Edition: May 6, 2008

Service Manual

Lexmark™ X940e & X945e MFP Finisher

7510-XXX

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LEXMARK™

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Notices and safety information

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

Laser notice

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

Class I laser products are not considered to be hazardous. The printer contains internally a Class IIIb (3b) laser that is nominally a 5 milliwatt gallium arsenide laser operating in the wavelength region of 770-795 nanometers. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

Laser

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

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

Avis relatif à l’utilisation de laser

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

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

Avvertenze sui prodotti laser

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

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

Avisos sobre el láser

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

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

Declaração sobre Laser

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

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

Laserinformatie

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

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

Lasermeddelelse

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

Klasse I-laserprodukter betragtes ikke som farlige. Printeren indeholder internt en Klasse IIIB (3b)-laser, der nominelt er en 5 milliwatt galliumarsenid laser, som arbejder på bølgelængdeområdet 770-795 nanometer. Lasersystemet og printeren er udformet således, at mennesker aldrig udsættes for en laserstråling over Klasse I-niveau ved normal drift, brugervedligeholdelse eller obligatoriske servicebetingelser.

Laserilmoitus

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

Luokan I lasertuotteita ei pidetä haitallisina. Tulostimen sisällä on luokan IIIb (3b) laser, joka on nimellisteholtaan 5 mW:n galliumarsenidilaser ja toimii 770 - 795 nanometrin aallonpituuksilla. Laserjärjestelmä ja tulostin ovat rakenteeltaan sellaisia, että käyttäjä ei joudu alttiiksi luokkaa 1 suuremmalle säteilylle normaalin käytön, ylläpidon tai huollon aikana.

Huomautus laserlaitteesta

Tämä kirjoitin on Yhdysvalloissa luokan I (1) laserlaitteiden DHHS 21 CFR Subchapter J -määrityksen mukainen ja muualla luokan I laserlaitteiden IEC 60825-1 -määrityksen mukainen.

Luokan I laserlaitteiden ei katsota olevan vaarallisia käyttäjälle. Kirjoittimessa on sisäinen luokan IIIb (3b) 5 milliwatin galliumarsenidilaser, joka toimii aaltoalueella 770 - 795 nanometriä. Laserjärjestelmä ja kirjoitin on suunniteltu siten, että käyttäjä ei altistu luokan I määrityksiä voimakkaammalle säteilylle kirjoittimen normaalin toiminnan, käyttäjän tekemien huoltotoimien tai muiden huoltotoimien yhteydessä.

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

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

Laser-notis

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

Laserprodukter i Klass I anses ej hälsovådliga. Skrivaren har en inbyggd laser av Klass IIIb (3b) som består av en laserenhet av gallium-arsenid på 5 milliwatt som arbetar i våglängdsområdet 770-795 nanometer. Lasersystemet och skrivaren är utformade så att det aldrig finns risk för att någon person utsätts för laserstrålning över Klass I-nivå vid normal användning, underhåll som utförs av användaren eller annan föreskriven serviceåtgärd.

Laser-melding

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

Klasse I-laserprodukter er ikke å betrakte som farlige. Skriveren inneholder internt en klasse IIIb (3b)-laser, som består av en gallium-arsenlaserenhet som avgir stråling i bølgelengdeområdet 770-795 nanometer. Lasersystemet og skriveren er utformet slik at personer aldri utsettes for laserstråling ut over klasse I-nivå under vanlig bruk, vedlikehold som utføres av brukeren, eller foreskrevne serviceoperasjoner.

Avís sobre el Làser

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

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

レーザーに関するお知らせ

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

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

注意：

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

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

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

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

Safety information

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

Consignes de sécurité

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

Norme di sicurezza

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

Sicherheitshinweise

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

Pautas de Seguridad

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

Informações de Segurança

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

Informació de Seguretat

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

안전 사항

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

安全信息

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

Preface

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

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

Conventions

Note: A note provides additional information.

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

There are several types of caution statements:

CAUTION

A caution identifies something that might cause a servicer harm.

CAUTION

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

CAUTION

This type of caution indicates a hot surface.

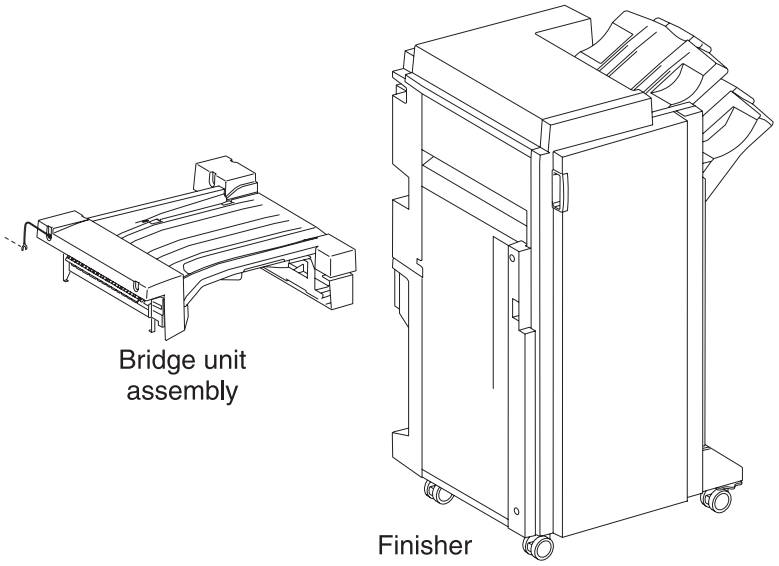
CAUTION

This type of caution indicates a tipping hazard.

1. General information

Finisher

The optional finisher staples, punches, folding and stapling, and stacks media transferred from the Lexmark™ X940e and X945e. Output is stacked in the upper media bin or separately collated in the stacker media bin or folded and stapled in the booklet bin.



Standard Finisher weight

Unpacked: 59 kg (130 lbs)

Booklet Finisher weight

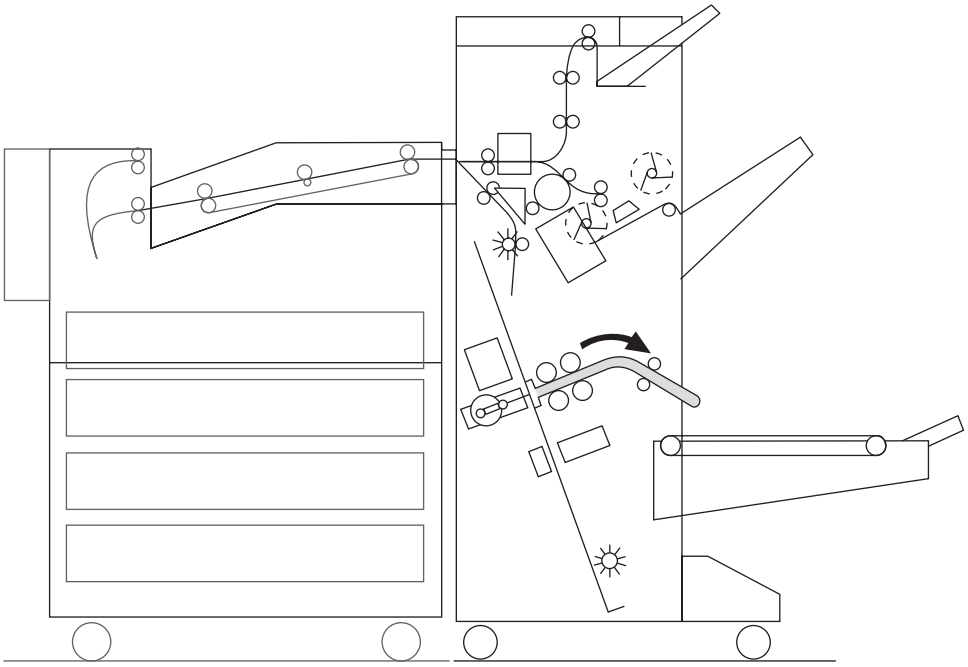
Unpacked: 87.5 kg (193 lbs)

Components

The finisher is composed of the following components.

- Bridge unit assembly block to feed media from the printer to the finisher
- Punch block to punch media
- Compiler tray block to align media
- Stapler block to staple a set of media at specified positions
- Booklet unit and tray

Media path overview



Media size and weight

The following shows media sizes and weights that the finisher can handle, as well as applicable functions for each media size.

The printer and the finisher handle different media sizes and weights. For this reason, if the printer has printed media that the finisher cannot handle, the exit 1 diverter gate in the printer is switched to eject the media from Exit 2 onto the bridge unit assembly. Refer to the *Printer Service Manual* for additional information on the printer.

Media size/orientation and applicable functions

Media description	Size	Short edge first (SEF)/ Long edge first (LEF)	Top tray	Stacker					
			Stack	Stack	Offset stack	Punch	Staple	Booklet	Folding
B5	182 x 257 mm	SEF	Yes	No	No	No	No	No	No
		LEF	Yes	Yes	Yes	Yes[a(2)]	Yes	No	No
Executive	7.25 x 10.5 in. 184.2 x 27 0 mm	SEF	Yes	No	No	No	No	No	No
		LEF	Yes	Yes	Yes	Yes[a(2,3,4)]	No	No	No
Letter	8.5 x 11 in. 215.9 x 279.4 mm	SEF	Yes	Yes	Yes	Yes[a(2)]	Yes	Yes	Yes
		LEF	Yes	Yes	Yes	Yes[a(2,3,4)]	Yes	No	No
A4	210 x 297	SEF	Yes	Yes	Yes	Yes[a(2)]	Yes	Yes	Yes
		LEF	Yes	Yes	Yes	Yes2;[a(3,4)]	Yes	No	No
Folio (foolscap)	8,5 x 13 in.	SEF	Yes	Yes	Yes	Yes[a(2)]	Yes	Yes	Yes
Legal	8.5 x 14 in.	SEF	Yes	Yes	Yes	Yes[a(2)]	Yes	Yes	Yes

B4	257 x 364 mm	SEF	Yes	Yes	Yes	Yes[a(2)]	Yes	Yes	Yes
A3	297 x 420 mm	SEF	Yes	Yes	Yes	Yes[a(2,3,4)]	Yes	Yes	Yes
Ledger	11 x 17 in.	SEF	Yes	Yes	Yes	Yes[a(2,3,4)]	Yes	Yes	Yes
Custom size	Same width with standard size		Yes	Yes	Yes	Yes	Yes	No	No
Custom size	Besides above		Yes	Yes[b]	Yes[b]	No	No	No	No
[a] Numbers (2,3,4) mean 2 holes, 3 holes, and 4 holes, respectively. [b] Applicable within the following range: Media width: 203.2–297 mm Media length: 182–431.8 mm									

Media weight

Description	Maximum weight
For punching	52—176 gsm
For stapling	52—226 gsm*
For ejecting in the stacker media bin	52—226 gsm
For ejecting in the upper media bin	52—226 gsm
For folding and stapling	52-226 gsm
* The amount of media capable of being stapled will be less than 50 if the media weight is greater than 90 g/m^2.	

Features

Media processing requested	Destination of media
No post-processing	Upper media bin or stacker media bin
Punching	Upper media bin or stacker media bin
Stapling	Stacker media bin
Punching and stapling	Stacker media bin
Folding and stapling	Booklet tray

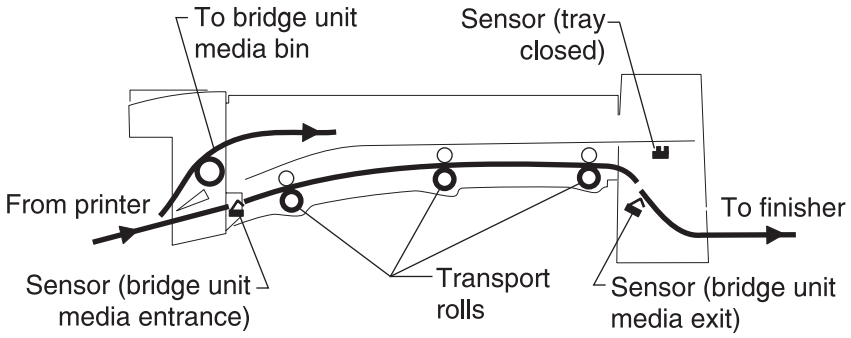
Finisher theory

Media transport

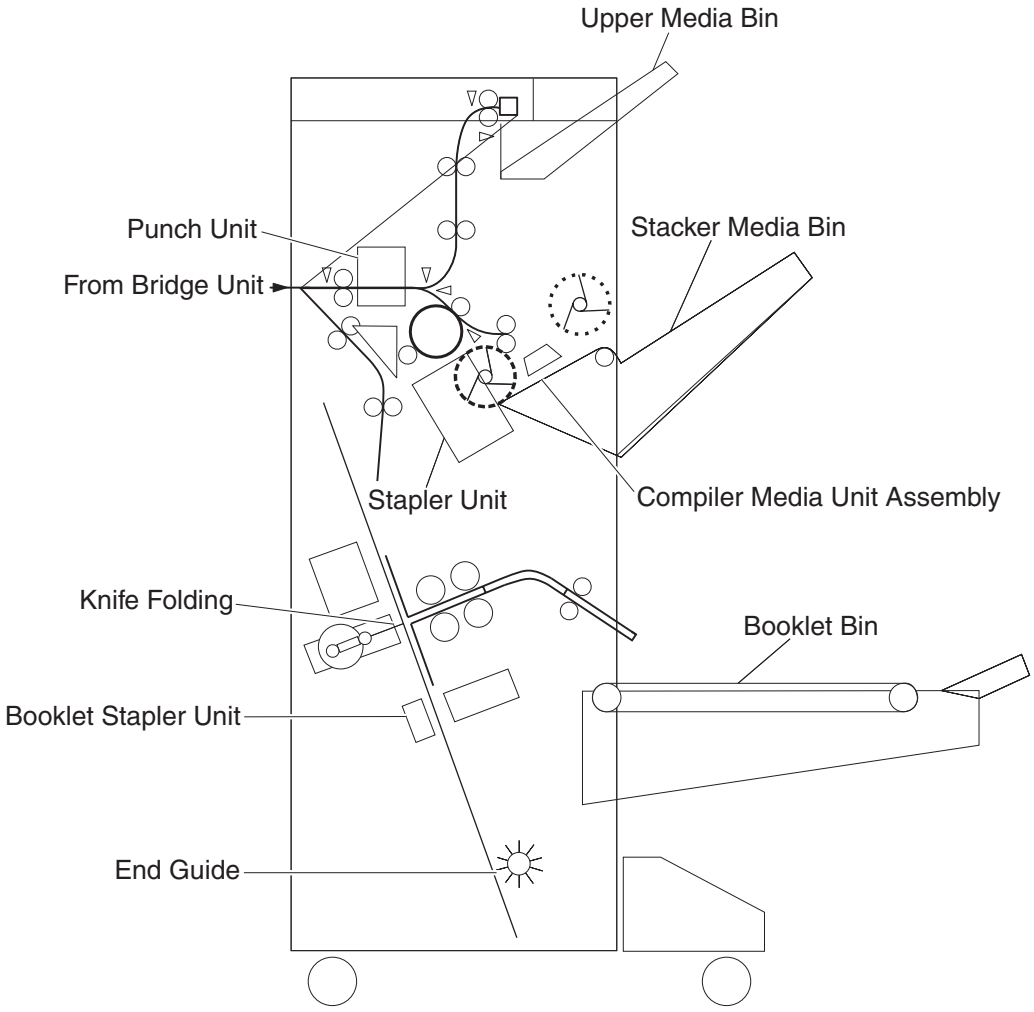
This section describes the transfer of media from the printer to a specified bin.

The following figures illustrate layouts (front view) of sensors, rollers, and main blocks, as well as a layout (rear view) of the main components.

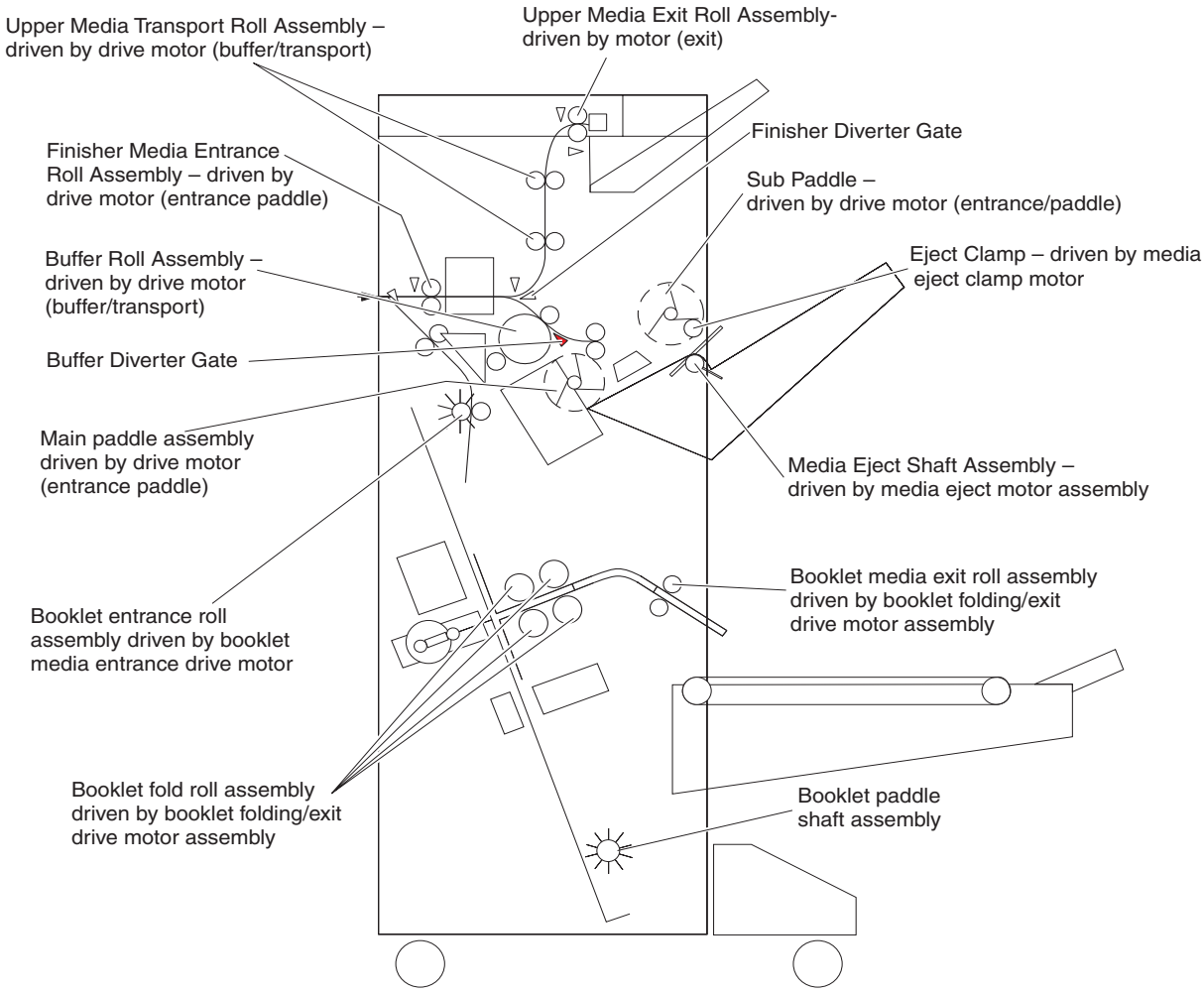
Bridge unit assembly paper path



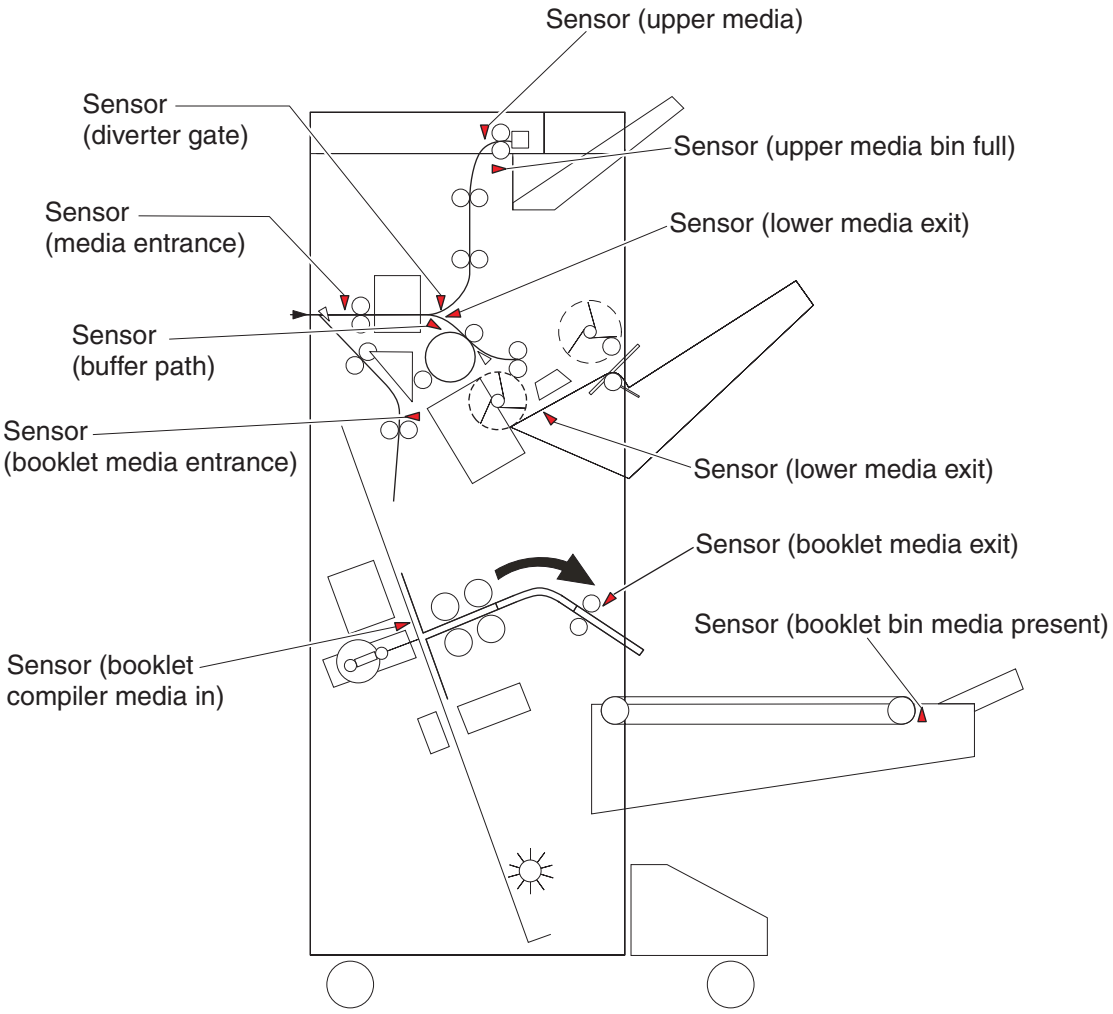
Finisher media path



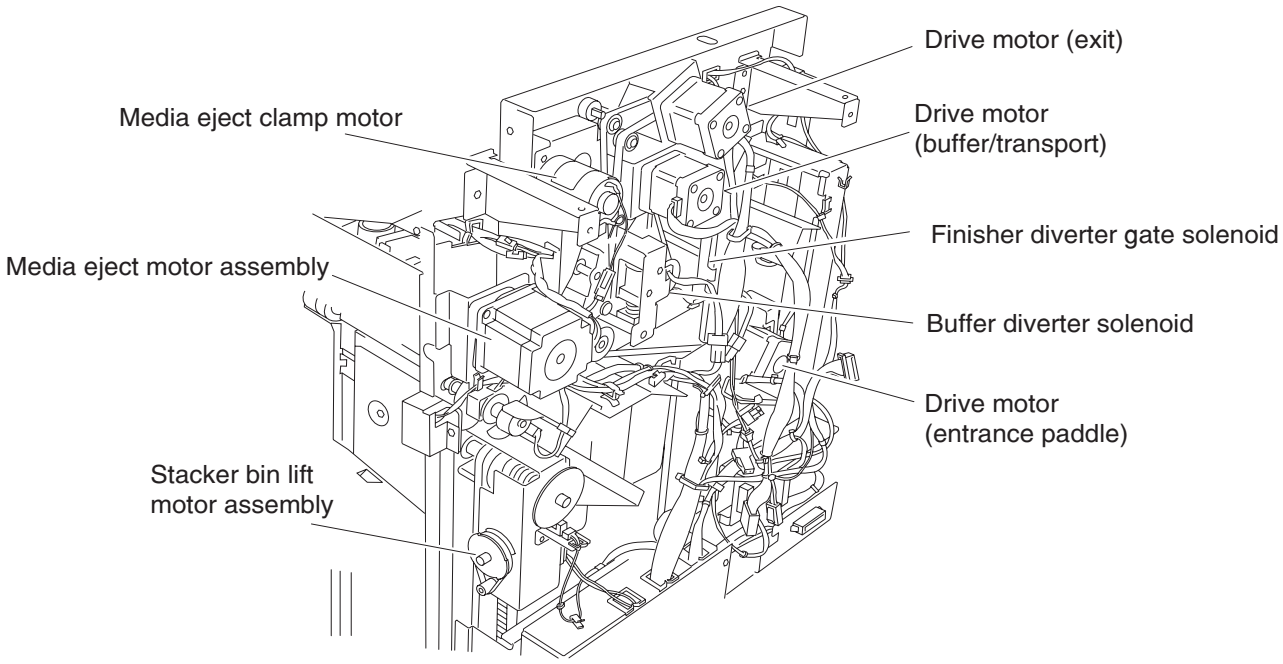
Finisher roll assemblies



Finisher media path sensors



Finisher motors

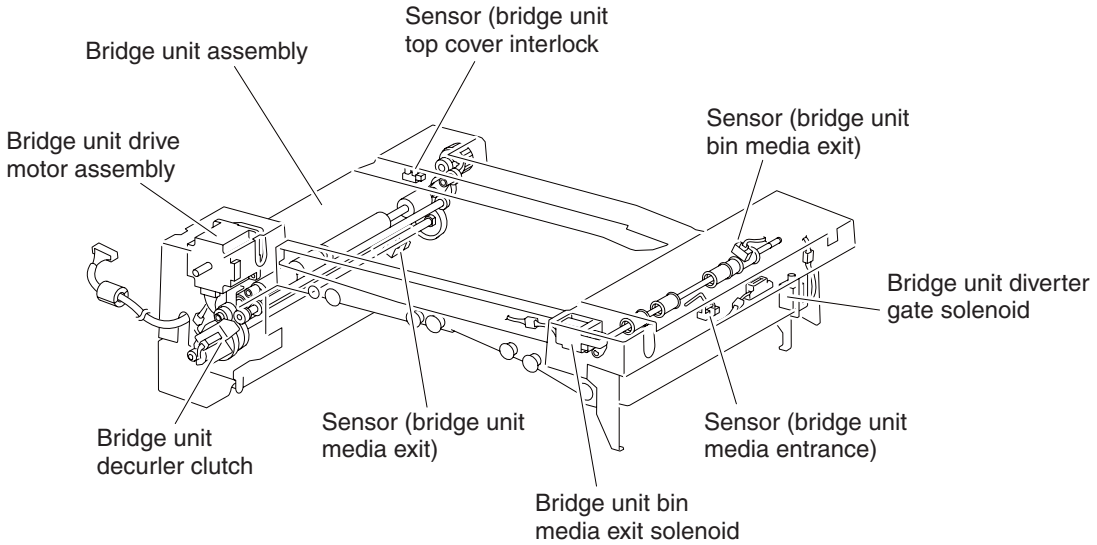


Bridge unit assembly

When the printer designates the finisher, the media diverter gate in the printer activates, and media is fed from the printer into the bridge unit assembly.

The bridge unit drive motor is activated by the trigger of the printer's registration clutch, which drives the transport belts in the bridge unit assembly. The motor power is transmitted to the two belts between the bridge unit right shaft assembly and the bridge unit left shaft assembly.

The media fed to the bridge unit assembly is securely held between the transport belts and the pinch rolls, and fed to the finisher.



From bridge unit assembly to punch

The media fed from the bridge unit assembly is fed into the finisher by the media entrance roll assembly located on the entrance section of the finisher which is driven by the drive motor (entrance/paddle).

The media route inside the finisher is determined by the finisher diverter gate.

The finisher diverter gate is activated by the finisher diverter gate solenoid controlled by the printer.

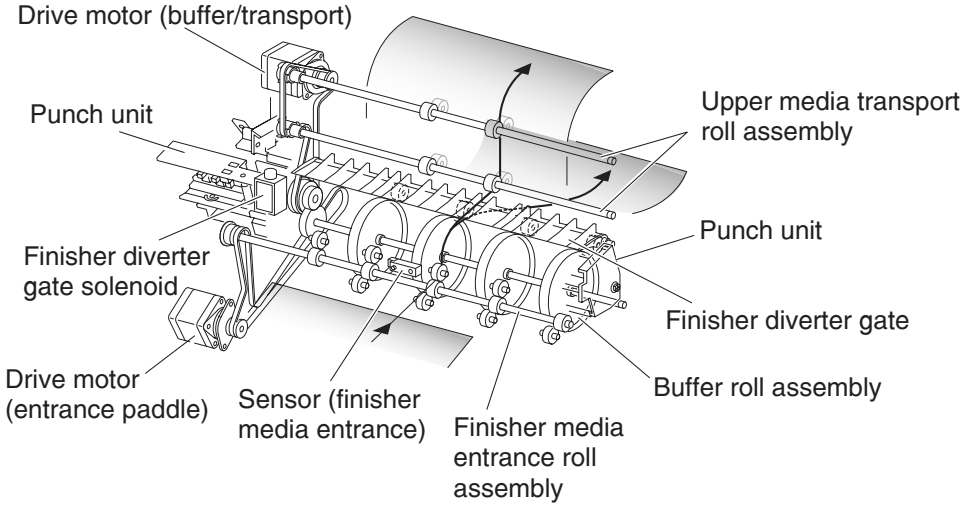
The media is further fed in the finisher by the two upper media transport roll assemblies, or the buffer roll assemblies that are driven by the motor (buffer/transport), and passes through the punch unit.

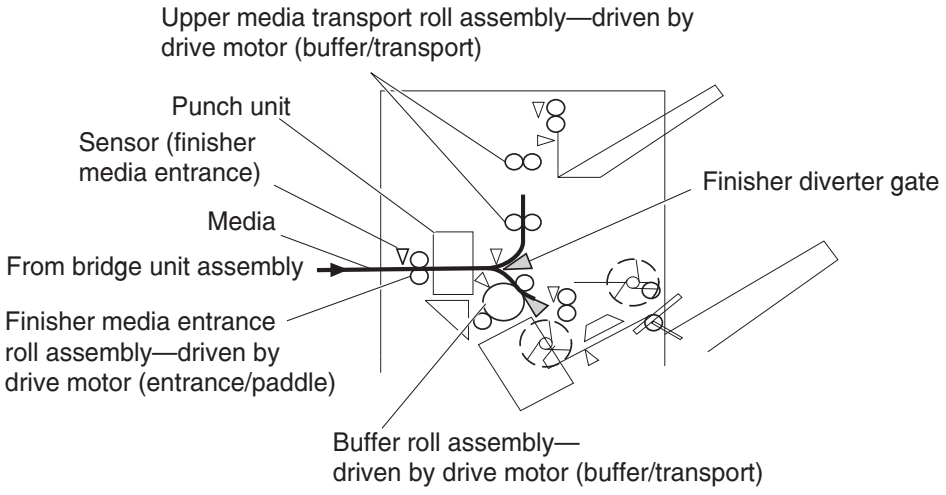
The sensor (finisher media entrance) becomes low upon detecting media. After a certain amount of time has passed and the level has changed to high, the motor (buffer/transport) that drives the upper media transport roll assembly or the buffer roll assembly starts reverse rotation.

The media is returned to the punch unit by the upper media transport roll assembly or the buffer roll assembly, and is stopped with its end gently pressed against the three punch media stopper assemblies.

The three punch media stopper assemblies in the punch unit drop to let media pass through when media is fed to the exit (while the motor (buffer/transport) is rotating forward), but rise when media is returned (while the motor (buffer/transport) is rotating reversely) to stop the media.

Thus, punch hole positions in the media feed direction are determined.





From punch to compiler unit assembly

The media is transferred to the compiler unit assembly by the buffer roll assembly (driven by the motor (buffer/transport)) and by the lower media exit roll assembly (driven by the drive motor (exit)).

When the first media reaches the compiler unit assembly, the media eject clamp motor is activated to lower the media eject clamp so that the media eject clamp and the media eject shaft assembly can clamp the media.

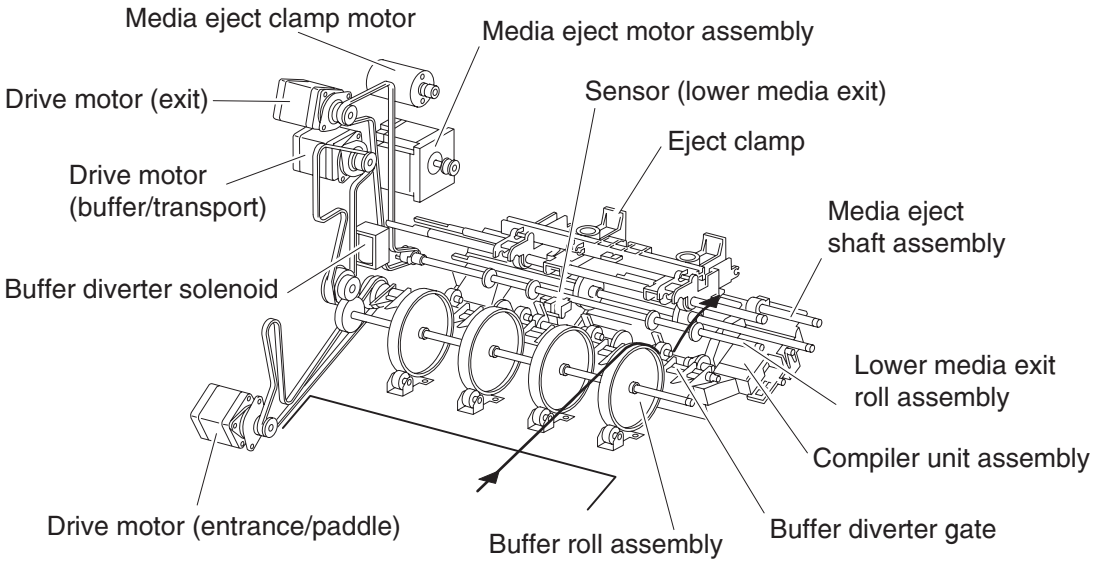
Thus, the media transferred from the punch unit is held by the media eject shaft assembly and the media eject clamp (driven by the media eject motor assembly) and is fed to the exit.

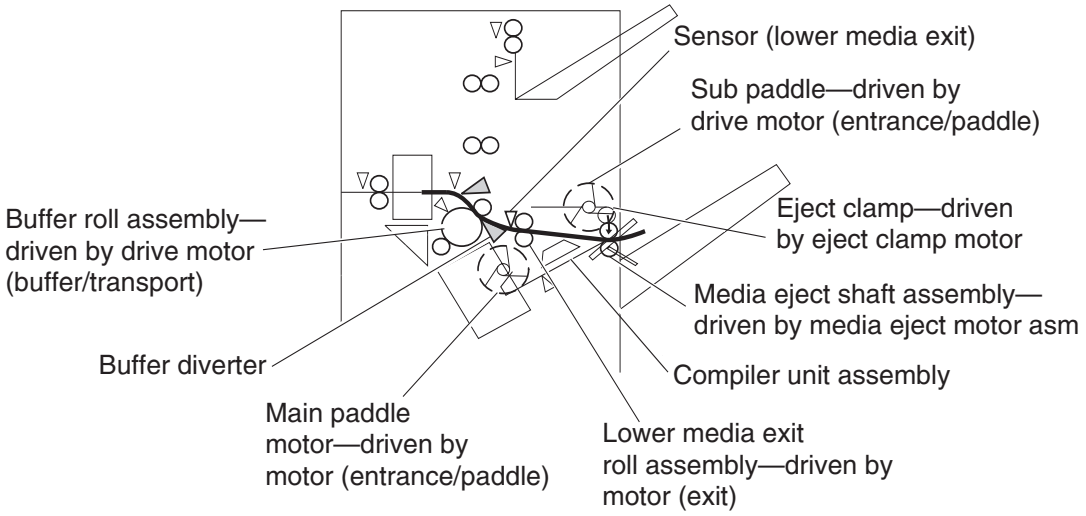
When the media trailing edge passes through the sensor (lower media exit), the media eject motor assembly starts reverse rotation to return the media to the compiler unit assembly.

When the following media reaches the compiler unit assembly, the media eject clamp is raised, and the media that has passed through the lower media exit roll assembly falls on the compiler unit assembly.

At this time, the three main paddles are rotated by the main paddle shaft assembly to feed the media so that the media trailing edge butts against the rear wall of the compiler unit assembly.

The sub paddle solenoid of the media eject unit assembly is activated to lower the sub paddle so that the media can be fed to the compiler unit assembly.





When printing multiple sets, while stapling the first set on the compiler unit assembly or ejecting it to the stacker media bin, the first media of the second set will not be fed to the compiler unit assembly.

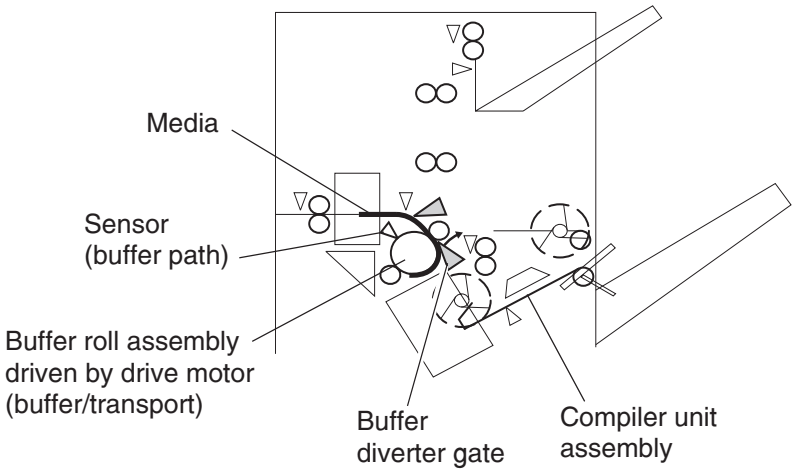
When the first media of the second set reaches the finisher, the buffer diverter solenoid is activated by the printer command and by the sensor (finisher media entrance) to switch the buffer diverter gate.

Thus, the media route is switched into the buffer roll assembly's circumferential direction. (This operation is called the buffer path.)

The first media of the second set is aligned with the second media, and then they are fed together to the compiler unit assembly.

Even for one sheet of media, the buffer path operation is executed in the same way. The media is stacked temporarily on the compiler unit assembly, and then ejected in the stacker media bin.

After the buffer path is executed for the first media, if a second media of a different size comes, the first media is fed to the compiler unit assembly, but the second one is fed to the compiler unit assembly without the buffer path. At this time, a certain delay time is provided to prevent the second media from colliding with the first one.



From compiler unit assembly to stacker media bin

Stapled media on the compiler unit assembly (stapling mode) or aligned media (non-stapling mode) are held between the media eject clamp and the media eject shaft assembly.

The media eject shaft assembly is driven by the media eject motor assembly to transfer media to the stacker media bin.

After media is transferred to the stacker media bin, it is held by the clamp paddle attached to the media eject shaft assembly.

From punch to upper media bin

The media to be ejected to the upper media bin is switched in the media path by the finisher diverter gate located behind the punch and fed in the upper media transport roll assembly direction.

The finisher diverter gate is switched by the finisher diverter gate solenoid. While the solenoid is activated, media is fed in the upper media transport roll assembly direction.

The two upper media transport roll assemblies driven by the motor (buffer/transport) feed media to the upper media exit roll assembly top at the top of the finisher.

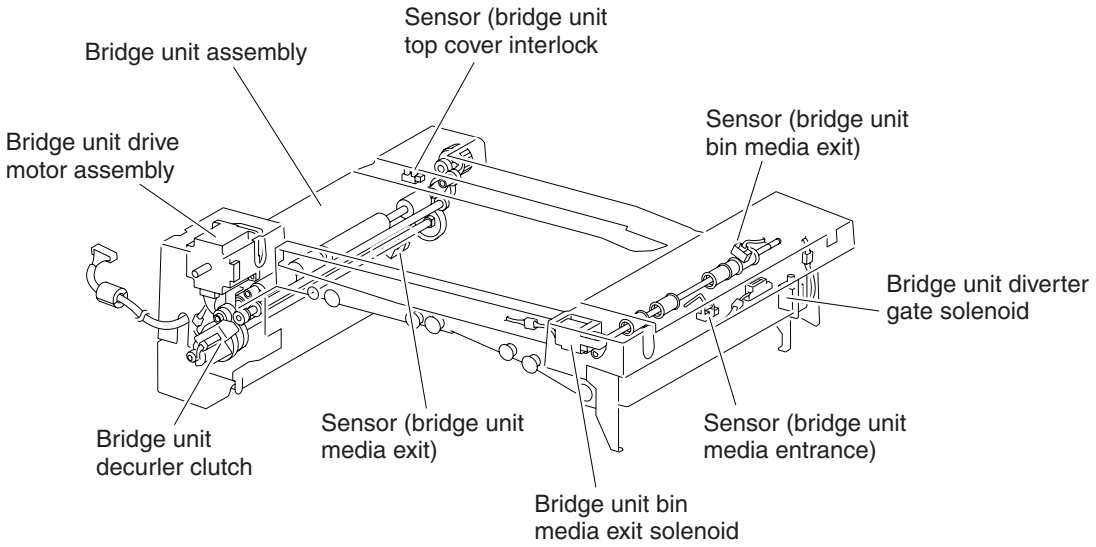
The upper media exit roll assembly top driven by the drive motor (exit) ejects the media to the upper media bin.

The upper media exit roll assembly decelerates after a specified period of time from the following trigger events.

Functions of sensors along the media path

Bridge unit assembly

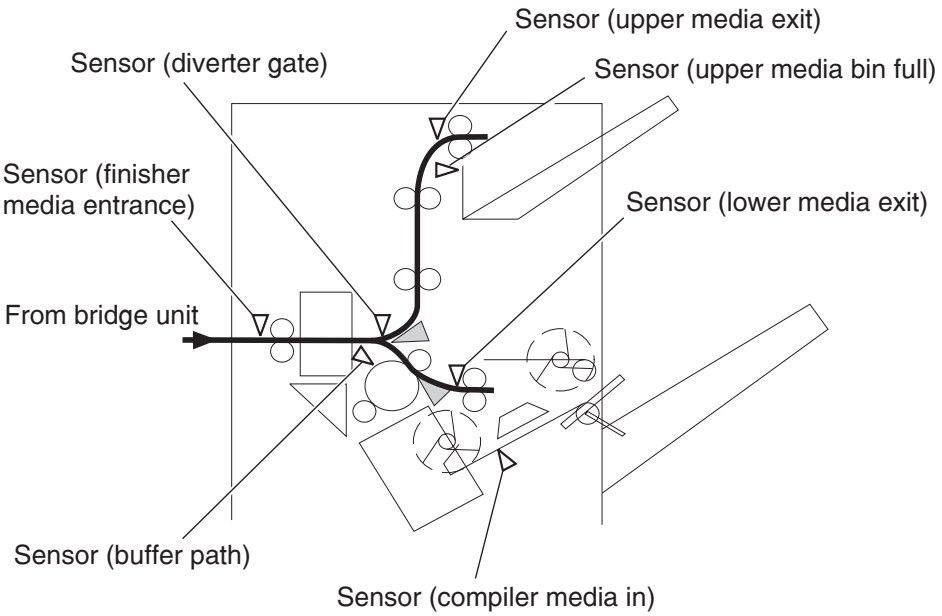
- Sensor (bridge unit media entrance)
  - A photo-interrupter sensor that detects whether media is fed from the printer to the bridge unit assembly
  - It turns high (+5 V dc) (light receiving) when media enters the bridge unit assembly.
- Sensor (bridge unit media exit)
  - A photo-interrupter sensor that detects whether media passes through the bridge unit assembly
  - It turns high (+5 V dc) (light receiving) when media reaches this sensor, and turns low (0 V dc) when media exits from the bridge unit assembly.
- Sensor (bridge unit top cover interlock)
  - A photo-interrupter sensor that detects open/close of the bridge top cover assembly of the bridge unit assembly
  - It turns high (+5 V dc) (light receiving) when the bridge top cover assembly opens.



