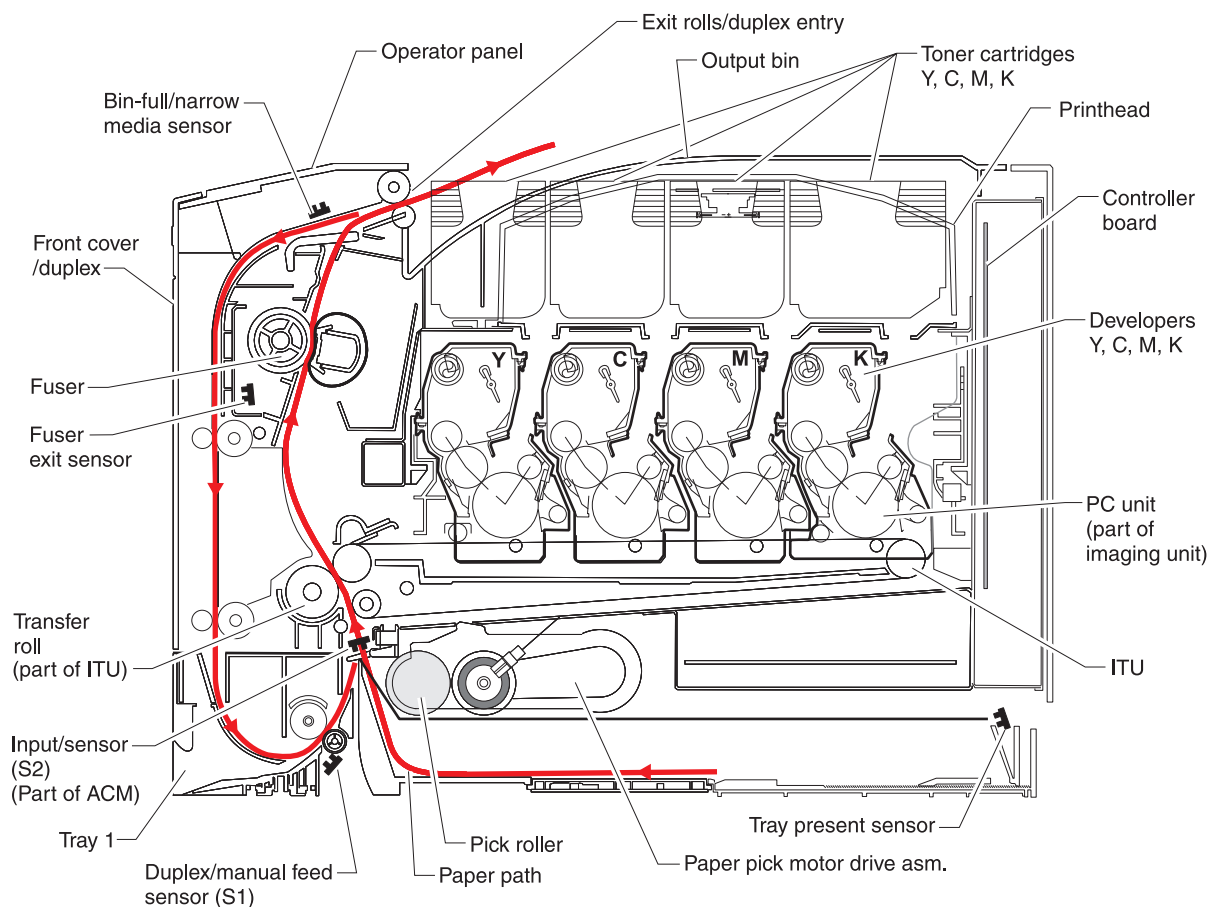
Note: The ACM is also known as the paper feed roller assembly.

Transport components

The paper is fed from the tray into the printer by a pick roll and sent to two sets of feed rollers which time the paper to enter the Electrophotographic Process (EP Process) at just the right moment. The feed rollers push the paper to the transfer module where the image is transferred to the page.

The transfer roller moves the paper to the fuser where heat and pressure are applied to the page. The fuser rollers push the paper toward the exit bin and past the exit sensor. The exit rollers guide the paper into the output bin.

Note: If the printer posts a paper jam message but no paper is found, then paper dust or paper particles may have fallen into one of the sensor eyes. Use a can of compressed air to gently clean the sensor.

Duplexing

Printers with duplex support use a secondary paper path to print on the second side of a sheet of paper. The duplexing process is summarized as follows:

After the first side of the paper is printed and the trailing edge of the paper clears the fuser exit sensor, the fuser motor engages to reverse the paper direction and feed it into the duplex unit. The pick motor also reverses. The pick motor drives the duplex aligner rolls (A), which push the media down to the bottom turnaround in the paper tray and gate aligner (B).

Note: While the sheet is being transported through the duplex unit, it is the only sheet of paper being processed by the print engine. A user should not attempt to insert a sheet of paper into the manual paper feed while a duplex job is being processed. This would cause a paper jam error.

When the trailing edge of the media clears the fuser, the fuser engine rotates forward to prepare the fuser for the page traveling though the duplex unit.

As the media reaches the gate aligner, a sensor (S1) is triggered, indicating the presence of the leading edge.

When the S1 sensor is triggered, the paper continues to the (S2) sensor. When the S2 signal is detected, the speed of the pick motor is adjusted to accommodate the speed of the transfer belt, ensuring the proper registration of the image on the media. The paper travels to the transfer module (C), and the second image is transferred to the reverse side of the media.

Once the image is transferred, the media travels to the fuser (D), the fuser exit rolls (E), and then to the output bin.
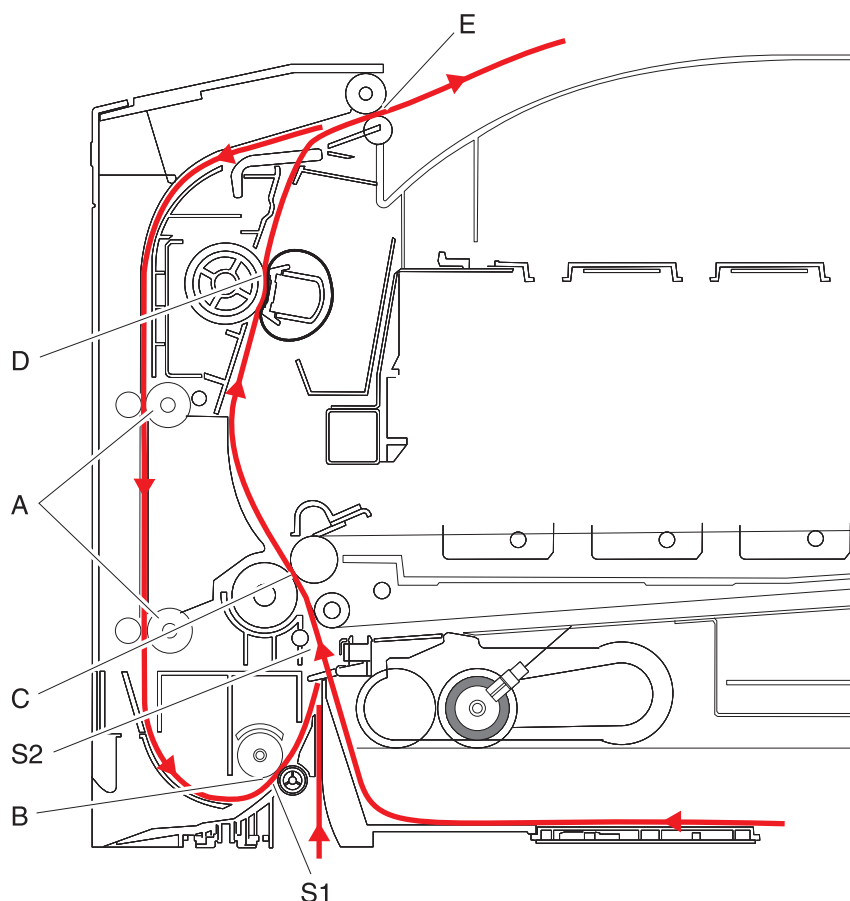
Print engine theory

Electrophotographic process (EP process)

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

Even though the basic EP process is the same for every laser and LED printer, the specifics for each printer are different.