Finisher

- Sensor (finisher media entrance)
  - A photo-reflective sensor detects whether media is fed from the bridge unit assembly to the finisher
  - It turns high (+5 V dc) while media is present within the sensing area.
  - When the level turns high due to the first media of the second set during multi-set printing, this sensor activates the buffer diverter solenoid to switch the buffer diverter gate so that the media goes in the buffer roll assembly's circumferential direction.
- Sensor (diverter gate)
  - A photo-reflective sensor that detects the leading edge of the media
  - It turns low (0 V) when the front end reaches the sensing area.
- Sensor (lower media exit)
  - A photo-interrupter sensor that detects whether media passes through the sensor (lower media exit)
  - It turns high (+5 V) (light receiving) when the actuator is driven out of the sensing area by the media.
  - When the level turns high, this sensor activates the front tamper motor and the rear tamper motor on the compiler unit assembly.
  - This sensor is also used to control on/off of the media eject motor assembly
- Sensor (compiler media present)
  - A photo-interrupter sensor that detects whether media is present or not on the compiler unit assembly.
  - While media is present, the actuator is outside the sensing area, and the sensor turns high (+5 V dc) (light receiving).
- Sensor (buffer path)
  - A photo-interrupter sensor that detects whether media is fed toward the buffer roll assembly
  - While media is present, the actuator is outside the sensing area, and the sensor turns at high (+5 V dc) (light receiving).
- Sensor (upper media exit)
  - A photo-interrupter sensor that detects whether media is fed to the upper media exit roll assembly top at the exit side of the upper media bin
  - When the media is fed, the actuator leaves from the sensing area, and the sensor turns high (+5 V dc).
- Sensor (upper media bin full)

  A photo-reflective sensor that detects the stack volume of media in the upper media bin



Punch unit

This section describes the media punching operation of the punch.

Two types of punch are provided: the 2/3-hole type and the 2/4-hole type.

The following explains the 2/3-hole type (2-hole/3-hole auto-switching).

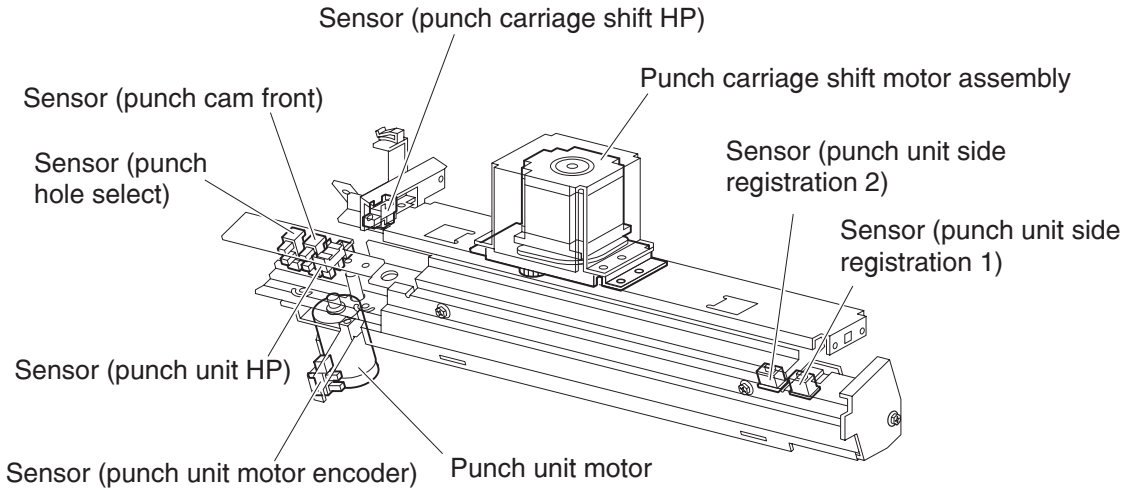
Every type has the same construction, except for the sensor (punch hole select) that is provided for the 2-hole type and 3-hole type only.

Adjusting punching positions

The punching positions from the media edge in the direction of feed are determined by gently pressing the media against the three punch media stopper assemblies.

The three punching positions from the media edge in the direction of media width are determined by the following method.

- Activate the punch carriage shift motor assembly, and move the punch to the front side until the sensor (punch carriage shift HP) turns low.
- Reversely rotate the motor, and move the punch to the rear side until the sensor turns high to determine the home position.
- The punch carriage shift motor assembly is activated to move the punch to the front until the sensor (punch unit side registration 1) and the sensor (punch unit side registration 2) detects the media edge, and then the punch is further moved to the front according to the pulse-number determined by the media size. (The punch carriage shift motor assembly stops at this position.)



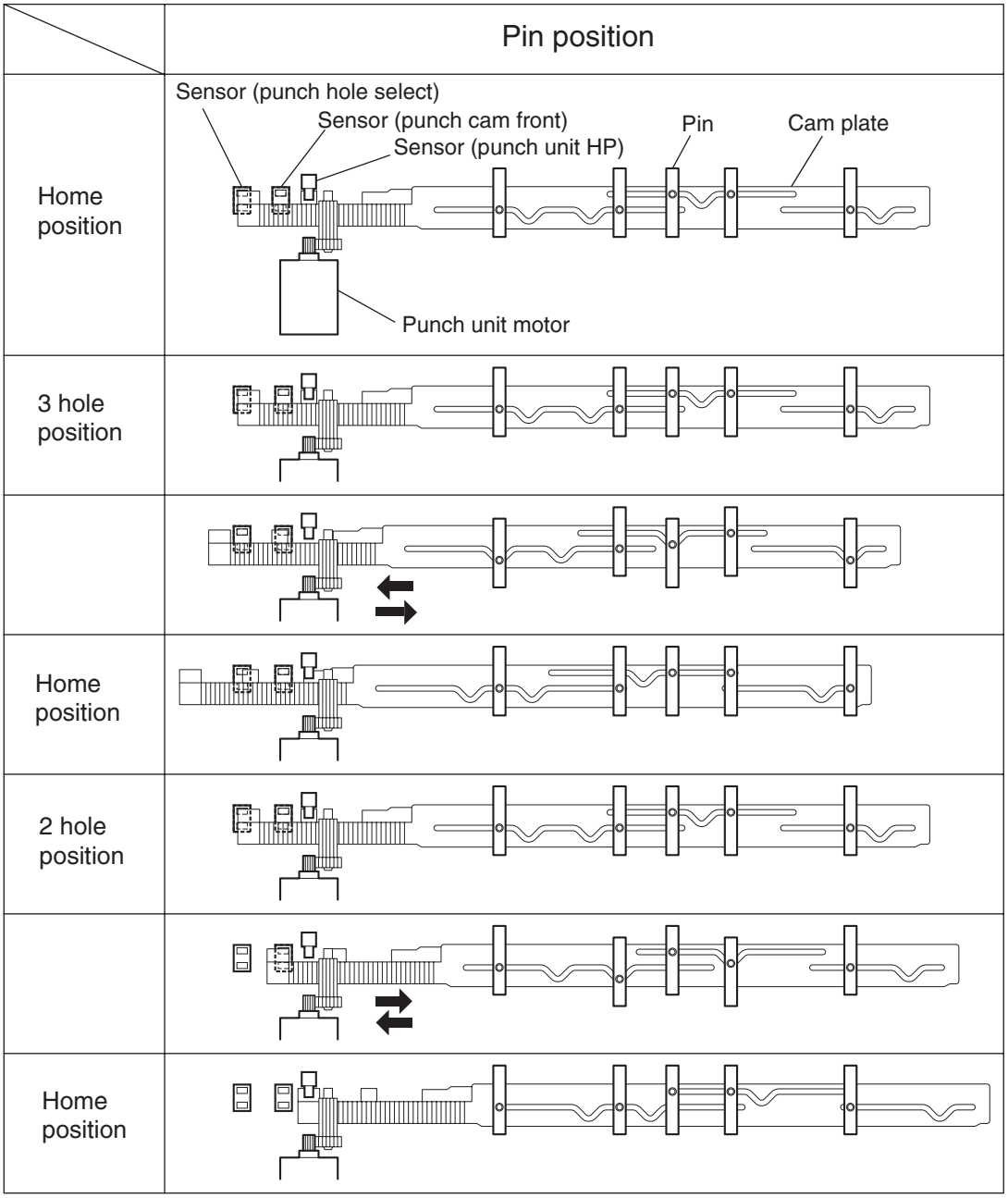
Punching

After punching positions are determined, the punch unit motor is activated to move the cam plate. With the movement of the cam plate, the pins descend along the guide holes to punch the media.

This operation is performed for each sheet of media.

The cam plate can lower the pins even while it is moving to the front or rear side.

The punch unit motor is rotated forward or reversely for each sheet of media, which is triggered by the sensor (punch cam front) being turned on/off.



Detecting punch waste full

Punch waste is stored in the punch waste box.

A sensor is provided to detect punch waste full.

When punch waste full is detected, it is notified to the operator only once.

Even if punch waste is not removed, the finisher can still punch media. However, it can spread punch waste inside the machine.

Detecting punch waste box

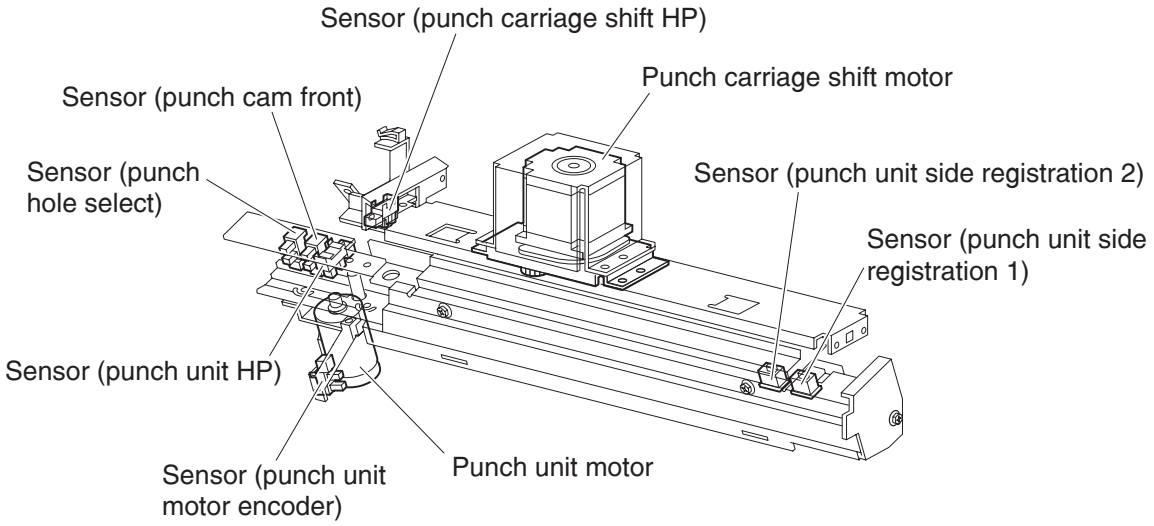
The sensor (punch waste box set) detects whether the punch waste box is properly set.

When the sensor (punch waste box set) does not detect that the punch waste box is properly set for four seconds, the punch waste box count is reset.

Functions of punch sensors/motors

- Sensor (punch unit side registration 1)
  - A photo-reflective sensor that detects the side edge of large media
  - Media side edge is detected by On/Off of this sensor while shifting the punch (containing this sensor) in the direction of media width.
  - The sensor remains at high (+5 V dc) while media is present, and turns low when media side edge is detected.
- Sensor (punch unit side registration 2)
  - A photo-reflective sensor that detects the side edge of small media
  - This sensor has the same function as the sensor (punch unit side registration 1).
- Sensor (punch carriage shift HP)
  - A photo-interrupter sensor that detects the home position of the moving punch
  - It turns high (+5 V dc) (light blocking) when the home position is detected.
- Sensor (punch unit HP)
  - A photo-interrupter sensor that detects the home position of the cam plate that lowers the punching pins
  - It turns high (+5 V dc) when the home position is detected.
- Sensor (punch hole select)
  - A photo-interrupter sensor that detects the rear position of the cam plate
  - It turns high (+5 V dc) when the rear position is detected.
  - This sensor also detects the cam position to switch punch holes (2-hole/3-hole).
- Sensor (punch cam front)
  - A photo-interrupter sensor that detects the front position of the cam plate
  - It turns high (+5 V dc) when the front position is detected.
  - This sensor is used to determine to which side (front or rear) the cam plate should be moved.
- Sensor (punch unit motor encoder)
  - A photo-interrupter sensor that detects pulse generated by the encoder attached to the punch unit motor
  - It counts punch unit motor revolutions and becomes a trigger to stop the motor (by shutting off the current).
- Punch carriage shift motor assembly
  - A stepping motor to move the punch in the media width direction
- Punch unit motor
  - A DC motor to move the cam plate that lowers the punching pins
  - Forward rotation of the motor moves the cam plate to the front side, and reverse rotation moves it to the rear side.

- Sensor (punch waste box set)
  - A photo-interrupter sensor that detects whether the waste box is properly set
  - When the punch waste box is properly set, the actuator of the box blocks the light transmission of the sensor, which turns the sensor to high (+5 V dc).
- Sensor (punch waste box full)
  A photo-interrupter sensor that detects whether the punch waste box is filled with punch waste.



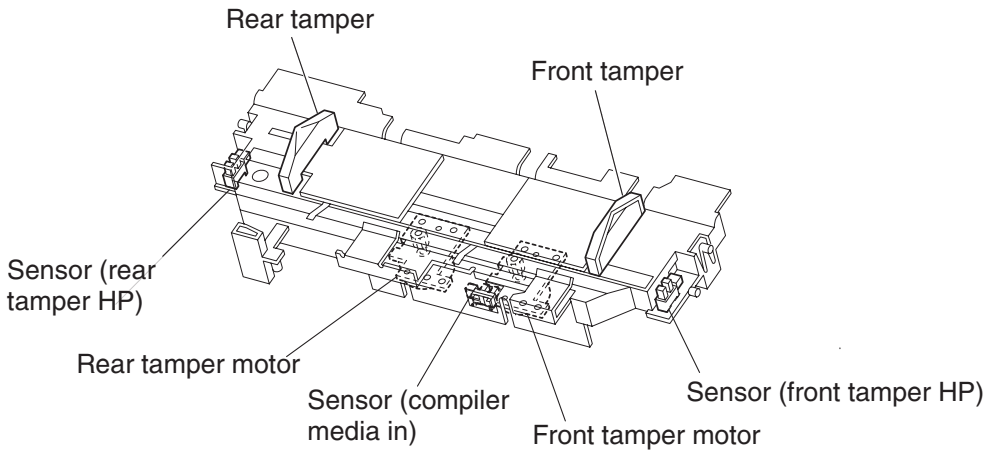
Compiler unit assembly

This section describes the operation of the compiler unit assembly which aligns the media edge transferred from the punch unit.

Outline of operation

When media is fed onto the compiler unit assembly, tamping is performed to align the media edge in the media width direction.

When ejecting stapled sets of media to the stacker media bin, if they are stacked in the stacker media bin with the same staple position, the height of the stapled portion will increase. This will cause improper compiling of media due to butting of the following media. To prevent such improper compiling, offsetting is required by shifting the staple position between sets of media.



Capacity of compiler unit assembly

Media volume that can be stacked on the compiler unit assembly is limited as shown in the table below.

The number of sheets depends on whether media is stapled or not, as well as on media size.

If the number of sheets of one set to be stapled exceeds the limit, the exceeding sheets are not stacked on the compiler unit assembly, and are forcibly ejected to the stacker media bin without being stapled.

This forcible ejection is performed to prevent damage to the staple assembly.

When feeding large media in the non-staple mode, there may be a misalignment depending on media characteristics. For this reason, the default media capacity is set to a smaller value.

Compiler unit assembly media capacity

Condition	Min.	Default	Max.
Staple mode	2	50	75
For small media (less than 216 mm in the feed direction) in non-staple mode	10	50	100
For large media (216 mm or more in the feed direction) in non-staple mode	10	25	100

Compiler unit assembly operation with multiple media sizes

When two or more media sizes are used and their widths are the same (example: A4L and A3S), all the sheets are compiled and stapled as a set on the compiler unit assembly, and then ejected to the stacker media bin.

When two or more media sizes with different media width are used, stapling media on the compiler unit assembly is stopped when a different size is detected. Such different-size sheets of media are forcibly ejected to the stacker media bin.

Tamping

When media is fed from the punch to the compiler unit assembly, tamping is performed to align the media in the media width direction on the compiler unit assembly.

Tamping is an operation to align media to the specified position on the compiler unit assembly. The front tamper or rear tamper is moved to the end of the media by its motor.

Tamping is executed each time when a sheet of media reaches the compiler unit assembly. Additional tamping is executed after the last sheet is tamped.

There are three types of tamping.

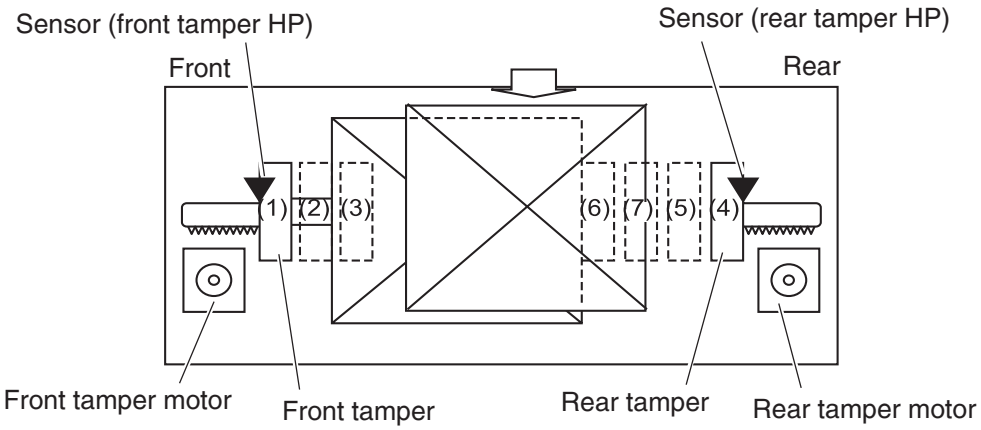
- Front tamping—Tamping by the rear tamper with the front tamper fixed at the home position
- Rear tamping—Tamping by the front tamper with the rear tamper fixed at the home position
- Center tamping—Tamping by the front and rear tampers to align media to the center

Front tamping

Front tamping is used in the following cases.

- In the non-staple mode
- When executing front stapling (corner)

The tamper positions during front tamping are shown below.



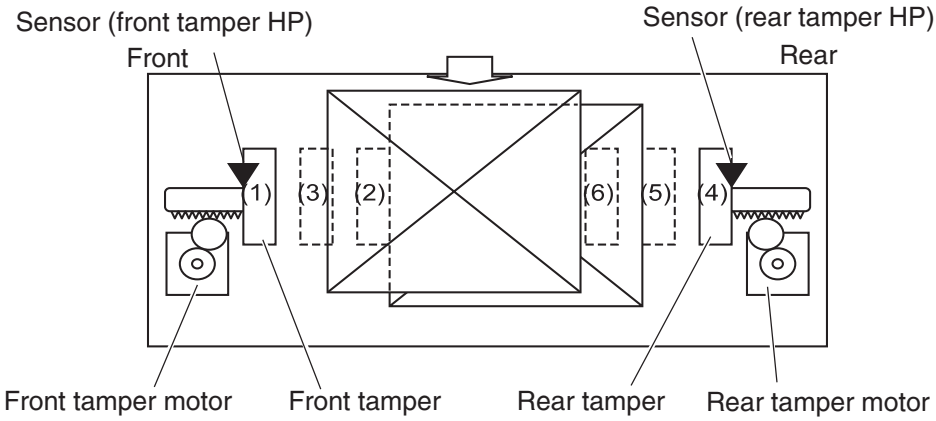
Position	Description
1	Front tamper home position—sensor (front tamper HP)
2	Front tamper size position
3	Front tamper offset position
4	Rear tamper home position—sensor (rear tamper HP)
5	Rear tamper standby position
6	Rear tamper tamping position
7	Rear tamper offset position

Rear tamping

Rear tamping is used in the following cases.

- When executing rear stapling (corner)
- When executing dual stapling

The tamper positions during rear tamping are shown below.

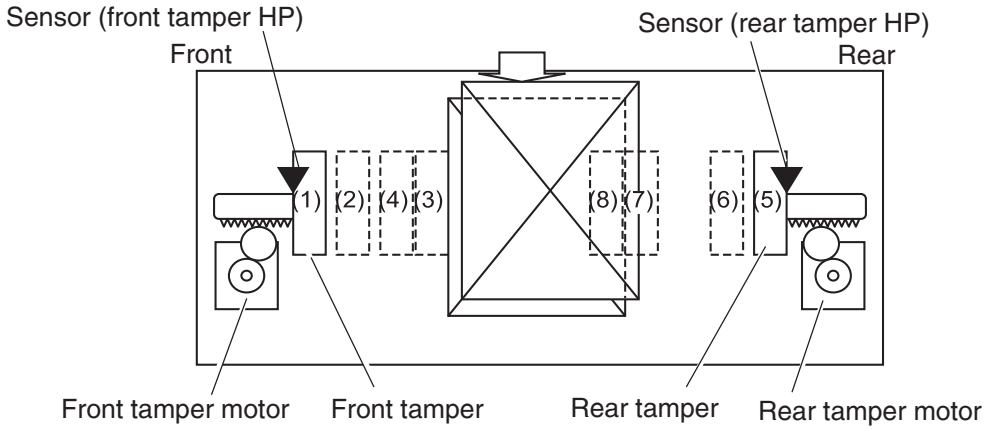


Position	Description
1	Front tamper home position—sensor (front tamper HP)
2	Front tamper tamping position
3	Front tamper offset position
4	Rear tamper home position—sensor (rear tamper HP)
5	Rear tamper size position
6	Rear tamper offset position

Center tamping

Center tamping is used when executing rear stapling (straight).

The tamper positions during center tamping are shown below.



Position	Description
1	Front tamper home position—sensor (front tamper HP)
2	Front tamper standby position
3	Front tamper tamping position
4	Front tamper offset position
5	Rear tamper home position—sensor (rear tamper HP)
6	Rear tamper standby position
7	Rear tamper size position
8	Rear tamper offset position

Determining tamper home position

When the sensor (lower media exit) turns high (+5 V dc) (light receiving), the front and rear tamper motors on the compiler unit assembly are activated, and the front and rear tampers start moving.

The front tamper home position is determined when the front tamper enters the sensor (front tamper HP) sensing area.

In the same way, the rear tamper home position is determined when the rear tamper enters the sensor (rear tamper HP) sensing area.

Tamping

Tamping is executed after a preset time has passed after the sensor (compiler media present) turns high (+5 V dc) when media is detected on the compiler unit assembly.

Offsetting

Offsetting is an operation to shift the position of media to be ejected to the stacker media bin so that boundaries between media units (sets of media, job units, etc.) can be easily recognized.

Offsetting is executed for staple positions:

- During front stapling (corner)—Shifts stapled sheets using the front tamper by 20 mm to the rear side before ejecting them to the stacker media bin
- During rear stapling (corner/straight)
  - For media with a width of 216 mm or more [rear staple (corner)]—Shifts stapled sheets using the rear tamper by 20 mm to the front side before ejecting them to the stacker media bin
  - For media with a width of less than 216 mm [rear staple (straight)]—Shifts stapled sheets using the front tamper by 9 mm to the rear side before ejecting them to the stacker media bin.

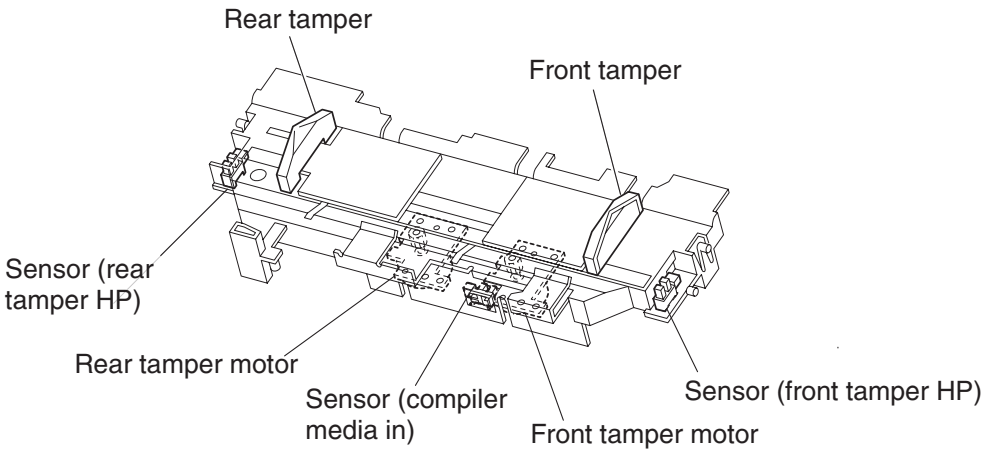
During dual stapling:

- Shifts stapled sheets using the front tamper by 9 mm to the rear side before ejecting them to the stacker media bin.
- Offsetting is not executed (0 mm) for small media.

Functions of compiler unit assembly sensors/motors

- Sensor (compiler media in)
  - A photo-interrupter sensor that detects whether media is present or not on the compiler unit assembly
  - When media is detected, the actuator leaves the sensing area, which turns the sensor to high (+5 V dc) (light receiving).
- Sensor (front tamper HP)
  - A photo-interrupter sensor that detects the front tamper home position
  - When the front tamper comes to the home position, it enters the sensor's sensing area, which turns the sensor to high (+5 V dc) (light blocking).
- Sensor (rear tamper HP)
  - A photo-interrupter sensor that detects the rear tamper home position
  - When the rear tamper comes to the home position, it enters the sensor's sensing area, which turns the sensor to high (+5 V dc) (light blocking).
- Front tamper motor
  - A stepping motor that moves the front tamper for tamping
  - Clockwise rotation of this motor moves the front tamper to the rear side. Counterclockwise rotation of this motor moves the tamper to the front side.

- Rear tamper motor
  - A stepping motor that moves the rear tamper for tamping
  - Clockwise rotation of this motor moves the rear tamper to the front side. Counterclockwise rotation of this motor moves the tamper to the rear side.



Stapler

This section describes the operation of the stapler.

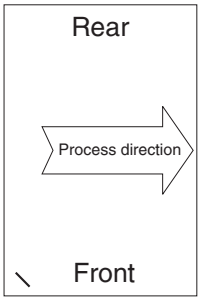
Stapling operation

Sheets of media fed from the punch are tamped on the compiler unit assembly, and then stapled at specified positions by the command of the printer.

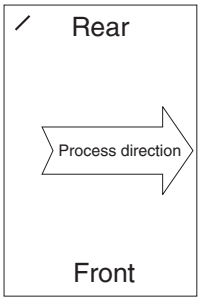
Staple positions

There are four stapling modes:

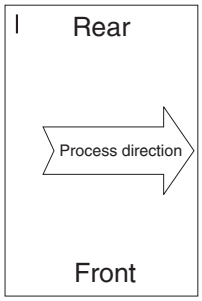
- Front staple (corner) [front corner]
  The stapler staples a set of media obliquely (45 degrees) after the rear tamper aligns the media to the front side.



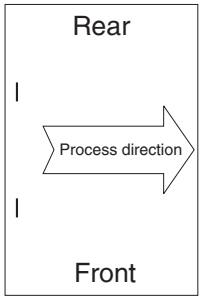
- Rear staple (corner) [rear corner]
  This type of stapling is applied for media with a width of 216 mm or more.
  The stapler moves to the rear corner and staples a set of media obliquely (45 degrees) after the front tamper aligns the media to the rear side.



- Rear Staple (Straight) [rear straight]
  This type of stapling is applied for media with a width of less than 216 mm.
  The Stapler staples a set of media in parallel with the media edge after the front tamper aligns the media to the rear side.



- Dual Staple [dual]
  The Stapler staples a set of media at fixed positions (front/rear sides) in parallel with the media edge after the front tamper aligns the media to the specified position for each media size.



Media sizes that allow stapling

Media size that allows stapling depends on stapling positions.

The following table shows media sizes and the applicability of stapling for each staple position.

	Front corner	**Rear corner**	**Rear straight**	**Dual**
A3 SEF	Yes	Yes	No	Yes
A4 LEF	Yes	Yes	No	Yes
11 x 17 in. SEF	Yes	Yes	No	Yes
8.5 x 11 in. LEF	Yes	Yes	No	Yes
8K SEF(GCO), 16K LEF(GCO)	Yes	Yes	No	Yes
B4 SEF, B5 LEF	Yes	Yes	No	Yes
8 x 10 in. LEF	Yes	Yes	No	Yes
8.5 x 14 in. SEF / 8.5 x 13 in. SEF / 8.5 x 11 in. SEF	Yes	No	Yes	Yes
A4 SEF	Yes	No	Yes	Yes
8 x 10 in. SEF	Yes	No	Yes	Yes
Yes: Applicable, No: Not applicable				

Stapling one sheet

Upon receiving the stapling command from the printer with one sheet remaining on the compiler unit assembly, the finisher ejects the media to the stacker media bin without stapling it.

Stapling multiple size media

When sheets with different sizes and the same width (example: A4L and A3S) are present on the compiler unit assembly, all the sheets are stapled and then ejected to the stacker media bin.

When sheets with different widths are present on the compiler unit assembly, stapling is stopped when a different width is detected. Such different-width sheets are forcibly ejected to the stacker media bin.

Media limits for stapling

The number of sheets to be stapled is limited to prevent damage to the stapler.

- If the number of sheets of one set to be stapled exceeds the limit of the compiler unit assembly, the exceeding sheets are not stacked on the compiler unit assembly, and are forcibly ejected to the stacker media bin without being stapled.
- After the forcible ejection of media, if the number of following sheets of one set to be stapled exceeds the limit of the compiler unit assembly, the exceeding sheets are also ejected forcibly to the stacker media bin without being stapled.
- After that, even if the number of following sheets of one set to be stapled falls within the limit, the sheets are also ejected forcibly to the stacker media bin without being stapled.

The upper limit (and default) of the compiler unit assembly media capacity when stapling is 50 (variable (10 to 100) by the non-volatile memory).

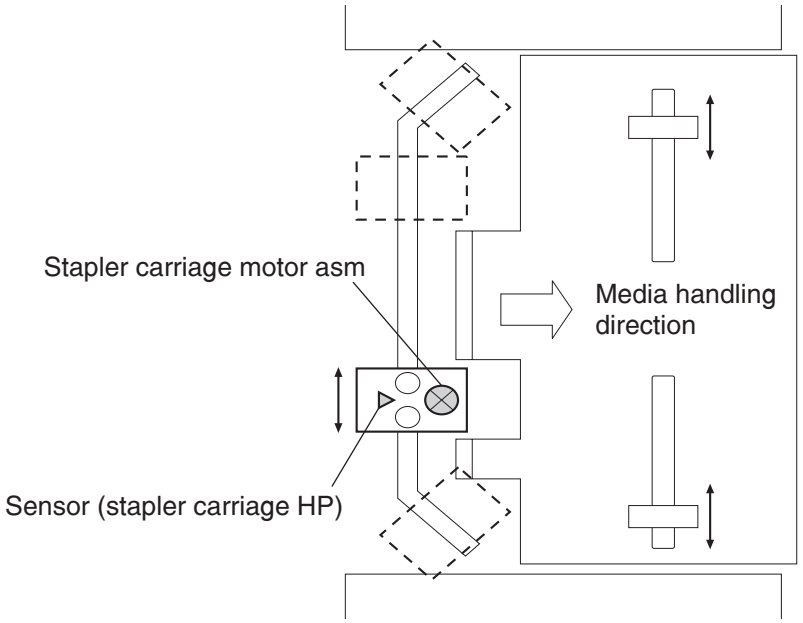
Stapler operation

The stapler stays at the front home position, that is, at the front staple (corner) position when the power is turned on.

The stapler starts stapling when a set of sheets to be stapled is stacked on the compiler unit assembly.

The stapler does not move during stapling in the front staple mode.

In any mode other than the front staple mode, the stapler moves to the specified position, and then performs stapling.



Stapler unit assembly

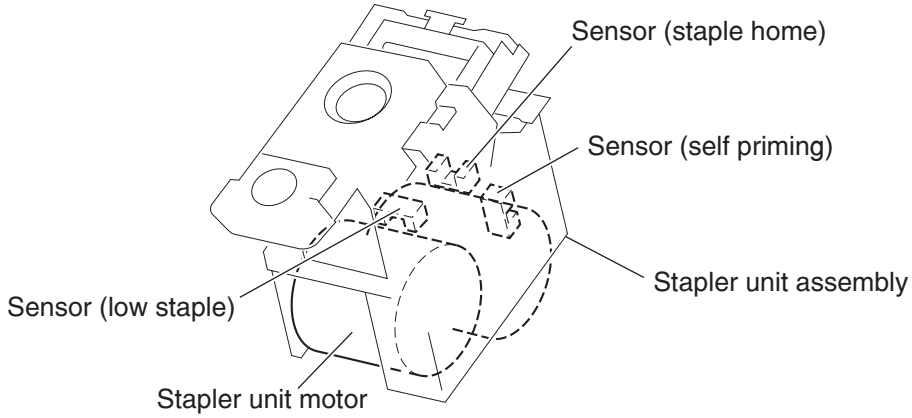
The stapling operation is executed by closing the stapler unit assembly.

The stapler unit assembly, containing the staple motor, the sensor (staple home), the sensor (self priming), and the sensor (low staple), is activated by the staple motor.

Forward (clockwise) rotation of the motor drives the stapler to staple a set of sheets, and returns the stapling unit to the home position.

If stapling fails, the motor rotates reversely (counterclockwise) to return the stapler unit assembly to the home position.

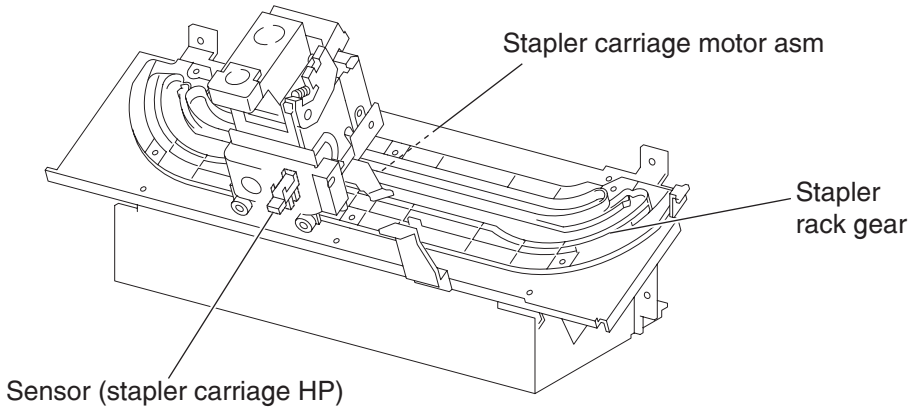
When staples become low, the low staple sensor detects it, and stapling stops automatically, displaying an alarm message. The message is also displayed when the staple cartridge is not installed.



Functions of stapler sensors/motors

- Sensor (stapler carriage HP)
  - A photo-interrupter sensor that detects the stapler home position, rear staple (corner) position, and rear staple (straight) position
  - It turns high (+5 V dc) (light blocking) when the stapler comes to the specified position.
- Stapler carriage motor assembly
  - A stepping motor that moves the stapler unit assembly
  - Clockwise rotation of this motor moves the stapler unit assembly to the rear side, while counterclockwise rotation moves the stapler unit assembly to the front side.
- Sensor (low staple) in the stapler unit assembly
  - A photo-interrupter sensor that detects when the stapler unit assembly is nearly out of staples
  - It turns high (+5 V dc) when 20 staples are left.
- Sensor (self priming) in the stapler unit assembly
  - A photo-interrupter sensor that detects that staples are at the stapler unit assembly end; it also detects failure in stapling
  - It turns low (0 V dc) (light blocking) when stapling is ready.
- Sensor (staple home) in the stapler unit assembly
  - A photo-interrupter sensor that detects the stapler unit assembly home position; it also detects failure in stapling
  - This sensor also functions as a trigger to stop the staple motor.
  - It turns low (0 V dc) (light blocking) while the stapler unit assembly stays at the home position.

- Stapler unit motor (in the stapler unit assembly)
  - A DC motor to activate the stapler unit assembly for stapling
  - Clockwise rotation of this motor enables stapling, while counterclockwise rotation returns the stapler unit assembly.



Booklet Operation

The booklet media entrance roll assembly driven by the booklet media entrance drive motor will deliver media from the finisher entrance and stack it against the booklet end guide in the booklet unit. When the booklet end guide is at the bottom of the booklet unit it will continue to accept media. Once the proper amount of media is reached, stapling will occur and booklets will be delivered in sets to the booklet media bin.

The booklet media exit roll assembly is driven by booklet folding/exit drive motor assembly and delivers booklets to the booklet media bin. During printing, paper drawn to the booklet compiler is aligned by the booklet paddle shaft assembly which is driven by booklet paddle shaft drive Motor.

When a sheet of paper enters the booklet compiler, tamping operation is performed by two moving tampers moving towards the front and rear. The front tamper is driven by front booklet tamper drive motor; rear booklet tamper drive motor. Tamping operation will be performed a final time after the last sheet is received.

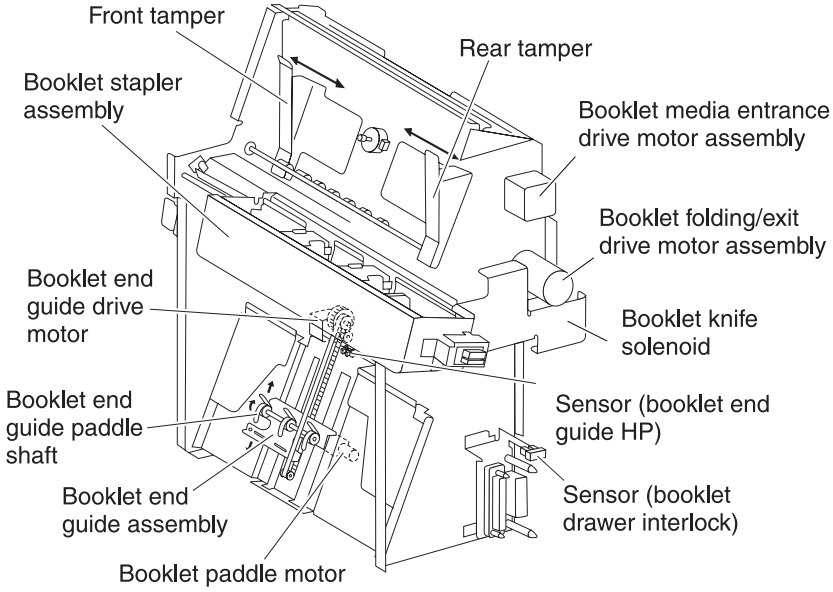
Documents in the compiler tray are assembled towards the front. For center stapling and folding positions, one set of document is assembled and moved to the center.

The booklet end guide is lifted to where the fold will divide the paper into two equal halves. When the printouts are stapled, the booklet end guide will be raised so that the stapled position is at the folding position. The stapling position is slightly lower than the folding position center line.

When the movement from the booklet folding/exit drive motor is transferred to the knife through the engagement of the sector gear, the knife will thrust forward and then return to the original position after one full rotation. At the folding position, the knife is thrust forward to fold the paper between booklet folding roll and booklet folding nip roll.

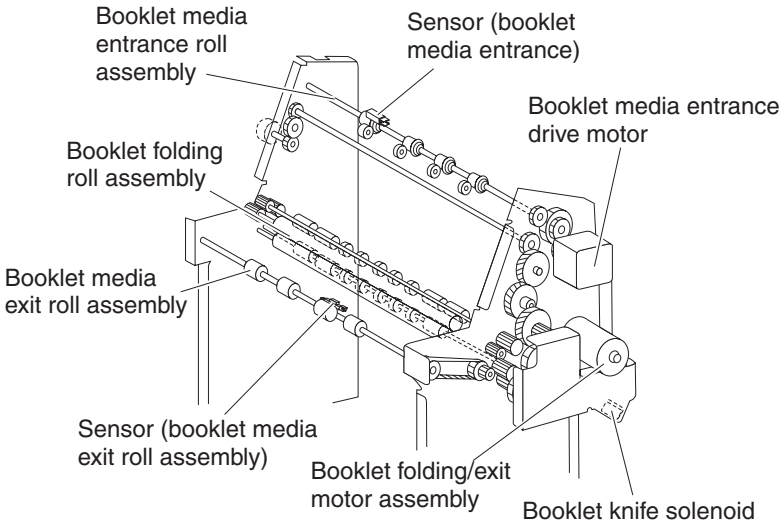
Paper is folded into two halves by the booklet folding roll driven by the booklet folding/exit drive motor and is delivered to the booklet media bin by the booklet media exit roll assembly. The booklet media bin belt will move at a fixed interval for every set of booklets that are created.

Functions of booklet sensors and motors

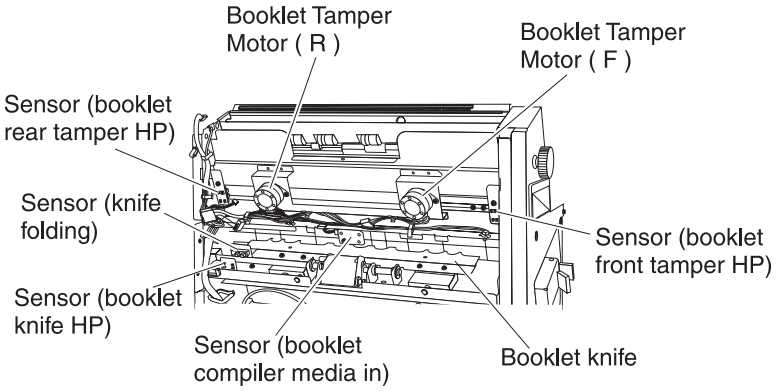


- Sensor (booklet media entrance)
  - This photo sensor detects the media delivery to the booklet unit.
- Sensor (booklet media exit)
  - This photo sensor detects paper delivery to booklet media bin.
- Booklet media entrance drive motor assembly
  - This stepping motor drives the booklet media entrance roll assembly.
- Booklet folding/exit drive motor assembly
  - This DC motor drives booklet folding roll, booklet media exit roll assembly, and knife.

- Booklet knife solenoid
  - This solenoid transfers the booklet folding/exit drive motor assembly to the knife through the gear.



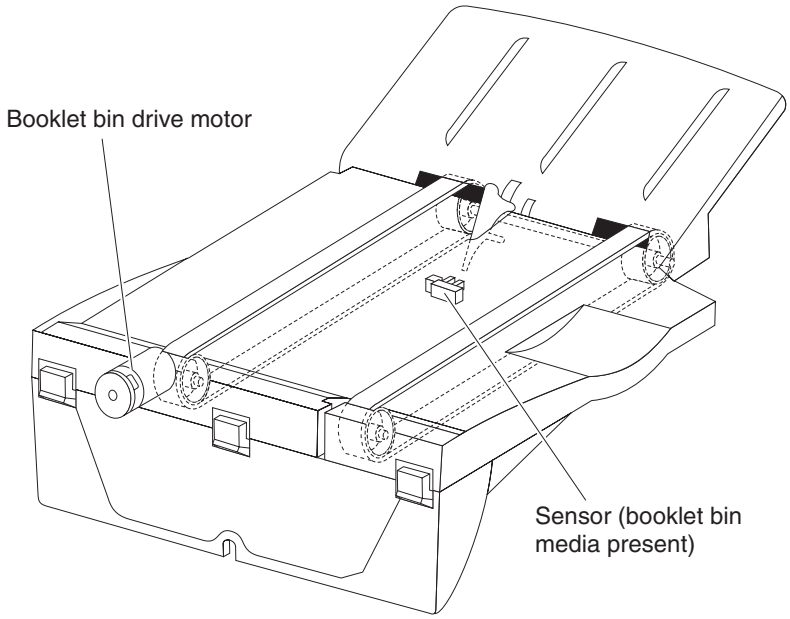
- Sensor (booklet front tamper HP)
  - This photo sensor detects the home position of the booklet front tamper.
- Sensor (booklet rear tamper HP)
  - This photo sensor detects the home position of the booklet Rear tamper.
- Sensor (booklet compile media in)
  This photo sensor detects paper present in the booklet compiler tray.
  - Booklet front tamper motor
  This stepping motor drives the booklet front tamper.
- Booklet rear tamper motor
  - This stepping motor drives the booklet rear tamper.
- Sensor (booklet knife HP)
  - This photo sensor detects the home position (stored condition) of knife.
- Sensor (knife folding)
  - This photo sensor detects the fold position (protruded condition) of knife.
- Booklet staple assembly



  - This booklet stapler consist of two stapler units (including stapler low switch) and booklet stapler head motor.
- Booklet paddle motor
  - This DC motor drives the paddle at the booklet section.
- Sensor (booklet end guide HP)
  - This photo sensor detects the home position of the booklet end guide.
- Booklet end guide drive motor
  - This stepping motor moves the booklet end guide up and down.

- Sensor (booklet drawer interlock)
  - This photo sensor detects when the booklet unit is set.
- Sensor (booklet bin media present)
  - This photo sensor detects paper availability on the booklet media bin. If 15 sets of printouts are detected in the booklet media bin, it will be considered as Full Stack.

Booklet media bin



Operation

The upper media bin contains the sensor (upper media bin full) to detect the media stack volume in the upper media bin.

Once the sensor detects a full stack (500 sheets) in the upper media bin, ejection of media to the upper media bin is inhibited until a full stack is reset.

Functions of upper media bin sensors

- Sensor (upper media exit)
  - A photo-interrupter sensor that detects that media has come to the upper media exit roll assembly top at the exit of the upper media bin
  - When media reaches the upper media exit roll assembly top, the actuator leaves the sensing area, which turns the sensor to high (+5 V dc).
- Sensor (upper media bin full)
  - A photo-reflective sensor that detects the media stack volume in the upper media bin
  - It turns high (+5 V dc) when it detects a full stack.