Electrophotographic process basics

This printer is a single-laser printer that uses four print cartridges (cyan, yellow, magenta, and black) to create text and images on paper.

The printer has four photoconductor units (sometimes called a photodeveloper cartridge or PC unit) built into the print cartridges and transfer module. Each color toner is painted to its respective photoconductor unit at the same time. The transfer belt passes under the four photoconductor units and the four-color image is produced and transferred to the paper in one pass.

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

1 Charge the photoconductor units.

2 Expose the photoconductor units with the laser.

3 Develop toner on the photoconductor units.

4 First transfer to the transfer module, and second transfer to the paper.

5 Fuse the toner to the paper.

6 Clean/erase the photoconductor units and the transfer module.

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

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

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

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

Step 1: Charge

During the charge step, voltage is sent from the HVPS to the charge roller beside each of the four photoconductor units. In this printer, the charge roll is part of the photoconductor unit in the print cartridges.

The charge roller puts a uniform negative charge over the entire surface of the photoconductor unit to prepare it for the laser beam.

Service tips

- If the surface of the charge roller is damaged (such as a nick or pit), then the charge on the photoconductor unit is uneven. A repeating mark appears on the printed page. Check the service manual for the repeating marks table.
- If the charge roller is severely damaged, then the surface of the photoconductor unit is not properly charged and heavy amounts of toner are deposited on the photoconductor unit. The printed page becomes saturated with 100 percent of each color. The imaging kit must be replaced immediately.

Step 2: Expose

During the expose step, the laser fires a focused beam of light at the surface of each photoconductor unit and writes an invisible image, called a latent image or electrostatic image, for each color.

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

Service tips

- The laser beam passes through a glass lens as it exits the laser unit. If this lens gets contaminated with toner or other debris, then vertical streaking of white/lightness appears on the page. Make sure to clean the lens.
- Do not touch the surface of the photoconductor unit with your bare hand. The oil from your skin may cause a charge differential on the surface, and toner may not stick properly. The result can be repeating blotches of voids/light print on a page. The imaging kit may need to be replaced.
- The surface of the photoconductor unit is coated with an organic substance that makes it sensitive to light. Make sure to cover the photoconductor unit when you are working on the printer. If exposed to light for too long, then light/dark print quality problems may occur, and the photoconductor unit may need to be replaced.

Step 3: Develop

When the laser exposes the photoconductor unit, the HVPS sends charge to the developer roll. For each color, the print cartridge engages the photoconductor unit so it is in contact with the surface. Because of the charge difference between the toner on the developer roller and the electrostatic image created by the laser, the toner is attracted to areas of the photoconductor unit surface exposed by the laser.

This process is similar to using glue to write on a can and then rolling it over glitter. The glitter sticks to the glue but does not stick to the rest of the can.

Service tips

- Do not touch the surface of the developer roller with your bare hand. The oil from your skin may cause a charge differential on the surface, and toner may not stick properly. The result can be repeating blotches of voids/light print on a page. The affected developer may need to be replaced.
- If the developer roller is damaged, then it cannot contact the surface of the photoconductor unit properly. The result can be repeating marks, thin vertical voids, or thin vertical lines of color on the printed page. Check the surface of the developer for damage.

Step 4a: First transfer

When the latent images are developed on each photoconductor unit, the HVPS sends voltage to the first transfer rollers inside the transfer module.

The charge difference between the developed toner image on the photoconductor unit surface and the first transfer roller causes the images to transfer to the surface of the transfer belt for each color. This transfer occurs during a direct surface-to-surface contact between the photoconductor units and the transfer belt.