Stacker media bin

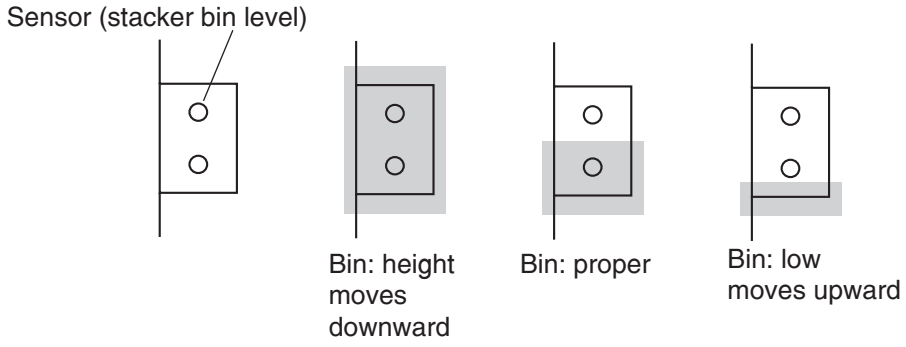
The stacker media bin goes up and down to an appropriate position according to the volume of media fed from the compiler unit assembly so as to properly stack media to a full stack.

Operation

The stacker media bin moves to an appropriate position according to the volume of media fed from the compiler unit assembly. The sensor (stacker bin level 1) and the sensor (stacker bin level 2) detect the height of media in the stacker media bin, and the sensor (stacker bin level encoder) determines the volume of media in the tray.

When media or the stacker media bin comes between the light emitter and the photo-receiver of the sensor (stacker bin level 1) and sensor (stacker bin level 2), the emitted light is blocked, and the sensors turn high. The height of media or the stacker media bin is detected based on the levels of these sensors.

This sensor information is used to control the elevator motor. The motor is activated to move the stacker media bin while the sensor (stacker bin level) turns from the light blocking state to the light receiving state.

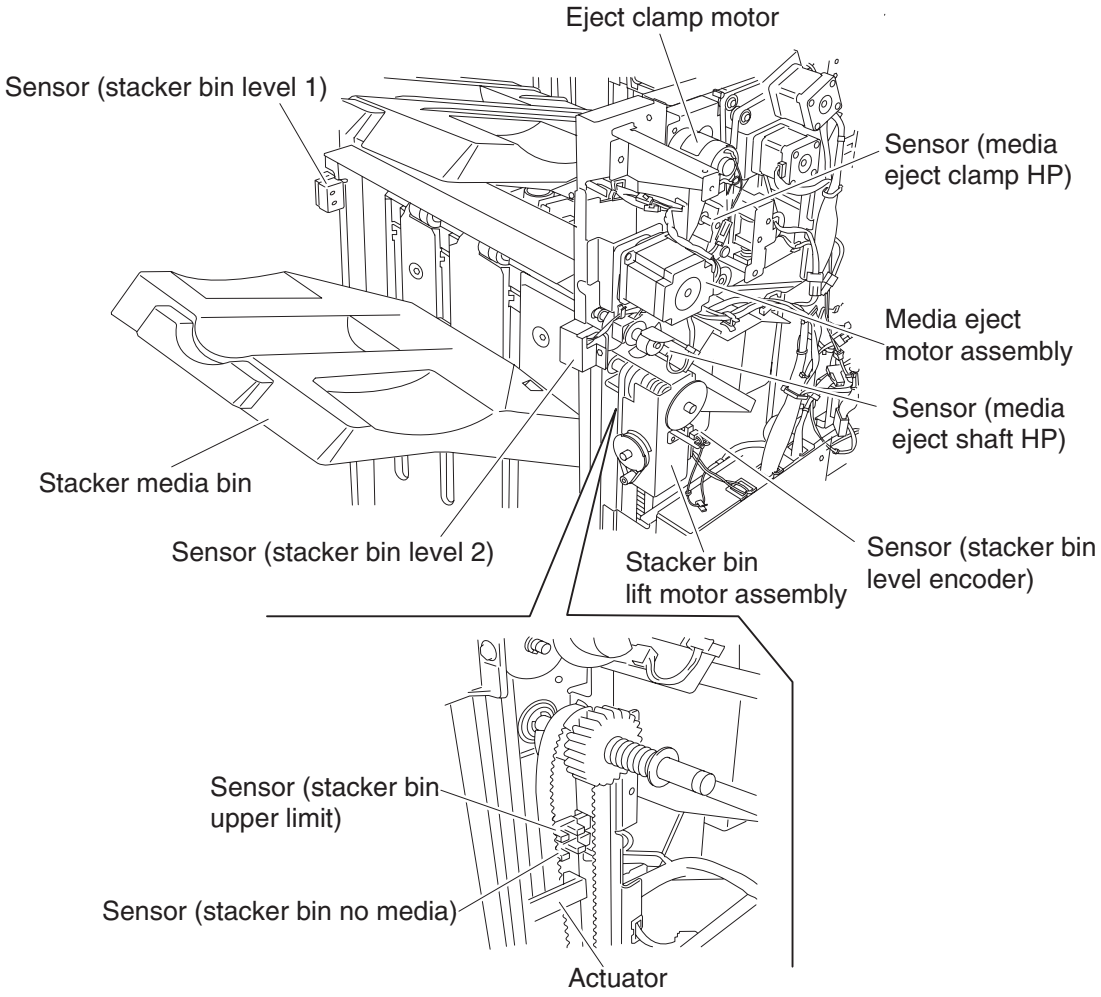


The sensor (stacker bin no media) is turned On or Off by the actuator attached to the carriage assembly right on the rear side of the finisher. In case the stacker media bin abnormally goes up above the sensor (stacker bin no media), the sensor (stacker bin upper limit) is installed above the sensor (stacker bin no media) for protection against abnormal operation.

If an operator removes media from the stacker media bin during printing, it is detected by the sensor (stacker bin level 2), and the ejection of media to the stacker media bin is inhibited. Then the elevator motor is activated to move the stacker media bin to the sensor (stacker bin level 1) sensing area. Thus, the ejection of media to the stacker media bin is restored.

If an operator removes media from the stacker media bin while printing is stopped, it is detected by the sensor (stacker bin level 2). After three seconds have passed, the elevator motor is activated to move the stacker media bin to the sensor (stacker bin level 1) sensing area. Thus, the ejection of media to the stacker media bin is restored.

The stacker media bin lowers according to the volume of media it contains. If any obstacle under the tray hinders the tray from lowering, the stacker lower safety warning is detected, and the stacker media bin is stopped.



Full stack detection

A full stack is detected when media in the stacker media bin becomes full to prevent media jam or falling of media to the floor. The stacker media bin can stack up to approximately 3000 sheets.

The media volume in the stacker media bin is detected at every 10% (approximately 300 sheets) and notified to the Controller.

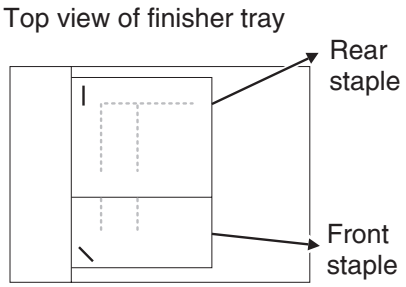
Furthermore, the stacker media bin can stack up to 200 sets (default) of stapled media.

The stacker media bin can continue to stack media until media volume reaches either of the limits above.

In the mix stacking mode, all the sizes are allowed until a media volume of approximately 300 sheets in the stacker media bin is detected.

The mix stacking mode indicates one of the following cases:

- A larger (any size of media) sheet of media is stacked on a smaller sheet.
  For example: A4LEF (297x210) media is stacked on A4SEF (210x297) media.
  Note: When B5LEF (257x182) media is stacked on A4LEF (297x210) media, this is not mix stacking.
- A sheet of media of less than 11 inches is stacked in the stacker media bin with the Staple Mode changed.



- An operator put a sheet (or sheets) when no media is remaining in the stacker media bin.
  (The size and condition of media stacked in the tray are not identified.)
- Media was present in the stacker media bin when power was turned on.
  (The size and condition of media stacked in the tray are not identified.)
- The finisher entered the Sleep Mode with mix stacking and then has exited the Sleep Mode.
- The post-processing mode has changed.

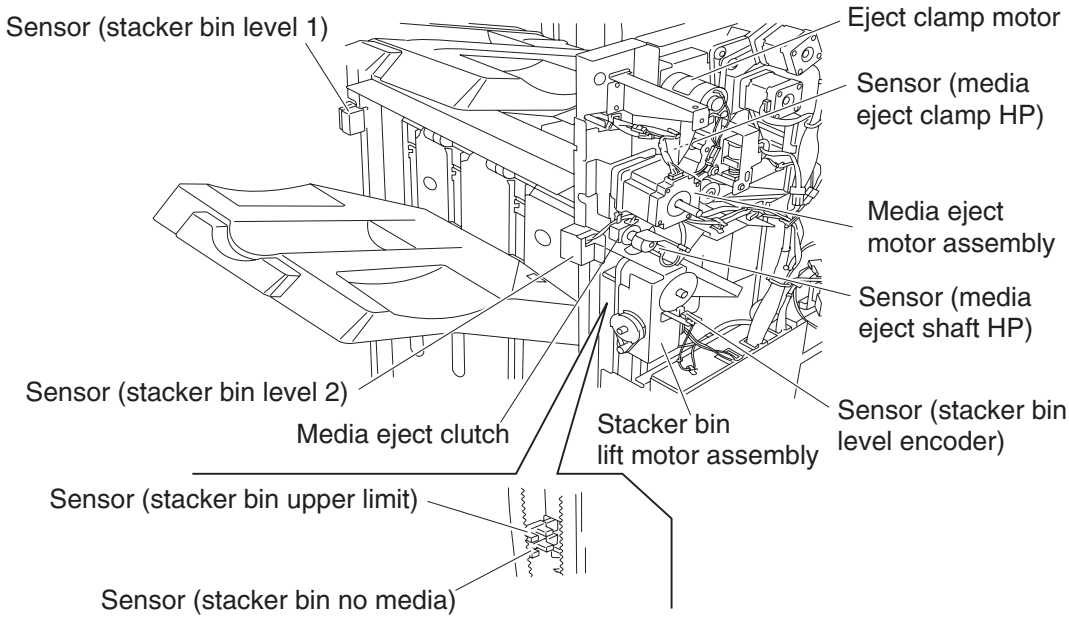
Functions of stacker media bin sensors/motors

- Sensor (stacker bin level 1)
  - A light emitter and photo-receiver paired together to detect the height of media in the stacker media bin
  - This sensor is used to control the elevator motor.
  - When blocked by media or the tray, this sensor turns high, deciding that the stacker media bin is above the reference level.
  - To the contrary, when receiving light, this sensor turns low, deciding that the stacker media bin is below the reference level.
  - The high to low turning point of the sensor is defined as the reference level.
- Sensor (stacker bin level 2)
  - A light emitter and photo-receiver paired together to detect the height of media in the stacker media bin (same function as sensor (stacker bin level 1))
  - This sensor is also used to control the elevator motor.
  - When blocked by media or the tray, this sensor turns high, deciding that the stacker media bin is above the reference level.
  - To the contrary, when receiving light, this sensor turns low, deciding that the stacker media bin is below the reference level.
- Sensor (stacker bin no media)

  - A photo-interrupter sensor that detects that the stacker media bin is at the highest position; it also detects no media.
  - When the actuator attached to the carriage assembly right enters the sensing area, the emitted light is blocked, which turns the sensor to high (+5 V).
- Sensor (stacker bin upper limit)
  - A photo-interrupter sensor that detects the stacker media bin's abnormal elevation above the top position (sensor (stacker bin no media) position)
  - When the actuator attached to the carriage assembly right enters the sensing area, the emitted light is blocked, which turns the sensor to high (+5 V).
- Sensor (stacker bin level encoder)
  - A photo-interrupter sensor that counts the pulse of the Encoder attached to the Shaft-Elevator.
  - The media volume in the stacker media bin is detected based on this count.
- Stacker bin lift motor
  - A DC motor that elevates or lowers the stacker media bin
  - Clockwise rotation elevates the tray, and counterclockwise rotation lowers the tray.
- Media eject motor assembly
  - A stepper motor that ejects stapled or non-stapled media to the stacker media bin
  - Clockwise rotation ejects media to the stacker media bin, and counterclockwise rotation reverses the eject roll to feed the media from the punch to the compiler unit assembly.
- Media eject clamp motor

  A DC motor that elevates or lowers the media eject clamp when feeding media from the punch to the compiler unit assembly or from the compiler unit assembly to the stacker media bin
- Sensor (media eject clamp HP)
  - A photo-interrupter sensor that detects the set clamp home position
  - This sensor functions as a trigger to control On/Off of the set clamp clutch.
- Media eject clutch

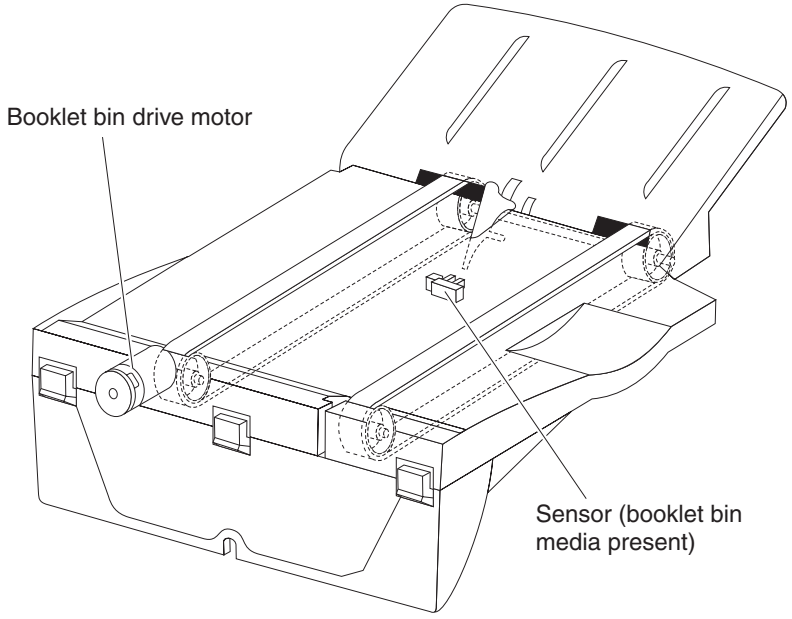
  When this clutch is activated, it transmits the media eject motor assembly rotating power to the media eject shaft assembly.



Booklet tray

Paper is folded into two by the booklet folding roll driven by the booklet Fold Roll Motor and booklet Eject Roll, and delivered to the booklet tray. Booklet tray is at a position lower than the paper delivery exit. Paper delivery belt will move at fixed interval for every set of output. When two sets or more is being delivered, one set at a time is being delivered.

When the front of the booklet tray is facing down, the printout will fall automatically below the tray. When removing paper, press booklet tray belt switch to move the paper delivery belt to the position for paper removal.

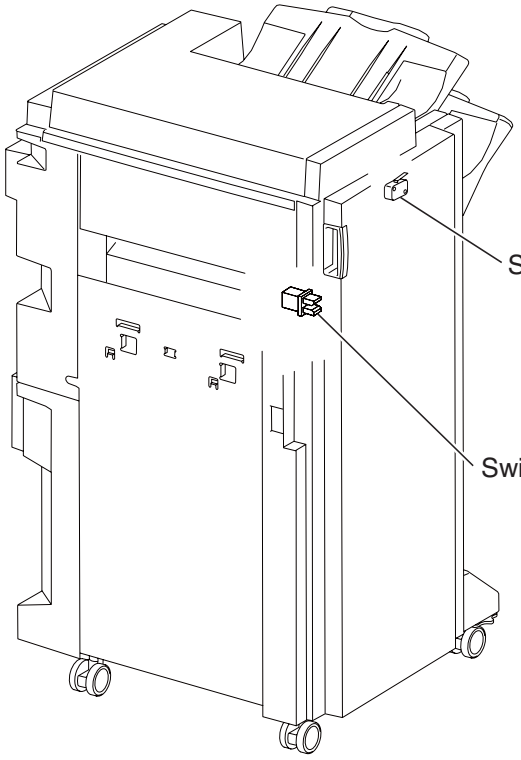


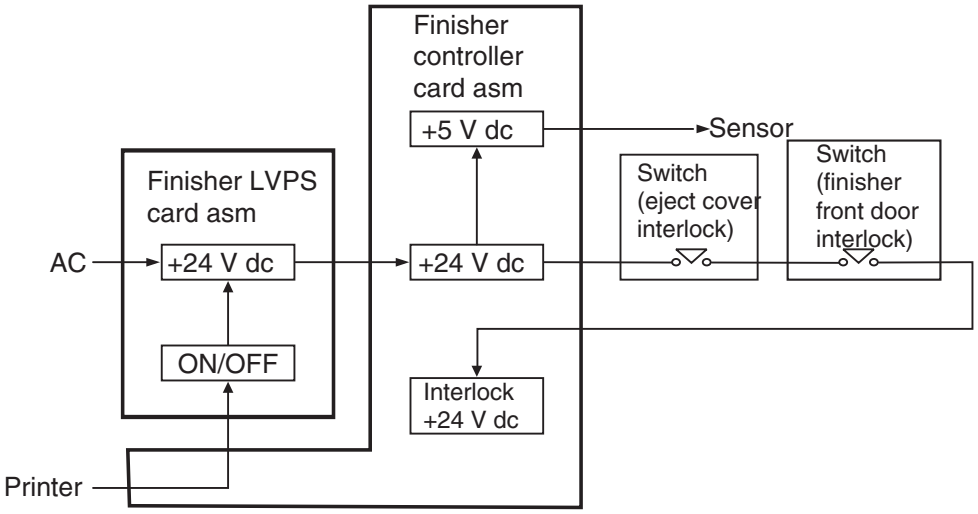
Power supply and interlock

The finisher is equipped with the following interlock switches.

- Switch (finisher front door interlock)—Turns off when the cover assembly front opens, shutting off the Interlock +24 V dc line in the finisher.

- Switch (eject cover interlock)—Turns off when the cover eject on the right side opens, shutting off the Interlock +24 V dc line in the finisher.





Tools required for service

Flat-blade screwdriver
#1 Phillips screwdriver, magnetic
#2 Phillips screwdriver, magnetic
#2 Phillips screwdriver, magnetic short-blade
Needle nose pliers
Diagonal side cutters
Spring hook
5.5 mm hex driver, magnetic
Analog or digital multi-meter
Parallel wrap plug 1319128
Twinax/serial debug cable 1381963
Coax/serial debug cable 1381964

Acronyms

3TM	3 Tray Module
AC	Alternating Current
ADF	Automatic Document Feeder
APS	Automatic Paper Size
ASIC	Application Specific Integrated Circuit
BLDC	Brushless DC Motor
BOR	Black Only Retract
C	Cyan
CRU	Customer Replaceable Unit
CSU	Customer Setup
CCW	Counterclockwise
CW	Clockwise
DC	Direct Current
DIMM	Dual Inline Memory Module
DRAM	Dynamic Random Access Memory
EDO	Enhanced Data Out
EP	Electrophotographic Process
EPROM	Erasable Programmable Read-only Memory
ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
GB	Gigabyte
GFI	Ground Fault Interrupter
HCF	High-Capacity Feeder
HCIT	High-Capacity Input Tray
HCOF	High-Capacity Output Finisher
HVPS	High Voltage Power Supply
ITU	Image Transfer Unit
K	Black
LASER	Light Amplification by Stimulated Emission of Radiation
LCD	Liquid Crystal Display
LD	Laser Diode
LED	Light-Emitting Diode
LEF	Long Edge Feed
LVPS	Low Voltage Power Supply
M	Magenta

MPF	Multi-Purpose Feeder
MROM	Masked Read Only Memory
MS	Microswitch
NVM	Nonvolatile Memory
NVRAM	Nonvolatile Random Access Memory
OEM	Original Equipment Manufacturer
OPT	Optical Sensor
PC	Photoconductor
PEL	Picture element
POR	Power-on Reset
POST	Power-on Self Test
PPM	Pages Per Minute
PSC	Parallel Synchronous Communications
PSD	Position Sensing Device
PWM	Pulse Width Modulation
RFID	Radio Frequency Identification
RIP	Raster Imaging Processor
ROM	Read only Memory
RPM	Revolutions Per Minute
SDRAM	Synchronous Dual Random Access Memory
SEF	Short Edge Feed
SIMM	Single Inline Memory Module
SOS	Start of scan
SRAM	Static Random Access Memory
TTM	Tandem Tray Module
TVOC	Total Volatile Organic Compound
UPR	Used Parts Return
V	Volts
V ac	Volts alternating current
V dc	Volts direct current
VTB	Vacuum Transport Belt
Y	Yellow

2. Diagnostic information

Start

CAUTION:

Unplug the power cord from the electrical outlet before you connect or disconnect any cable electronic board or assembly.

CAUTION

If the printer is kept on, never touch the conductive parts if not specifically required. The power switch and inlet of the low voltage power supply card (LVPS card) assembly is live even while the power supply is cut off. Never touch the live parts.

CAUTION

Be careful to avoid burns by safely handling hot parts.

CAUTION

The standard finisher weight is 59 kg (130 lb.) and requires at least two people to lift it safely. The booklet finisher weight is 87.5 kg (193 lb.) and requires at least four people to lift it safely. Make sure your fingers are not under the finisher when you lift or set it down.

The MFP weighs approximately 173kg (383 lb.) and requires at least four people to lift it safely. Make sure your fingers are not under the MFP when you lift or set it down.

Warning: When operating the driving units using the diagnostics or other tools, be sure to keep them covered unless otherwise specified.

Warning: When operating the driving units using the diagnostics or other tools, never touch the driving units. When operating the driving units using diagnostics or other tools, be sure to follow the procedures in this manual.

Warning: Servicers should wear a wrist band or the like to remove static electricity from their body, grounding their body while working. Go to **“Handling ESD-sensitive parts” on page 4-1**.

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

POR (Power-On Reset) sequence

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

1. Turn the machine on.
2. +5V LED (Power ON) on the system board comes on.
3. Operator Panel LED comes on solid.
4. All diamonds appear on the LCD.
5. While loading code, dots scroll across the LCD.
6. The following is an example of the screen that displays after the code is loaded.

```
128MB                       600Mhz
128MB = Amount of Memory    600Mhz = Processor Speed
```

7. `Performing Self Test` appears on the LCD.
8. Fuser drive motor turns on.
9. Fuser fan turns on.
10. RIP fan turns on.
11. Heartbeat LED on system boards turns on.
12. Fuser lamps turn on.
13. Vacuum transport belt fan turns on.
14. ITU Missing appears on the LCD, if the ITU is missing.
15. `Fuser Missing` appears on the LCD, if the fuser is missing.
16. `Close Door` appears on the LCD, if the front cover is open.
17. `Busy` appears on the LCD.
18. Operator panel LED *blinks*.
19. Redrive exit roller turns.
20. Any cartridge errors appear on the LCD such as a `Defective Cartridge, Return Program Information`, or `Missing Cartridge`.
21. Any applicable maintenance messages appear on the LCD such as `80 Fuser Maintenance` or `83 ITU Maintenance`.
22. One of the toner low messages appears when applicable: `88 Yellow Toner Low`, `88 Magenta Toner Low`, `88 Cyan Toner Low`, or `88 Black Toner Low`.
23. Color calibration may be initiated. This is appears if one of the following occurs:
    - The printer detects at power on, or the front cover is closed, that a new or different toner cartridge has been installed.
    - The printer detects at power on when the cover is closed that a new or different ITU has been installed.
    - The printer detects at power on that the fuser temperature is below 60° C.
    - When coming out of power saver if power saver has been active for eight hours or longer.
    - If the printer is turned on when a calibration cycle was in progress since the printer was last powered off.
24. `Ready` appears on the LCD.

To enter the diagnostic menu:

1. Turn off the printer.
2. Press and hold the **3** and **6** buttons simultaneously.
3. Turn on the printer.
4. Release the buttons after 10 seconds.

Error code messages - finisher

Error code or message	Error contents	Description/action
280.00 Paper jam	Sensor (bridge unit media entrance) late jam	The media is late reaching the sensor (bridge unit media entrance) within the specified time after reaching the sensor (fuser exit). Go to **"280.00 Sensor (bridge unit media entrance) late Jam" on page 2-10**.
280.01 Paper jam	Sensor (bridge unit media entrance) static jam	Media remains on the sensor (bridge unit media entrance). Go to **"280.01 Sensor (bridge unit media entrance) static jam" on page 2-11**.
281.00 Paper jam	Sensor (bridge unit media exit) late jam	The media is late reaching the sensor (bridge unit media exit) within the specified time after reaching the sensor (bridge unit media entrance). Go to **"281.00 Sensor (bridge unit media exit) late jam" on page 2-12**.
281.03 Paper jam	Sensor (bridge unit media exit) static jam	Media remains on the sensor (bridge unit media exit). Go to **"281.03 Sensor (bridge unit media exit) static jam" on page 2-14**.
281.04 Paper jam	Sensor (bridge exit bin) late jam.	Sensor (bridge unit exit bin) is not turned on within the specified time after the sensor (bridge unit media entrance) is turned on. Go to **"281.04 Sensor (bridge exit bin) late jam" on page 2-15**.
281.05 Paper jam	Sensor (bridge exit bin) lag jam.	Sensor (bridge unit exit bin) is not turned off within the specified time after the sensor (bridge unit exit bin) is turned on. Go to **"281.05 Sensor (bridge exit bin) lag jam" on page 2-17**.
281.06 Paper jam	Sensor (bridge exit bin) static jam.	Paper remains on the sensor (bridge exit bin). Go to **"281.06 Sensor (bridge exit bin) static jam" on page 2-19**.
282.00 Paper jam	Sensor (finisher media entrance) late jam	The media is late reaching the sensor (finisher media entrance) within the specified time after reaching the sensor (bridge unit media exit). Go to **"282.00 Sensor (finisher media entrance) late jam" on page 2-20**.
282.01 Paper jam	Sensor (finisher media entrance) static jam	Paper remains on the sensor (finisher media entrance). Go to **"282.01 Sensor (finisher media entrance) static jam" on page 2-22**.
283.00 Paper jam	Sensor (buffer path) late jam	The media is late reaching the sensor (buffer path) within the specified time after reaching the sensor (finisher media entrance). Go to **"283.00 Sensor (buffer path) late jam" on page 2-23**.
283.03 Paper jam	Sensor (buffer path) static jam	Paper remains on the sensor (finisher buffer path). Go to **"283.03 Sensor (buffer path) static jam" on page 2-26**.

Error code or message	Error contents	Description/action
284.00 Paper jam	Sensor (lower media exit) late jam	The media is late reaching the sensor (lower media exit) within the specified time after reaching the sensor (buffer path). Go to **"284.00 Sensor (lower media exit) late jam" on page 2-27**.
284.03 Paper jam	Sensor (lower media exit) lag jam	The media reached the sensor (lower media exit) but did not clear it within the specified time. Go to **"284.03 Sensor (lower media exit) lag jam" on page 2-29**.
284.05 Paper jam	Sensor (lower media exit) static jam	Media remains on the sensor (lower media exit). Go to **"284.05 Sensor (lower media exit) static jam" on page 2-30**.
285.00 Paper jam	Sensor (compiler media in) lag jam	The media reached the sensor (lower media exit) but did not clear it within the specified time. Go to **"285.00 Sensor (media compiler in) lag jam" on page 2-32**.
286.00 Paper jam	Sensor (compiler media in) static jam	Media remains on the sensor (compiler media in). Go to **"286.00 Sensor (compiler media in) static jam" on page 2-33**.
287.00 Paper jam	Sensor (upper media exit) late jam	The media is late reaching the sensor (upper media exit) within the specified time after reaching the sensor (finisher media entrance). Go to **"287.00 Sensor (upper media exit) late jam" on page 2-35**.
287.01 Paper jam	Sensor (upper media exit) lag jam	The media reached the sensor (upper media exit) but did not clear it within the specified time. Go to **"287.01 Sensor (upper media exit) lag jam" on page 2-36**.
287.05 Paper jam	Sensor (upper media exit) static jam	Media remains on the sensor (upper media exit). Go to **"287.05 Sensor (upper media exit) static jam" on page 2-38**.
288.00 Paper jam	Sensor (diverter gate) late jam	The media is late reaching the sensor (diverter gate) within the specified time after reaching the sensor (bridge unit media exit). Go to **"288.00 Sensor (diverter gate) late jam" on page 2-39**.
288.01 Paper jam	Sensor (diverter gate) static jam A (to top bin)	The media reached the sensor (diverter gate) but did not clear it within the specified time. Go to **"288.01 Sensor (diverter gate) static jam A (to top bin)" on page 2-41**.
288.04 Paper jam	Sensor (diverter gate) static jam B (to stacker bin)	The media reached the sensor (diverter gate) but did not clear it within the specified time. Go to **"288.04 Sensor (diverter gate) static jam B (to stacker bin)" on page 2-42**.
289.00 Paper jam	sensor (booklet unit media entrance) late jam	The media is late reaching the sensor (booklet unit media entrance) within the specified time after reaching the sensor (bridge unit media exit). Go to **"289.00 sensor (booklet unit media entrance) late jam" on page 2-43**.

Error code or message	Error contents	Description/action
289.01 Paper jam	sensor (booklet unit media entrance) lag jam	The media reached the sensor (booklet unit media entrance) but did not clear it within the specified time. Go to **"289.01 sensor (booklet unit media entrance) lag jam" on page 2-44**.
289.02 Paper jam	sensor (booklet unit media entrance) static jam	Media remains on the sensor (diverter gate). Go to **"289.02 sensor (booklet unit media entrance) static jam" on page 2-46**.
289.03 Paper jam	sensor (booklet compiler media in) static jam	Media remains on the sensor (booklet compiler media in). Go to **"289.03 sensor (booklet compiler media in) static jam" on page 2-47**.
289.04 Paper jam	sensor (booklet unit media exit) late jam	The media is late reaching the sensor (booklet unit media exit) within the specified time after the booklet knife solenoid is turned on. Go to **"289.04 Sensor (booklet unit media exit) late jam" on page 2-48**.
289.05 Paper jam	sensor (booklet unit media exit) lag jam	The media reached the sensor (booklet unit media exit) but did not clear it within the specified time. Go to **"289.05 Sensor (booklet unit media exit) lag jam" on page 2-50**.
289.06 Paper jam	sensor (booklet unit media exit) static jam	Media remains on the sensor (booklet unit media exit). Go to **"289.06 Sensor (booklet unit media exit) static jam" on page 2-51**.
980.03 Service finisher comm	Communication error with finisher controller card assembly	A communication error has occurred with the upper printer engine card assembly and the finisher controller card assembly. Refer to the *MFP Service Manual.*
981.00 Service finisher error	Sensor (stacker bin level 1) late error Sensor (stacker bin level 2) late error	The sensing area of the sensor (stacker bin level 1) or Sensor (stacker bin level 2) is not interrupted within the specified period after the stacker bin starts rising. Go to **"981.00 Sensor (stacker bin level 1) late error" on page 2-52**.
981.01 Service finisher error	Stacker bin upper limit error	The sensing area of the sensor (stacker bin upper limit) is not interrupted when the stacker bin raises to its upper most limit. Go to **"981.01 Stacker bin upper limit error" on page 2-54**.
981.02 Service finisher error	Stacker bin lower limit error	The stacker bin lowers beyond the specified lower limit within the specified time. Go to **"981.02 Stacker bin lower limit error" on page 2-56**.
982.00 Service finisher error	Sensor (front tamper HP) late error	The sensing area of the sensor (front tamper HP) is not interrupted when the front tamper starts moving to the home position. Go to **"982.00 Sensor (front tamper HP) late error" on page 2-58**.

Error code or message	Error contents	Description/action
982.01 Service finisher error	Sensor (front tamper HP) lag error	The sensing area of the sensor (front tamper HP) remains interrupted within the specified time after the front tamper starts moving from the home position. Go to **"982.01 Sensor (front tamper HP) lag error" on page 2-59**.
983.00 Service finisher error	Sensor (rear tamper HP) late error	The sensing area of the sensor (rear tamper HP) is not interrupted when the rear tamper starts moving to the home position. Go to **"983.00 Sensor (rear tamper HP) late error" on page 2-60**.
983.01 Service finisher error	Sensor (rear tamper HP) lag error	The sensing area of the sensor (rear tamper HP) remains interrupted within the specified time after the rear tamper starts moving from the home position. Go to **"983.01 Sensor (rear tamper HP) lag error" on page 2-61**.
984.00 Service finisher error	Sensor (punch unit HP) late error	The sensing area of the sensor (punch unit HP) is not interrupted during the specified time after the punch unit starts moving to the home position. Go to **"984.00 Sensor (punch unit HP) late error" on page 2-62**.
984.01 Service finisher error	Sensor (punch unit HP) lag error	The sensing area of the sensor (punch unit HP) remains interrupted within the specified time after the punch unit starts moving from the home position. Go to **"984.01 Sensor (punch unit HP) lag error" on page 2-63**.
985.00 Service finisher error	Sensor (punch carriage shift HP) late error	The sensing are of the sensor (punch carriage shift HP) is not interrupted within the specified time after the punch carriage starts moving to the home position. Go to **"985.00 Sensor (punch carriage shift HP) late error" on page 2-65**.
985.01 Service finisher error	Sensor (punch carriage shift HP) lag error	The sensor (punch carriage shift HP) remains interrupted within the specified time after the punch carriage starts moving from the home position. Go to **"985.01Sensor (punch carriage shift HP) lag error" on page 2-66**.
986.00 Service finisher error	Sensor (media eject clamp HP) late error	The sensing area of the sensor (media eject clamp HP) is not interrupted within the specified time after the eject clamp starts moving to the home position. Go to **"986.00 Sensor (media eject clamp HP) late error" on page 2-67**.
986.01 Service finisher error	Sensor (media eject clamp HP) lag error	The sensing area of the sensor (media eject clamp HP) remains interrupted within the specified time after the eject clamp starts moving from the home position. Go to **"986.01 Sensor (media eject clamp HP) lag error" on page 2-68**.
987.00 Service finisher error	Sensor (media eject shaft HP) late error	The sensing area of the sensor (media eject shaft HP) is not interrupted within the specified time after the media eject shaft starts moving to the home position. Go to **"987.00 Sensor (media eject shaft HP) late error" on page 2-70**.

Error code or message	Error contents	Description/action
987.01 Service finisher error	Sensor (media eject shaft HP) lag error	The sensing area of the sensor (media eject shaft HP) remains interrupted within the specified time after the media eject shaft starts moving from the home position. Go to **"987.01 Sensor (media eject shaft HP) lag error" on page 2-71**.
988.01 Service finisher error	Sensor (punch unit side reg 1) lag error Sensor (punch unit side reg 2) lag error	The sensor (punch unit side reg 1) or sensor (punch unit side reg 2) did not detect any media correctly. Go to **"988.01 Sensor (punch unit side reg1) or (sensor (punch unit side reg2) lag failure" on page 2-73**.
989.00 Service finisher error	Stapler unit error	The sensing area of the sensor (stapler unit motor HP) inside the stapler unit assembly is not interrupted within the specified timer after the stapler unit motor starts moving to the home position. Go to **"989.00 Stapler unit failure" on page 2-75**.
990.00 Service finisher error	Sensor (stapler carriage HP) late error	The sensing area of the sensor (stapler carriage HP) is not interrupted within the specified time after the stapler carriage starts moving to the home position. Go to **"990.00 Sensor (stapler carriage HP) late error" on page 2-75**.
990.01 Service finisher error	Sensor (stapler carriage HP) lag error	The sensing area of the sensor (stapler carriage HP) remains interrupted within the specified time after the stapler carriage starts moving from the home position. Go to **"990.01 Sensor (stapler carriage HP) lag error" on page 2-76**.
991.00 Service finisher error	Sensor (booklet front tamper HP) late error	The sensing area of the sensor (booklet front tamper HP) is not interrupted within the specified time after the front booklet tamper starts moving to the home position. Go to **"991.00 Sensor (booklet front temper HP) late error" on page 2-78**.
991.01 Service finisher error	Sensor (booklet front tamper HP) lag error	The sensing area of the sensor (booklet front tamper HP) remains interrupted within the specified time after the front booklet tamper starts moving from the home position. Go to **"991.01 Sensor (booklet front tamper HP) lag error" on page 2-79**.
991.02 Service finisher error	Sensor (booklet rear tamper HP) late error	The sensing area of the sensor (booklet rear tamper HP) is not interrupted within the specified time after the rear booklet tamper starts moving to the home position. Go to **"991.02 Sensor (booklet rear tamper HP) late error" on page 2-80**.
991.03 Service finisher error	Sensor (booklet rear tamper HP) lag error	The sensing area of the sensor (booklet rear tamper HP) remains interrupted within the specified time after the rear booklet tamper starts moving from the home position. Go to **"991.03 Sensor (booklet rear tamper HP) lag error" on page 2-82**.
991.04 Service finisher error	Sensor (booklet end guide HP) late error	The sensing area of the sensor (booklet end guide HP) is not interrupted within the specified time after the booklet end guide starts moving to the home position. Go to **"991.04 Sensor (booklet end guide HP) late error" on page 2-83**.

Error code or message	Error contents	Description/action
991.05 Service finisher error	Sensor (booklet end guide HP) lag error	The sensing area of the sensor (booklet end guide HP) remains interrupted within the specified time after the booklet end guide starts moving from the home position. Go to **"991.05 Sensor (booklet end guide HP) lag error" on page 2-85**.
991.06 Service finisher error	Sensor (booklet unit interlock) error	The sensor (booklet unit interlock) detected that the booklet maker was not completely inserted when the finisher front door assembly was closed. Go to **"991.06 Sensor (booklet unit interlock) error" on page 2-86**.
991.07 Service finisher error	Sensor (booklet compiler no media) no media detected	The sensing area of the sensor (booklet compiler no media) did not detect any media when the booklet stapler motor was activated. Go to **"991.07 Sensor (booklet compiler no media) no media detected" on page 2-87**.
991.08 Service finisher error	Sensor (booklet knife HP) late error	The sensing area of the sensor (booklet knife HP) is not interrupted within the specified time after the booklet knife started moving to home position. Go to **"991.08 Sensor (booklet knife HP) late error" on page 2-88**.
991.09 Service finisher error	Sensor (booklet knife HP) lag error	The sensing area of the sensor (booklet knife HP) remains interrupted within the specified time after the booklet knife started moving from home position. Go to **"991.09 Sensor (booklet knife HP) lag error" on page 2-90**.
991.10 Service finisher error	Sensor (booklet knife folding) late error	The sensing area of the sensor (booklet knife folding) is not interrupted within the specified time after the booklet knife solenoid was activated. Go to **"991.10 Sensor (booklet knife folding) late error" on page 2-92**.
991.11 Service finisher error	Booklet stapler error	The booklet stapler unit is not completely inserted into the booklet maker unit assembly or the it has failed. Go to **"991.11 Booklet stapler error" on page 2-93**.
991.12 Service finisher error	Communication error with booklet controller card assembly	A communication error has occurred with the booklet controller card assembly and the finisher controller card assembly. Go to **"991.12 Communication error with booklet controller card assembly" on page 2-94**.
991.13 Service finisher error	Booklet unit maker error	Booklet set recovery was detected too many times for the same job. Perform a POR. Go to **"991.13 Booklet unit maker error" on page 2-95**.
992.00 Service finisher error	Sensor (de-curler cam HP) late error	The sensing area of the sensor (de-curler cam HP) is not interrupted within the specified time after the de-curler roll assembly (nip) starts moving to the home position. Go to **"992.00 Sensor (de-curler cam HP) late error" on page 2-95**.

Error code or message	Error contents	Description/action
992.01 Service finisher error	Sensor (de-curler cam HP) lag error	The sensing area of the sensor (de-curler cam HP) remains interrupted within the specified time after the de-curler roll assembly (nip) starts moving from the home position. Go to **"992.01 Sensor (de-curler cam HP) lag error" on page 2-97**.
Close cover F	Bridge unit top cover is open.	The bridge unit top cover is open. Go to **"Bridge unit top cover open" on page 2-98**.
Close door G	Finisher front door open.	The finisher front door is open. Go to **"Finisher front door open" on page 2-100**.
Close surface H	Eject cover open.	The finisher eject cover is open. Go to **"Finisher eject cover open" on page 2-101**.
Empty hole punch box	Punch waste box full.	The punch waste box is full. Go to **"Punch waste box full" on page 2-103**.
Insert hole punch box	Punch waste box missing.	No punch waste box. Go to **"No punch waste box." on page 2-102**.
Load staples	Staple cartridge empty.	Staple cartridge empty. Go to **"Staple cartridge empty" on page 2-110**.
Remove paper from bin 1	Finisher upper media bin full.	Stacker set over count The upper media bin has reached maximum capacity. Go to **"Finisher upper media bin full" on page 2-101**.
Remove paper from bin 2	Stacker media bin full (no mix)	The stacker media bin has reached maximum capacity (no mix). Go to **"Stacker media bin full (no mix)" on page 2-106**.
Remove paper from bin 2	Stacker media bin full (mix size)	The stacker media bin has reached maximum capacity (mix size). Go to **"Stacker media bin full (mix size)" on page 2-104**.

Service checks - finisher

280.00 Sensor (bridge unit media entrance) late Jam

Step	Check	Yes	No
1	Check the bridge unit media transport rolls. Are the bridge unit media transport rolls free of excess wear and contamination?	Go to step 2.	Clean or replace the bridge unit assembly. Go to **"Bridge unit assembly removal" on page 4-5**.
2	Check the sensor (bridge unit media entrance) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Bridge media entrance** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (bridge unit media entrance) connection. Is the above sensor properly connected?	Replace the sensor (bridge unit media entrance). Go to **"Sensor (bridge unit media entrance) removal" on page 4-11**.	Replace the connection.
4	Check the bridge unit drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Bridge unit drive motor.** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Check the bridge unit drive motor connection. Is the above motor properly connected?	Replace the bridge unit drive motor. Go to **"Bridge unit drive motor removal" on page 4-8**. Go to step 6.	Replace the connection.

Step	Check	Yes	No
6	Perform a print test. Does the error remain?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**. Go to step 7.	Problem solved.
7	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

280.01 Sensor (bridge unit media entrance) static jam

Step	Check	Yes	No
1	Check the sensor (bridge unit media entrance) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Bridge media entrance** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (bridge unit media entrance) connection Is the above sensor properly connected?	Replace the sensor (bridge unit media entrance). Go to **"Sensor (bridge unit media entrance) removal" on page 4-11**.	Replace the connection.

Step	Check	Yes	No
3	Check the bridge unit drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Bridge unit drive motor.** Does the above component operate properly?	Go to step 5.	Go to step 4.
4	Check the bridge unit drive motor for proper connection. Is the above component properly connected?	Replace the bridge unit drive motor. Go to **"Bridge unit drive motor removal" on page 4-8**. Go to step 5.	Replace the connection.
5	Perform a print test. Does the error remain?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**. Go to step 6.	Problem solved.
6	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

281.00 Sensor (bridge unit media exit) late jam

Step	Check	Yes	No
1	Check the bridge unit media transport rolls. Are the bridge unit media transport rolls free of excess wear and contamination?	Go to step 2.	Clean or replace the bridge unit assembly. Go to **"Bridge unit assembly removal" on page 4-5**.

Step	Check	Yes	No
2	Check the sensor (bridge unit media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Bridge unit media exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (bridge unit media exit) connection. Is the above sensor properly connected?	Replace the sensor (bridge unit media exit). Go to **"Sensor (bridge unit media exit) removal" on page 4-12**.	Replace the connection.
4	Check the bridge unit drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Bridge unit drive motor.** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Check the bridge unit drive motor connection. Is the above component properly connected?	Replace the bridge unit drive motor. Go to **"Bridge unit drive motor removal" on page 4-8**.	Replace the connection.
6	Perform a print test. Does the error remain?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**. Go to step 7.	Problem solved.

Step	Check	Yes	No
7	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

281.03 Sensor (bridge unit media exit) static jam

Step	Check	Yes	No
1	Check the sensor (bridge unit media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Bridge unit media exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 2.
2	Check the sensor (bridge unit media exit) connection. Is the above sensor properly connected?	Replace the sensor (bridge unit media exit). Go to **"Sensor (bridge unit media exit) removal" on page 4-12**.	Replace the connection.
3	Check the bridge unit drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Bridge unit drive motor.** Does the above component operate properly?	Go to step 5.	Go to step 4.
4	Check the bridge unit drive motor connection. Is the above component properly connected?	Replace the bridge unit drive motor. Go to **"Bridge unit drive motor removal" on page 4-8**.	Replace the connection.

Step	Check	Yes	No
5	Perform a print test. Does the error remain?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**. Go to step 6.	Problem solved.
6	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

281.04 Sensor (bridge exit bin) late jam

Step	Check	Yes	No
1	Check the media position. Does the media touch the sensor (bridge unit bin exit)?	Remove the media.	Go to step 2.
2	Check the sensor (bridge unit media bin exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor test** 4. Touch **Media Path 1.** 5. Touch **Bridge unit media bin exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (bridge unit bin exit) for proper connection. Is the above component properly connected?	Replace the sensor (bridge unit bin exit). Go to **"Sensor (bridge unit bin exit) removal" on page 4-13**.	Replace the connection.

Step	Check	Yes	No
4	Check the bridge unit diverter gate solenoid for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS.** 3. Touch **Finisher Motor Test.** 4. Touch **Bridge unit diverter gate solenoid.** Does the above component operate properly?	Go to step 6.	Go to step 5
5	Check the bridge unit diverter gate solenoid for proper connection. Is the above component properly connected?	Replace the bridge unit diverter gate solenoid. Go to **"Bridge unit diverter gate solenoid removal" on page 4-14**.	Replace the connection.
6	Check the bridge unit bin media exit solenoid for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS.** 3. Touch **Finisher Motor Test.** 4. Touch **Bridge unit bin media exit solenoid.** Does the above component operate properly?	Go to step 8.	Go to step 7
7	Check the bridge unit bin media exit solenoid for proper connection. Is the above component properly connected?	Replace the bridge unit bin media exit solenoid. Go to **"Bridge unit bin media exit solenoid removal" on page 4-16**.	Replace the connection.

Step	Check	Yes	No
8	Check the bridge unit drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Bridge unit drive motor.** Does the above component operate properly?	Go to step 10.	Go to step 9.
9	Check the bridge unit drive motor for proper connection. Is the above component properly connected?	Replace the bridge unit drive motor. Go to **"Bridge unit drive motor removal" on page 4-8**.	Replace the connection.
10	Perform a print test. Does the error continue?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**. Go to step 11.	Problem solved.
11	Perform a print test. Does the error continue?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

281.05 Sensor (bridge exit bin) lag jam

Step	Check	Yes	No
1	Check the media position. Does the media touch the sensor (bridge unit bin exit)?	Remove the media.	Go to step 2.
2	Check the sensor (bridge unit media bin exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor test.** 4. Touch **Media Path 1.** 5. Touch **Bridge unit media bin exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.

Step	Check	Yes	No
3	Check the sensor (bridge unit bin exit) for proper connection. Is the above component properly connected?	Replace the sensor (bridge unit bin exit). Go to **"Sensor (bridge unit bin exit) removal" on page 4-13**.	Replace the connection.
4	Check the bridge unit diverter gate solenoid for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS.** 3. Touch **Finisher Motor Test.** 4. Touch **Bridge unit diverter gate solenoid.** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Check the bridge unit diverter gate solenoid for proper connection. Is the above component properly connected?	Replace the bridge unit diverter gate solenoid. Go to **"Bridge unit diverter gate solenoid removal" on page 4-14**.	Replace the connection.
6	Check the bridge unit bin media exit solenoid for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS.** 3. Touch **Finisher Motor Test.** 4. Touch **Bridge unit bin media exit solenoid.** Does the above component operate properly?	Go to step 8.	Go to step 7.
7	Check the bridge unit bin media exit solenoid for proper connection. Is the above component properly connected?	Replace the bridge unit bin media exit solenoid. Go to **"Bridge unit bin media exit solenoid removal" on page 4-16**.	Replace the connection.

Step	Check	Yes	No
8	Perform a print test. Does the error continue?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**. Go to step 9.	Problem solved.
9	Perform a print test. Does the error continue?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

281.06 Sensor (bridge exit bin) static jam

Step	Check	Yes	No
1	Check the sensor (bridge unit media bin exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor test** 4. Touch **Media Path 1.** 5. Touch **Bridge unit media bin exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 2.
2	Check the sensor (bridge unit bin exit) for proper connection. Is the above component properly connected?	Replace the sensor (bridge unit bin exit). Go to **"Sensor (bridge unit bin exit) removal" on page 4-13**.	Replace the connection.
3	Check the bridge unit drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Bridge unit drive motor.** Does the above component operate properly?	Go to step 10.	Go to step 9.

Step	Check	Yes	No
4	Check the bridge unit drive motor for proper connection. Is the above component properly connected?	Replace the bridge unit drive motor. Go to **"Bridge unit drive motor removal" on page 4-8**.	Replace the connection.
5	Perform a print test. Does the error remain?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**. Go to step 6.	Problem solved.
6	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

282.00 Sensor (finisher media entrance) late jam

Step	Check	Yes	No
1	Check the bridge unit media transport rolls. Are the bridge unit media transport rolls free of excess wear and contamination?	Go to step 2.	Clean or replace the bridge unit assembly. Go to **"Bridge unit assembly removal" on page 4-5**.
2	Check sensor (bridge unit media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Bridge unit media exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (bridge unit media exit) connection. Is the above component properly connected?	Replace the sensor (bridge unit media exit). Go to **"Sensor (bridge unit media exit) removal" on page 4-12**.	Replace the connection.

Step	Check	Yes	No
4	Check the sensor (finisher media entrance) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Finisher media entrance.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (finisher media entrance) for proper connection. Is the above component properly connected?	Replace the sensor (finisher media entrance). Go to **"Sensor (finisher media entrance) removal" on page 4-96**.	Replace the connection.
6	Check the bridge unit drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Bridge unit drive motor.** Does the above component operate properly?	Go to step 8.	Go to step 7.
7	Check the bridge unit drive motor for proper connection. Is the above component properly connected?	Replace the bridge unit drive motor. Go to **"Bridge unit drive motor removal" on page 4-8**.	Replace the connection.
8	Perform a print test. Does the error remain?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**. Go to step 9.	Problem solved.

Step	Check	Yes	No
9	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

282.01 Sensor (finisher media entrance) static jam

Step	Check	Yes	No
1	Check the sensor (finisher media entrance) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Finisher media entrance.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (finisher media entrance) for proper connection. Is the above component properly connected?	Replace the sensor (finisher media entrance). Go to **"Sensor (finisher media entrance) removal" on page 4-96**.	Replace the connector.
3	Check the drive motor (entrance/paddle) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (entrance/paddle).** Does the above component operate properly?	Go to step 5.	Go to step 4.

Step	Check	Yes	No
4	Check the drive motor (entrance/paddle) for proper connection. Is the above component properly connected?	Replace the drive motor (entrance/paddle). Go to **"Drive motor (entrance/paddle) and belt (entrance/paddle) removal" on page 4-98**.	Replace the connection.
5	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

283.00 Sensor (buffer path) late jam

Step	Check	Yes	No
1	Check the finisher media entrance roll assembly. Is the above component free of excess wear and contamination?	Go to step 2.	Clean or replace the finisher media entrance roll assembly. Go to **"Finisher media entrance roll assembly removal" on page 4-97**.
2	Check the finisher buffer roll assembly. Is the above component free of excess wear and contamination?	Go to step 3.	Clean or replace the finisher buffer roll assembly. Go to **"Finisher buffer roll assembly removal" on page 4-92**.
3	Check the sensor (diverter gate) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Diverter gate.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.

Step	Check	Yes	No
4	Check the sensor (diverter gate) for proper connection. Is the above component properly connected?	Replace the sensor (diverter gate). Go to **"Sensor (diverter gate) removal" on page 4-107**.	Replace the connection.
5	Check the buffer diverter gate solenoid for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Fin buffer solenoid.** 5. Touch **Forward or reverse.** Does the above component operate properly?	Go to step 7.	Go to step 6.
6	Check the buffer diverter gate solenoid for proper connection. Is the above component properly connected?	Replace the buffer diverter gate solenoid. Go to **"Buffer diverter gate solenoid removal" on page 4-101**.	Problem solved.
7	Check the sensor (buffer path) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Buffer path.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 9.	Go to step 8.
8	Check the sensor (buffer path) for proper connection. Is the above component properly connected?	Replace the sensor (buffer path). Go to **"Sensor (buffer path) removal" on page 4-91**.	Replace the connection.

Step	Check	Yes	No
9	Check the drive motor (buffer/transport) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (buffer/transport).** Does the above component operate properly?	Go to step 11.	Go to step 10.
10	Check the drive motor (buffer/transport) for proper connection. Is the above component properly connected?	Replace the drive motor (buffer/transport). Go to **"Drive motor (buffer/transport) and belt (buffer/transport) removal" on page 4-112**.	Problem solved.
11	Perform a print test. Does the error remain?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**. Go to step 12.	Problem solved.
12	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

283.03 Sensor (buffer path) static jam

Step	Check	Yes	No
1	Check the sensor (buffer path) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Buffer path.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (buffer path) for proper connection. Is the above component properly connected?	Replace the sensor (buffer path). Go to **"Sensor (buffer path) removal" on page 4-91**.	Replace the connection.
3	Check the drive motor (buffer/transport) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (buffer/transport).** Does the above component operate properly?	Go to step 5.	Go to step 4.
4	Check the drive motor (buffer/transport) for proper connection. Is the above component properly connected?	Replace the drive motor (buffer/transport). Go to **"Drive motor (buffer/transport) and belt (buffer/transport) removal" on page 4-112**.	Replace the connection.

Step	Check	Yes	No
5	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

284.00 Sensor (lower media exit) late jam

Step	Check	Yes	No
1	Check the finisher buffer roll assembly. Is the above component free of excess wear and contamination?	Go to step 2.	Clean or replace the finisher buffer roll assembly. Go to **"Finisher buffer roll assembly removal" on page 4-92**.
2	Check the sensor (buffer path) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Buffer path.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (buffer path) for proper connection. Is the above component properly connected?	Replace the sensor (buffer path). Go to **"Sensor (buffer path) removal" on page 4-91**.	Replace the connection.
4	Check the drive motor (buffer/transport) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (buffer/transport).** Does the above component operate properly?	Go to step 6.	Go to step 5.

Step	Check	Yes	No
5	Check the drive motor (buffer/transport) for proper connection. Is the above component properly connected?	Replace the drive motor (buffer/transport). Go to **"Drive motor (buffer/transport) and belt (buffer/transport) removal" on page 4-112**.	Replace the connection.
6	Check the sensor (diverter gate) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Diverter gate.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 8.	Go to step 7.
7	Check the sensor (diverter gate) for proper connection. Is the above component properly connected?	Replace the sensor (diverter gate). Go to **"Sensor (diverter gate) removal" on page 4-107**.	Replace the connection.
8	Check the sensor (lower media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Lower media exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 10.	Go to step 9.
9	Check the sensor (lower media exit) for proper connection? Is the above component properly connected?	Replace the sensor (lower media exit). Go to **"Sensor (lower media exit) removal" on page 4-79**.	Replace the connection.
10	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

284.03 Sensor (lower media exit) lag jam

Step	Check	Yes	No
1	Check the lower media exit roll assembly. Is the above component free of excess wear and contamination?	Go to step 2.	Clean or replace the lower media exit roll assembly. Go to **"Lower media exit roll assembly removal" on page 4-80**.
2	Check the sensor (lower media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Lower media exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (lower media exit) for proper connection. Is the above component properly connected?	Replace the sensor (lower media exit). Go to **"Sensor (lower media exit) removal" on page 4-79**.	Replace the connection.
4	Check the drive motor (exit) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (exit).** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Check the drive motor (exit) for proper connection. Is the above component properly connected?	Replace the drive motor (exit). Go to **"Drive motor (exit) assembly and belt (exit) removal" on page 4-110**.	Replace the connection.

Step	Check	Yes	No
6	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

284.05 Sensor (lower media exit) static jam

Step	Check	Yes	No
1	Check the sensor (lower media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Lower media exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (lower media exit) for proper connection. Is the above component properly connected?	Replace the sensor (lower media exit). Go to **"Sensor (lower media exit) removal" on page 4-79**.	Replace the connection.
3	Check the buffer diverter gate solenoid for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Fin buffer solenoid.** 5. Touch **Forward or reverse.** Does the above component operate properly?	Go to step 5.	Go to step 4.

Step	Check	Yes	No
4	Check the buffer diverter gate solenoid for proper connection. Is the above component properly connected?	Replace the buffer diverter gate solenoid. Go to **"Buffer diverter gate solenoid removal" on page 4-101**.	Problem solved.
5	Check the drive motor (exit) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (exit).** Does the above component operate properly?	Go to step 7.	Go to step 6.
6	Check the drive motor (exit) for proper connection. Is the above component properly connected?	Replace the drive motor (exit). Go to **"Drive motor (exit) assembly and belt (exit) removal" on page 4-110**.	Replace the connection.
7	Check the finisher diverter gate solenoid for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Fin diverter solenoid.** 5. Touch **Forward or reverse.** Does the above component operate properly?	Go to step 9.	Go to step 8.
8	Check the finisher diverter gate solenoid for proper connection. Is the above component properly connected?	Replace the finisher diverter gate solenoid. Go to **"Finisher diverter gate solenoid removal" on page 4-100**.	Problem solved.

Step	Check	Yes	No
9	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

285.00 Sensor (media compiler in) lag jam

Step	Check	Yes	No
1	Check the media eject clamp motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Media eject clamp motor.** Does the above component operate properly?	Go to step 3.	Go to step 2.
2	Check the media eject motor for proper connection. Is the above component properly connected?	Replace the media eject motor. Go to **"Media eject motor assembly removal" on page 4-77**.	Replace the connection.
3	Check the compiler media in actuator for proper operation. Is the actuator operating properly?	Go to step 4.	Replace the media compiler unit assembly. Go to **"Media compiler unit assembly removal" on page 4-68**.

Step	Check	Yes	No
4	Check the sensor (compiler media in) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Compiler media in.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (compiler media in) for proper connection. Is the above component properly connected?	Replace the sensor (compiler media in). Go to **"Sensor (compiler media in) removal" on page 4-71**.	Replace the connection.
6	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

286.00 Sensor (compiler media in) static jam

Step	Check	Yes	No
1	Check the media eject clamp motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Media eject clamp motor.** Does the above component operate properly?	Go to step 3.	Go to step 2.
2	Check the media eject clamp motor for proper connection. Is the above component properly connected?	Replace the media eject clamp motor. Go to **"Media eject clamp motor assembly removal" on page 4-65**.	Replace the connector.

Step	Check	Yes	No
3	Check the sensor (compiler media in) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Compiler media in.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (compiler media in) for proper connection. Is the above component properly connected?	Replace the sensor (compiler media in). Go to **"Sensor (compiler media in) removal" on page 4-71**.	Replace the connection.
5	Check the media eject motor assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Media eject mtr.** Does the above component operate properly?	Go to step 7.	Go to step 6.
6	Check the media eject motor assembly for proper connection. Is the above component properly connected?	Replace the media eject motor assembly. Go to **"Media eject motor assembly removal" on page 4-77**.	Replace the connection.
7	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

287.00 Sensor (upper media exit) late jam

Step	Check	Yes	No
1	Check the two upper media transport roll assemblies. Are the two upper media transport roll assemblies free of excess wear and contamination?	Go to step 2.	Clean or replace the two upper media transport roll assemblies. Go to **"Upper media transport roll assembly removal" on page 4-108**.
2	Check the sensor (upper media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Upper media exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (upper media exit) for proper connection. Is the above component properly connected?	Replace the sensor (upper media exit). Go to **"Sensor (upper media exit) removal" on page 4-102**.	Replace the connection.
4	Check the drive motor (buffer/transport) for proper operation. **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (buffer/transport).** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Check the drive motor (buffer/transport) for proper connection. Is the above component properly connected?	Replace the drive motor (buffer/transport). Go to **"Drive motor (buffer/transport) and belt (buffer/transport) removal" on page 4-112**.	Replace the connection.

Step	Check	Yes	No
6	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

287.01 Sensor (upper media exit) lag jam

Step	Check	Yes	No
1	Check the two upper media transport roll assemblies. Are the two upper media transport roll assemblies free of excess wear and contamination?	Go to step 2.	Clean or replace the two upper media transport roll assemblies. Go to **"Upper media transport roll assembly removal" on page 4-108**.
2	Check the sensor (upper media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Upper media exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 4.
3	Check the sensor (upper media exit) for proper connection. Is the above component properly connected?	Replace the sensor (upper media exit). Go to **"Sensor (upper media exit) removal" on page 4-102**.	Replace the connection.

Step	Check	Yes	No
4	Check the drive motor (buffer/transport) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (buffer/transport).** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Check the drive motor (buffer/transport) for proper connection. Is the above component properly connected?	Replace the drive motor (buffer/transport). Go to **"Drive motor (buffer/transport) and belt (buffer/transport) removal" on page 4-112**.	Replace the connection.
6	Check the drive motor (exit) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (exit).** Does the above component operate properly?	Go to step 8.	Go to step 7.
7	Check the drive motor (exit) for proper connection. Is the above component properly connected?	Replace the drive motor (exit). Go to **"Drive motor (exit) assembly and belt (exit) removal" on page 4-110**.	Replace the connection.
8	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

287.05 Sensor (upper media exit) static jam

Step	Check	Yes	No
1	Check the sensor (upper media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Upper media exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (upper media exit) for proper connection. Is the above component properly connected?	Replace the sensor (upper media exit). Go to **"Sensor (upper media exit) removal" on page 4-102**.	Replace the connection.
3	Check the drive motor (buffer/transport) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (buffer/transport).** Does the above component operate properly?	Go to step 5.	Go to step 4.
4	Check the drive motor (buffer/transport) for proper connection. Is the above component properly connected?	Replace the drive motor (buffer/transport). Go to **"Drive motor (buffer/transport) and belt (buffer/transport) removal" on page 4-112**.	Replace the connection.
5	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

288.00 Sensor (diverter gate) late jam

Step	Check	Yes	No
1	Check the finisher media entrance roll assembly. Is the finisher media entrance roll assembly free of excess wear and contamination?	Go to step 2.	Clean or replace the finisher media entrance roll assembly. Go to **"Finisher media entrance roll assembly removal" on page 4-97**.
2	Check the sensor (bridge unit media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Bridge unit media exit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (bridge unit media exit) for proper connection. Is the above component properly connected?	Replace the sensor (bridge unit media exit). Go to **"Sensor (bridge unit media exit) removal" on page 4-12**.	Replace the connection.
4	Check the sensor (finisher media entrance) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 1.** 5. Touch **Finisher media entrance.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (finisher media entrance) for proper connection. Is the above component properly connected?	Replace the sensor (finisher media entrance). Go to **"Sensor (finisher media entrance) removal" on page 4-96**.	Replace the connection.

Step	Check	Yes	No
6	Check the sensor (diverter gate) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Diverter gate.** Does the operator panel display change every time the actuator of the sensor (bridge unit media exit) is operated?	Go to step 8.	Go to step 7.
7	Check the sensor (diverter gate) for proper connection. Is the above component properly connected?	Replace the sensor (diverter gate). Go to **"Sensor (diverter gate) removal" on page 4-107**.	Replace the connection.
8	Check the drive motor (entrance/paddle) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (entrance/paddle).** Does the above component operate properly?	Go to step 10.	Go to step 9.
9	Check the drive motor (entrance/paddle) for proper connection. Is the above component properly connected.	Replace the drive motor (entrance/paddle). Go to **"Drive motor (entrance/paddle) and belt (entrance/paddle) removal" on page 4-98**.	Replace the connection.
10	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

288.01 Sensor (diverter gate) static jam A (to top bin)

Step	Check	Yes	No
1	Check the sensor (diverter gate) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Diverter gate.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (diverter gate) for proper connection. Is the above component properly connected?	Replace the sensor (diverter gate). Go to **"Sensor (diverter gate) removal" on page 4-107**.	Replace the connection.
3	Check the drive motor (entrance/paddle) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (entrance/paddle).** Does the above component operate properly?	Go to step 5.	Go to step 4.
4	Check the drive motor (entrance/paddle) for proper connection. Is the above component properly connected?	Replace the drive motor (entrance/paddle). Go to **"Drive motor (entrance/paddle) and belt (entrance/paddle) removal" on page 4-98**.	Replace the connection.
5	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

288.04 Sensor (diverter gate) static jam B (to stacker bin)

Step	Check	Yes	No
1	Check the sensor (diverter gate) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Diverter gate.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (diverter gate) for proper connection. Is the above component properly connected?	Replace the sensor (diverter gate). Go to **"Sensor (diverter gate) removal" on page 4-107**.	Replace the connection.
3	Check the motor (entrance/paddle) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (entrance/paddle).** Does the above component operate properly?	Go to step 5.	Go to step 4.
4	Check the motor (entrance/paddle) for proper connection. Is the above component properly connected.	Replace the drive motor (entrance/paddle). Go to **"Drive motor (entrance/paddle) and belt (entrance/paddle) removal" on page 4-98**.	Replace the connection.
5	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

289.00 sensor (booklet unit media entrance) late jam

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.
4	Check the sensor (booklet unit media entrance) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Booklet path** 5. Touch **Booklet unit media entrance** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (booklet unit media entrance) for proper connection. Is the above component properly connected?	Replace the sensor (booklet unit media entrance). Go to **"Sensor (booklet unit media entrance) removal" on page 4-137**.	Replace the connection.
6	Check the booklet diverter gate solenoid for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Booklet diverter gate solenoid** Does the above component operate properly?	Go to step 8.	Go to step 7.
7	Check the booklet diverter gate solenoid for proper connection. Is the above component properly connected?	Replace the booklet diverter gate solenoid. Go to **"Booklet diverter gate solenoid removal" on page 4-122**.	Problem solved.

Step	Check	Yes	No
8	Check the motor (entrance/paddle) for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Motor (entrance/paddle).** Does the above component operate properly?	Go to step 10.	Go to step 9.
9	Check the motor (entrance/paddle) for proper connection. Is the above component properly connected.	Replace the drive motor (entrance/paddle). Go to **"Drive motor (entrance/paddle) and belt (entrance/paddle) removal" on page 4-98**.	Replace the connection.
10	Perform a print test. Does the error remain?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**. Go to step 11.	Problem solved.
11	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

289.01 sensor (booklet unit media entrance) lag jam

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.

Step	Check	Yes	No
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.
4	Check the sensor (booklet unit media entrance) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Booklet path.** 5. Touch **Booklet unit media entrance** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (booklet unit media entrance) for proper connection. Is the above component properly connected?	Replace the sensor (booklet unit media entrance). Go to **"Sensor (booklet unit media entrance) removal" on page 4-137**.	Replace the connection.
6	Check the booklet media entrance drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Booklet media entrance drive motor.** Does the above component operate properly?	Go to step 8.	Go to step 7.
7	Check the booklet media entrance drive motor for proper connection. Is the above component properly connected?	Replace the booklet media entrance drive motor. Go to **"Booklet media entrance drive motor removal" on page 4-126**.	Problem solved.
8	Perform a print test. Does the error remain?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**. Go to step 9.	Problem solved.

Step	Check	Yes	No
9	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

289.02 sensor (booklet unit media entrance) static jam

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the sensor (booklet unit media entrance) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Booklet path.** 5. Touch **Booklet unit media entrance** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (booklet unit media entrance) for proper connection. Is the above component properly connected?	Replace the sensor (booklet unit media entrance). Go to **"Sensor (booklet unit media entrance) removal" on page 4-137**.	Replace the connection.
5	Perform a print test. Does the error remain?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**. Go to step 6.	Problem solved.

Step	Check	Yes	No
6	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

289.03 sensor (booklet compiler media in) static jam

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the sensor (booklet compiler media in) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Booklet Path.** 5. Touch **Booklet compiler media in.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (booklet compiler media in) for proper connection. Is the above component properly connected?	Replace the sensor (booklet compiler media in). Go to **"Sensor (booklet media compiler in) removal" on page 4-138**.	Replace the connection.
5	Perform a print test. Does the error remain?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**. Go to step 6.	Problem solved.

Step	Check	Yes	No
6	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

289.04 Sensor (booklet unit media exit) late jam

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.
4	Check the sensor (booklet unit media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Booklet path** 5. Touch **Booklet unit media exit** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (booklet unit media exit) for proper connection. Is the above component properly connected?	Replace the sensor (booklet unit media exit). Go to **"Sensor (booklet unit media exit) removal" on page 4-138**.	Replace the connection.

Step	Check	Yes	No
6	Check the booklet knife solenoid for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Booklet knife solenoid.** Does the above component operate properly?	Go to step 8.	Go to step 7.
7	Check the booklet knife solenoid for proper connection. Is the above component properly connected.	Replace the booklet knife solenoid. Go to **"Booklet knife solenoid removal" on page 4-124**.	Replace the connection.
8	Check the booklet folding/exit drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Booklet folding/exit drive motor.** Does the above component operate properly?	Go to step 10.	Go to step 9.
9	Check the booklet folding/exit drive motor for proper connection. Is the above component properly connected?	Replace the booklet folding/exit drive motor assembly. Go to **"Booklet folding/exit drive motor assembly removal" on page 4-121**.	Problem solved.
10	Perform a print test. Does the error remain?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**. Go to step 11.	Problem solved.

Step	Check	Yes	No
11	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

289.05 Sensor (booklet unit media exit) lag jam

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.
4	Check the sensor (booklet unit media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Booklet path** 5. Touch **Booklet unit media exit** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (booklet unit media exit) for proper connection. Is the above component properly connected?	Replace the sensor (booklet unit media exit). Go to **"Sensor (booklet unit media exit) removal" on page 4-138**.	Replace the connection.

Step	Check	Yes	No
6	Check the booklet folding/exit drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Booklet folding/exit drive motor.** Does the above component operate properly?	Go to step 8.	Go to step 7.
7	Check the booklet folding/exit drive motor for proper connection. Is the above component properly connected?	Replace the booklet folding/exit drive motor. Go to **"Booklet folding/exit drive motor assembly removal" on page 4-121**.	Problem solved.
8	Perform a print test. Does the error remain?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**. Go to step 9.	Problem solved.
9	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

289.06 Sensor (booklet unit media exit) static jam

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.

Step	Check	Yes	No
3	Check the sensor (booklet unit media exit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Booklet path** 5. Touch **Booklet unit media exit** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (booklet unit media exit) for proper connection. Is the above component properly connected?	Replace the sensor (booklet unit media exit). Go to **"Sensor (booklet unit media exit) removal" on page 4-138**.	Replace the connection.
5	Perform a print test. Does the error remain?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**. Go to step 6.	Problem solved.
6	Perform a print test. Does the error remain?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

981.00 Sensor (stacker bin level 1) late error

Step	Check	Yes	No
1	Check the vertical transport mechanism of the stacker bin for obstacles and damage. Are the any obstacles in the vertical transport mechanism of the stacker bin?	Remove obstacles.	Go to step 2.

Step	Check	Yes	No
2	Check the sensor (stacker bin level 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level1.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (stacker bin level 1) for proper connection. Is the above component properly connected?	Replace the sensor (stacker bin level 1). Go to **"Sensor (stacker bin level 1) removal" on page 4-33**.	Replace the connection.
4	Check the sensor (stacker bin level 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level2.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Is the sensor (stacker bin level 2) connected properly. Is the above component properly connected?	Replace the sensor (stacker bin level 2). Go to **"Sensor (stacker bin level 2) removal" on page 4-33**.	Replace the connection.
6	Check the stacker bin lift motor assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS.** 3. Touch **Finisher Motor Tests.** 4. Touch **Stacker lift mtr.** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 8.	Go to step 7.

Step	Check	Yes	No
7	Is the stacker bin lift motor assembly connected properly?	Replace the stacker bin lift motor assembly. Go to **"Stacker bin lift motor assembly removal" on page 4-37**.	Replace the connection.
8	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

981.01 Stacker bin upper limit error

Step	Check	Yes	No
1	Check the sensor (stacker bin level 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level1.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (stacker bin level 1) for proper connection. Is the above component properly connected?	Replace the sensor (stacker bin level 1). Go to **"Sensor (stacker bin level 1) removal" on page 4-33**.	Replace the connection.
3	Check the sensor (stacker bin level 2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level2.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.
4	Check the sensor (stacker bin level 2) for proper connection. Is the above component properly connected?	Replace the sensor (stacker bin level 2). Go to **"Sensor (stacker bin level 2) removal" on page 4-33**.	Replace the connection.

Step	Check	Yes	No
5	Check the media stacker bin actuator for proper operation. Is the media stacker bin actuator installed properly? Does it enter the sensing area of the sensor (stacker bin upper limit)?	Go to step 6.	Repair the media stacker bin actuator.
6	Check the sensor (stacker bin upper limit) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin upper limit.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 8.	Go to step 7.
7	Check the sensor (stacker bin upper limit) for proper connection. Is the above component properly connected?	Replace the sensor (stacker bin upper limit). Go to **"Sensor (stacker bin upper limit) or sensor (stacker bin no media) removal" on page 4-35**.	Replace the connection.
8	Check the stacker bin lift motor assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS.** 3. Touch **Finisher Motor Tests.** 4. Touch **Stacker lift mtr.** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 10.	Go to step 9.
9	Check the stacker bin lift motor assembly for proper connection. Is the above component properly connected?	Replace the stacker bin lift motor assembly. Go to **"Stacker bin lift motor assembly removal" on page 4-37**.	Replace the connection.
10	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

981.02 Stacker bin lower limit error

Step	Check	Yes	No
1	Check the media stacker bin actuator for proper operation. Is the media stacker bin actuator installed properly? Does it enter the sensing area of the sensor (stacker bin upper limit)?	Go to step 2.	Repair the media stacker bin actuator.
2	Check the sensor (stacker bin no media) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin no media.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Is the sensor (stacker bin no media) properly connected? Is the above component properly connected?	Replace the sensor (stacker bin no media).	Replace the connection.
4	Check the sensor (stacker bin level 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level1.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Check the sensor (stacker bin level 1) for proper connection. Is the above component properly connected?	Replace the sensor (stacker bin level 1). Go to **"Sensor (stacker bin level 1) removal" on page 4-33**.	Replace the connection.
6	Check the sensor (stacker bin level2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level2.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 8.	Go to step 7.
7	Check the sensor (stacker bin level 2) for proper connection. Is the above component properly connected?	Replace the sensor (stacker bin level 2). Go to **"Sensor (stacker bin level 2) removal" on page 4-33**.	Replace the connection.

Step	Check	Yes	No
8	Check the sensor (stacker bin level encoder) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level encod.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 10.	Go to step 9.
9	Is the sensor (stacker bin level encoder) properly connected? Is the above component properly connected?	Replace the sensor (stacker bin level encoder). Go to **"Sensor (stacker bin level encoder) removal" on page 4-34**.	Replace the connection.
10	Check the stacker bin lift motor assembly for proper operation. **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS.** **3.** Touch **Finisher Motor Tests.** 4. Touch **Stacker lift mtr.** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 12.	Go to step 11.
11	Check the stacker bin lift motor assembly for proper connection. Is the above component properly connected?	Replace the stacker bin lift motor assembly. Go to **"Stacker bin lift motor assembly removal" on page 4-37**.	Replace the connection.
12	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

982.00 Sensor (front tamper HP) late error

Step	Check	Yes	No
1	Check the tamper mechanism by moving it manually. Does the above component slide back and forth properly?	Go to step 2.	Replace the media compiler unit assembly. Go to **"Media compiler unit assembly removal" on page 4-68**.
2	Check the sensor (front tamper HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Front tamper HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Is the sensor (front tamper HP) properly connected? Is the above component properly connected?	Replace the sensor (front tamper HP). Go to **"Sensor (front tamper HP) and sensor (rear tamper HP) removals" on page 4-70**.	Replace the connection.
4	Check the front tamper drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Front tamper mtr** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Check the compiler unit cable assembly for proper connection. Is the above component properly connected?	Replace the media compiler unit assembly. Go to **"Media compiler unit assembly removal" on page 4-68**.	Replace the connection.

Step	Check	Yes	No
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

982.01 Sensor (front tamper HP) lag error

Step	Check	Yes	No
1	Check the tamper mechanism by moving it manually. Does the above component slide back and forth properly?	Go to step 2.	Replace the media compiler unit assembly. Go to **"Media compiler unit assembly removal" on page 4-68**.
2	Check the sensor (front tamper HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Front tamper HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Is the sensor (front tamper HP) properly connected? Is the above component properly connected?	Replace the sensor (front tamper HP). Go to **"Sensor (front tamper HP) and sensor (rear tamper HP) removals" on page 4-70**.	Replace the connection.
4	Check the front tamper drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Front tamper mtr** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 6.	Go to step 5.

Step	Check	Yes	No
5	Check the compiler unit cable assembly for proper connection. Is the above component properly connected?	Replace the media compiler unit assembly. Go to **"Media compiler unit assembly removal" on page 4-68**.	Replace the connection.
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

983.00 Sensor (rear tamper HP) late error

Step	Check	Yes	No
1	Check the tamper mechanism by moving it manually. Does the above component slide back and forth properly?	Go to step 2.	Replace the media compiler unit assembly. Go to **"Media compiler unit assembly removal" on page 4-68**.
2	Check the sensor (rear tamper HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Rear tamper HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Is the sensor (rear tamper HP) properly connected? Is the above component properly connected?	Replace the sensor (rear tamper HP). Go to **"Sensor (front tamper HP) and sensor (rear tamper HP) removals" on page 4-70**.	Replace the connection.

Step	Check	Yes	No
4	Check the rear tamper drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Rear tamper mtr.** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Check the compiler unit cable assembly for proper connection. Is the above component properly connected?	Replace the media compiler unit assembly. Go to **"Media compiler unit assembly removal" on page 4-68**.	Replace the connection.
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

983.01 Sensor (rear tamper HP) lag error

Step	Check	Yes	No
1	Check the tamper mechanism by moving it manually. Does the above component slide back and forth properly?	Go to step 2.	Replace the media compiler unit assembly. Go to **"Media compiler unit assembly removal" on page 4-68**.
2	Check the sensor (rear tamper HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Rear tamper HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.

Step	Check	Yes	No
3	Is the sensor (rear tamper HP) properly connected? Is the above component properly connected?	Replace the sensor (rear tamper HP). Go to **"Sensor (front tamper HP) and sensor (rear tamper HP) removals" on page 4-70**.	Replace the connection.
4	Check the rear tamper drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Rear tamper mtr.** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Check the compiler unit cable assembly for proper connection. Is the above component properly connected?	Replace the media compiler unit assembly. Go to **"Media compiler unit assembly removal" on page 4-68**.	Replace the connection.
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

984.00 Sensor (punch unit HP) late error

Step	Check	Yes	No
1	Check the punch rack gear by moving it manually. Does the above component slide back and forth properly?	Go to step 2.	Remove obstacles.

Step	Check	Yes	No
2	Check the sensor (punch unit HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Punch and Staple.** 5. Touch **Punch unit HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Is the sensor (punch unit HP) properly connected? Is the above component properly connected?	Replace the sensor (punch unit HP). Go to **"Sensor (punch hole select), sensor (punch cam front), and sensor (punch unit HP) removal" on page 4-48**.	Replace the connection.
4	Check the punch unit motor for proper operation. 1. Enter the Diagnostic Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Punch unit mtr.** 4. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Is the punch unit motor properly connected? Is the above component properly connected?	Replace the punch unit motor assembly. Go to **"Punch unit motor assembly removal" on page 4-46**.	Replace the connection.
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

984.01 Sensor (punch unit HP) lag error

Step	Check	Yes	No
1	Check the punch rack gear by moving it manually. Does the above component slide back and forth properly?	Go to step 2.	Remove obstructions.

Step	Check	Yes	No
2	Check the sensor (punch unit HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Punch and Staple.** 5. Touch **Punch unit HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Is the sensor (punch unit HP) properly connected? Is the above component properly connected?	Replace the sensor (punch unit HP). Go to **"Sensor (punch hole select), sensor (punch cam front), and sensor (punch unit HP) removal" on page 4-48**.	Replace the connection.
4	Check the punch unit motor for proper operation. 1. Enter the Diagnostic Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Punch unit mtr.** 4. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Is the punch unit motor properly connected? Is the above component properly connected?	Replace the punch unit motor assembly. Go to **"Punch unit motor assembly removal" on page 4-46**.	Replace the connection.
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

985.00 Sensor (punch carriage shift HP) late error

Step	Check	Yes	No
1	Check the punch carriage by moving it manually. Does the above component slide back and forth properly?	Go to step 2.	Remove obstacles.
2	Check the sensor (punch carriage shift HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Punch and Staple.** 5. Touch **Punch carriage shift HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (punch carriage shift HP) for proper connection. Is the above component properly connected?	Replace the sensor (punch carriage shift HP). Go to **"Sensor (punch carriage shift HP) removal" on page 4-50**.	Replace the connection.
4	Check the punch carriage shift motor assembly for proper operation. **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Punch carriage shift mtr.** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 6.	Go to step 9.
5	Check the punch carriage shift motor for proper connection. Is the above component properly connected?	Replace the punch carriage shift motor assembly. Go to **"Punch carriage shift motor assembly removal" on page 4-42**.	Replace the connection.

Step	Check	Yes	No
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

985.01 Sensor (punch carriage shift HP) lag error

Step	Check	Yes	No
1	Check the punch carriage by moving it manually. Does the above component slide back and forth properly?	Go to step 2.	Remove obstructions.
2	Check the sensor (punch carriage shift HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Punch and Staple.** 5. Touch **Punch carriage shift HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Check the sensor (punch carriage shift HP) for proper connection. Is the above component properly connected?	Replace the sensor (punch carriage shift HP). Go to **"Sensor (punch carriage shift HP) removal" on page 4-50**.	Replace the connection.
4	Check the punch carriage shift motor assembly for proper operation. **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Punch carriage shift mtr.** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 6.	Go to step 5.

Step	Check	Yes	No
5	Check the punch carriage shift motor for proper connection. Is the above component properly connected?	Replace the punch carriage shift motor assembly. Go to **"Punch carriage shift motor assembly removal" on page 4-42**.	Replace the connection.
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

986.00 Sensor (media eject clamp HP) late error

Step	Check	Yes	No
1	Check the sensor (media eject clamp HP) for proper operation. 1. Enter the Diagnostic Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Media eject clamp HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (media eject clamp HP) for proper connection. Is the above component properly connected?	Replace the sensor (media eject clamp HP). Go to **"Sensor (media eject clamp HP) removal" on page 4-66**.	Replace the connection.

Step	Check	Yes	No
3	Check the media eject clamp motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Media eject clamp motor.** Does the above component operate properly?	Go to step 5.	Go to step 4.
4	Is the media eject clamp motor properly connected? Is the above component properly connected?	Replace the media eject clamp motor. Go to **"Media eject clamp motor assembly removal" on page 4-65**.	Replace the connection.
5	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

986.01 Sensor (media eject clamp HP) lag error

Step	Check	Yes	No
1	Check the sensor (media eject clamp HP) for proper operation. 1. Enter the Diagnostic Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Media eject clamp HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.

Step	Check	Yes	No
2	Is the sensor (media eject clamp HP) properly connected? Is the above component properly connected?	Replace the sensor (media eject clamp HP). Go to **"Sensor (media eject clamp HP) removal" on page 4-66**.	Replace the connection.
3	Check the media eject clamp motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Media eject clamp motor.** Does the above component operate properly?	Go to step 5.	Go to step 4.
4	Is the media eject clamp motor properly connected? Is the above component properly connected?	Replace the media eject clamp motor. Go to **"Media eject clamp motor assembly removal" on page 4-65**.	Replace the connection.
5	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

987.00 Sensor (media eject shaft HP) late error

Step	Check	Yes	No
1	Check the sensor (media eject shaft HP) for proper operation. 1. Enter the Diagnostic Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Media eject shaft HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Check the sensor (media eject shaft HP) for proper connection. Is the above component properly connected?	Replace the sensor (media eject shaft HP). Go to **"Sensor (media eject shaft HP) removal" on page 4-78**.	Replace the connection.
3	Check the media eject motor assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Media eject mtr.** Does the above component operate properly?	Go to step 5.	Go to step 4.
4	Is the media eject motor assembly for properly connected? Is the above component properly connected?	Replace the media eject motor assembly. Go to **"Media eject motor assembly removal" on page 4-77**.	Replace the connection.

Step	Check	Yes	No
5	Check the media eject clutch assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Media eject clutch.** Does the above component make an audible clicking noise?	Go to step 7.	Go to step 6.
6	Check the media eject clutch assembly for proper connection. Is the above component properly connected?	Replace the media eject clutch assembly. Go to **"Media eject clutch assembly removal" on page 4-76**.	Replace the connection.
7	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

987.01 Sensor (media eject shaft HP) lag error

Step	Check	Yes	No
1	Check the sensor (media eject shaft HP) for proper operation. 1. Enter the Diagnostic Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Media Path 2.** 5. Touch **Media eject shaft HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.

Step	Check	Yes	No
2	Check the sensor (media eject shaft HP) for proper connection. Is the above component properly connected?	Replace the sensor (media eject shaft HP). Go to **"Sensor (media eject shaft HP) removal" on page 4-78**.	Replace the connection.
3	Check the media eject motor assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Media eject mtr.** Does the above component operate properly?	Go to step 5.	Go to step 4.
4	Is the media eject motor assembly for properly connected? Is the above component properly connected?	Replace the media eject motor assembly. Go to **"Media eject motor assembly removal" on page 4-77**.	Replace the connection.
5	Check the media eject clutch assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Media eject clutch.** Does the above component make an audible clicking noise?	Go to step 7.	Go to step 6.
6	Is the media eject clutch assembly connected properly? Is the above component properly connected?	Replace the media eject clutch assembly. Go to **"Media eject clutch assembly removal" on page 4-76**.	Replace the connection.

Step	Check	Yes	No
7	Perform a POR. Does the error continue when the power is turned off/ on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

988.01 Sensor (punch unit side reg1) or (sensor (punch unit side reg2) lag failure

Note: This procedure pertains to sensor punch unit reg1 and reg2.

Step	Check	Yes	No
1	Check the sensor (punch unit side reg1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test.** 4. Touch **Punch and Staple.** 5. Touch **Punch side reg1.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Check the appropriate sensor (punch unit side reg pair) connection. Is the above component properly connected?	Replace the appropriate sensor (punch unit side reg pair). Go to **"Sensor (punch unit side registration pair) with bracket removal" on page 4-43**.	Replace the connection.
3	Check the sensor (punch unit side reg2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test.** 4. Touch **Punch and Staple.** 5. Touch **Punch side reg2.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 5.	Go to step 4.

Step	Check	Yes	No
4	Check the appropriate sensor (punch unit side reg pair) connection. Is the above component properly connected?	Replace the appropriate sensor (punch unit side reg pair). Go to **"Sensor (punch unit side registration pair) with bracket removal" on page 4-43**.	Replace the connection.
5	Check the punch carriage shift motor assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Punch carriage shift mtr.** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 7.	Go to step 6.
6	Check the punch carriage shift motor for proper connection. Is the above component properly connected?	Replace the punch carriage shift motor assembly. Go to **"Punch carriage shift motor assembly removal" on page 4-42**.	Replace the connection.
7	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

989.00 Stapler unit failure

Step	Check	Yes	No
1	Check the stapler unit assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. **Warning:** Ensure there are no loose staples in the stapler unit after performing this test. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Stapler unit mtr.** Does the above component operate properly?	Check for staples and staple jams. Problem resolved.	Go to step 2.
2	Is the stapler unit assembly properly connected? Is the above component properly connected?	Replace the stapler unit assembly. Go to **"Stapler unit assembly removal" on page 4-55**.	Replace the connection.
3	Perform a print test stapled document. Does the error remain?	Replace the printer engine card assembly. Refer to the *Printer Service Manual.*	Problem solved.

990.00 Sensor (stapler carriage HP) late error

Step	Check	Yes	No
1	Check the stapler by moving it manually. Does the above component slide back and forth properly?	Go to step 2.	Remove obstructions.
2	Check the sensor (stapler carriage HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Punch and Staple.** 5. Touch **Stapler carriage shift HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.

Step	Check	Yes	No
3	Is the sensor (stapler carriage HP) properly connected? Is the above component properly connected?	Replace the sensor (stapler carriage HP). Go to **"Sensor (stapler carriage HP) removal" on page 4-57**.	Replace the connection.
4	Check the stapler carriage motor assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Stapler carriage mtr.** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Is the stapler carriage motor assembly properly connected? Is the above component properly connected?	Replace the stapler carriage motor assembly.	Replace the connection
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

990.01 Sensor (stapler carriage HP) lag error

Step	Check	Yes	No
1	Check the stapler by moving it manually. Does the above component slide back and forth properly?	Go to step 2.	Remove obstructions.

Step	Check	Yes	No
2	Check the sensor (stapler carriage HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Punch and Staple.** 5. Touch **Stapler carriage shift HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 4.	Go to step 3.
3	Is the sensor (stapler carriage HP) properly connected? Is the above component properly connected?	Replace the sensor (stapler carriage HP). Go to **"Sensor (stapler carriage HP) removal" on page 4-57**.	Replace the connection.
4	Check the stapler carriage motor assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Stapler carriage mtr.** 5. Touch **Forward or Reverse.** Does the above component operate properly?	Go to step 6.	Go to step 5.
5	Is the stapler carriage motor assembly properly connected? Is the above component properly connected?	Replace the stapler carriage motor assembly.	Replace the connection.
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.00 Sensor (booklet front temper HP) late error

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.
4	Check the booklet front tamper by moving it manually. Does the above component slide back and forth properly?	Go to step 5.	Remove obstructions.
5	Check the sensor (booklet front tamper HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test** 4. Touch **Booklet Path** 5. Touch **Booklet front tamper HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Is the sensor (booklet front tamper HP) properly connected? Is the above component properly connected?	Replace the sensor (booklet front tamper HP). Go to **"Sensor (booklet front tamper HP) removal" on page 4-131**.	Replace the connection.
7	Check the booklet front tamper motor for proper operation. **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Booklet front tamper motor.** Does the above component operate properly?	Go to step 6.	Go to step 5.
8	Is the booklet front tamper motor properly connected? Is the above component properly connected?	Replace the booklet front tamper motor. Go to **"Booklet front tamper motor removal" on page 4-133**.	Replace the connection.