Service tips

- Do not touch the surface of the transfer belt with your bare hand. The oil from your skin may cause a charge differential on the surface, and toner may not stick properly. The result can be repeating blotches of voids/light print on a page. The transfer belt may need to be replaced.
- Do not use solvents or other cleaners to clean the transfer belt surface. The surface may have scratches or a charge differential that may produce voids or light blotches on the printed page. The transfer belt may need to be replaced.

Step 4b: Second transfer

When the four planes of color are transferred to the transfer belt from the photoconductor units, the image is carried toward the transfer roller, which is also part of the transfer module. Based on the speed of the transfer belt, the proper time to send the signal to pick the paper from an input source is determined. The pick is timed so that the paper passes between the transfer belt and transfer roller when the image on the belt reaches the second transfer area.

The HVPS sends voltage to the transfer roller to create a positive charge. When the image on the transfer belt reaches the transfer roller, the negatively charged toner clings to the paper, and the entire image is transferred from the transfer belt to the paper.

Service tips

- If the transfer roller has nicks, pits, or flat spots on it, then the surface cannot come into contact with the paper and transfer module. The result can be voids or light spots on the page or repeating voids/light areas.
- If the transfer roller does not engage the transfer module, or does not have voltage coming from the HVPS, then the toner does not fully transfer from the transfer module; the entire page may be very light or blank. Any toner that does transfer can be because of contact transfer instead of a charge transfer. Check the HVPS contacts to the transfer roller.

Step 5: Fuse

When the image has been fully transferred to the paper, the transfer roller helps move the paper into the fuser area.

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

Service tips

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

Step 6: Clean/Erase

Two main cleaning processes take place during the EP process. One process cleans the transfer belt, and the other cleans the photoconductor units.

Transfer module clean

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

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

Photoconductor clean/erase

After each plane of color has been transferred to the transfer belt from the photoconductor units, a cleaning blade scrapes the remaining toner from the surface of each photoconductor unit.

The photoconductor unit surface is prepared to restart the EP process. This cleaning/erasing cycle happens after each plane of color is transferred to the transfer belt.

ADF and flatbed scanner theory

-
-

DADF paper path
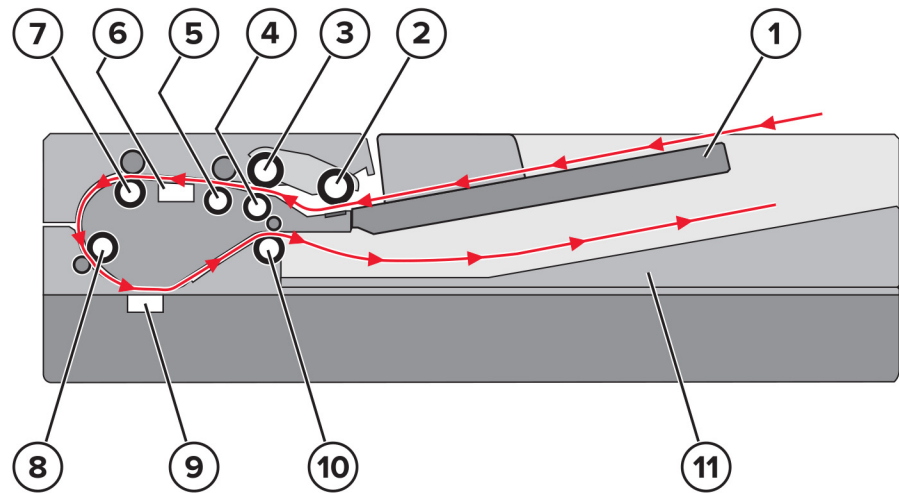
1	ADF tray
2	Pick roller
3	Feed roller
4	Separator roller
5	Deskew roller
6	First scan area
7	Transport roller 1
8	Transport roller 2
9	Second scan area
10	Exit roller
11	ADF bin

After the sensor (ADF paper present) detects paper in the ADF tray, the pick roller drops and advances the paper into the ADF.