Step	Check	Yes	No
9	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.
10	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.01 Sensor (booklet front tamper HP) lag error

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.
4	Check the booklet front tamper by moving it manually. Does the above component slide back and forth properly?	Go to step 5.	Remove obstructions.
5	Check the sensor (booklet front tamper HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test** 4. Touch **Booklet Path** 5. Touch **Booklet front tamper HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Is the sensor (booklet front tamper HP) properly connected? Is the above component properly connected?	Replace the sensor (booklet front tamper HP). Go to **"Sensor (booklet front tamper HP) removal" on page 4-131**.	Replace the connection.

Step	Check	Yes	No
7	Check the booklet front tamper motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Booklet front tamper motor.** Does the above component operate properly?	Go to step 6.	Go to step 5.
8	Is the booklet front tamper motor properly connected? Is the above component properly connected?	Replace the booklet front tamper motor. Go to **"Booklet front tamper motor removal" on page 4-133**.	Replace the connection.
9	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.
10	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.02 Sensor (booklet rear tamper HP) late error

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.

Step	Check	Yes	No
4	Check the booklet rear tamper by moving it manually. Does the above component slide back and forth properly?	Go to step 5.	Remove obstructions.
5	Check the sensor (booklet rear tamper HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test** 4. Touch **Booklet Path** 5. Touch **Booklet rear tamper HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Is the sensor (booklet rear tamper HP) properly connected? Is the above component properly connected?	Replace the sensor (booklet rear tamper HP). Go to **"Sensor (booklet rear tamper HP) removal" on page 4-132**.	Replace the connection.
7	Check the booklet rear tamper motor for proper operation. **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Booklet rear tamper motor.** Does the above component operate properly?	Go to step 6.	Go to step 5.
8	Is the booklet rear tamper motor properly connected? Is the above component properly connected?	Replace the booklet rear tamper motor. Go to **"Booklet rear tamper motor removal" on page 4-134**.	Replace the connection.
9	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.

Step	Check	Yes	No
10	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.03 Sensor (booklet rear tamper HP) lag error

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.
4	Check the booklet rear tamper by moving it manually. Does the above component slide back and forth properly?	Go to step 5.	Remove obstructions.
5	Check the sensor (booklet rear tamper HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test** 4. Touch **Booklet Path** 5. Touch **Booklet rear tamper HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Is the sensor (booklet rear tamper HP) properly connected? Is the above component properly connected?	Replace the sensor (booklet rear tamper HP). Go to **"Sensor (booklet rear tamper HP) removal" on page 4-132**.	Replace the connection.

Step	Check	Yes	No
7	Check the booklet rear tamper motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Booklet rear tamper motor.** Does the above component operate properly?	Go to step 6.	Go to step 5.
8	Is the booklet rear tamper motor properly connected? Is the above component properly connected?	Replace the booklet rear tamper motor. Go to **"Booklet rear tamper motor removal" on page 4-134**.	Replace the connection.
9	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.
10	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.04 Sensor (booklet end guide HP) late error

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.

Step	Check	Yes	No
4	Check the booklet end guide by moving it manually. Does the above component slide up and down properly?	Go to step 5.	Remove obstructions.
5	Check the sensor (booklet end guide HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test** 4. Touch **Booklet Path** 5. Touch **Booklet end guide HP** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Is the sensor (booklet end guide HP) properly connected? Is the above component properly connected?	Replace the sensor (booklet end guide HP). Go to **"Sensor (booklet end guide HP) removal" on page 4-139**.	Replace the connection.
7	Check the booklet end guide drive motor for proper operation. **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Booklet end guide drive motor.** Does the above component operate properly?	Go to step 9.	Go to step 8.
8	Is the booklet end guide drive motor properly connected? Is the above component properly connected?	Replace the booklet end guide drive motor. Go to **"Booklet end guide drive motor removal" on page 4-141**.	Replace the connection.
9	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.

Step	Check	Yes	No
10	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.05 Sensor (booklet end guide HP) lag error

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.
4	Check the booklet end guide by moving it manually. Does the above component slide up and down properly?	Go to step 5.	Remove obstructions.
5	Check the sensor (booklet end guide HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test** 4. Touch **Booklet Path** 5. Touch **Booklet end guide HP** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Is the sensor (booklet end guide HP) properly connected? Is the above component properly connected?	Replace the sensor (booklet end guide HP). Go to **"Sensor (booklet end guide HP) removal" on page 4-139**.	Replace the connection.

Step	Check	Yes	No
7	Check the booklet end guide drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Tests.** 4. Touch **Booklet end guide drive motor.** Does the above component operate properly?	Go to step 9.	Go to step 8.
8	Is the booklet end guide drive motor properly connected? Is the above component properly connected?	Replace the booklet end guide drive motor. Go to **"Booklet end guide drive motor removal" on page 4-141**.	Replace the connection.
9	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.
10	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.06 Sensor (booklet unit interlock) error

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.

Step	Check	Yes	No
4	Check the booklet unit assembly by opening it and closing it. Does the above component slide open and close properly?	Go to step 5.	Remove obstructions.
5	Check the sensor (booklet unit interlock) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test.** 4. Touch **Booklet Path.** 5. Touch **Booklet unit interlock.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 7.	Go to step 6.
6	Is the sensor (booklet unit interlock) properly connected? Is the above component properly connected?	Replace the sensor (booklet unit interlock). Go to **"Sensor (booklet unit interlock) removal" on page 4-119**.	Replace the connection.
7	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.
8	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.07 Sensor (booklet compiler no media) no media detected

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.

Step	Check	Yes	No
4	Check the sensor (booklet compiler media in) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test.** 4. Touch **Booklet Path** 5. Touch **Booklet compiler media in.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Is the sensor (booklet compiler media in) properly connected? Is the above component properly connected?	Replace the sensor (booklet compiler media in). Go to **"Sensor (booklet media compiler in) removal" on page 4-138**.	Replace the connection.
6	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.
7	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.08 Sensor (booklet knife HP) late error

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.

Step	Check	Yes	No
4	Check the sensor (booklet knife HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test.** 4. Touch **Booklet Path.** 5. Touch **Booklet knife HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Is the sensor (booklet knife HP) properly connected? Is the above component properly connected?	Replace the sensor (booklet knife HP). Go to **"Sensor (booklet knife HP) removal" on page 4-135**.	Replace the connection.
6	Check the booklet knife solenoid for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Booklet knife solenoid.** Does the above component operate properly?	Go to step 8.	Go to step 7.
7	Is the booklet knife solenoid properly connected? Is the above component properly connected?	Replace the booklet knife solenoid. Go to **"Booklet knife solenoid removal" on page 4-124**.	Replace the connection.
8	Check the booklet folding/exit drive motor assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Booklet folding/exit drive motor** Does the above component operate properly?	Go to step 10.	Go to step 9.

Step	Check	Yes	No
9	Is the booklet folding/exit drive motor assembly properly connected? Is the above component properly connected?	Replace the booklet folding/exit drive motor assembly. Go to **"Booklet folding/exit drive motor assembly removal" on page 4-121**.	Replace the connection.
10	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.
11	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.09 Sensor (booklet knife HP) lag error

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.
4	Check the sensor (booklet knife HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test.** 4. Touch **Booklet Path.** 5. Touch **Booklet knife HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.

Step	Check	Yes	No
5	Is the sensor (booklet knife HP) properly connected? Is the above component properly connected?	Replace the sensor (booklet knife HP). Go to **"Sensor (booklet knife HP) removal" on page 4-135**.	Replace the connection.
6	Check the booklet knife solenoid for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Booklet knife solenoid.** Does the above component operate properly?	Go to step 8.	Go to step 7.
7	Is the booklet knife solenoid properly connected? Is the above component properly connected?	Replace the booklet knife solenoid. Go to **"Booklet knife solenoid removal" on page 4-124**.	Replace the connection.
8	Check the booklet folding/exit drive motor assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Booklet folding/exit drive motor** Does the above component operate properly?	Go to step 10.	Go to step 9.
9	Is the booklet folding/exit drive motor assembly properly connected? Is the above component properly connected?	Replace the booklet folding/exit drive motor assembly. Go to **"Booklet folding/exit drive motor assembly removal" on page 4-121**.	Replace the connection.

Step	Check	Yes	No
10	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.
11	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.10 Sensor (booklet knife folding) late error

Step	Check	Yes	No
1	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 2.	Replace the booklet unit interface connector assembly.
2	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit sensor interface cable assembly.
3	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit motor interface cable assembly.
4	Check the sensor (booklet knife folding) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test.** 4. Touch **Booklet Path.** 5. Touch **Booklet knife folding.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 6.	Go to step 5.
5	Is the sensor (booklet knife folding) properly connected? Is the above component properly connected?	Replace the sensor (booklet knife folding). Go to **"Sensor (booklet knife folding) removal" on page 4-136**.	Replace the connection.

Step	Check	Yes	No
6	Check the booklet folding/exit drive motor assembly for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Booklet folding/exit drive motor** Does the above component operate properly?	Go to step 8.	Go to step 7.
7	Is the booklet folding/exit drive motor assembly properly connected? Is the above component properly connected?	Replace the booklet folding/exit drive motor assembly. Go to **"Booklet folding/exit drive motor assembly removal" on page 4-121**.	Replace the connection.
8	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.
9	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.11 Booklet stapler error

Step	Check	Yes	No
1	Check the booklet unit stapler assembly. Is the above component properly inserted into the booklet maker unit assembly?	Go to step 2.	Ensure that the booklet unit stapler assembly is properly inserted.
2	Check the booklet unit interface connector assembly. Is the above component free of damage?	Go to step 3.	Replace the booklet unit interface connector assembly.

Step	Check	Yes	No
3	Check the main connector on the booklet unit sensor interface cable assembly. Is the above component free of damage?	Go to step 4.	Replace the booklet unit sensor interface cable assembly.
4	Check the main connector on the booklet unit motor interface cable assembly. Is the above component free of damage?	Go to step 5.	Replace the booklet unit motor interface cable assembly.
5	Check the booklet stapler interface cable assembly. Is the above component free of damage?	Go to step 6.	Replace the booklet stapler interface cable assembly.
6	Check the connector on the back of the booklet stapler unit assembly. Is the above component free of damage.	Replace the booklet stapler unit assembly. Go to **"Booklet stapler unit assembly removal" on page 4-122**.	Go to step 7.
7	Perform a print test booklet stapled document. Does the error remain?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.
8	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.12 Communication error with booklet controller card assembly

Step	Check	Yes	No
1	Check the booklet controller card assembly and the finisher controller card assembly for proper connection. Is the above component properly connected?	Go to step 2.	Replace the connection.
2	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**. Go to step 3.	Problem solved.

Step	Check	Yes	No
3	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

991.13 Booklet unit maker error

Step	Check	Yes	No
1	Perform a POR. Does the error continue when the power is turned off/on?	Replace the booklet controller card assembly. Go to **"Booklet controller card assembly removal" on page 4-120**.	Problem solved.

992.00 Sensor (de-curler cam HP) late error

Step	Check	Yes	No
1	Check the sensor (de-curler cam HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test.** 4. Touch **Media Path 1** 5. Touch **De-curler cam HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Is the sensor (de-curler cam HP) properly connected? Is the above component properly connected?	Replace the sensor (de-curler cam HP). Go to **"sensor (de-curler cam HP) removal" on page 4-10**.	Replace the connection.

Step	Check	Yes	No
3	Check the de-curler clutch for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **De-curler clutch.** Does the above component make an audible clicking sound?	Go to step 5.	Go to step 4.
4	Is the de-curler clutch properly connected? Is the above component properly connected?	Replace the de-curler clutch. Go to **"De-curler clutch removal" on page 4-9**.	Replace the connection.
5	Check the bridge unit drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Bridge unit drive motor.** Does the above component operate properly?	Go to step 7.	Go to step 6.
6	Is the bridge unit drive motor properly connected? Is the above component properly connected?	Replace the bridge unit drive motor. Go to **"Bridge unit drive motor removal" on page 4-8**.	Replace the connection.
7	Perform a POR. Does the error continue when the power is turned off/on?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**.	Problem solved.
8	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

992.01 Sensor (de-curler cam HP) lag error

Step	Check	Yes	No
1	Check the sensor (de-curler cam HP) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test.** 4. Touch **Media Path 1** 5. Touch **De-curler cam HP.** Does the display on the operator panel change every time the sensing area of the above sensor is interrupted or blocked?	Go to step 3.	Go to step 2.
2	Is the sensor (de-curler cam HP) properly connected? Is the above component properly connected?	Replace the sensor (de-curler cam HP). Go to **"sensor (de-curler cam HP) removal" on page 4-10**.	Replace the connection.
3	Check the de-curler clutch for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **De-curler clutch.** Does the above component make an audible clicking sound?	Go to step 5.	Go to step 4.
4	Is the de-curler clutch properly connected? Is the above component properly connected?	Replace the de-curler clutch. Go to **"De-curler clutch removal" on page 4-9**.	Replace the connection.
5	Check the bridge unit drive motor for proper operation.  **Caution:** When performing motor tests, ensure that all cover and door interlock switches are overridden. 1. Enter the Diagnostics Menu. 2. Touch **MOTOR TESTS**. 3. Touch **Finisher Motor Tests.** 4. Touch **Bridge unit drive motor.** Does the above component operate properly?	Go to step 7.	Go to step 6.

Step	Check	Yes	No
6	Is the bridge unit drive motor properly connected? Is the above component properly connected?	Replace the bridge unit drive motor. Go to **"Bridge unit drive motor removal" on page 4-8**.	Replace the connection.
7	Perform a POR. Does the error continue when the power is turned off/on?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**.	Problem solved.
8	Perform a POR. Does the error continue when the power is turned off/on?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

Bridge unit top cover open

Step	Check	Yes	No
1	Check the bridge unit cable assembly for proper connection. Is the bridge unit cable assembly properly connected to the rear of the finisher?	Go to step 2.	Replace the connection.
2	Open and close the bridge unit top cover assembly on the bridge unit assembly. Does it open or close smoothly?	Go to step 3.	Check that the bridge unit top cover assembly is installed properly, and correct any deformations. If this does not correct the problem, replace the bridge unit top cover assembly. Go to **"Bridge unit top cover removal" on page 4-6**.

Step	Check	Yes	No
3	Check the bridge unit top cover assembly on the bridge unit assembly for shape and operation. Is the actuator of the bridge unit top cover assembly that enters the sensor (bridge unit top cover interlock) bent or damaged?	Reshape the actuator so it fits into the cover sensor. If this does not correct the problem, replace the bridge unit top cover assembly. Go to **"Bridge unit top cover removal" on page 4-6**.	Go to step 3.
4	Check the bridge unit assembly top cover actuator. Paint both faces of the actuator with a black permanent marker. Does the error continue?	Go to step 5	Problem solved.
5	Check the sensor (bridge unit top cover interlock) installation. Is the sensor (bridge unit top cover interlock) installed properly?	Go to step 6.	Reinstall the sensor (bridge unit top cover interlock). Go to **"Sensor (bridge unit top cover interlock) removal" on page 4-7**.
6	Check the sensor (bridge unit top cover interlock) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Cover and Door.** 5. Touch **Cover F bridge unit top.** Does the operator panel display change every time the detection point of the sensor (bridge unit top cover interlock) is blocked?	Go to step 8.	Go to step 7.
7	Is the sensor (bridge unit top cover interlock) connected properly?	Replace the sensor (bridge unit top cover interlock). Go to **"Sensor (bridge unit top cover interlock) removal" on page 4-7**.	Replace the connection.
8	Does the error still occur when the power is turned on?	Go to step 9.	Problem solved.
9	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**. Does the error still occur when the power is turned on?	Replace the printer engine card assembly. Refer to the *Printer Service Manual*.	Problem solved.

Finisher front door open

Step	Check	Yes	No
1	Open and close the finisher front door assembly. Does it open or close smoothly?	Go to step 2.	Check the finisher front door assembly for installation, correct deformations, or replace it. Go to **"Finisher front door assembly removal" on page 4-26**.
2	Check the switch (finisher front door interlock) installation Is the switch (finisher front door interlock) installed properly?	Go to step 3.	Reinstall the switch (finisher front door interlock). Go to **"Switch (finisher front door interlock) removal" on page 4-25**.
3	Check the switch (finisher front door interlock) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Cover and Door.** 5. Touch **Door G fin front.** Does the operator panel display change every time the detection point of the switch (finisher front door interlock) is pressed by the tip of the screwdriver?	Go to step 5.	Go to step 4.
4	Is the switch (finisher front door interlock) connected properly?	Replace the switch (finisher front door interlock). Go to **"Switch (finisher front door interlock) removal" on page 4-25**.	Replace the connection.
5	Does the error still occur when the power is turned off and back on?	Go to step 6.	Problem solved.
6	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**. Does the error still occur when the power is turned off and back on?	Replace the printer engine card assembly. Refer to the *Printer Service Manual*.	Problem solved.

Finisher eject cover open

Step	Check	Yes	No
1	Check the switch (eject cover interlock) installation. Is the switch (eject cover interlock) installed properly?	Go to step 2.	Reinstall the switch (media eject cover).
2	Check the operation of the switch (eject cover interlock). 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Cover and Door.** 5. Touch **Surface H fin eject.** Does the operator panel display change every time the actuator of the switch is activated?	Go to step 4.	Go to step 3.
3	Is the switch (media cover interlock) connected properly?	Replace the switch (eject cover interlock). Go to **"Switch (eject cover interlock) removal" on page 4-67**.	Replace the connection.
4	Perform a print test. Does the error still occur?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

Finisher upper media bin full

Step	Check	Yes	No
1	Check the sensor (upper media bin full) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Fin upper bin full.** Does the display of the operator panel change every time a piece of white media is placed over the sensing area of the sensor (upper media bin full)?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Go to step 2.

Step	Check	Yes	No
2	Is the sensor (upper media bin full) connected properly?	Replace the sensor (upper media bin full). Go to **"Sensor (upper media bin full) removal" on page 4-105**.	Replace the connection.
3	Perform a print test. Does the error still occur?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

No punch waste box.

Step	Check	Yes	No
1	Check the sensor (punch waste box present) for proper operation. Is the sensor installed properly?	Go to step 2.	Reinstall the sensor (punch waste box set. Go to **"Sensor (punch waste box set) removal" on page 4-51**.
2	Check the sensor (punch waste box set). Perform sensor (punch waste box set) test. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Punch and Staple.** 5. Touch **Punch box set.** Open the finisher front door. Remove the punch waste box. Does the operator panel display change every time the sensing area of the sensor (punch waste box set) is blocked?	Go to step 4.	Go to step 3.
3	Is the sensor (punch waste box set) properly connected?	Replace the sensor (punch waste box set). Go to **"Sensor (punch waste box set) removal" on page 4-51**.	Replace the connection.

Step	Check	Yes	No
4	Perform a print test. Does the error still occur?	Replace the bridge unit interface card assembly. Go to **"Bridge unit interface card assembly removal" on page 4-114**. Go to step 5.	Problem solved.
5	Perform a print test. Does the error still occur?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

Punch waste box full

Step	Check	Yes	No
1	Check the sensor (punch waste box full) for correct installation. Is the sensor installed properly?	Go to step 2.	Reinstall the sensor (punch waste box full). Go to **"Sensor (punch waste box full) removal" on page 4-52**.
2	Check the sensor (punch waste box full). 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Punch and Staple.** 5. Touch **Punch waste box full.** Open the finisher front door. Remove the punch waste box. Insert a sheet of white media into the sensing area of the sensor (punch waste box full). Does the operator panel display change every time the sensing area of the sensor (punch waste box full) is blocked?	Go to step 4.	Go to step 3.
3	Perform a print test. Does the error still occur?	Replace the sensor (punch waste box full). Go to **"Sensor (punch waste box full) removal" on page 4-52**.	Replace the connection.

Step	Check	Yes	No
4	Perform a print test. Does the error still occur?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

Stacker media bin full (mix size)

Step	Check	Yes	No
1	Check the stacker bin for obstructions. Are there any obstructions on the upper and lower parts of the stacker bin?	Remove the obstructions.	Go to step 2.
2	Check the sensor (stacker bin level 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level1.** Does the operator panel display change every time the sensing area of the sensor (stacker bin level 1) is blocked by a multiple page document or your finger?	Go to step 4.	Go to step 3.
3	Is the sensor (stacker bin level 1) connected properly?	Replace the sensor (stacker bin level 1). Go to **"Sensor (stacker bin level 1) removal" on page 4-33**.	Replace the connection.
4	Check the sensor (stacker bin level2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level2.** Does the operator panel display change every time the sensing area of the sensor (stacker bin level 2) is blocked by a piece of media or your finger?	Go to step 6.	Go to step 5.

Step	Check	Yes	No
5	Is the sensor (stacker bin level 2) connected properly?	Replace the sensor (stacker bin level 2). Go to **"Sensor (stacker bin level 2) removal" on page 4-33**.	Replace the connection.
6	Check the encoder of the sensor (stacker bin level encoder) installation. Is the encoder installed properly? Does it enter the detection point of the sensor (stacker bin level encoder)?	Go to step 7.	Replace the encoder.
7	Check the sensor (stacker bin level encoder) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level encod.** Does the operator panel display change when the belt of the stacker bin lift motor assembly is moved by hand?	Go to step 9.	Go to step 8.
8	Is the sensor (stacker bin level encoder) connected properly?	Replace the sensor (stacker bin level encoder). Go to **"Sensor (stacker bin level encoder) removal" on page 4-34**.	Replace the connection.
9	Check the stacker bin lift motor assembly by blocking the lower hole in either of the sensors (stacker bin level). The stacker bin should lower slightly. Does the stacker bin lift motor assembly operate properly?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Go to step 10.
10	Is the stacker bin lift motor assembly connected properly?	Replace the stacker bin lift motor assembly. Go to **"Stacker bin lift motor assembly removal" on page 4-37**.	Replace the connection.

Step	Check	Yes	No
11	Perform a print test. Does the error still occur?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

Stacker media bin full (no mix)

Step	Check	Yes	No
1	Check the stacker bin for obstructions. Are there any obstructions on the upper and lower parts of the stacker bin?	Remove the obstructions.	Go to step 2.
2	Check the sensor (stacker bin level 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level1.** Does the operator panel display change every time the sensing area of the sensor (stacker bin level 1) is blocked by a multiple page document or your finger?	Go to step 4.	Go to step 3.
3	Is the sensor (stacker bin level 1) installed properly?	Replace the sensor (stacker bin level 1). Go to **"Sensor (stacker bin level 1) removal" on page 4-33**.	Replace the connection.
4	Check the sensor (stacker bin level2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level2.** Does the operator panel display change every time the sensing area of the sensor (stacker bin level 2) is blocked by a piece of media or your finger?	Go to step 5.	Go to step 6.

Step	Check	Yes	No
5	Is the sensor (stacker bin level 2) connected properly?	Replace the sensor (stacker bin level 2). Go to **"Sensor (stacker bin level 2) removal" on page 4-33**.	Replace the connection.
6	Check the encoder of the sensor (stacker bin level encoder) installation. Is the encoder installed properly? Does it enter the detection point of the sensor (stacker bin level encoder)?	Go to step 7.	Replace the encoder.
7	Check the sensor (stacker bin level encoder) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level encod.** Does the operator panel display change when the belt of the stacker bin lift motor assembly is moved by hand?	Go to step 9.	Go to step 8.
8	Is the sensor (stacker bin level encoder) connected properly?	Replace the sensor (stacker bin level encoder). Go to **"Sensor (stacker bin level encoder) removal" on page 4-34**.	Replace the connection.
9	Check the stacker bin lift motor assembly for proper operation. Check the above motor by blocking the lower hole in either of the sensors (stacker bin level). The stacker bin should lower slightly. Does the stacker bin lift motor assembly operate properly?	Go to step 11.	Go to step 10.
10	Is the stacker bin lift motor assembly connected properly?	Replace the stacker bin lift motor assembly. Go to **"Stacker bin lift motor assembly removal" on page 4-37**.	Replace the connection.

Step	Check	Yes	No
11	Perform a print test. Does the error still occur?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

Stacker lower safety failure

Step	Check	Yes	No
1	Check the vertical transport mechanism of the stacker bin for obstructions and deformation. Are there any obstructions in the vertical transport mechanism of the stacker bin?	Remove obstructions.	Go to step 2.
2	Is there any deformation in the vertical transport mechanism of the stacker bin?	Replace deformed part.	Go to step 3.
3	Check the sensor (stacker bin level 1) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level1.** Does the operator panel display change every time the sensing area of the sensor (stacker bin level 1) is blocked by a multiple page document or your finger?	Go to step 5.	Go to step 4.
4	Is the sensor (stacker bin level 1) connected properly?	Replace the sensor (stacker bin level 1). Go to **"Sensor (stacker bin level 1) removal" on page 4-33**.	Replace the connection.
5	Check the sensor (stacker bin level2) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Sensor Test**. 4. Touch **Bin Level.** 5. Touch **Stacker bin level2.** Does the operator panel display change every time the sensing area of the sensor (stacker bin level 2) is blocked by a piece of media or your finger?	Go to step 7.	Go to step 6.

Step	Check	Yes	No
6	Check the sensor (stacker bin level 2) connection. Are the connections of the main sensor cable assembly properly connected?	Replace the sensor (stacker bin level 2). Go to **"Sensor (stacker bin level 2) removal" on page 4-33**.	Replace the connection.
7	Check the stacker bin lift motor assembly by blocking the lower hole in either of the sensors (stacker bin level). The stacker bin should lower slightly. Does the stacker bin lift motor assembly operate properly?	Go to step 9.	Go to step 8.
8	Is the stacker bin lift motor assembly connected properly?	Replace the stacker bin lift motor assembly. Go to **"Stacker bin lift motor assembly removal" on page 4-37**.	Replace the connection.
9	Perform a print test. Does the error still occur?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.

Stacker set over count failure

Step	Check	Yes	No
1	Check connectors of the finisher controller card assembly connection. Are all the connectors connected to the finisher controller card assembly properly connected?	Go to step 3.	Replace the connection.
2	Does the error still occur when the power is turned on?	Go to step 3.	Problem solved.
3	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**. Does the error still occur when the power is turned on?	Replace the printer engine card assembly. Refer to the *Printer Service Manual*.	Problem solved.

Staple cartridge empty

Step	Check	Yes	No
1	Check the staple cartridge for new and unused staples. Does the staple cartridge have a sufficient amount of new and unused staples?	Go to step 2.	Refill the cartridge with new and unused staples.
2	Check the staple cartridge for correct installation. Is the staple cartridge installed properly?	Go to step 3.	Install the staple cartridge properly.
3	Check the staple cartridge for damage. Is the staple cartridge damaged?	Go to step 4.	Replace the staple cartridge.
4	Check the sensor (low staple) for proper operation. 1. Enter the Diagnostics Menu. 2. Touch **FINISHER TESTS.** 3. Touch **Punch and Staple.** 4. Touch **Low Staple.** Does the operator panel display change every time an undamaged and filled staple cartridge is removed and reinserted into the stapler unit assembly?	Go to step 6.	Go to step 5.
5	Check the stapler unit cable assembly connection. Are all the connections of the stapler unit cable assembly connected properly?	Replace the stapler unit assembly. Go to **"Stapler unit assembly removal" on page 4-55**.	Replace the connection.
6	Perform a stapled print test. Does the error still occur?	Replace the finisher controller card assembly. Go to **"Finisher controller card assembly removal" on page 4-115**.	Problem solved.
7	Perform a stapled print test.	Replace the printer engine card assembly. Refer to the *Printer Service Manual.*	Problem solved.

3. Diagnostic aids

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

Accessing service menus

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

Diagnostics Menu	1. Turn off the printer. 2. Press and hold the **3** and **6** buttons simultaneously. 3. Turn on the printer. 4. Release the buttons after 10 seconds.	The Diagnostics Menu group consists of menus, settings, and operations that are used to diagnose various printer problems. Note: While the Diagnostics Menu Group is active, all host interfaces are offline. See **"Entering Diagnostics Menus" on page 3-2** for more information.
Configuration Menu	1. Turn off the printer. 2. Press and hold the **2** and **6** buttons simultaneously. 3. Turn on the printer. 4. Release the buttons after 10 seconds.	The Configuration Menu group contains a set of menus, settings, and operations which are infrequently required by a user. Generally, the options made available in this menu group are used to configure a printer for operation. See **"Entering Configuration Menu" on page 3-35** for more information.

Diagnostics Menus

Entering Diagnostics Menus

1. Turn off the printer.
2. Press and hold the **3** and **6** buttons simultaneously.
3. Turn on the printer.
4. Release the buttons after 10 seconds.

Available tests

Tests appear on the LCD in the order shown:

MOTOR TESTS	See **"MOTOR TESTS" on page 3-6**.
Finisher Motor Tests	
Motor (entrance/paddle)	
Motor (buffer/transport)	
Motor (exit)	
Fin diverter solenoid	
Sub paddle solenoid	
Media eject clutch	
Media eject clamp motor	
Media eject motor	
Fin Buffer solenoid	
Punch carriage shift motor	
Punch unit motor	
Front tamper motor	
Rear tamper motor	
Stapler carriage motor	
Stapler unit motor	
Stacker bin lift motor	
Booklet end guide drive motor	
Booklet paddle drive motor	
Booklet front tamper motor	
Booklet rear tamper motor	
Booklet folder/exit drive motor	
Booklet media entrance drive motor	
Booklet knife solenoid	
Booklet bin media transport motor	
Bridge unit diverter gate solenoid	
De-curler clutch	
Bridge unit transport drive motor	
Booklet diverter gate solenoid	
Booklet stapler motor	

	Bridge unit bin media exit solenoid	
	Printer Motor Tests	
	Transfer belt steering motor	
	CMY PC cartridge drive motor	
	K PC cartridge drive motor	
	Printhead polygon mirror motor	
	Registration clutch	
	Tray 1 media feed/lift motor	
	Tray 2 media feed/lift motor	
	Tray 3 media feed/lift motor	
	Tray 4 media feed/lift motor	
	2nd transfer roll retract motor	
	K developer/transport motor	
	MPF pick solenoid	
	MFP/transport drive motor	
	Duplex drive motor	
	Inverter clutch	
	Duplex diverter gate solenoid	
	Transfer belt drive motor	
	C toner add motor	
	M toner add motor	
	Y toner add motor	
	K toner add motor	
	CMY developer drive motor	
	K developer clutch	
	Fuser cooling fan	
	Image density sensor shutter solenoid	
	Tray module drive motor	
	TTM tray 4 media transport motor	
	Waste toner auger motor	
	Printhead shutter motor	
	Standard exit shift motor	
	K erase lamp	
	CMY erase lamps	
Scanner Motor Tests		
	ADF feed drv mtr	
	Exposure lamp	
	ADF registration drv mtr	
	Scanner drv mtr	
	Inverter solenoid	
	Pick roll position mtr	
	Document set LED	

PRINT TESTS	See **"PRINT TESTS" on page 3-6**.
Tray 1	
Tray 2	
Tray 3	
Tray 4	
MP Feeder	
Printing Quality Test Pages	See **"Print Quality Test Pages" on page 3-7**.
HARDWARE TESTS	
Panel Test	See **"Panel Test" on page 3-8**.
Button Test	See **"Button Test" on page 3-8**.
DRAM Test	See **"DRAM Test" on page 3-9**.
CACHE Test	See **"CACHE Test" on page 3-9**.
DUPLEX TESTS	
Quick Test	See **"Quick Test" on page 3-9**.
Sensor Test	See **"Sensor Test (duplex)" on page 3-10**.
INPUT TRAY TESTS	
Feed Tests	See **"Feed Tests" on page 3-10**.
Sensor Test	See **"Sensor Test (input tray)" on page 3-11**.
OUTPUT BIN TESTS	
Feed to All Bins	See **"Feed Tests (output bins)" on page 3-11**.
Feed Tests	See **"Feed To All Bins" on page 3-12**.
Sensor Tests	See **"Sensor Test (output bin)" on page 3-12**.
FINISHER TESTS	
Staple Test	See **"Staple Test" on page 3-12**.
Hole Punch Test	See **"Hole Punch Test" on page 3-13**.
Feed Tests	See **"Feed Tests (Finisher)" on page 3-13**.
Sensor Tests	See **"Sensor Test (Finisher)" on page 3-13**.
BASE SENSOR TESTS	See **"BASE SENSOR TEST" on page 3-15**.
Cover and Door	
Devices	
Exit Level	
Media Path	
Transfer Belt	
DEVISE TESTS	See **"DEVICE TESTS" on page 3-16**.
Quick Disk Test	
Disk Test/Clean	
PRINTER SETUP	
Defaults	See **"Defaults" on page 3-18**.
Prt Color Pg Count	See **"Printed Color Page Count" on page 3-18**.
Prt Mono Pg Count	See **"Printed Mono Page Count" on page 3-19**.
Perm Page Count	See **"Permanent Page Count" on page 3-19**.
Serial Number	See **"Serial Number" on page 3-19**.
Engine Setting 1 to 4	See **"Engine Setting 1 to 4" on page 3-19**.

	Model Name	See **“Model Name” on page 3-19**.
	Configuration ID	See **“Configuration ID” on page 3-19**.
EVENT LOG		
	Display Log	See **“Display the Event Log” on page 3-21**.
	Print Log	See **“Print the Event Log” on page 3-22**.
	Clear Log	See **“Clear the Event Log” on page 3-22**.
SCANNER TESTS		
	ASIC Test	See **“ASIC Test” on page 3-23**.
	Feed Test	See **“Feed Test” on page 3-23**.
	Scanner Manual Registration	See **“Scanner Manual Registration” on page 3-24**.
	Sensor Tests	See **“Sensor Test (Scanner Tests)” on page 3-24**.
Trans Belt Fail Clear		
	Trans Belt HP Fail Clear	See **“Trans Belt HP Fail Clear” on page 3-25**.
Dev Unit Reset		See **“Dev Unit Reset” on page 3-25**.
	Y Channel	
	M Channel	
	C Channel	
	K Channel	
Fuser Temp Fail Clear		
	Fuser Temp Fail Clear	See **“Fuser Temp Fail Clear” on page 3-25**.
ATC SENSOR FAILURE CLEAR		See **“ATC SENSOR FAILURE CLEAR” on page 3-25**.
	Y Channel (925.00)	
	M Channel (925.01)	
	C Channel (925.02)	
	K Channel (925.03)	
ENGINE ADJUST		See **“ENGINE ADJUST” on page 3-26**.
	PH ADJUST (registration)	
	ATC sensor Adjust Values	
	ATC Sensor Adjust Cycles	
	RegCon Adjust	
Booklet Fold Adjust		See **“Booklet Fold Adjust” on page 3-29**.
	Booklet Tamper Shift Adj	
	Booklet Compile Position	
	Booklet 2-sheet	
	Booklet 15-sheet	
	Booklet Fold Pos Fine Adj	
	Booklet Staple Pos Fine Adj	
Finisher Config		See **“Finisher Config” on page 3-29**.
Exit Diagnostics Menu		See **“Exiting Diagnostics Menu” on page 3-34**.

MOTOR TESTS

The tests in this group allow you to test specific motors, and on some motors run them forward or reverse.

To run the MOTOR TESTS:

1. Touch **MOTOR TESTS** from the Diagnostics Menu.
2. Touch the test to run.

The following Finisher Motor Tests are available:

- Motor (entrance/paddle)
- Motor (buffer/transport)
- Motor (exit)
- Fin diverter solenoid
- Sub paddle solenoid
- Media eject clutch
- Media eject clamp motor
- Media eject motor
- Fin Buffer solenoid
- Punch carriage shift motor
- Punch unit motor
- Front tamper motor
- Rear tamper motor
- Stapler carriage motor
- Stapler unit motor
- Stacker bin lift motor
- Booklet end guide drive motor
- Booklet paddle drive motor
- Booklet front tamper motor
- Booklet rear tamper motor
- Booklet folding/exit drive motor
- Booklet media entrance drive motor
- Booklet transport motor
- Booklet knife solenoid
- Booklet bin media transport motor
- Bridge unit diverter gate solenoid
- De-curler clutch
- Bridge unit transport drive motor
- Booklet diverter gate solenoid
- Booklet stapler motor
- Bridge unit bin media exit solenoid

The following Printer Motor Tests are available:

- Transfer belt steering motor
- CMY PC cartridge drive motor
- K PC cartridge drive motor
- Printhead polygon mirror motor
- Registration clutch
- Tray 1 media feed/lift motor
- Tray 2 media feed/lift motor
- Tray 3 media feed/lift motor
- Tray 4 feed/lift motor
- 2nd transport roll retract motor
- K developer transport drive motor
- MPF pick solenoid
- MPF transport drive motor
- Duplex drive motor
- Inverter clutch
- Duplex diverter gate solenoid
- Transfer belt drive motor
- C toner add motor
- M toner add motor
- Y toner add motor
- K toner add motor
- CMY developer drive motor
- K developer clutch
- Fuser cooling fan
- Image density sensor shutter solenoid
- Tray module drive motor (TTM)
- TTM tray 4 media transport motor
- Waste toner auger motor
- Printhead shutter motor
- Standard exit shift motor
- K erase lamps
- CMY erase lamps

The following Scanner Motor Tests are available:

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

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

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

Press **Stop** ⊗ to stop the test.

PRINT TESTS

To run the Print Tests:

1. Touch **PRINT TESTS** from the Diagnostics Menu.
2. Touch **[Input Source]** to verify that the printer can generate output from that source's media.
3. Touch **Printing Quality Test Pages** to view information about the printer's current settings and to test the printer's ability to generate quality output.

Input source	Appears on the LCD
Tray 1	`Tray 1 Printing...`
Tray 2	`Tray 2 Printing...`
Tray 3	`Tray 3 Printing...`
Tray 4	`Tray 4 Printing...`
MP Feeder	`MP Feeder Printing...`
Printing Quality Test Pages	`Printing Quality Test Pages...`

4. Touch **Single** or **Continuous**.
   - If **Single** is selected, a single page is printed.
   - If **Continuous** is selected, printing continues until **Stop** is pressed to cancel the test.
     If a source is selected that contains envelopes, an envelope test pattern is printed. If **Continuous** is selected, the test pattern is printed only on the first envelope.

After a Single test has printed or a Continuous test canceled, the LCD returns to the [Input Source] screen.

Input Source Print Test

Regardless of the input source selected, the printer always generates a simplex version of the Print Test page using its default resolution.

Print Quality Test Pages

This setting enables you to view the values of a broad range of the device's settings and to test the device's ability to generate acceptable printed output.

The printer automatically generates a Print Quality Test page in English and an:

1. Entire printable area of the page is solid dark blue
2. Entire printable area of the page is solid dark magenta
3. Entire printable area of the page is solid dark yellow
4. Entire printable area of the page is solid dark black
5. Entire printable area of the page is solid light blue
6. Entire printable area of the page is solid pink
7. Entire printable area of the page is solid light yellow
8. Entire printable area of the page is solid gray

The device always uses the media that is currently installed in Tray 1 to print this report. Once started, printing cannot be canceled and all key presses are ignored until printing completes.

The test pages are always simplexed, regardless of the value of the duplex setting.

HARDWARE TESTS

Touch the following Hardware Tests from this menu:

- Panel Test
- Button Test
- DRAM Test
- CACHE Test

Panel Test

This test automatically toggles all pixels on the LCD through every contrast level beginning with the darkest to the brightest. This test shows non-functioning pixels as blank spaces during the darkest contrast.

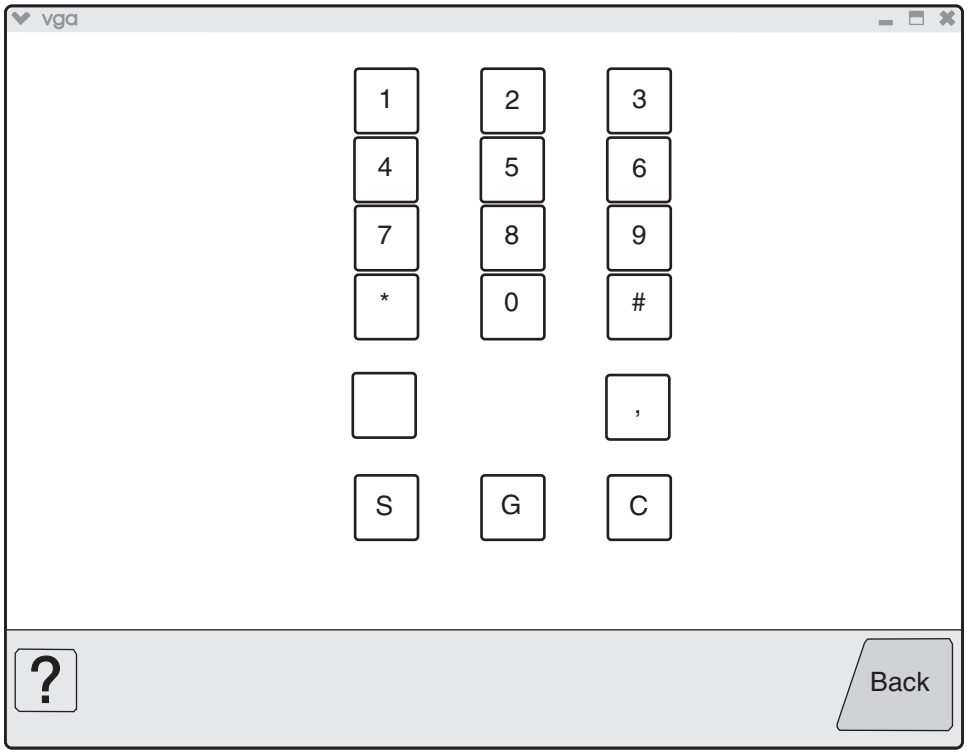
This test continues until you press **Stop** , then the LCD returns to HARDWARE TESTS.

Button Test

The Button Test is used to verify the operation of each button on the operator panel.

To perform the Button Test:

1. Touch **HARDWARE TESTS** from the Diagnostics Menu.
2. Touch **Button Test**. The LCD displays a graphic of the operator panel buttons that matches the layout of the operator panel buttons.
3. Press any button on the operator panel and that button on the LCD appears shaded.
4. Release the button and the shading is removed.



Touch **Back** to exit the test.

DRAM Test

The DRAM Test is used to check the validity of both the printer's standard and optional DRAM. The test involves writing patterns of data to DRAM to verify that each bit in memory can be set and read correctly.

To run the DRAM Test:

1. Touch **HARDWARE TESTS** from the Diagnostics Menu.
2. Touch **DRAM Test**. `DRAM Test Testing...` appears on the LCD, and then `Resetting the Printer` appears. The printer automatically performs a POR.

   The following type of message appears:

   ```
   DRAM Test        256 MB        P:#######          F:#####
   ```

   - P:###### represents the number of times the memory test has passed and finished successfully. Initially 000000 displays with the maximum pass count being 999,999.
   - F:##### represents the number of times the memory test has failed and finished with errors. Initially 0000 displays with the maximum fail count being 99,999. Initially only four digits appear, but additional digits appear as needed.

To stop this test before completion, turn the printer off.

CACHE Test

This test is used to verify the printer processor cache.

To run the CACHE Test:

1. Touch **HARDWARE TESTS** from the Diagnostics Menu.
2. Touch **CACHE Test**. `CACHE Test Testing...` appears on the LCD, and then `Resetting the Printer` appears. The printer automatically performs a POR.

   The following type of message appears:

   ```
   CACHE Test       x100          P:#######          F:#####
   ```

   - P:###### represents the number of times the cache has passed and finished successfully. Initially 000000 displays with the maximum pass count being 999,999.
   - F:##### represents the number of times the cache has failed and finished with errors. Initially 0000 displays with the maximum fail count being 99,999. Initially only four digits appear, but additional digits appear as needed.

Each time a test is completed, the number of passes and failures is incremented. If the test fails, the message `Failure` appears for approximately three seconds, and the failure count increases by one.

The test continues until all of the printer processor's cache has been tested. Once the maximum pass count or fail count is reached, the test is stopped, and the final results display.

To stop this test before completion, turn the printer off.

DUPLEX TESTS

Quick Test

This test prints a duplex version of the Quick Test that can be used to verify that the correct placement of the top margin on the back side of a duplex page. You can run one duplexed page (**Single**), or continue printing duplexed pages (**Continuous**) until **Stop** ⊗ is pressed.

Make sure either letter or A4 size paper is loaded in the default paper source. If the default source only supports envelopes, then the Quick Test will be printed from Tray 1.

To run the Quick Test:

1. Touch **DUPLEX TESTS** from the Diagnostics Menu.
2. Touch **Quick Test**.
3. Touch **Single** or **Continuous**. `Quick Test Printing...` appears on the LCD.
   - The single Duplex Quick test cannot be canceled.
   - The printer attempts to print the Quick Test Page from the default paper source. If the default paper source only supports envelopes, then the page is printed from Tray 1.
   - Check the Quick Test Page for the correct registration between the placement of the first scan line on the front and back side of a duplexed sheet.

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

Sensor Test (duplex)

This test is used to determine whether or not the duplex sensors and switches are working correctly. The test allows you to actuate the duplex input sensor located in the back part of the duplex unit and the duplex exit sensor located in the return paper path.

1. Touch **DUPLEX TESTS** from the Diagnostics Menu.
2. Touch **Sensor Test.**
3. Touch **Duplex wait** and `Duplex wait Testing...` appears on the LCD.
4. Touch **Door B duplex left** and `Door B duplex left Testing...`appears on the LCD.

You can manipulate the appropriate area of the printer to make the sensor toggle between “Open” and “Closed”. If the wrong message is displayed, then the sensor must be malfunctioning.

Press **Stop** to cancel the test.

INPUT TRAY TESTS

Feed Tests

Use this test to observe the paper path of media as it passes through the printer. No information is printed on the feed test pages since the laser is not engaged during this test.

You can perform the feed test using media from any installed input source. All pages used during the feed test are dropped into the default output bin.

To run the Input Tray Tests:

1. Touch **INPUT TRAY TESTS** from the Diagnostics Menu.
2. Touch the input source.

Input source	Appears on the LCD
Tray 1	`Tray 1 Feeding...`
Tray 2	`Tray 2 Feeding...`
Tray 3	`Tray 3 Feeding...`
Tray 4	`Tray 4 Feeding...`
MP Feeder	`MP Feeder Feeding...`

3. Touch either **Single** or **Continuous**.

- **Single**—Feeds one sheet of media from the selected source.
- **Continuous**—Media continues feeding from the selected input source until **Stop** ⊗ is pressed.

Sensor Test (input tray)

This test is used to verify that a specific input tray's sensors are working correctly.

To run the Input Tray Sensor Test:

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

After selecting **Sensor Test**, the LCD displays each installed input source, one source per line. When you select an input source, the LCD displays the selected input source in the header row, and then displays the name of each of the source's sensors below the header row, one to a line. You must select a specific sensor from this list in order to view and toggle the sensor's state. The table below indicates which sensors are available in each input tray.

Input source	Sensors			
	Feed-out[1]	Media out[2]	Media level [3]	Tray 1 present[4]
Tray 1	Yes	Yes	Yes	Yes
Tray 2	Yes	Yes	Yes	Yes
Tray 3	Yes	Yes	Yes	Yes
Tray 4	Yes	Yes	Yes	Yes
MP Feeder	No	Yes	No	No

[1] `Feed-out Testing...` appears on the LCD with the sensor's current state (Open or Closed).
[2] `Media out Testing...` appears on the LCD with the sensor's current state (Open or Closed).
[3] `Media level Testing...` appears on the LCD with the sensor's current state (Open or Closed).
[4] `Tray 1 present...` appears on the LCD with the sensor's current state (Open or Closed).

After selecting a specific sensor, you can manually toggle the sensor between its two values (Open or Closed). The LCD displays `Open` when the sensor is open, and `Closed` when the sensor is closed. If the wrong message is displayed, then the sensor must be malfunctioning.

Press **Stop** ⊗ to exit the test.

OUTPUT BIN TESTS

Feed Tests (output bins)

Use these tests to verify that media can be fed to a specific output bin. Media is fed from the default input source to the selected output bin. No information is printed on the media fed to the output bin because the printhead is not engaged during this test. These tests can use any media size or envelope supported by the printer.

To run the Feed Tests for the output bins:

1. Touch **OUTPUT BIN TESTS** from the Diagnostics Menu.
2. Touch **Feed Tests**.
3. Touch the output bin you want the paper to exit into. The standard bin as well as any output option bin installed on the printer is shown on the menu.
   - Standard Bin
   - Output Bin 1
4. Touch either **Single** or **Continuous**.
   - **Single**—Feeds one sheet of media from the selected source.

- **Continuous**—Media continues feeding from the selected source until **Stop** is pressed.

Press **Stop** to return to the [Selected Output Bin].

While this test runs, `[Selected Output Bin] Feeding...`appears on the LCD. During Single tests, no buttons are active. However, during Continuous tests, you can press **Stop** to cancel the test.

Feed To All Bins

This test can be used to verify that the printer can feed media to the standard bin or any installed output options. No information will be printed on the test pages, as the printhead is not engaged during the feed test. The media feeds from the default paper source.

To run the Feed To All Bins Test:

1. Touch **OUTPUT BIN TESTS** from the Diagnostics Menu.
2. Touch **Feed To All Bins**.

The printer feeds media from the default source to each installed bin. After the test is selected, the printer feeds a separate piece of media to the standard bin first, then it feeds a separate piece of media to each output bin installed. While this test runs, `All Bin Test Feeding...` appears on the LCD.

The test is continuous until **Stop** is pressed. If a test is canceled, `All Bin Test Canceled...` appears on the LCD and feeds any remaining media in the paper path to the appropriate output destination.

Sensor Test (output bin)

This test is used to verify that a specific output bin's sensors are working correctly.

To run the Output Bin Sensor Test

1. Touch **OUTPUT BIN TESTS** from the Diagnostics Menu.
2. Touch **Sensor Test**.
3. Touch **Standard Bin**.
4. Touch **Standard bin full**.

`Standard bin full Testing...`appears on the LCD and `Standard bin full:` [`Open`] or [`Closed`].

You can manually toggle the sensor between its two values (Open or Closed). The LCD displays `Open` when the sensor is open, and `Closed` when the sensor is closed. If the wrong message is displayed, then the sensor must be malfunctioning.

Press **Stop** to exit the test.

FINISHER TESTS

Staple Test

This test is used to verify the functioning of the finisher's staple mechanism.

To run the Staple Test

1. Touch **FINISHER TESTS** from the Diagnostics Menu.
2. Touch **Staple Test**.

The printer feeds eight pieces of media from the default input source to the output bin that supports stapling. After all eight pieces of media are deposited, the device staples the packet. While this test runs, `Staple Test Running...` appears on the LCD.

Press **Stop** to cancel the test.

Hole Punch Test

This test is used to verify that media can be fed to a finisher output bin and then hole punched. No information is printed on the feed test pages.

To run the Hole Punch Test:

1. Touch **FINISHER TESTS** from the Diagnostics Menu.
2. Touch **Hole Punch Test**.
3. Touch **3 Punch Test**.

Eight sheets of paper are fed, and then the pages are hole-punched with a 2-hole or 3-hole pattern depending on the selected punch test. Media is initially requested from the default input source and then output to the Finisher output bin.

The Hole Punch Test cannot be canceled. No buttons are active during this test. During the test, `Hole Punch Test Running...` appears on the LCD. After completion of the test, the display returns to the Hole Punch Test screen.

Feed Tests (Finisher)

This test is used to verify that media can be fed to a finisher output bin. This test feeds one sheet of media from the printer's default input source to a finisher output bin. The device can perform this test using any paper size that is supported by the finisher. No information is printed on the test page.

To run the Feed Test:

1. Touch **FINISHER TESTS** from the Diagnostics Menu.
2. Touch **Feed Tests**.

You cannot specify the output bin to which the device will feed the test page. Once begun, the Feed Test cannot be canceled. No buttons are active during the test. During this test, `Feed Test Running...` appears on the LCD.

Sensor Test (Finisher)

This test verifies that the sensors in the finisher are operating properly.

To run the Sensor Test:

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

The LCD displays the option's name in the header row and each of the option's sensors below the header row. You must select a specific sensor from this list in order to view and toggle the sensor's state. After selecting a specific sensor, `[Sensor Name] Testing...` appears on the LCD with the sensor's current state below this message. The tables below indicate which sensors are available for testing.

Available Cover and Door Sensors

Sensor Name
Door G finisher front
Surface H eject cover
Cover F bridge unit top

Available Bin Level Sensors

Sensor Name
Finisher upper media bin full
Stacker bin level1
Stacker bin level2
Stacker bin upper limit
Stacker bin no media
Stacker bin level encod

Available Media Path 1 Sensors

Sensor Name
Bridge unit media entrance
Bridge unit media exit
Finisher media entrance
Bridge unit media bin exit
Buffer path
Upper media exit
Lower media exit
Compiler media in
De-curler cam HP

Available Media Path 2 Sensors

Sensor Name
Diverter gate
Front tamper hp
Rear tamper hp
Media eject clamp hp
Media eject shaft hp

Available Booklet Path Sensors

Sensor Name
Booklet end guide HP
Booklet knife HP
Booklet knife folder
Booklet front tamper HP
Booklet rear tamper HP
Booklet unit media entrance
Booklet unit media exit
Booklet bin media present
Booklet compiler media present

Booklet unit interlock
Booklet front low staple
Booklet rear low staple

Available Punch and Staple Sensors

Sensor Name
Punch side reg1
Punch side reg2
Punch box set
Low staple
Punch carriage shift hp
Punch unit hp
Stapler carriage shift hp
Punch cam front
Punch hole select

After selecting one of the available sensors, you can manually toggle the sensor between its two values (Open or Closed). The LCD displays `Open` when the sensor is open, and `Closed` when the sensor is closed.

Press **Stop** to exit the test.

BASE SENSOR TEST

This test verifies that the sensors in the base machine are operating properly.

To run the Base Sensor Test:

Touch **BASE SENSOR TEST** from the Diagnostics Menu. The panel displays **BASE SENSOR TEST** in the header row and the following categories of sensors below the header row:

- Cover and Door
- Devices
- Exit Level
- Media Path
- Transfer Belt

After you select a category of sensors, the panel displays the name of the selected category in the header row and each sensor in that category. You must select a specific sensor from this list to view and toggle the sensor's state. After you select a specific sensor, `[Sensor Name] Testing...` appears on the LCD and displays the sensor's name in the header row and the sensor's name and current state appears below the header row.

Cover and Door Sensors

Sensor Name
Door A printer left
Door C printer left lower
Door D tray module left
Door E printer front
Door J transfer belt access

Devices Sensors

Sensor Name
C PC cartridge present
M PC cartridge present
Y PC cartridge present
K PC cartridge present
Waste toner full

Exit Level Sensor

Sensor Name
Standard bin full

Media Path Sensors

Sensor Name
Registration
Fuser exit
Transparency detect
2nd transfer roll retract

Transfer Belt Sensors

Sensor Name
Transfer belt HP
CMY transfer roll retract HP
Transfer belt edge
Transfer belt position detect

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

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

Press **Stop** to cancel the test.

DEVICE TESTS

Quick Disk Test

This test will perform a non-destructive read/write on one block per track on the disk.

To run the Quick Disk Test:

1. Touch **DEVICE TESTS** from the Diagnostics Menu.
2. Touch **Quick Disk Test**.

`Quick Disk Test Testing...` appears on the LCD. This test cannot be canceled. After the test finishes, either `Quick Disk Test Passed` or `Quick Disk Test Failed` appears on the LCD. This message remains until you touch **Back**.

Disk Test/Clean

This test performs a low-level format of the hard disk.

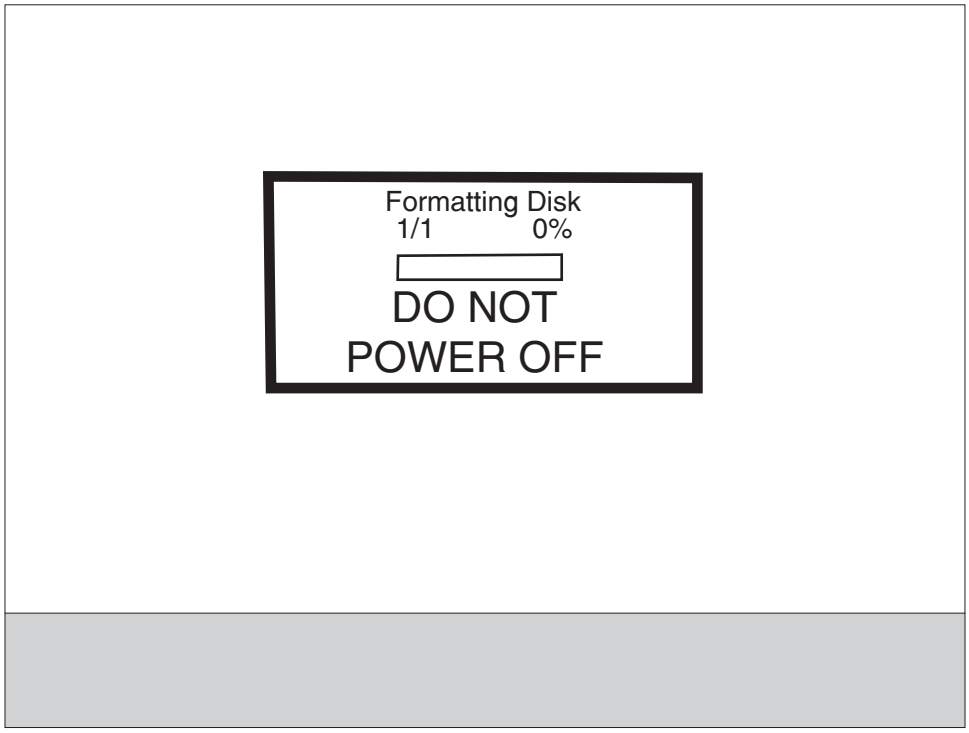
Warning: This test destroys all data on the disk and should never be performed on a good disk. Use this test only when the disk contains bad data and is unusable. When this test completes, the disk automatically initializes with a new file system; therefore it is unnecessary to format the disk.

To run the Disk Test/Clean Test:

1. Touch **DEVICE TESTS** from the Diagnostics Menu.
2. Touch **Disk Test/Clean Test**.

`Contents will be lost. Continue?` appears on the LCD. To exit this test and return to DEVICE TESTS, touch **No**. This is your only chance to exit this test; once the test has begun, it cannot be stopped.

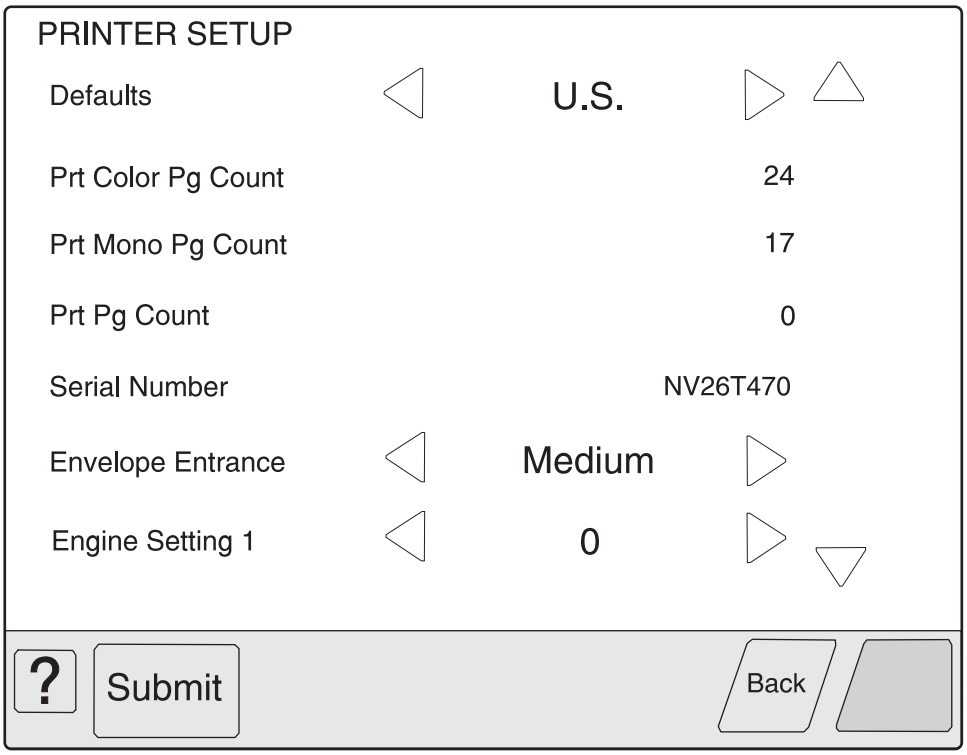
While this test runs, the following graphic appears:



This test cannot be interrupted once it has begun. After the test finishes, either `Disk Test/Clean Test Passed` or `Disk Test/Clean Test Failed` appears on the LCD. Press **Stop** to clear the final message and return to DEVICE TESTS.

PRINTER SETUP

To enter the PRINTER SETUP screen, touch **PRINTER SETUP** from the Diagnostics Menu. The following graphic appears on the LCD:



Defaults

The value of this setting determines whether the printer uses the US or Non-US factory default value for the printer settings listed below:

Printer Setting	US Value	Non-US Value
Paper Sizes (applies only to input sources which do not have hardware size sensing capability)	Letter	A4
Envelope Size (applies only to envelope feeding sources which do not have hardware size sensing capability)	10 Envelope	DL Envelope
PCL Symbol Set	PC-8	PC-850
PPDS Code Page	437	850
Universal Units of Measure	Inches	Millimeters

Touch **Submit** to change the value of this setting, then the LCD returns to the Diagnostics menu. To return to the PRINTER SETUP menu without changing the value of this setting, touch **Back.**

Printed Color Page Count

The value of this setting enables you to gauge the amount of usage on a device.

The Printed Page Count cannot be reset by the servicer.

Printed Mono Page Count

The value of this setting enables you to gauge the amount of usage on a device.

The Printed Page Count cannot be reset by the servicer.

Permanent Page Count

The value of this setting indicates the total number of pages that have been printed by the printer.

The Permanent Page Count cannot be reset.

Serial Number

This printer setting records the printer's serial number that was assigned by the manufacturer. When you select this setting, a replica of a keyboard appears on the LCD that enables you to edit the serial number.

Engine Setting 1 to 4

These settings are used by Engine code ECs to fix field problems.

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

Model Name

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

Configuration ID

The two configuration IDs are used to communicate information about certain areas of the printer that cannot be determined using hardware sensors. The configuration IDs are originally set at the manufacturer, however you may need to reset Configuration ID 1 or Configuration ID 2 when you replace the printer engine card assembly. This printer uses two Configuration IDs, each of which consists of eight digits. The first seven digits in each ID are hexadecimal numbers, while the last digit is a checksum of the preceding seven hexadecimal digits. Each ID can contain a combination of the digits 0 through 9 and the characters A to F.

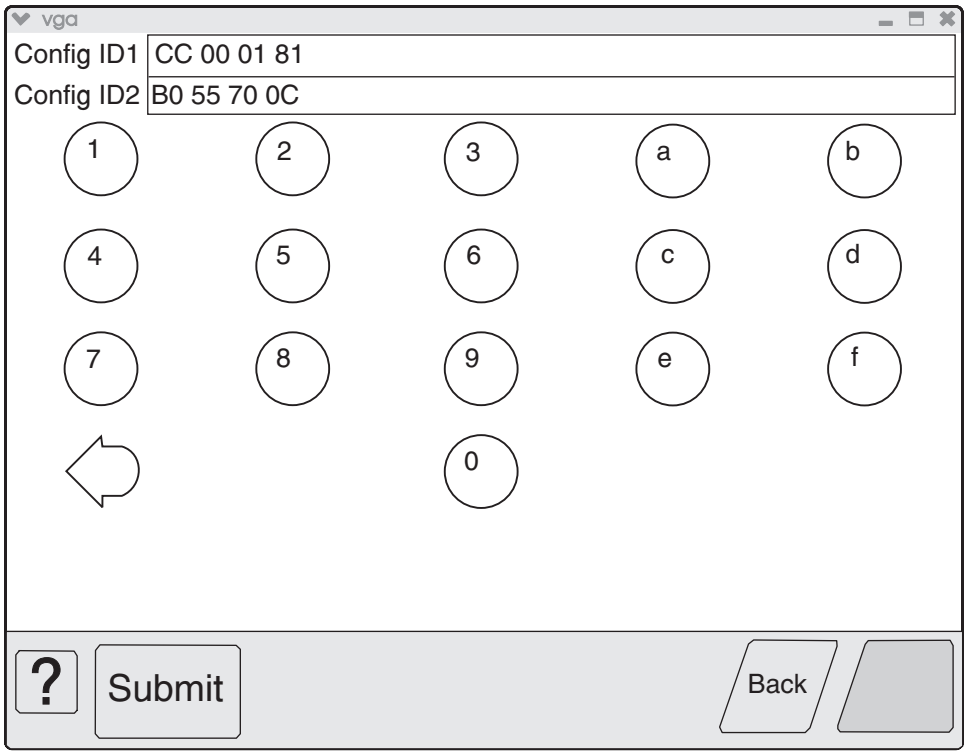
If the printer's firmware detects that either of the printer's Configuration IDs has not been defined or is invalid, then the following occurs:

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

Note: Each of the above conditions will remain until a valid value is entered for Configuration ID 1 and Configuration ID 2.

The Configuration ID setting allows you to set both Configuration IDs simultaneously. To set one or both Configuration IDs:

1. From the PRINTER SETUP menu, touch the icon to the right of the Configuration ID menu item. The screen displays the value of both Configuration IDs. By default, the cursor appears on the Configuration ID 1 line.



2. To change the value of Configuration ID 1, touch the **Backspace** key to erase any of the existing characters. Then enter the correct ID using the number and letter keys that appear on the screen.
3. To edit the value of Configuration ID 2, touch a section of the display screen that appears inside of the text box containing the current value of Configuration ID 2. The cursor appears in the text box containing the current value of Configuration ID 2.
4. To change the value of Configuration ID 2, touch the **Backspace** key to erase any of the existing characters. Then enter the correct ID using the number and letter keys that appear on the screen.

Note: To exit the Configuration ID screen and return to the PRINTER SETUP menu, touch **Back**.

Note: Although it is recommended that all unused and reserved bits be set to zero, the code will not validate or enforce this condition.

5. To save the values of both Configuration IDs, touch **Submit**. The printer validates both IDs. If either ID is invalid, the printer posts `Invalid ID`, discards any changes, and displays the original Configuration IDs. If both IDs are valid, the printer automatically returns to the PRINTER SETUP menu.

EVENT LOG

The exact number of events recorded in the Event Log will vary since each event requires a different amount of storage space. When the Event Log requires more space to record an event, it overwrites the oldest currently logged event(s) and inserts the new event into the first log position. Consecutive log entries may be identical if the same event occurred twice in a row.

The Event Log records the following types of events:

- All 9xx Service Errors
- 2xx Paper Jams

- Maintenance Count Resets
- NV Resets and various types of JFFS@ partition formats

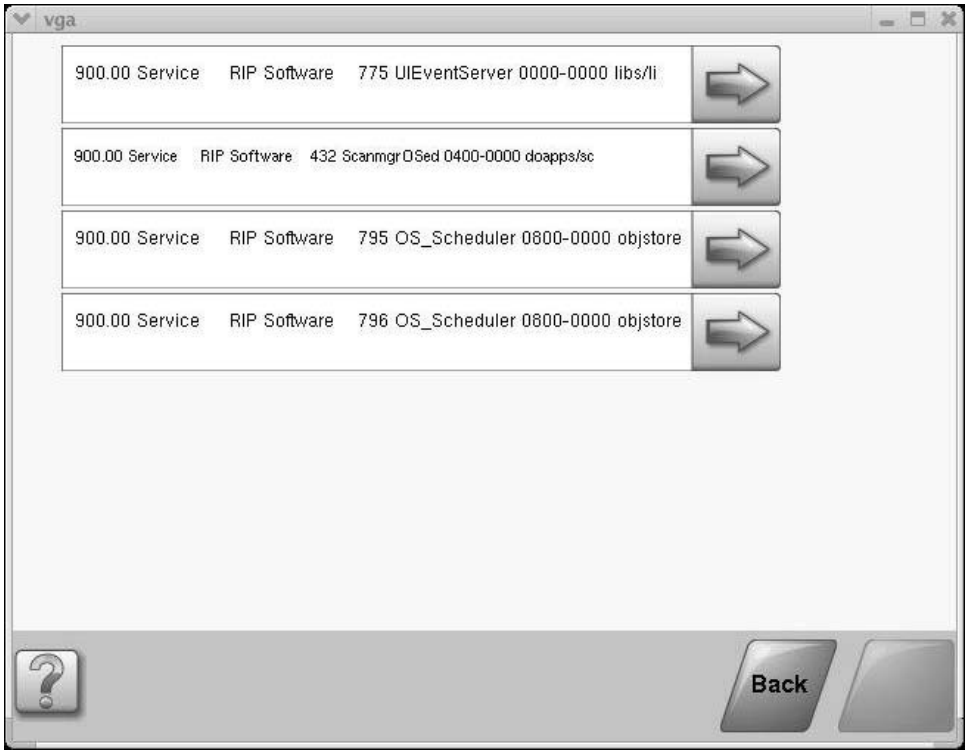
Touch **EVENT LOG** from the Diagnostics Menu, and the following options are displayed:

Display Log
Print Log
Clear Log

Display the Event Log

Note: The displayed version of the Event Log shows only a subset of the information contained in the Diagnostics version of the printed Event Log. For the most comprehensive information about each logged event, print the Event Log. See **"Print the Event Log" on page 3-22**.

Touch **Display Log**, and a graphic similar to the following appears on the LCD:



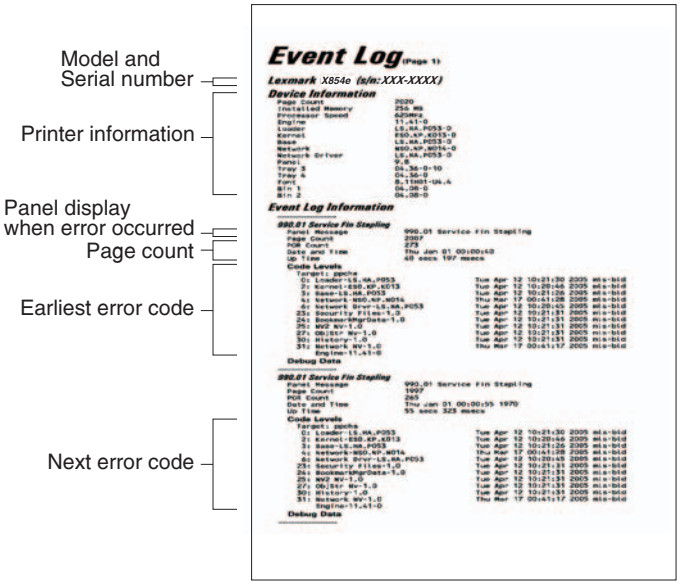
Each logged event is identified by the text that appeared when the event occurred. For instance, if the log recorded a 900 Service Error, the Display Log would show `900 Service RIP Software`. Log entries appear in chronological order.

If additional log entries exist, touch ▼ to view the next log entries. Continue following this procedure until you reach the end of the logged entries. To view earlier log entries, touch ▲.

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

Print the Event Log

Each page of the printed Event Log report has the title Event Log at the top of each page followed by the model name and serial number. The following is a sample of a printed Event Log:



As the Event Log report prints, `Printing EVENT LOG` appears on the LCD.

Clear the Event Log

To clear the Event Log:

1. Touch **Event Log** from the Diagnostics Menu.
2. Touch **Clear Log**.

Yes and **No** appears on the menu. If you touch **Yes**, `Deleting EVENT LOG` appears on the LCD and erases all Event Log information, including information from the printed report. Touch **No** to cancel deletion and return to the EVENT LOG menu, or touch **Back** to exit Clear Log and return to the EVENT LOG menu.

SCANNER TESTS

ASIC Test

This operation performs a diagnostic test on the scanner ASIC that cycles through all of the scanner ASIC's memory.

To perform the ASIC Test:

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

During this test, `ASIC Test Running...` appears on the LCD. At the completion of this test, `ASIC Test Passed` or `ASIC Test Failed` appears on the LCD. To clear the message, press **Stop** ⊗.

Feed Test

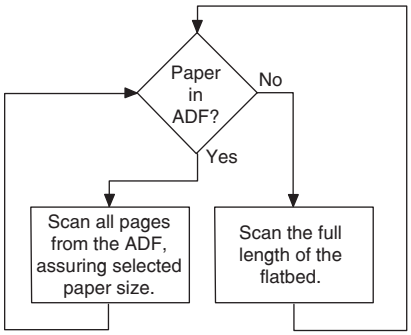
This test continuously executes flatbed and/or ADF scans but does not produce any printed output.

To perform the Feed Test:

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

You are prompted to select a paper size for the ADF. For flatbed scans, the full length of the flatbed is traversed.

The device decides whether to run the flatbed or the ADF according to the following flowchart:



During the test, `Running... Flatbed:xxxxx ADF:xxxxx` appears on the LCD. The Flatbed number increases each time the scanner performs a flatbed scan, and the ADF number increases each time the scanner performs an ADF scan.

Press **Stop** ⊗ to end this test.

If an error occurs (such as a scanner jam), `Feed Test Failed Flatbed:xxxxx ADF:xxxxx` appears on the LCD. To clear the message, press **Stop** ⊗.

Scanner Manual Registration

Note: All scanner and ADF manual registration alignment verifications must be done in standard user mode, not in configuration or diagnostic mode.

Note: You should verify the printer registration alignment before conducting the manual scanner registration process. For more information regarding printer registration, see **"ENGINE ADJUST" on page 3-26**.

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

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

Sensor Test (Scanner Tests)

To perform the Sensor Test:

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

The following example appears on the LCD:

```
Platen length APS 1
Platen length APS 2
ADF left cover interlock
ADF pre registration
ADF registration
Sheet through
ADF inverter
Tray media width 1
Tray media width 2
Tray media width 3
ADF width APS 1
ADF width APS 2
ADF width APS 3
Tray media length 1
Tray media length 2
Pick roll position HP
Document set
ADF angle
Scanner HP
Platen interlock
```

Press **Stop** ⊗ to return to SCANNER TESTS.

Trans Belt HP Fail Clear

To perform the Trans Belt Fail Clear Test:

1. Touch **Trans Belt Fail Clear** from the Diagnostics Menu.
2. Touch **Trans Belt HP Fail Clear.**

`Trans Belt HP Fail Clear Testing....` appears on the LCD.

Press **Stop** to return to Trans Blet PH Fail Clear.

Dev Unit Reset

To perform the Dev Unit Reset Test:

1. Touch **Dev Unit Reset** from the Diagnostics Menu.

The following tests appear on the LCD:

Touch the following:	Appears on the LCD:
`Y Channel`	`Y Channel Testing...`
`M Channel`	`M Channel Testing...`
`M Channel`	`C Channel Testing...`
`K Channel`	`K Channel Testing...`

When each test completes, the LCD returns to Dev Unit Reset.

Fuser Temp Fail Clear

To perform the Fuser Temp Fail Clear Test:

1. Touch **Fuser Temp Fail Clear** from the Diagnostics Menu.
2. Touch **Fuser Temp Fail Clear.**

`Fuser Temp Fail Clear Testing....` appears on the LCD.

When testing is complete, the LCD returns to Fuser Temp Fail Clear.

ATC SENSOR FAILURE CLEAR

To perform the ATC Sensor Failure Clear Test:

1. Touch **ATC SENSOR FAILURE CLEAR** from the Diagnostics Menu.

The following tests appear on the LCD:

Touch the following:	Appears on the LCD:
`Y Channel (925.00)`	`Y Channel Testing...`
`M Channel (925.01)`	`M Channel Testing...`
`M Channel (925.02)`	`C Channel Testing...`
`K Channel (925.02)`	`K Channel Testing...`

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

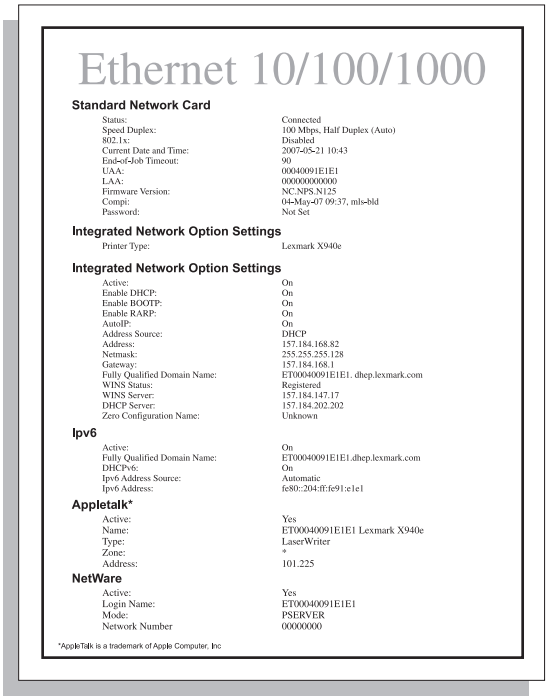
ENGINE ADJUST

To begin PH Adjust (media tray registration), the test page must be printed.

To print the test page the printer must be in standard mode.

1. Select **Menus.**
2. Select Reports.
3. Select Network Setup Page

The following report prints.



Ethernet 10/100/1000

Standard Network Card

Status:	Connected
Speed Duplex:	100 Mbps, Half Duplex (Auto)
802.1x:	Disabled
Current Date and Time:	2007-05-21 10:43
End-of-Job Timeout:	90
UAA:	00040091E1E1
LAA:	000000000000
Firmware Version:	NC.NPS.N125
Compi:	04-May-07 09:37, mls-bld
Password:	Not Set

Integrated Network Option Settings

Printer Type:	Lexmark X940e

Integrated Network Option Settings

Active:	On
Enable DHCP:	On
Enable BOOTP:	On
Enable RARP:	On
AutoIP:	On
Address Source:	DHCP
Address:	157.184.168.82
Netmask:	255.255.255.128
Gateway:	157.184.168.1
Fully Qualified Domain Name:	ET00040091E1E1. dhep.lexmark.com
WINS Status:	Registered
WINS Server:	157.184.147.17
DHCP Server:	157.184.202.202
Zero Configuration Name:	Unknown

Ipv6

Active:	On
Fully Qualified Domain Name:	ET00040091E1E1.dhep.lexmark.com
DHCPv6:	On
Ipv6 Address Source:	Automatic
Ipv6 Address:	fe80::204:ff:fe91:e1e1

Appletalk*

Active:	Yes
Name:	ET00040091E1E1 Lexmark X940e
Type:	LaserWriter
Zone:	*
Address:	101.225

NetWare

Active:	Yes
Login Name:	ET00040091E1E1
Mode:	PSERVER
Network Number	00000000

*AppleTalk is a trademark of Apple Computer, Inc

Using a fine incremental ruler, measure from the black line border to the edge of the media. Ideally, the borders should be centered on the page.

To perform the ENGINE ADJUST settings:

1. Select **ENGINE ADJUST** from the Diagnostics Menu.

The following tests appear on the LCD:

Select the following:	**Then select: (**	**Appears on the LCD:**
PH Adjust **(Media tray registration)**	Adj Side Reg ALL (appears on LCD) **(Adj side reg all trays)**	Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.
	Adj Side Reg MSI (appears on LCD) **(Adj side reg MPF)**	Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.
	Adj Side Reg DUP (appears on LCD) **(Adj side reg duplex)**	Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.

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

PRO-CON (ATC sensor setup and adjust)
This procedure is used to adjust the following:
Sensor (C ATC)
Sensor (M ATC)
Sensor (Y ATC)
Sensor (K ATC)

Select PRO-CON **and select:**	**Then Select:**	**Appears on the LCD**
ATC Sensor Adjust values (	Sen Grad SNR-Y	Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.
	Sen Grad SNR-M	Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.
	Sen Grad SNR-C	Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.
	Sen Grad SNR-K	Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.
	SNR Output Ref TC-Y	Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.
	SNR Output Ref TC-M	Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.
	SNR Output Ref TC-C	Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.
	SNR Output Ref TC-K	Registration values appear on the LCD. If required, reset the values and **Select** ✓ to submit the changes.
ATC Sensor Adjust Cycle		Testing... Pass

RegCon (color registration)
This procedure is used to adjust the printhead color registration.

Select RegCon Adjust **and then select:**	**Appears on the LCD:**
Measurement Cycle	Reg Measuring Testing...
Control Sensor Check	Reg Control Sensor Testing...
Control Sensor Cycle	Reg Control Sensor Correction Testing...
Belt Edge Learn	Belt Edge Learn Testing...

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

Press **Stop** ⊗ to return to ENGINE ADJUST.

Booklet Fold Adjust

To perform the Booklet Fold Adjust Test:

1. Select **Booklet Fold Adjust** from the Diagnostics Menu.

The following tests appear on the LCD

Select the following:	**Appears on the LCD:**
Booklet Compile position	Booklet Compile position values appear on the LCD. If required, reset the values and submit.
Booklet 2-sheet	Booklet 2-sheet values appear on the LCD. If required reset the values and submit.
Booklet 15-sheet	Booklet 15-sheet values appear on the LCD. If required reset the values and submit.
Booklet Staple Fold Fine Adjust	Booklet Staple Fold Fine Adjust values appear on the LCD. If required, reset the values and submit.
Booklet Staple Pos Fine Adjust	Booklet Staple Fold Fine Adjust values appear on the LCD. If required, reset the values and submit.
Booklet Tamper Shift Adjust	Booklet Staple Fold Fine Adjust values appear on the LCD. If required, reset the values and submit.

Finisher Config

To perform Finisher Config:

1. Select **Finisher Config** from the Diagnostics Menu.

Finisher Config values appear on the LCD. If required, reset the values and submit

Testing the manual scanner registration

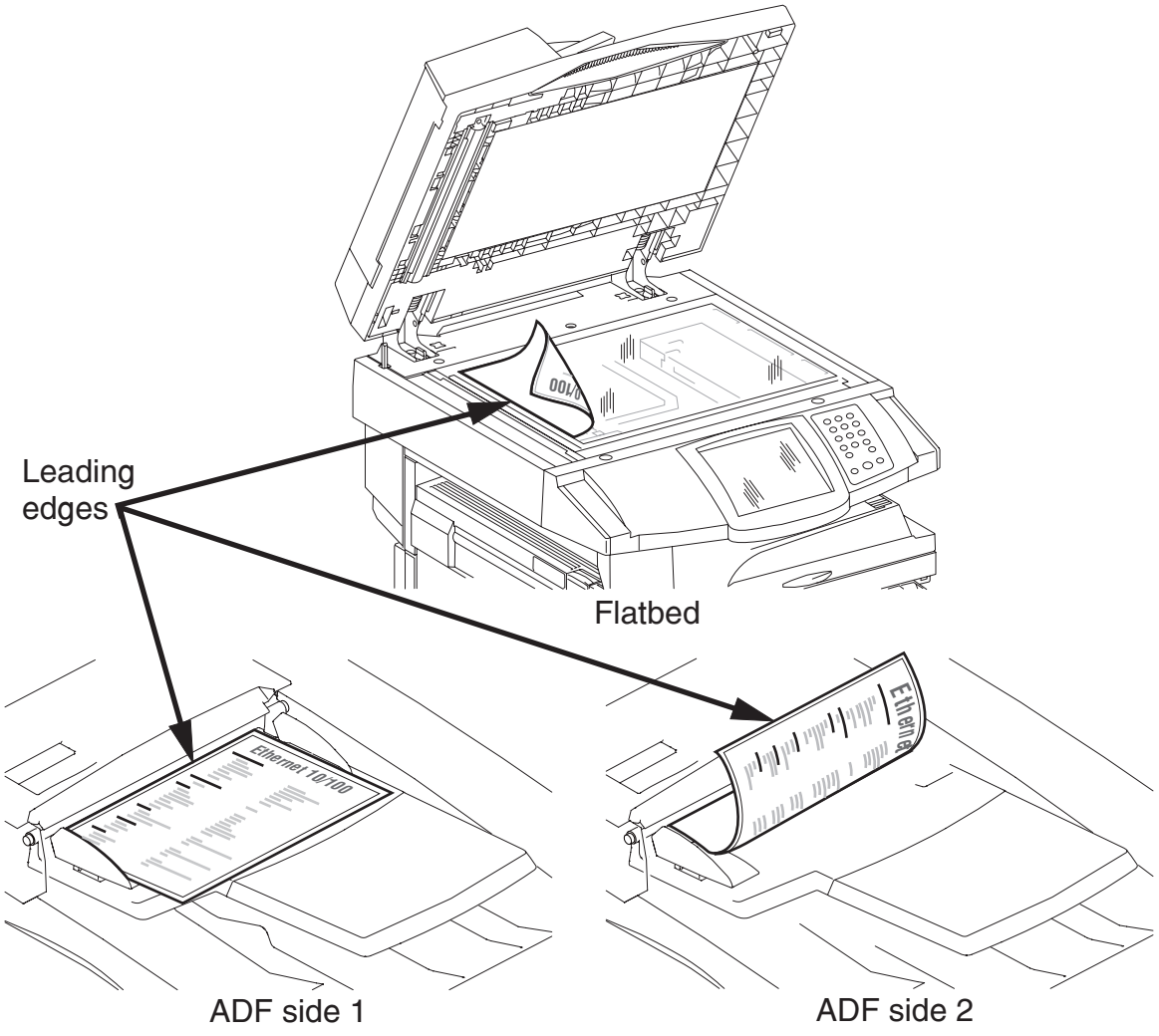
Note: Machine must be in Standard User Mode.

To properly position the Network Setup Page which will be used as the ADF test original page on the flatbed scanner and the ADF side 1 and ADF side 2, follow the graphic below:

Warning: Ensure that the Network Setup Page is properly positioned according to the diagrams, or registration and margins cannot be properly adjusted.

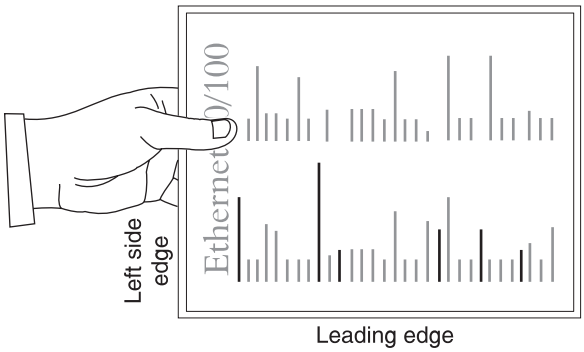
1. Place the Network Setup Page on the flatbed scanner according to the graphic below.
2. Make a copy of the Network Setup Page, and mark it “Flatbed”.
3. Place the Network Setup Page, image side up, in the ADF according to the diagram below. This will be the ADF side 1 registration test.
4. Make a copy of the Network Setup Page, and mark it “ADF side 1”.
5. Place the Network Setup Page, image side down, in the ADF according to the diagram below. This will be the ADF side 2 registration test.
6. Select “2 sided to 2 sided” while in copy mode to ensure that the rear side of the test original page is copied.
7. Make a copy of the Network Setup Page, and mark it “ADF side 2”.

Note: You should now have three test copies of the Network Setup Page.



Analyzing the manual scanner registration copies

1. To analyze the manual scanner registration of the flatbed, ADF side 1, and ADF side 2, hold the test copy according to the diagram below.



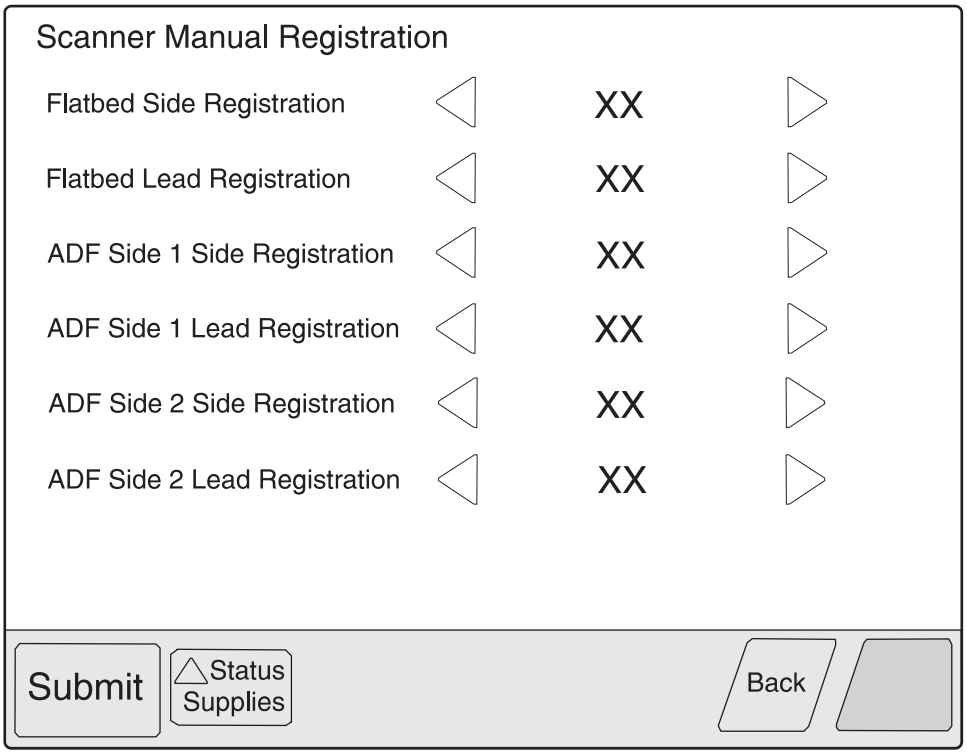
2. Compare the three copies to the Network Setup Page for image placement. Ideally, the image should be centered on the page by measuring the page edge to the black border with a ruler.
3. If the leading and side margin edges are out of adjustment, then proceed to manually adjust the scanner and/or ADF side 1 and ADF side 2 registration.

Note: Margin tolerance is +/- 2 mm.

Manually adjusting the scanner's registration

1. Enter the Diagnostics Menu. Go to **"Diagnostics Menu" on page 3-1**.
2. Touch **SCANNER TESTS**.
3. Touch **Scanner Manual Registration**.
   Note: Refer to analyzing the manual scanner registration copies. See **"Analyzing the manual scanner registration copies" on page 3-31**.

4. Make required adjustments, and touch **Submit.**
   Note: All reference to Side Registration in the graphic below refers to the left side edge.