The paper passes through the feed roller and separator roller. The separator roller minimizes the possibility of feeding multiple sheets.

The paper then actuates the sensors (pick and deskew). The sensor (pick) detects the leading edge of the paper and adjusts the pick/feed timings while the sensor (deskew) detects the paper for any skew. The deskew roller slows down the paper to perform the skew correction.

Note: The motor (pick) runs the pick and feed rollers.

Theory of operation

For duplex scan jobs, the paper actuates the sensor (ADF first scan) and proceeds to the first scan area. Failure to actuate the sensor results to a paper jam error. The back side of the document is scanned.

The transport rollers continue to advance the paper until it actuates the sensor (ADF second scan) and reaches the second scan area. For simplex or duplex scan jobs, the front side of the document is scanned on the second scan area.

The exit roller picks and drops the paper into the ADF bin. The motor (transport) runs the transport, deskew, and exit rollers.

DADF paper path sensors

#	Sensor	Function
1	ADF paper present	• Detects paper presence in the ADF tray • Raises the pick arm after the last sheet to prepare for the next batch of scanning
2	ADF pick	Detects the leading edge of the incoming sheet and adjusts pick/feed timings
3	ADF skew	Detects skew of the incoming sheet and applies necessary deskew algorithm
4	ADF first scan	Detects the paper about to be scanned at its back side
5	ADF second scan	Detects the paper about to be scanned at its front side

RADF paper path
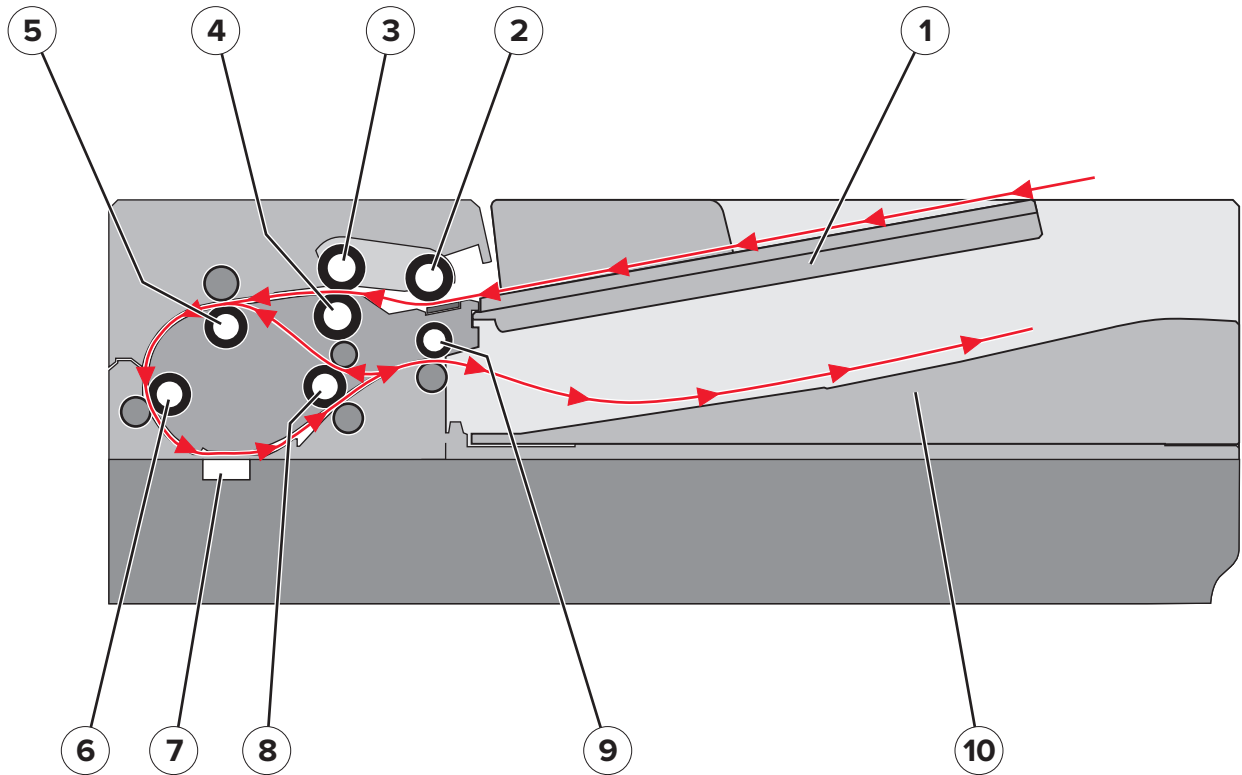
1	ADF tray
2	Pick roller
3	Feed roller
4	Separator roller
5	Deskew roller
6	Transport roller
7	Scan area
8	Exit roller 1
9	Exit roller 2
10	ADF bin