5. Turn the machine off and then back on in order to make a copy.
6. Using the registration test original page, make a copy using the flatbed scanner and the ADF side 1 and ADF side 2 to verify adjustments for accuracy.
7. If further adjustments are required, reenter the Diagnostic Menu and repeat items 2 through 6 as needed.

The panel displays the following settings:

Margin Setting	**Range** [1]	**Units**
Flatbed Side Registration[2]	0–240	1/300 inch
Flatbed Lead Registration[3]	16–184	1/300 inch
ADF Side1 Side Registration[4]	0–240	1/300 inch
ADF Side1 Lead Registration[5]	0–214	1/300 inch
ADF Side2 Side Registration[4]	0–240	1/300 inch
ADF Side2 Lead Registration[5]	0–214	1/300 inch

[1]Each increment of adjustment corresponds to:

- 1 scan at 300 dpi for the Lead Margin setting or
- 1 pel at 300 dpi for each Side Margin setting

[2]Decreasing the registration value moves the text toward the left side edge of the page; increasing the registration value moves the text away from the left side edge of the page. The entire image moves left or right on the page; therefore, no compression or expansion of the image occurs to preserve the left side margin.

[3]Decreasing the registration value moves the text toward the lead edge of the page and narrows the lead margin; increasing the registration value moves the text away from the lead edge of the page and widens the lead margin. The entire image moves up or down on the page; therefore, no compression or expansion of the image occurs to preserve the lead margin.

[4]Decreasing the registration value moves the text away from the left side edge of the page; increasing the registration value moves the text toward the left side edge of the page. The entire image moves left or right on the page; therefore, no compression or expansion of the image occurs to preserve the left side margin.

[5]Decreasing the registration value moves text away from the lead edge of the page and widens the lead margin; increasing the registration value moves the text toward the lead edge of the page and narrows the lead margin. The entire image moves up or down on the page; therefore, no compression or expansion of the image occurs to preserve the lead margin.

Touch **Submit** to save the changes. `Submitting Changes...` appears on the LCD.

Touch **Back** to return to the Scanner Manual Registration screen without saving changes.

Scanner manual registration factory defaults

The factory scanner manual registration default settings are located on a label at the rear of the machine. Use the label values to reset the factory default settings when the current settings appear to be extremely out of range.

An example of this label is shown below.
Note: The values listed below should be considered examples. They may not match the label attached to the rear of the machine.

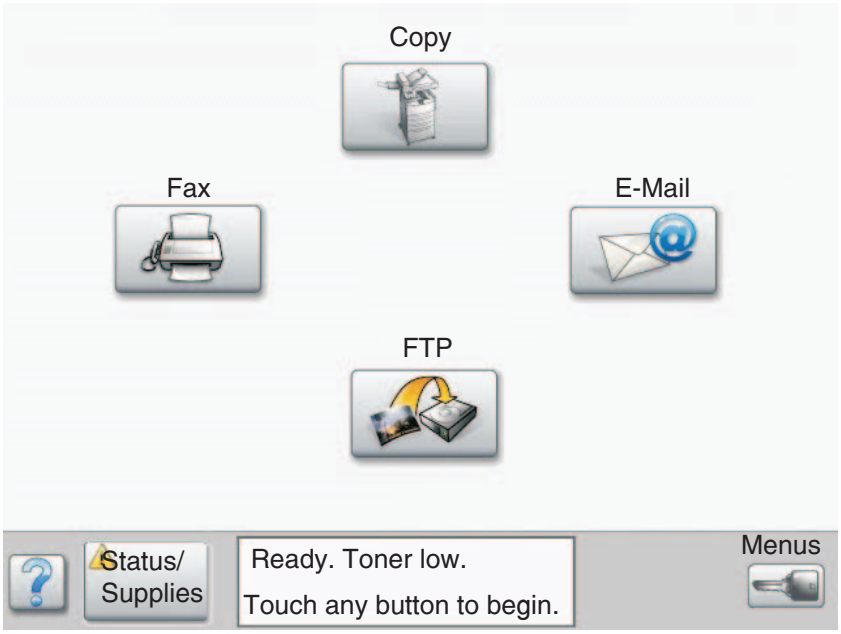
Chain-Function	Values
715-050	89
715-053	127
711-140	183
711-141	193
715-110	124
715-111	127

Use the following diagram to cross-reference the chain-function on the label to the text on the touch screen found in diagnostic mode when resetting the scanner manual registration factory default values.

Chain-Function	Values	Touch screen description
715-050	89	Flatbed lead registration
715-053	127	Flatbed side registration
711-140	183	ADF side 1 lead registration
711-141	193	ADF side 2 lead registration
715-110	124	ADF side 1 side registration
715-111	127	ADF side 2 side registration

Exiting Diagnostics Menu

From the Diagnostics Menu, touch **Back** until a graphic appears with **Exit Diag Menu** in the lower right corner. Touch **Exit Diag Menu** to perform a POR, and the following graphic appears on the LCD:



Configuration Menu

Entering Configuration Menu

1. Turn off the printer.
2. Press and hold the **2** and **6** buttons simultaneously.
3. Turn on the printer.
4. Release the buttons after 10 seconds.

Available menus

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

Exiting Configuration Menu	See **“Exiting Configuration Menu” on page 3-50**.

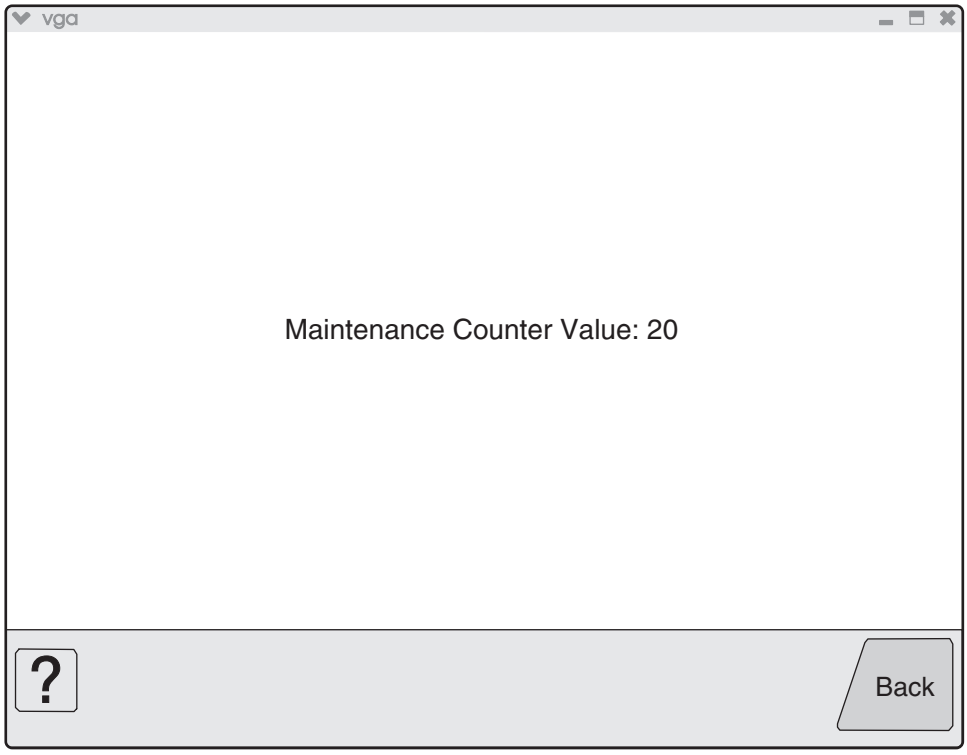
Maintenance Counter Value

This setting enables you to view the current maintenance count value of each maintenance kit. After selecting this item, you can choose a specific kit in order to view its current maintenance count value. To return to the Configuration Menu, press **Back**. All other control panel keys are ignored.

When a kit's maintenance count value equals its kit size (150K for the ADF Kit), the device posts the appropriate "80 Scheduled Maintenance" IR and a status indicator to notify the user to schedule the appropriate maintenance on the device.

To view the Maintenance Counter Value, touch **Maintenance Counter Value** from the Configuration Menu.

The panel displays the current value of the maintenance counter as illustrated below:



Touch **Back** to return to the Configuration Menu.

After installing the required maintenance kit, reset this count to zero.

Reset Maintenance Counter

After scheduled maintenance, reset the Maintenance Counter.

To reset the maintenance page counter to zero:

1. Touch **Reset Maintenance Counter** from the Configuration Menu.
2. **Reset Maintenance Counter** appears in the header.
3. Touch **100K Kit** or **600K Kit. Yes** and **No** appear in a menu.
4. To cancel the reset operation, touch **Back** or **No**. All other button presses are ignored.
5. To initiate the reset operation, touch **Yes**.

USB Scan to Local

To change this setting:

1. Touch **USB Scan to Local** from the Configuration Menu. ◀ **[setting's current value]** ▶ appears on the touch-screen.
2. Touch ◀ or ▶ to scroll through the setting's possible values.
3. Touch **Back** to cancel and return to the Configuration Menu.
4. Touch **Submit** to save the change.

Black Only Mode

To change this setting:

1. Touch **Black Only Mode** from the Configuration Menu. ◀ **[setting's current value]** ▶ appears on the touch-screen.
2. Touch ◀ or ▶ to scroll through the setting's possible values.
3. Touch **Back** to cancel and return to the Configuration Menu.
4. Touch **Submit** to save the change.

Print Quality Pages (Configuration Menu)

This entry enables you to print a report that contains a limited set of the information that appears in the Diagnostics version of the Print Quality Pages report. The limited (Configuration) and the full (Diagnostics) printed versions of this report display the same panel messages when they print and follow the same layout guidelines.

To print the Print Quality Pages:

1. Touch **Print Quality Pages** from the Configuration Menu. `Printing Quality Test Pages...` appears on the LCD.
2. Touch **Back** to return to the Configuration Menu.

Note: When this report is printed from the Configuration Menu, the device enforces the toner cartridge lockout mechanism, that is, the Machine Class ID of its cartridge must match the Machine Class ID stored in the printer's NVRAM.

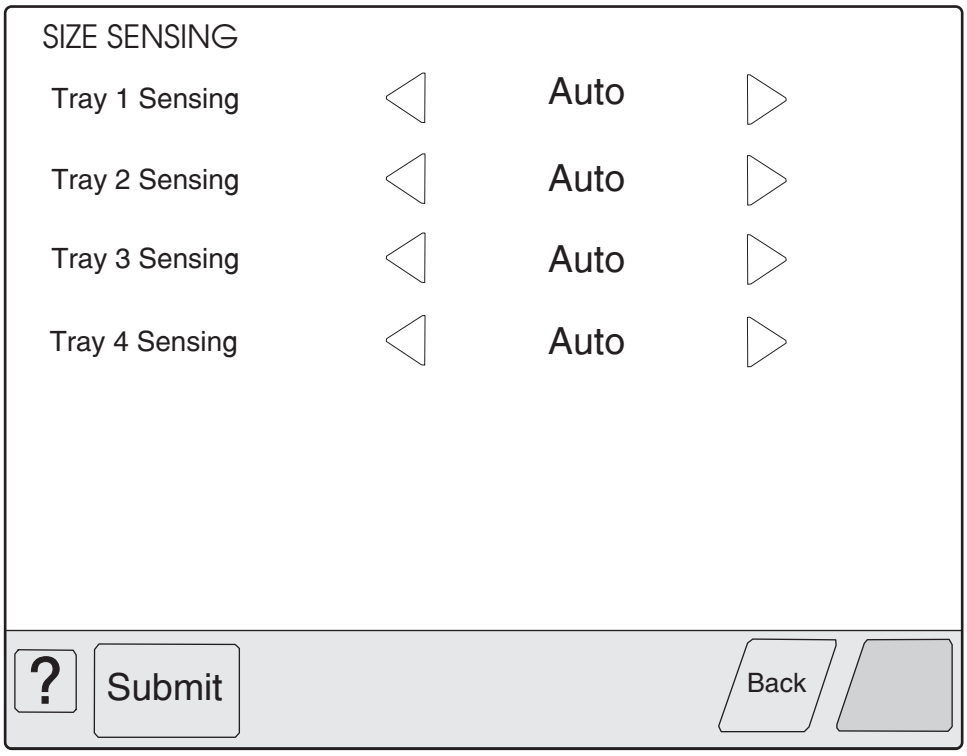
SIZE SENSING

This setting controls whether the printer automatically registers the size of paper installed in an input source equipped with size sensing hardware.

Input source	Size sensing	
	Length	Width
Multipurpose feeder (integrated MPF)		✓
Tray 1 (integrated 500-sheet drawer)	✓	✓
Tray 2 (integrated 500-sheet drawer)	✓	✓
Tray 3 (integrated HCF 850-sheet drawer)		✓
Tray 4 (integrated HCF 1150-sheet drawer)		✓
Tray 3 (optional 2TM 500-sheet drawer)	✓	✓
Tray 4 (optional 2TM 500-sheet drawer)	✓	✓

To change the value of this setting:

1. Touch **SIZE SENSING** from the Configuration Menu. The screen displays each size sensing equipped input source and its current Size Sensing value.



2. Touch ◀ or ▶ to scroll through the setting's other possible values.
3. Touch **Back** to cancel and return to the Configuration Menu.
4. Touch **Submit** to save the change.

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

A5/Statement

Due to engine limitations, Trays 1 through 4 cannot simultaneously sense A5- and statement-size paper. The value of this setting determines which of the two paper sizes these trays will sense automatically. This setting will apply to all automatic trays, but not to the MP Feeder. The MP Feeder can support these paper sizes regardless of the value of this setting.

B5/Executive

Due to engine limitations, Trays 1 through 4 cannot simultaneously sense executive and JIS-B5-size paper. The value of this setting determines which of the two paper sizes these trays will sense automatically. This setting will apply to all automatic trays, but not to the MP Feeder. The MP Feeder can support these paper sizes regardless of the value of this setting.

Panel Menus

Selections are to Disable or Enable (default) operator panel menus.

To change the value of this setting:

1. Touch **Panel Menus** from the Configuration Menu. ◀ **[setting's current value]** ▶ appears on the touch-screen.
2. Touch ◀ or ▶ to scroll through the setting's other possible values.
3. Touch **Back** to cancel and return to the Configuration Menu.
4. Touch **Submit** to save the change.

PPDS Emulation

The value of the PPDS Emulation menu item determines if a device can recognize and use the PPDS data stream. The current value of this setting appears in parentheses to the right of the setting on the Configuration Menu screen.

The following table indicates how the value of this setting affects the user default value for the Smartswitch and Printer Language settings:

Value of PPDS Emulation setting	Resulting value of Smartswitch setting (all ports)	Resulting value for Printer Language settings
Activate	Off	PPDS Emulation Note: You can still switch languages on the operator panel or through the PJL ENTER LANGUAGE command.
Deactivate	On	Printer's factory default value

To change the value of this setting:

1. Touch **PPDS Emulation** from the Configuration Menu. ◀ **[setting's current value]** ▶ appears on the touch-screen.
2. Touch ◀ or ▶ to scroll through the setting's possible values.
3. Touch **Back** to cancel and return to the Configuration Menu.
4. Touch **Submit** to save the change.

Factory Defaults

Warning: This operation cannot be undone.

This setting enables you to restore all of the printer's settings to the base printer settings, the network settings, or to remove all Lexmark Embedded Solutions (LES) applications.

To restore the Factory Default settings:

1. Touch **Factory Defaults** from the Configuration Menu.
2. Touch **Restore Base** to restore all non-critical base printer NVRAM settings.
3. Touch **Restore Network** to restore all network NVRAM settings.
4. Touch **Restore LES** to remove all Lexmark Embedded Solution applications.

When you select either value, the LCD displays `Restoring Factory Defaults` and then `Resetting the Device`. The device immediately performs a POR and restores the appropriate settings to their factory default values.

The following settings are not changed:

- Display Language (general settings)
- Network/Ports Menu
- Standard USB, USB (x) Menus (if an ENA is installed)

Energy Conserve

This menu controls what values appear on the Power Saver menu. If **Off** is selected in the Energy Conserve menu, then `Disabled` appears in the Power Saver menu, and Power Saver can be turned off. If **On** is set in the Energy Conserve menu, the Power Saver feature cannot be disabled.

To change this setting:

1. Touch **Energy Conserve** from the Configuration Menu. ◀ **[setting's current value]** ▶ appears on the touch-screen.
2. Touch ◀ or ▶ to scroll through the setting's possible values.
3. Touch **Back** to cancel and return to the Configuration Menu.
4. Touch **Submit** to save the change.

Min Copy Memory

Values will only be displayed if the amount of installed DRAM is at least twice the amount of the value, that is, at least 200 MB of installed DRAM is required to display the 100 MB selection.

To change this setting:

1. Touch **Min Copy Memory** from the Configuration Menu. ◀ **[setting's current value]** ▶ appears on the touch-screen.
2. Touch ◀ to decrease the setting's value; touch ▶ to increase the setting's value.
3. Touch **Back** to cancel and return to the Configuration Menu.
4. Touch **Submit** to save the change.

Format Fax Storage

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

To change this setting:

1. Touch **Format Fax Storage** from the Configuration Menu.

Note: If an advanced password has been established, you must enter this password in order to change the setting. If no advanced password exists, you can establish one by using the keyboard that appears on the LCD.

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

`Formatting Fax Flash DO NOT POWER OFF` appears on the LCD while the format operation is active.

EVENT LOG (Configuration Menu)

This entry enables you to print a report that contains a limited set of the information that appears in the Diagnostics version of the Event Log report. See **"EVENT LOG" on page 3-20**. The limited (Configuration) and the full (Diagnostics) printed versions of this report display the same panel messages when they print and follow the same layout guidelines.

To print the Event Log:

1. Touch **EVENT LOG** from the Configuration Menu.
2. Touch **Print Log**.

Touch **Back** to return to the Configuration Menu.

Note: An event log printed from the Configuration Menu will not contain debug information or secondary codes for 900 service errors. However, the event log printed from the Diagnostics Menu does include this information.

ADF Edge Erase

The ADF Edge Erase and FB Edge Erase settings specify, in millimeters, the size of a border around the scanned image that will be erased. For copies, the printed page will have a 2 mm no-print border. The larger of the 2 mm no-print border and the Edge Erase setting will be used in this situation.

To change this setting:

1. Touch **ADF Edge Erase** from the Configuration Menu. ◀ **[setting's current value]** ▶ appears on the touch-screen.
2. Touch ▶ to increase the value or ◀ to decrease the value.
3. Touch **Submit** to save the change.
4. Touch **Back** to cancel and return to the Configuration Menu.

FB Edge Erase

The ADF Edge Erase and FB Edge Erase settings specify, in millimeters, the size of a border around the scanned image that will be erased. For copies, the printed page will have a 2 mm no-print border. The larger of the 2 mm no-print border and the Edge Erase setting will be used in this situation.

To change this setting:

1. Touch **FB Edge Erase** from the Configuration Menu. ◀ **[setting's current value]** ▶ appears on the touch-screen.
2. Touch ▶ to increase the value or ◀ to decrease the value.
3. Touch **Submit** to save the change.
4. Touch **Back** to cancel and return to the Configuration Menu.

Paper Prompts

When a tray is out of the indicated paper size, a prompt is sent to the user to load paper in a tray. This setting controls the tray the user is directed to fill. Selections are Auto (default), MP Feeder, and Manual Paper.

To change this setting:

1. Touch **Paper Prompts** from the Configuration Menu. ◀ **[setting's current value]** ▶ appears on the touch-screen.
2. Touch ◀ or ▶ to scroll through the setting's other possible values.
3. To exit this screen without changing the setting's value, touch **Back**.
4. To save the setting's new value, touch **Submit**.

Envelope Prompts

This setting controls the tray the user is directed to refill when a specific envelope size is out. The selections are Auto (default), MP Feeder, and Manual Env.

To change the value of this setting:

1. Touch **Env Prompts** from the Configuration Menu. ◀ **[setting's current value]** ▶ appears on the touch-screen.
2. Touch ◀ or ▶ to scroll through the setting's possible values.
3. To exit this screen without changing the setting's value, touch **Back**.
4. To save the setting's new value, touch **Submit**.

Jobs On Disk

Jobs On Disk allows you to delete buffered jobs saved on the disk.

To delete jobs saved on the disk:

1. Touch **Jobs On Disk** from the Configuration Menu.
2. Touch **Delete** to decrease the setting's value; touch ▶ to increase the setting's value.
3. Touch **Back** to cancel and return to the Configuration Menu.

Disk Encryption

This setting determines if the printer encrypts the information that it writes to the hard disk. The values are Disable and Enable.

Warning: If the value is changed from **Enable** to **Disable** or from **Disable** to **Enable**, then the printer completely formats the hard disk. All information on the disk will be unrecoverable.

To change this setting:

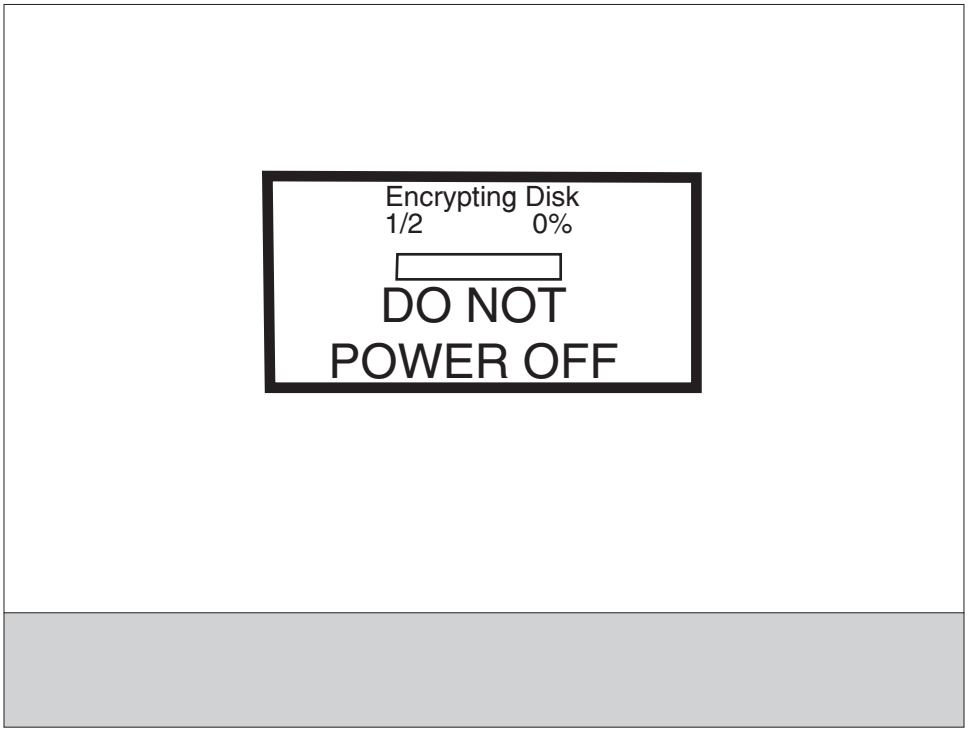
1. Touch **Disk Encryption** from the Configuration Menu.

Note: If an advanced password has been established, you must enter this password in order to change the setting. If no advanced password exists, you can establish one by using the keyboard that appears on the LCD.

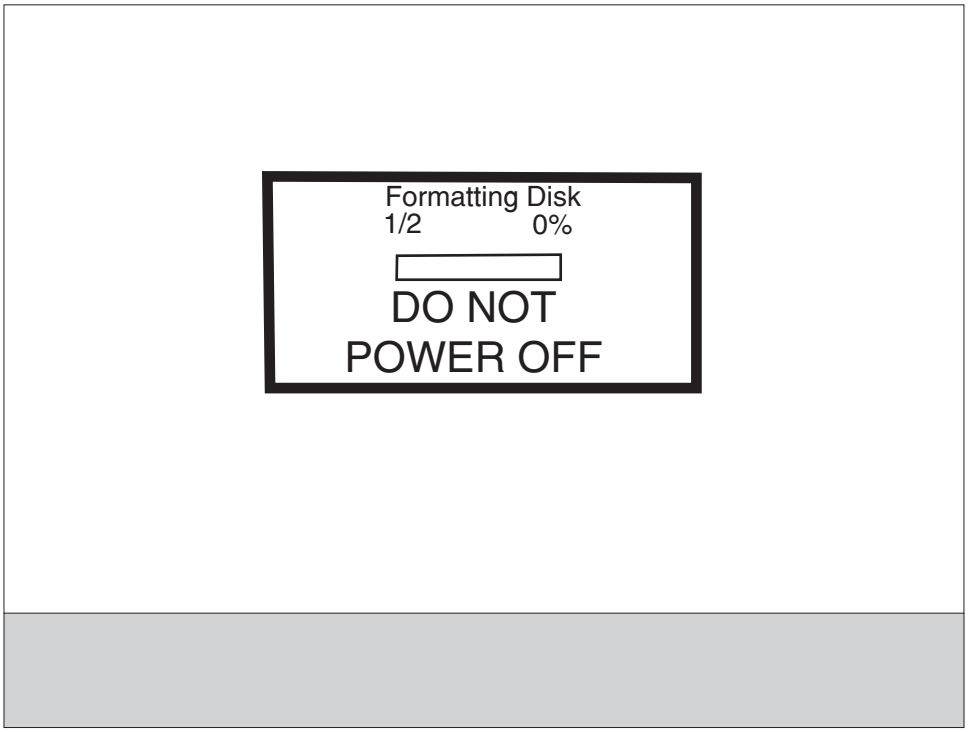
2. Touch **Submit** to save the change.
3. Touch **Back** to cancel and return to the Configuration Menu.

If you remove an encrypted disk from a device and then try to install another disk, `Disk Corrupted. Reformat?` appears on the LCD. You can format the newly installed disk or remove it from the device.

When you touch **Enable** (encryption) or **Disable** (formatting), `Contents will be lost. Continue?` appears on the LCD. Touch **No** to cancel or **Yes** to proceed. If you touch **Yes**, the printer performs the selected action on the hard disk. The following graphic appears when the encryption process is selected:



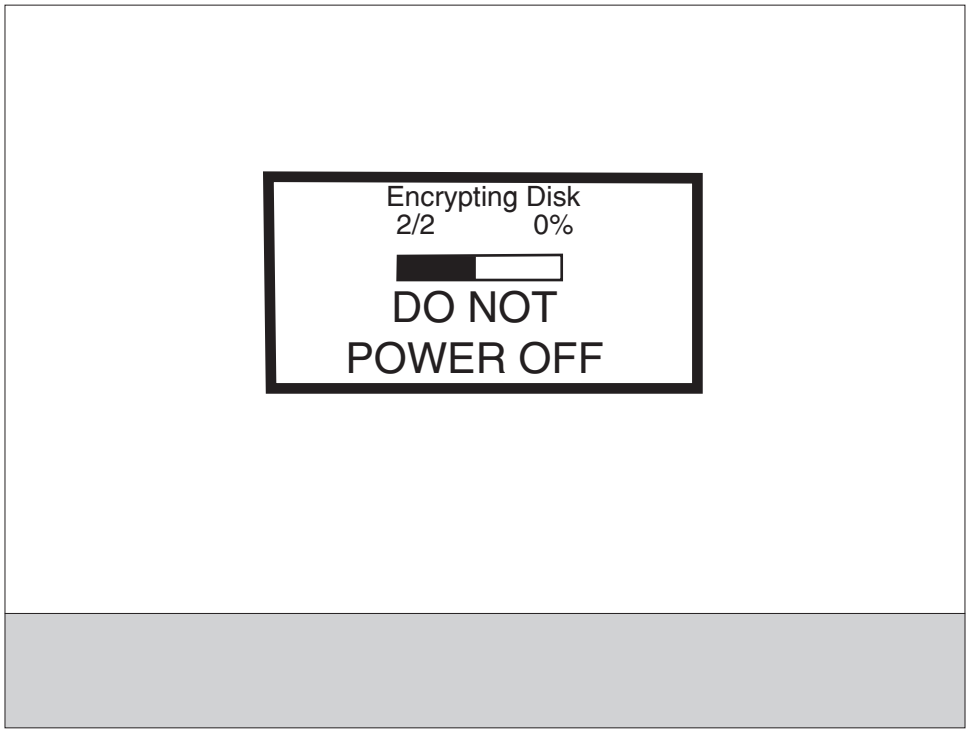
The following graphic appears when the formatting process is selected:

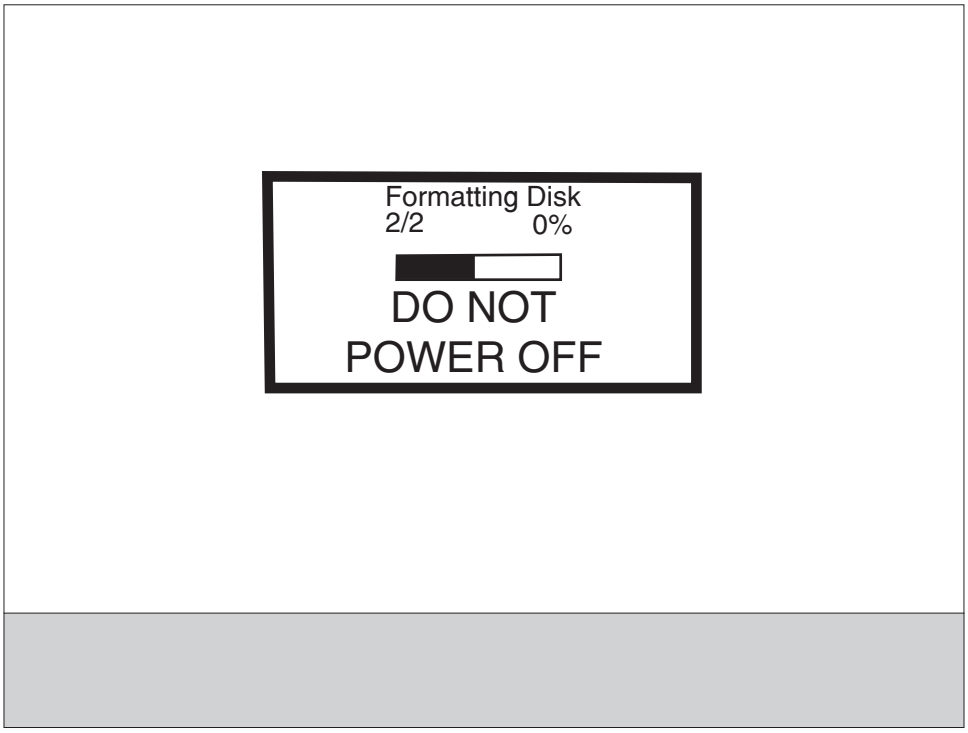


The panel provides many progress indicators during the two-stage process.

1. **1**/**2** indicates that the process is currently in the first stage.
2. **0%** indicates the progress of the current stage of the process.
3. The progress bar indicates the overall completion of the entire process by filling in throughout each separate stage.

When the first stage of either process completes, the printer displays either of the following graphics depending on the process selected and then begins the second stage of the process:





The entire process is complete when the progress bar appears completely shaded and the percentage indicator shows **100%**. After completion, the panel returns to Disk Encryption.

Wipe Disk

This setting provides you with a tool for erasing the contents of a disk.

Warning: Wipe Disk removes a disk's data in such a way that it cannot be recovered.

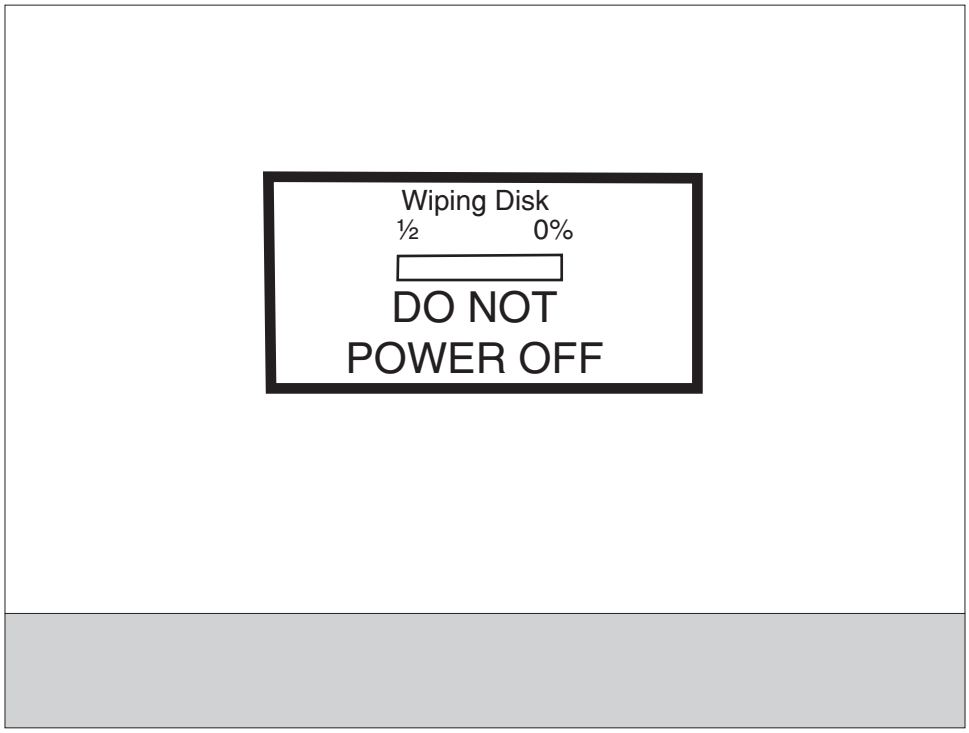
To change this setting:

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

Note: If an advanced password has been established, you must enter this password in order to change the setting. If no advanced password exists, you can establish one by using the keyboard that appears on the LCD.

2. Touch **Wipe disk now**. `Contents will be lost. Continue?` appears on the LCD.
3. Touch **Back** to cancel and return to the Configuration Menu.

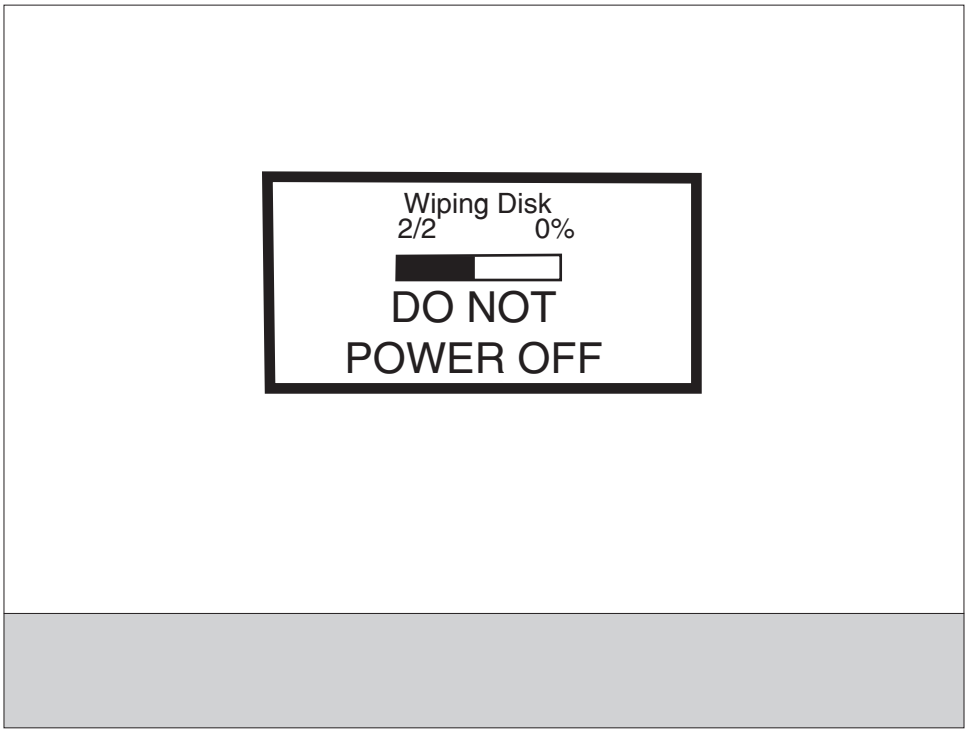
If you touch **No**, the device cancels the Wipe Disk process and returns to the Configuration Menu. If you touch **Yes**, the following screen appears:



The panel provides the following progress indicators during the execution of this process:

1. **1**/**2** indicates that the process is currently in the first stage.
2. **0%** indicates the progress of the current stage of the process.
3. The progress bar indicates the overall completion of the entire process by filling in throughout each separate stage.

When the first stage of the process completes, the printer displays the following graphic and then begins the second stage of the process:



The entire process is complete when the progress bar appears completely shaded and the percentage indicator shows **100%**. The panel returns to the screen that shows the values for the Wipe Disk setting.

Font Sharpening

This setting allows you to set a text point size below which the high-frequency screens are used when printing font data. For example, at the default 24, all text in font sizes 24 and less will use the high frequency screens. The values for this setting range from 0 to 150.

To change this setting:

1. Touch **Font Sharpening** from the Configuration Menu.
2. Touch ▶ to increase the value or ◀ to decrease the value.
3. Touch **Back** to cancel and return to the Configuration Menu.
4. Touch **Submit** to save the change.

This setting affects the PostScript, PCL, PDF, and XL emulators.

This function is not supported when the device generates output at 600 dpi resolution.

Require Standby

This setting determines if the Standby Mode is **On** or **Off**. The default is **On**.

To change this setting:

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

If Standby Mode is on, the printer begins functioning in Standby Mode when it remains idle for an amount of time. The Standby Mode enables the printer:

- To consume less energy than when operating in normal mode but not as little as when operating in Power Saver
- To return to the Ready state more quickly than when operating in Power Saver

Short Edge Printing

The default printing orientation is long edge. This setting allows you to enable or prohibit short edge fed paper. If the setting **Disabled** (default) is selected, letter and A4 paper can only be fed long edge. If they are fed short edge, a prompt will ask you to use the correct paper size. When the setting is **Enabled**, you can feed paper either long edge or short edge.

To change this setting:

1. Touch **Short Edge Printing** from the Configuration Menu.
2. Touch **Back** to cancel and return to the Configuration Menu.
3. Touch **Submit** to save the change.

Tray Low Message

This setting allows you to disable any Tray Low warnings that the printer may register.

Touching **Disabled** turns off the tray low prompts. The default is **Enabled**.

To change this setting:

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

LES Applications

This disables all installed Lexmark Embedded Solution applications. The default is **Enabled**.

To change this setting:

1. Touch **LES Applications** from the Configuration Menu.

Note: If an advanced password has been established, you must enter this password in order to change the setting. If no advanced password exists, you can establish one by using the keyboard that appears on the LCD.

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

Key Repeat Initial Delay

When a key is touched repeatedly, this is the delay before the key begins repeating. The delay ranges from .25 seconds to 5 seconds. The default is 1 second. Values are given in increments of .25 seconds.

To change this setting:

1. Touch **Key Repeat Initial Delay** from the Configuration Menu.
2. Touch ▶ to increase the value or ◀ to decrease the value.
3. Touch **Submit** to save the change.
4. Touch **Back** to cancel and return to the Configuration Menu.

Key Repeat Rate

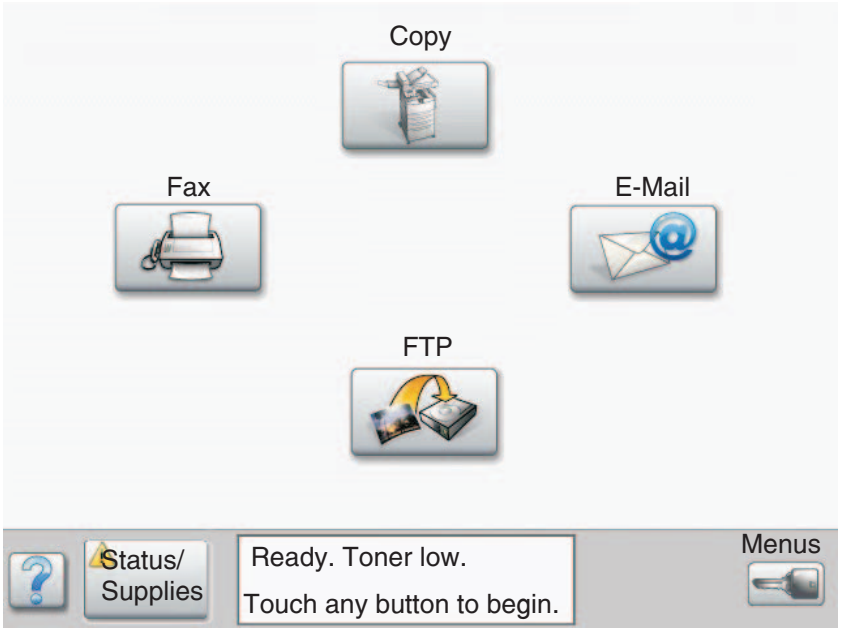
This is the number of times per second that a repeating key will repeat. The range is 1–100, with a default of 15 times per second.

To change this setting:

1. Touch **Key Repeat Initial Delay** from the Configuration Menu.
2. Touch ▶ to increase the value or ◀ to decrease the value.
3. Touch **Submit** to save the change.
4. Touch **Back** to cancel and return to the Configuration Menu.

Exiting Configuration Menu

From the Configuration Menu, touch **Back** until a graphic appears with **Exit Config Menu** in the lower right corner. Touch **Exit Config Menu** to exit the Configuration Menu. `Resetting the Printer` appears on the LCD. The printer performs a POR, and the following graphic appears on the LCD:



4. Repair information

Warning: Read the following before handling electronic parts.

Handling ESD-sensitive parts

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

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

Removal procedures

CAUTION

Remove the power cord from the electrical outlet before you connect or disconnect any cable or electronic board or assembly for personal safety and to prevent damage. Disconnect any connections between the printer and PCs/peripherals.

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

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

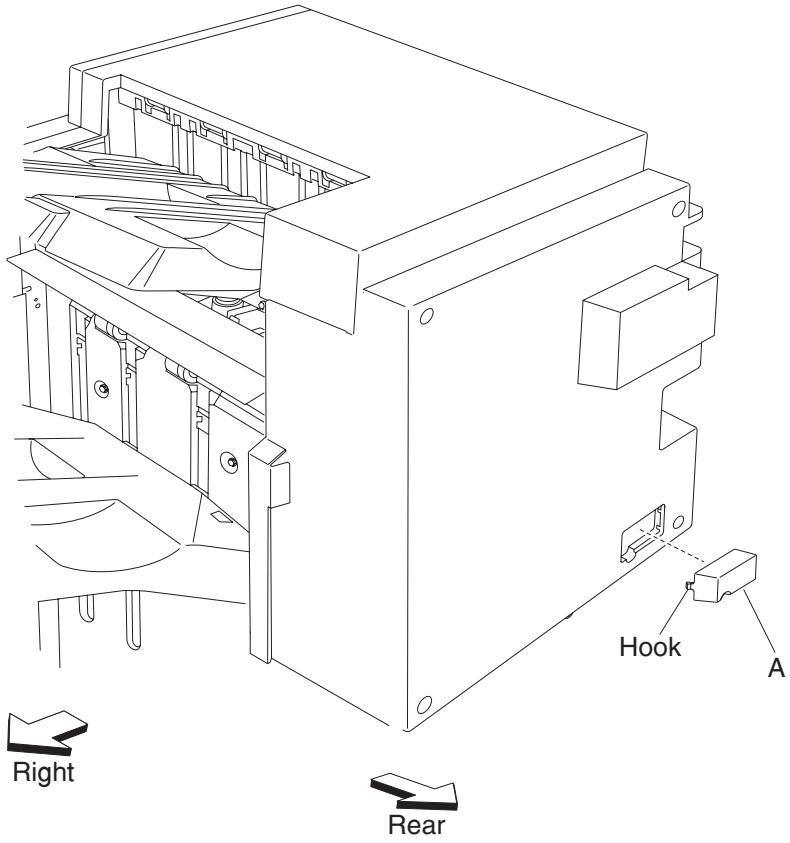
Note: Though the optional parts are assumed to be removed, they may not be removed if not required for the purpose of service.

Before starting service work

- Turn the power off, and remove the power cord from the outlet.
- While performing service around the fuser assembly, ensure the fuser area has cooled down.
- Do not use excessive force to remove parts. Damage to the parts or function of the machine may occur.
- A wide variety of screws are used; make note of their positions during service.
- Wear a wrist band to remove the risk of static electricity.