After the sensor (ADF paper present) detects paper in the ADF tray, the pick roller drops and advances the paper into the ADF.

The paper passes through the feed roller and separator roller. The separator roller minimizes the possibility of feeding multiple sheets.

The paper then actuates the sensors (pick and deskew). The sensor (pick) detects the leading edge of the paper and adjusts the pick/feed timings while the sensor (deskew) detects the paper for any skews. The deskew roller slows down the paper to perform the skew correction.

Note: The motor (pick) runs the pick and feed rollers.

Theory of operation

After the skew correction is completed, the transport roller advances the paper to the scan area. But before the image acquisition process can start, the paper must actuate the sensor (ADF scan). Failure to actuate the sensor results in a paper jam. The first side of the document is scanned.

If the scan job is simplex, then exit roller 1 advances the paper until it is picked up and moved by exit roller 2 into the ADF bin. The motor (transport) runs the transport, deskew, and exit rollers.

If the scan job is duplex, then the motor (pick) rotation is reversed such that exit roller 2 pulls the paper back into the ADF. The paper actuates the sensor (ADF pick), and then moves until it reaches the scan area for the second time. Like the first pass of the paper, the image acquisition process is repeated for the second side of the paper. Before the paper exits, it goes back again to the ADF for the third time, but no imaging occurs. This pass is to turn the paper over to the original side up. On the third pass of the paper, exit roller 2 does not reverse and the paper passes out of the ADF.

RADF paper path sensors

#	Sensor	Function
1	ADF paper present	• Detects paper presence in the ADF tray • Raises the pick arm after the last sheet to prepare for the next batch of scanning
2	ADF pick	Detects the leading edge of the incoming sheet and adjusts pick/feed timings
3	ADF skew	Detects skew of the incoming sheet and applies necessary deskew algorithm
4	ADF scan	Detects the paper about to be scanned
5	ADF duplex	Detects the leading edge of the paper for duplex scanning

Flatbed scanner drive
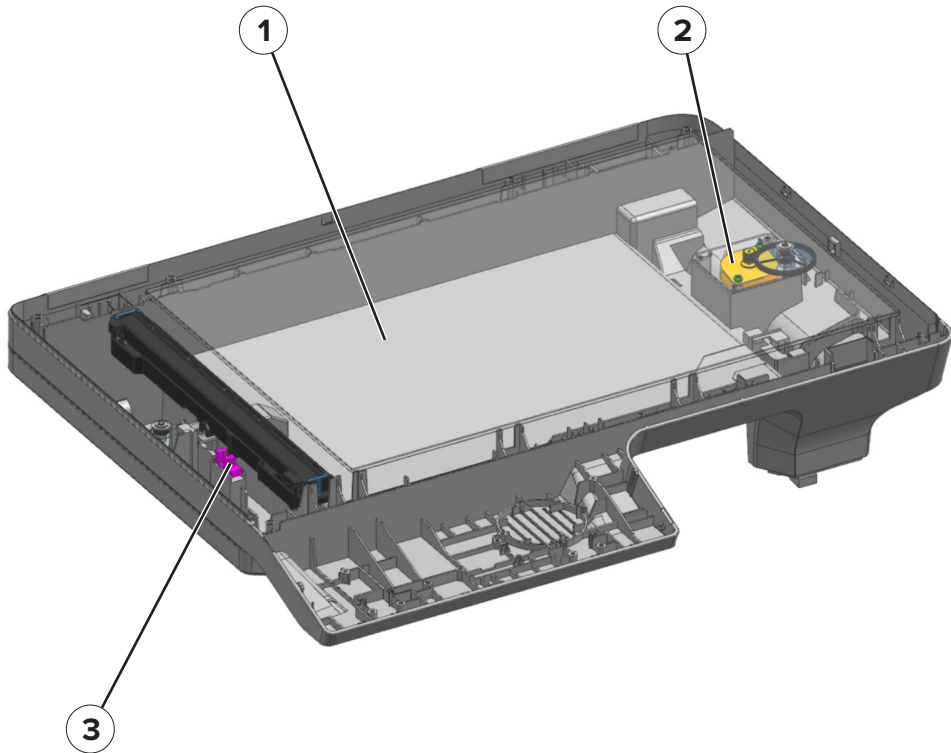
1	Scanner glass
2	Motor (FB scanner)
3	Sensor (FB CIS home)

The flatbed scanner has a scanner lamp that is used to illuminate the surface of the document. The reflections produced are processed to create the scan image.

For flatbed scan jobs, the flatbed scanner moves across the scanner glass area to scan the front side of the document (facedown). The motor (FB scanner) controls the scanner position. The scanner is detected at its home position by the sensor (FB CIS home).

For ADF scan jobs, the flatbed scanner stays at the left to scan the document.

Theory of operation

Color theory

Color theory

What is RGB color?

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

What is CMYK color?

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

How is color specified in a document to be printed?

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

How does the printer know what color to print?

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

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

We recommend the PostScript driver for best color quality. The default settings in the PostScript driver provide the preferred color quality for the majority of printouts.

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

The color conversion tables used in Auto Color Correction mode generally approximate the colors of a standard computer monitor. However, because of technology differences that exist between printers and monitors, many colors can also be affected by monitor variations and lighting conditions.

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

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

What is manual color correction?

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

Notes:

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

To manually apply a different color conversion table:

1 From the home screen, touch **Settings** > **Print** > **Quality** > **Advanced Imaging** > **Color Correction**.

2 Select **Manual**, and then touch **Color Correction Content**.

3 Select the appropriate color conversion table for the affected object type.

Object type	Color conversion tables
RGB Image RGB Text RGB Graphics	• **Vivid**—Produces brighter, more saturated colors and may be applied to all incoming color formats. • **sRGB Display**—Produces an output that approximates the colors shown on a computer monitor. Black toner usage is optimized for printing photographs. • **Display**—**True Black**—Produces an output that approximates the colors shown on a computer monitor. Uses only black toner to create all levels of neutral gray. • **sRGB Vivid**—Provides an increased color saturation for the sRGB display color correction. Black toner usage is optimized for printing business graphics. • **Off**—No color correction is implemented.
CMYK Image CMYK Text CMYK Graphics	• **US CMYK**—Applies color correction to approximate the SWOP (Specifications for Web Offset Publishing) color output. • **Euro CMYK**—Applies color correction to approximate EuroScale color output. • **Vivid CMYK**—Increases the color saturation of the US CMYK color correction setting. • **Off**—No color correction is implemented.

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

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

To print color sample pages:

1 From the home screen, touch **Settings** > **Print** > **Quality** > **Advanced Imaging** > **Color Samples** > **Print Color Samples**.

2 Select the appropriate color conversion table to print.

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

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

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

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

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

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

1 From the home screen, touch **Settings** > **Print** > **Quality** > **Advanced Imaging** > **Color Samples** > **Print Color Samples**.

2 Select **Advanced** to narrow the set to one color range.

3 Select the appropriate color conversion table to print.

4 Enter the RGB or CMYK color number.

5 Enter an increment value from 1 to 255.

 Note: The closer the value is to 1, the narrower the color sample range appears.

6 Select **Print**.

Acronyms

Acronyms

ASIC	Application-Specific Integrated Circuit
BLDC	Brushless DC Motor
BOR	Black Only Retract
C	Cyan
CCD	Charge Coupled Device
CCP	Carbonless Copy Paper
CIS	Contact Image Sensors
CRC	Cyclic Redundancy Check
CSU	Customer Setup
CTLS	Capacitance Toner Level Sensing
DIMM	Dual Inline Memory Module
DRAM	Dynamic Random Access Memory
EDO	Enhanced Data Out
EP	Electrophotographic Process
EPROM	Erasable Programmable Read-Only Memory
ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
GB	Gigabyte
HCF	High-Capacity Feeder
HCIT	High-Capacity Input Tray
HCOF	High-Capacity Output Finisher
HVPS	High Voltage Power Supply
K	Black
LCD	Liquid Crystal Display
LDAP	Lightweight Directory Access Protocol
LED	Light-Emitting Diode
LVPS	Low Voltage Power Supply
M	Magenta
MB	Megabyte
MFP	Multifunction Printer
MPF	Multipurpose Feeder
MROM	Masked Read Only Memory

MS	Microswitch
NVM	Non-volatile Memory
NVRAM	Non-volatile Random Access Memory
OEM	Original Equipment Manufacturer
OPT	Optical Sensor
PC	Photoconductor
pel, pixel	Picture element
POR	Power-On Reset
POST	Power-On Self Test
PSD	Position Sensing Device
PWM	Pulse Width Modulation
RIP	Raster Imaging Processor
ROM	Read Only Memory
SDRAM	Synchronous Dual Random Access Memory
SIMM	Single Inline Memory Module
SRAM	Static Random Access Memory
TPS	Toner Patch Sensing
UPR	Used Parts Return
V ac	Volts alternating current
V dc	Volts direct current
VTB	Vacuum Transport Belt
Y	Yellow

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MC2x25, CX421, MC2535, CX522, XC22xx, MC2640, CX62x, XC4240

WIRING DIAGRAM

4.3 CONTROL PANEL

2.4 CONTROL PANEL

MOTOR (PRINTHEAD)

TONER METER CYCLE CARD

ETHERNET — JETH1

USB CABLE — JUSB1

REAR USB HOST — JBUSB1

JCTM1   JMIRR1

JUICC24

JUICC43

JPH1

JFBCIS1

JBSCIS1

JADF1

JBIN2

JUIPWR1

JFB1

JFAN1

JSPKR1

JSPKR2

JFAX2

PRINTHEAD

ADF CIS

FB CIS

ADF SCANNER

SENSOR (BIN FULL)

CONTROL PANEL POWER

MOTOR (FLATBED)

SYSTEM FAN

SPEAKER (AUDIO AMP)

SPEAKER (AUDIO DAC)

FAX CARD

SECURITY JUMPER

FRONT USB HOST — JFUSB1

INA / WIRELESS CARD

SENSOR (WASTE TONER CONTACT) — JWT1

SECURE ELEMENT SIM CARD

TRANSFER MODULE

INTERLOCK SWITCH COVER

SENSOR (TRAY PRESENT)

SENSOR (LEFT TONER PATCH WITH THERMISTOR)

FUSER

JSEC1

JIPS1

JVIP1   JRIP1

JSC1   JCVR1   JTRAY1   JTPS1

JFUSES1

JWS1   JHVPS1   JTPS2   JSP1

JTHM1

JBIN1   JCARTS1   JOPT1

JCARTP1

JLVPS1

JSH1

MOTOR (CARTRIDGE DRIVE)

LVPS

SENSOR (FLATBED HOME)

THERMISTOR

OPTION TRAY

MOTOR (CMY/K)

SENSOR (FUSER EXIT)

SENSOR (NARROW MEDIA)

MEDIA FEEDER

SENSOR (RIGHT TONER PATCH WITH THERMISTOR)

HVPS

WEATHER STATION CARD

Connector for CX62x