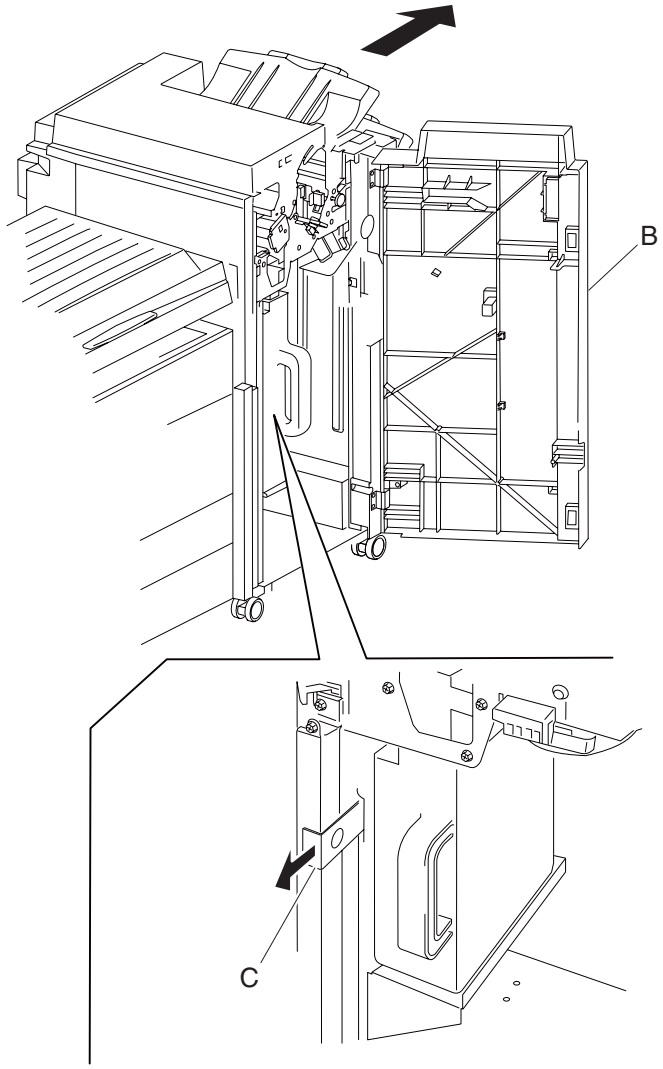
Finisher removal

1. Disconnect the finisher power cord and the finisher connection cable from the rear of the printer.
2. Release the hook securing the bridge unit hookup cover (A) to the finisher.



3. Remove the bridge unit hookup cover (A).
4. Disconnect the bridge unit connection from the finisher.

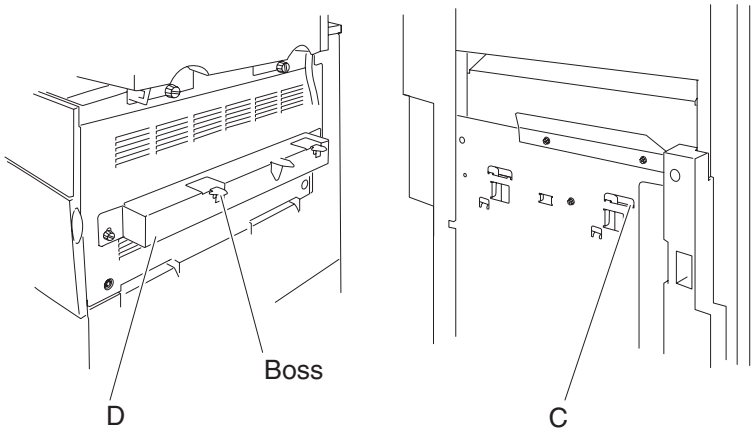
5. Open the finisher front door assembly (B) on the front of the finisher.
6. Pull the finisher docking latch assembly (C) outward in the direction of the arrow, and pull the finisher away from the printer.



7. Close the finisher front door assembly.

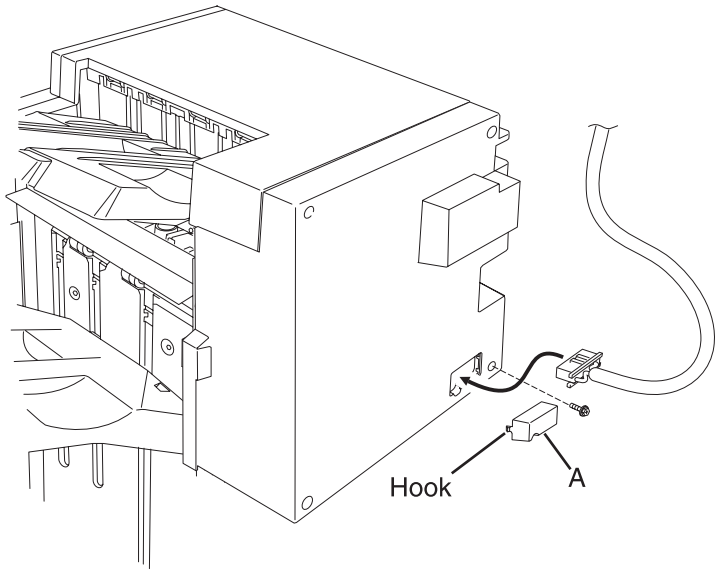
8. Remove the two screws securing the finisher docking bracket (D) to the printer.
9. Remove the finisher docking bracket (D).

   Replacement note: When docking the finisher to the printer, make sure the boss on the finisher docking bracket (D) is inserted into the hole on the finisher docking latch assembly (C). The finisher should be firmly locked into position.



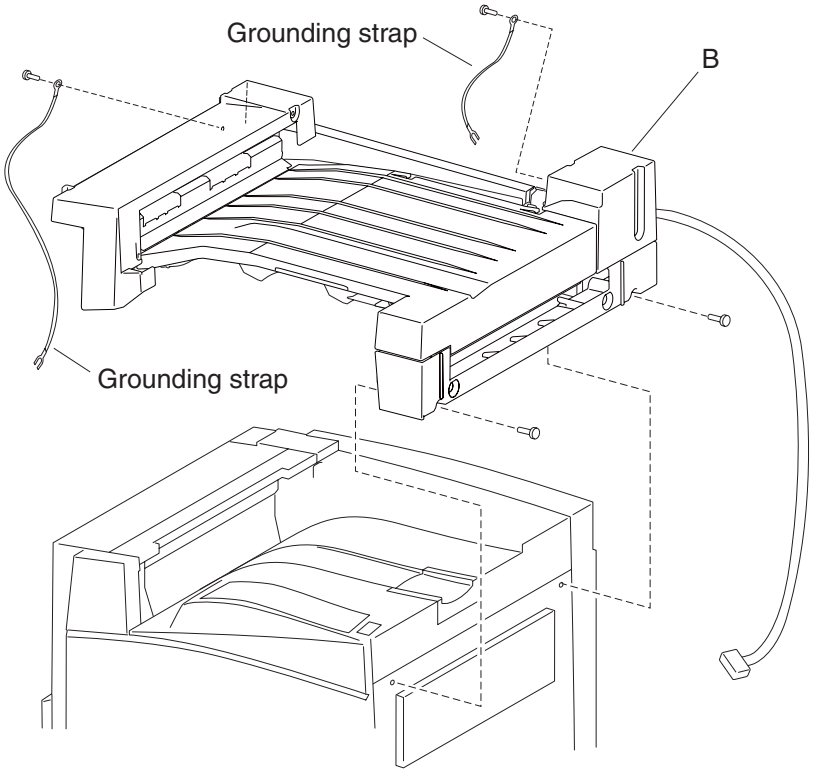
Bridge unit assembly removal

1. Release the hook securing the bridge unit hookup cover (A) to the finisher.
2. Remove the bridge unit hookup cover (A).



3. Remove the finisher from the printer.
4. Remove the two screws securing the bridge unit assembly (B) to the printer.

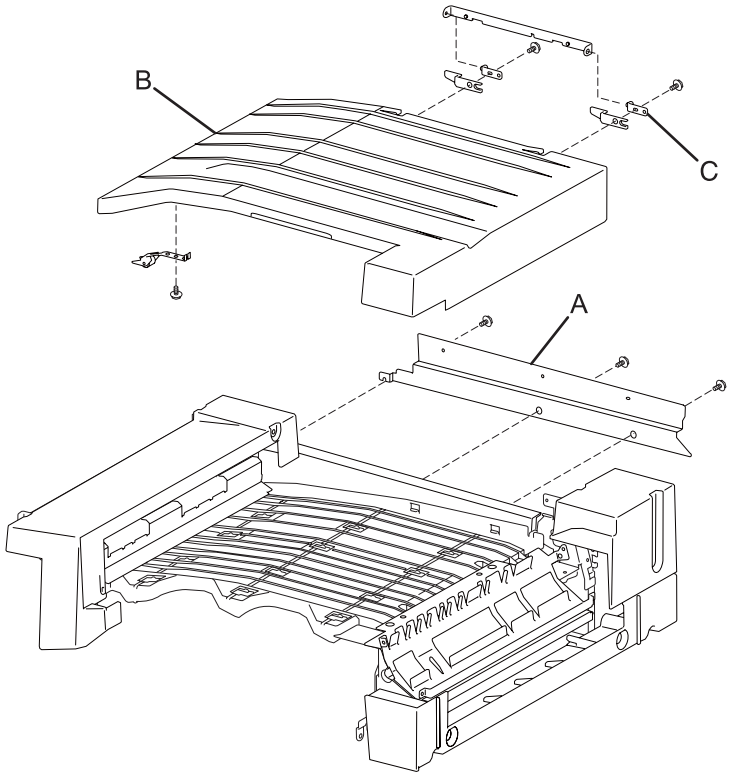
5. Remove the bridge unit assembly (B) from the printer.



Bridge unit top cover removal

1. Remove the bridge unit assembly. See **“Bridge unit assembly removal” on page 4-5**.
2. Remove the bridge unit rear cover. See **“Bridge unit top cover removal” on page 4-6**.
3. Remove the three screws securing the bracket (A) to the machine.
4. Remove the bracket (A).
5. Remove the two screws securing the bridge unit top cover (A) to the assembly.
6. Remove the bridge unit top cover (A).
7. Remove the two screws securing the two small brackets (C) to the bridge unit top cover (A).

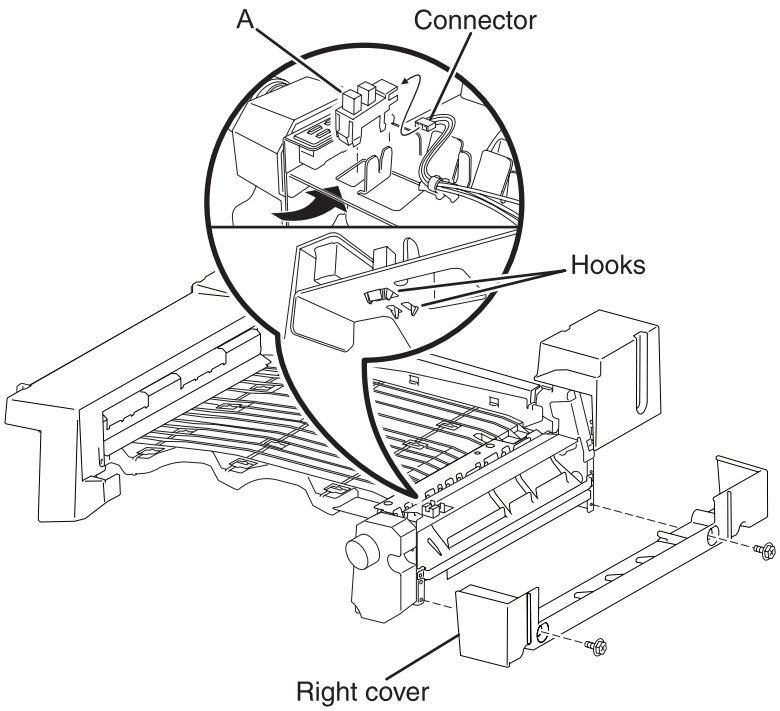
8. Remove the two small brackets (C).



Sensor (bridge unit top cover interlock) removal

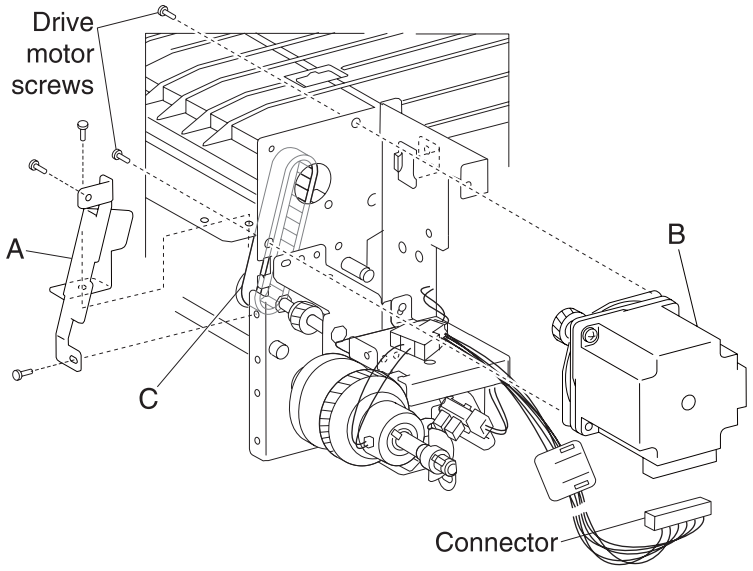
1. Remove the bridge unit assembly. See **“Bridge unit assembly removal” on page 4-5**.
2. Remove the bridge unit right cover. See **“Bridge unit right cover removal” on page 4-11**.
3. Raise the bridge unit top to its full upright position.
4. Release the hooks securing the sensor (bridge unit top cover interlock) (A).
5. Remove the sensor (bridge unit top cover interlock).

6. Disconnect the connector from the sensor (bridge unit top cover interlock) (A).



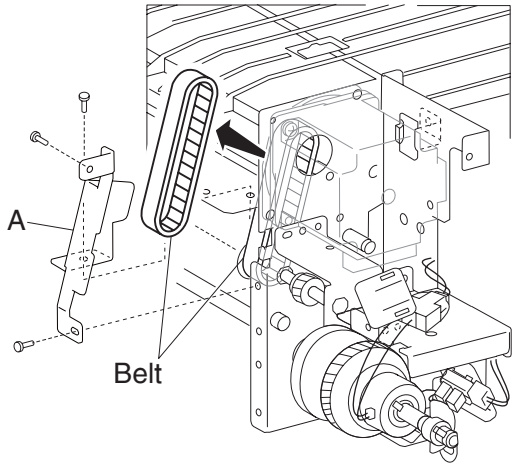
Bridge unit drive motor removal

1. Remove the bridge unit assembly. See **"Bridge unit assembly removal" on page 4-5**.
2. Remove the bridge unit motor cover. See **"Bridge unit motor cover removal" on page 4-11**.
3. Remove the three screws securing the bracket (A) to the assembly.
4. Remove the bracket (A).
5. Remove the two screws securing the bridge unit drive motor (B) to the assembly.
6. Remove the bridge unit drive motor (B).
   Note: When removing the bridge unit drive motor (B), the bridge unit exit/de-curler drive belt (C) will become detached.



Bridge unit exit/de-curler drive belt removal

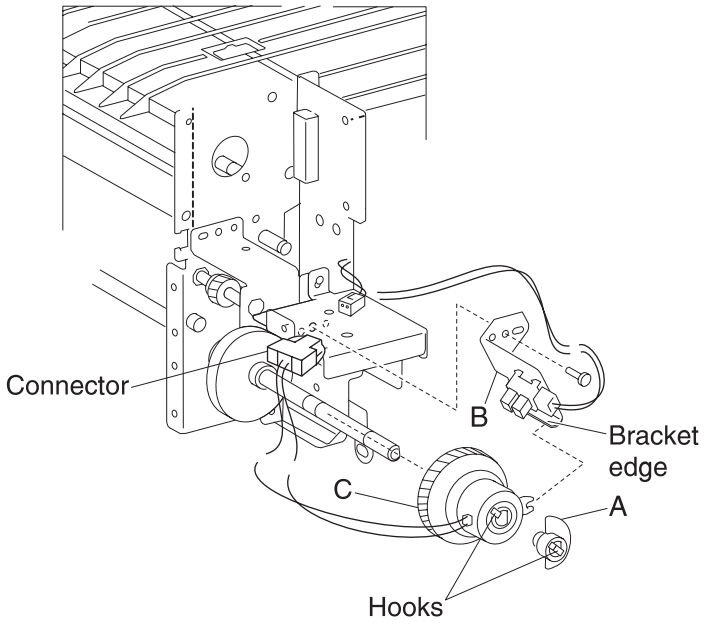
1. Remove the bridge unit assembly. See **"Bridge unit assembly removal" on page 4-5**.
2. Remove the bridge unit right cover. See **"Bridge unit right cover removal" on page 4-11**.
3. Remove the bridge unit motor cover. See **"Bridge unit motor cover removal" on page 4-11**
4. Remove the bridge unit drive motor. See **"Bridge unit drive motor removal" on page 4-8**.
5. Remove the bridge unit exit/de-curler drive belt (A).



De-curler clutch removal

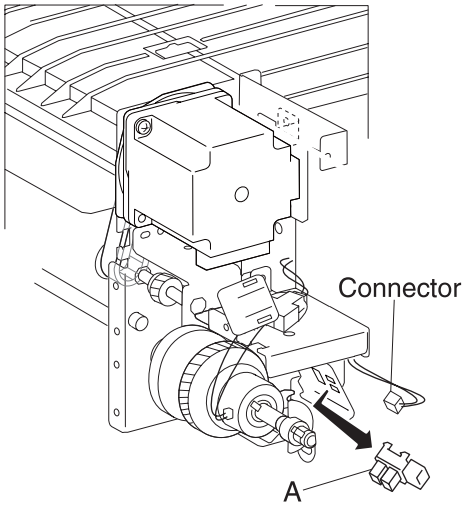
1. Remove the bridge unit assembly. See **"Bridge unit assembly removal" on page 4-5**.
2. Remove the bridge unit right cover. See **"Bridge unit right cover removal" on page 4-11**.
3. Release the hooking the sensor flag (A) to the assembly.
4. Remove the sensor flag (A).
5. Remove the screw securing the bracket (B) to the assembly.
6. Remove the bracket (B).
7. Disconnect the connector from the de-curler clutch (C).
8. Release the hook securing the de-curler clutch (C) to the assembly.
9. Remove the de-curler clutch (C).

Replacement warning: When replacing the de-curler clutch (C), ensure that the hook on the de-curler clutch (C) is captured by the boss on the bracket (B).



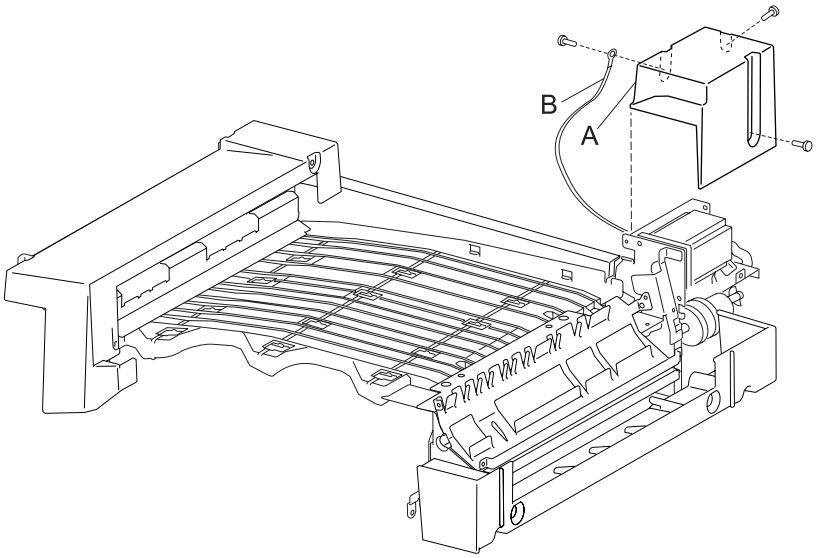
sensor (de-curler cam HP) removal

1. Remove the bridge unit assembly. See **"Bridge unit assembly removal" on page 4-5**.
2. Remove the bridge unit right cover. See **"Bridge unit right cover removal" on page 4-11**.
3. Remove the bridge unit motor cover. See **"Bridge unit motor cover removal" on page 4-11**.
4. Release the hooks securing the sensor (de-curler cam HP) (A) to the assembly.
5. Remove the sensor (de-curler cam HP) (A).
6. Disconnect the connector from the sensor (de-curler cam HP) (A).



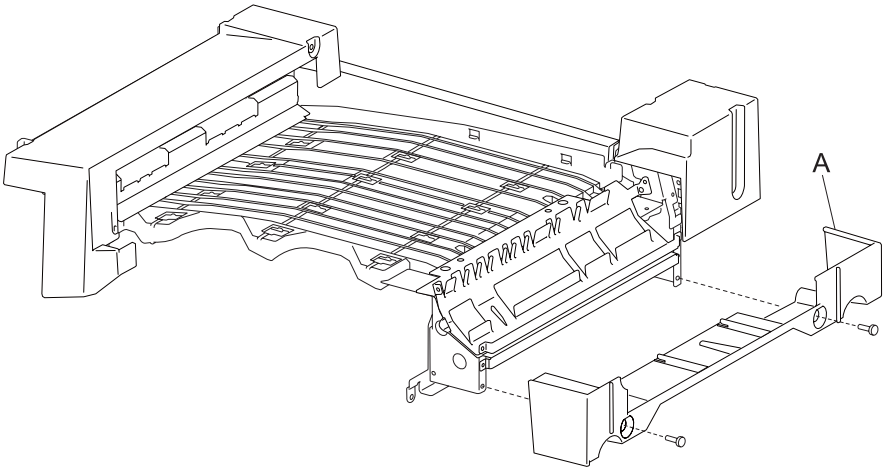
Bridge unit motor cover removal

1. Remove the bridge unit assembly. See **"Bridge unit assembly removal" on page 4-5**.
2. Remove the three screws securing the bridge unit motor unit (A) to the assembly.
3. Remove the bridge unit motor cover (A).
   Note: When removing the bridge unit motor cover (A), the grounding strap (B) will become detached.
   Replacement note: When replacing the bridge unit motor cover (A), ensure that the grounding strap (B) is properly attached or jamming may occur.



Bridge unit right cover removal

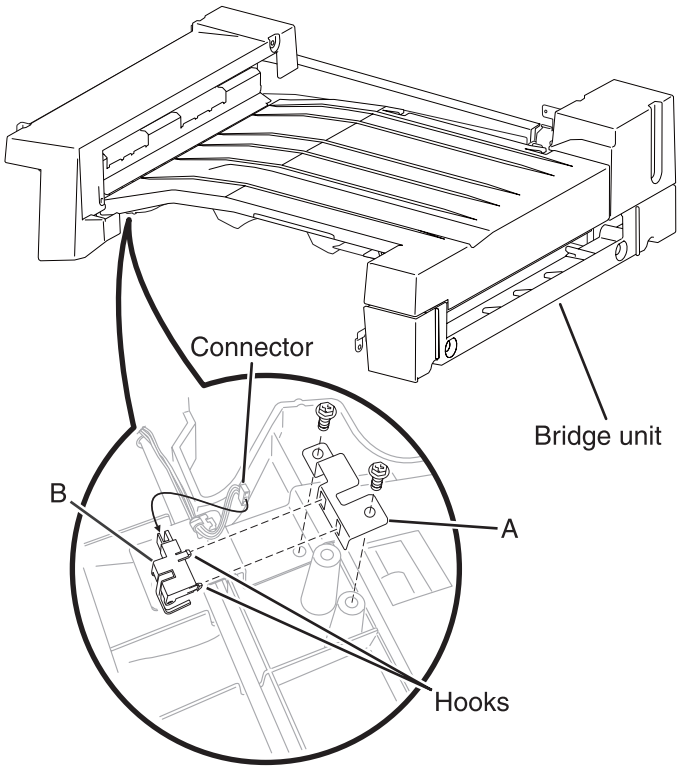
1. Remove the bridge unit assembly. See **"Bridge unit assembly removal" on page 4-5**.
2. Remove two screws securing the bridge unit right cover (A) to the assembly.
3. Remove the bridge unit right cover (A).



Sensor (bridge unit media entrance) removal

1. Remove the bridge unit assembly. See **"Bridge unit assembly removal" on page 4-5**.
2. Place the bridge unit assembly upside down.
3. Remove the screw securing the bracket (A) to the bridge unit assembly (B).
4. Disconnect the connector from the sensor (bridge unit media entrance) (C).

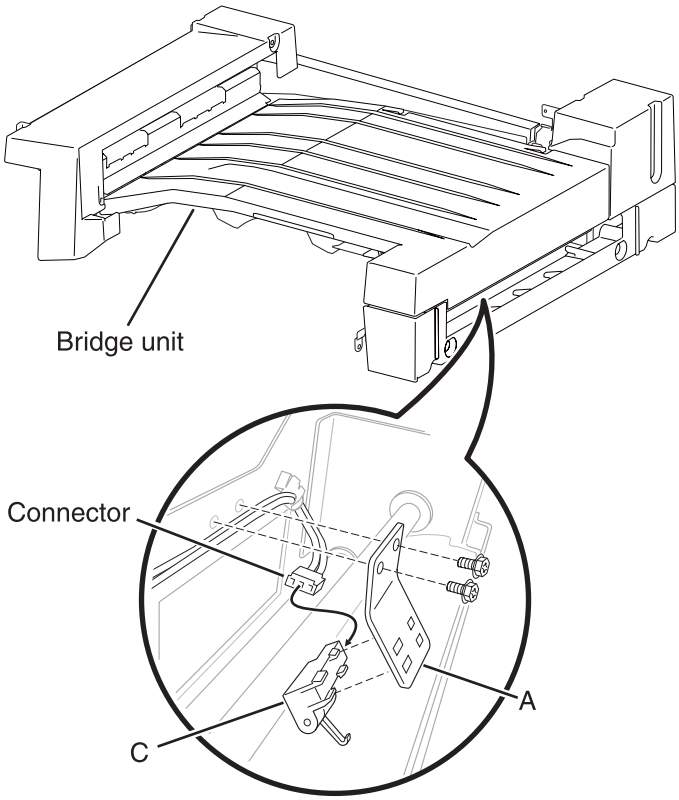
5. Release the hooks securing the sensor (bridge unit media entrance) (C) to the bracket (A).
6. Remove the sensor (bridge unit media entrance) (C).



Sensor (bridge unit media exit) removal

1. Remove the bridge unit assembly. See **"Bridge unit assembly removal" on page 4-5**.
2. Remove the bridge unit right cover. See **"Bridge unit right cover removal" on page 4-11**.
3. Place the bridge unit upside down.
4. Remove two screws securing the bracket (A) to the bridge unit (B).
5. Disconnect the connector from the sensor (bridge unit media exit) (C).
6. Release the hooks securing the sensor (bridge unit media exit) (C) to the bracket (A).

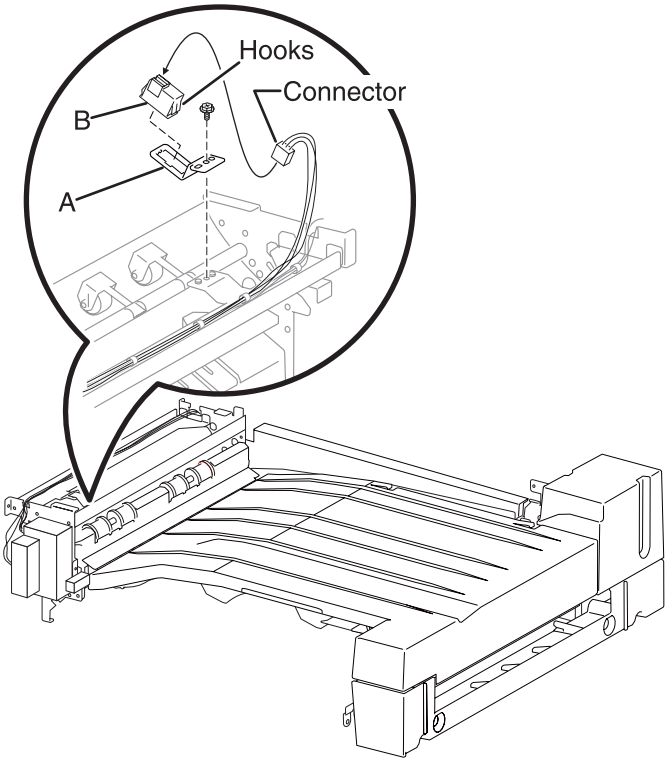
7. Remove the sensor (bridge unit media exit) (C).



Sensor (bridge unit bin exit) removal

1. Remove the bridge unit assembly. See **"Bridge unit assembly removal" on page 4-5**.
2. Remove the bridge unit left cover. See **"Bridge unit left cover removal" on page 4-17**.
3. Remove the screw securing the bracket (A) to the assembly.
4. Remove the bracket (A).
5. Disconnect the connector from the sensor (bridge unit bin exit) (B).
6. Release the hooks securing the sensor (bridge unit bin exit) (B) to the bracket (A).

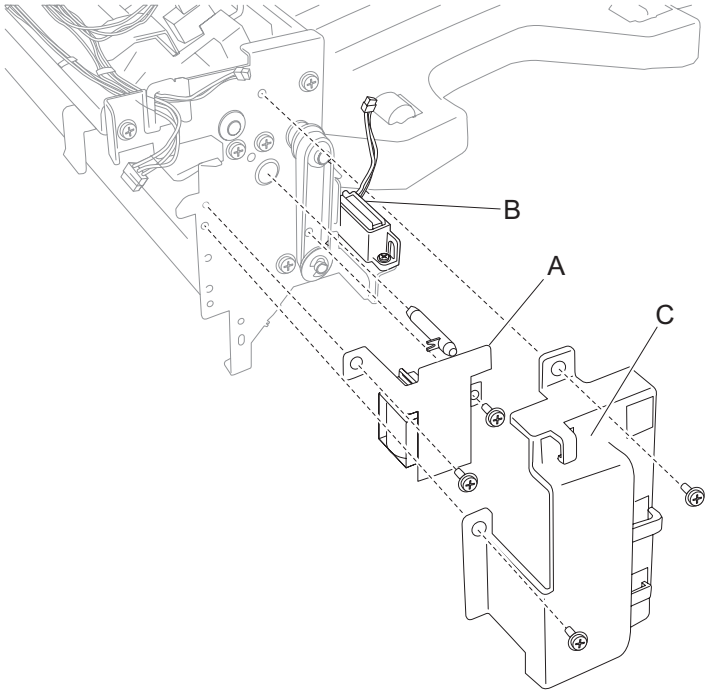
7. Remove the sensor (bridge unit bin exit) (B).



Bridge unit diverter gate solenoid removal

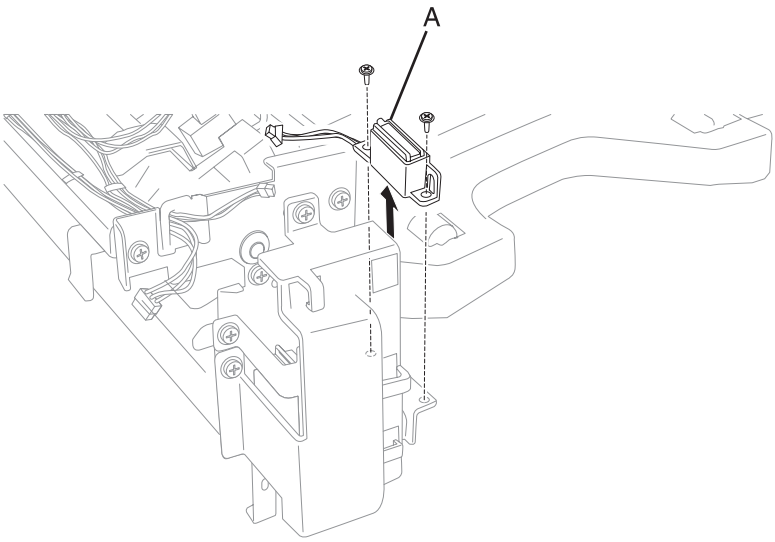
1. Remove the bridge unit assembly. See **“Bridge unit assembly removal” on page 4-5**.
2. Remove the bridge unit left cover. See **“Bridge unit left cover removal” on page 4-17**.
3. Disconnect the connector from the bridge unit diverter gate solenoid (A).
4. Disconnect the connector from the switch (bridge unit top cover interlock) (B).
5. Release the harnesses from clamps.
6. Remove the two screws securing the plastic cover (C) to the assembly.
7. Remove the plastic cover (C).
8. Remove the two screws securing the bridge unit diverter gate solenoid (A) to the assembly.

9. Remove the bridge unit diverter gate solenoid (A).



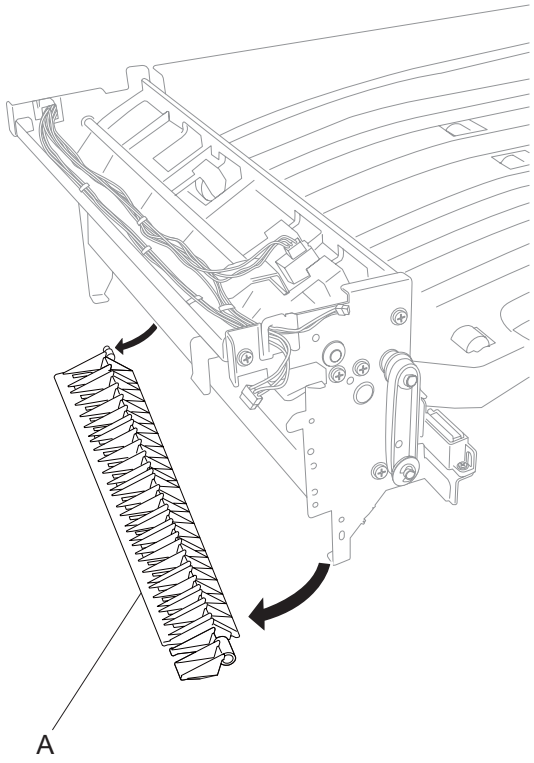
Switch (bridge unit top cover interlock) removal

1. Remove the bridge unit assembly. See **“Bridge unit assembly removal” on page 4-5**.
2. Remove the bridge unit left cover. See **“Bridge unit left cover removal” on page 4-17**.
3. Disconnect the connector from the switch (bridge unit top cover interlock) (A).
4. Release the harness from clamp.
5. Remove the screw securing the bracket (B) to the assembly.
6. Remove the bracket (B).
7. Remove the two screws securing the switch (bridge unit top cover interlock) (A) to the bracket (B).
8. Remove the switch (bridge unit top cover interlock) (A).



Bridge unit diverter gate removal

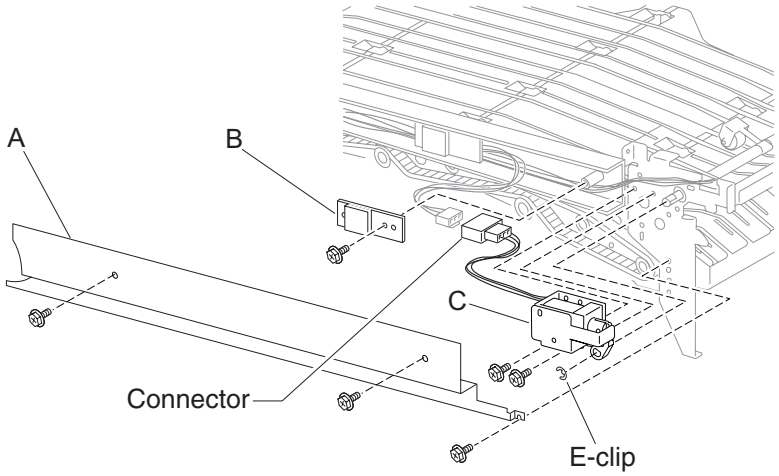
1. Remove the bridge unit assembly. See **"Bridge unit assembly removal" on page 4-5**.
2. Remove the bridge unit left cover. See **"Bridge unit left cover removal" on page 4-17**.
3. Remove the bridge unit diverter gate solenoid. See **"Bridge unit diverter gate solenoid removal" on page 4-14**.
4. Gently pull the bridge unit diverter gate (A) out of the assembly.
5. Remove the bridge unit diverter gate (A).



Bridge unit bin media exit solenoid removal

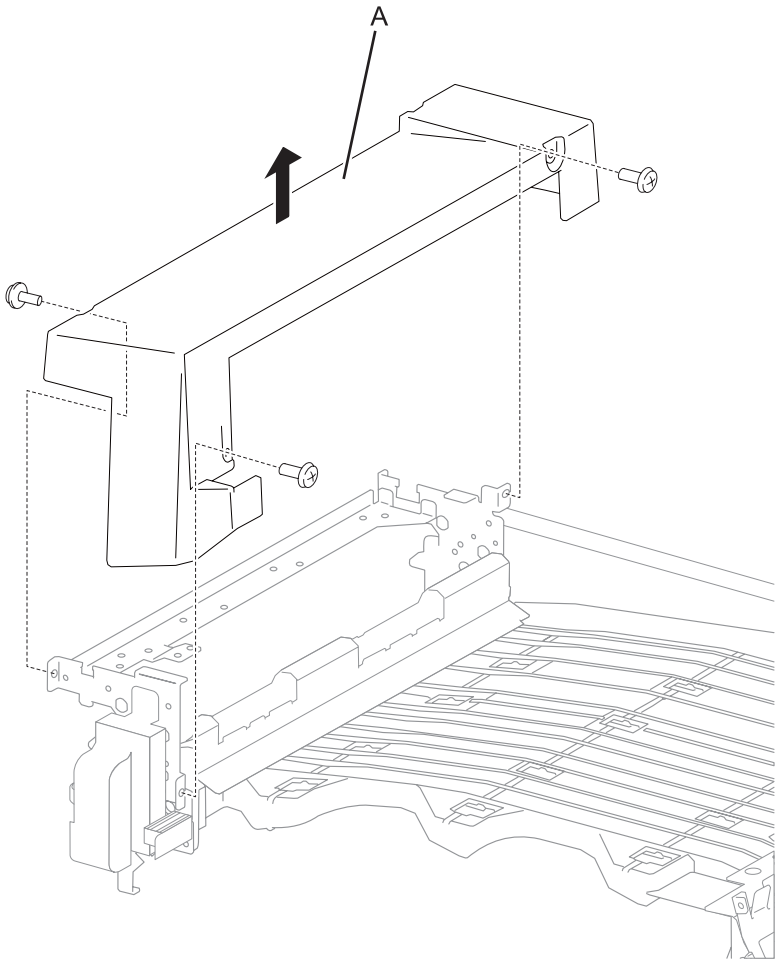
1. Remove the bridge unit assembly. See **"Bridge unit assembly removal" on page 4-5**.
2. Remove the bridge unit left cover. See **"Bridge unit left cover removal" on page 4-17**.
3. Remove the three screws securing the bracket (A) to the assembly.
4. Remove the bracket (A) from the assembly.
5. Remove the screw securing the plastic cover (B) to the assembly.
6. Remove the plastic cover (B).
7. Remove the E-clip securing the Bridge unit bin media exit solenoid (C) to the shaft.
8. Remove the two screws securing the Bridge unit bin media exit solenoid (C) to the assembly.
9. Remove the Bridge unit bin media exit solenoid (C).

10.Disconnect the connector from the Bridge unit bin media exit solenoid (C).



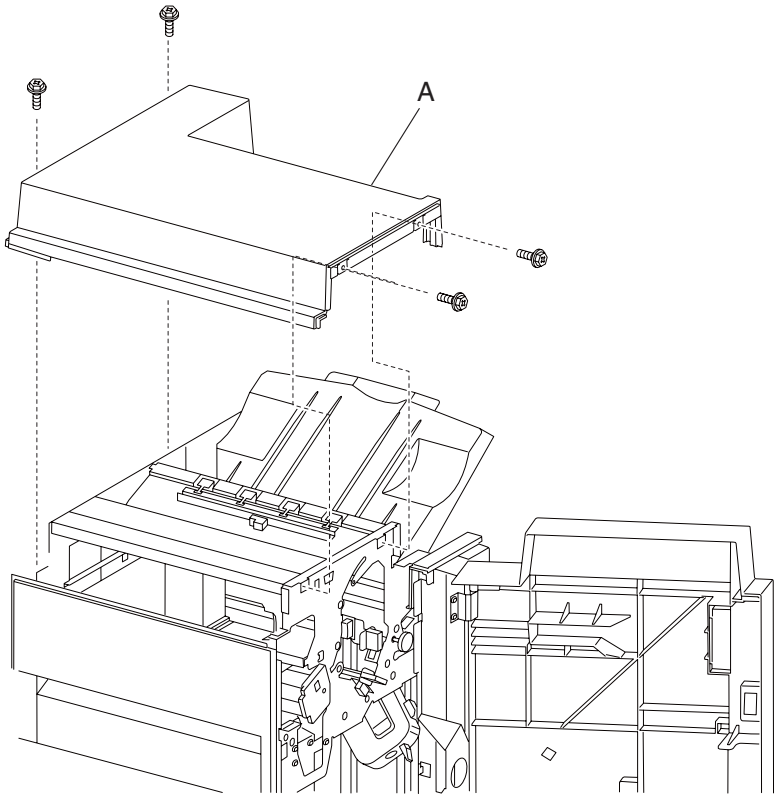
Bridge unit left cover removal

1. Remove the bridge unit assembly. See **“Bridge unit assembly removal” on page 4-5**.
2. Raise the bridge unit top cover to its full upright position.
3. Remove the three screws securing the bridge unit left cover (A) to the assembly.
4. Remove the bridge unit left cover (A).



Top cover removal

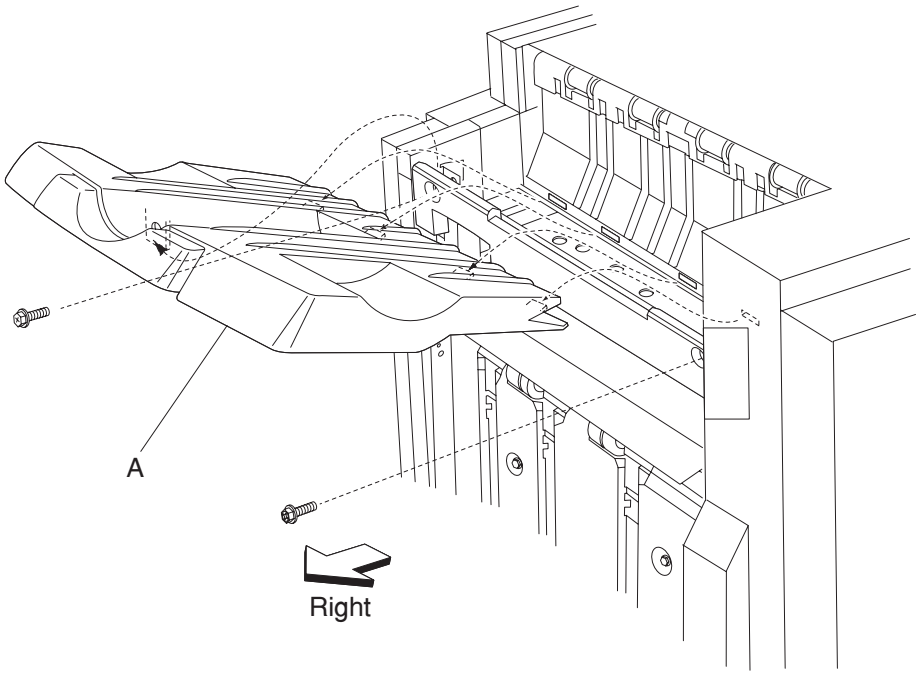
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
3. Remove the upper media bin assembly. See **“Upper media bin assembly removal” on page 4-19**.
4. Remove the four screws securing the top cover (A) to the finisher.



5. Remove the top cover (A).

Upper media bin assembly removal

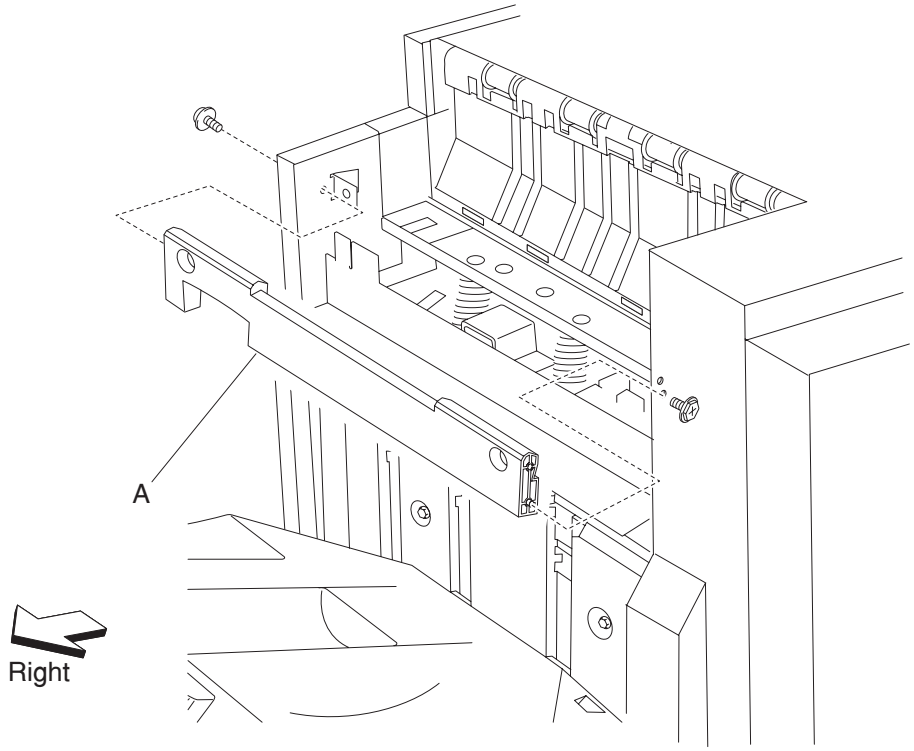
1. Loosen the two screws securing the upper media bin assembly (A) to the finisher.



2. Lift the upper media bin assembly (A) upward in the direction of the arrow.
3. Remove the upper media bin assembly (A).

Right eject cover removal

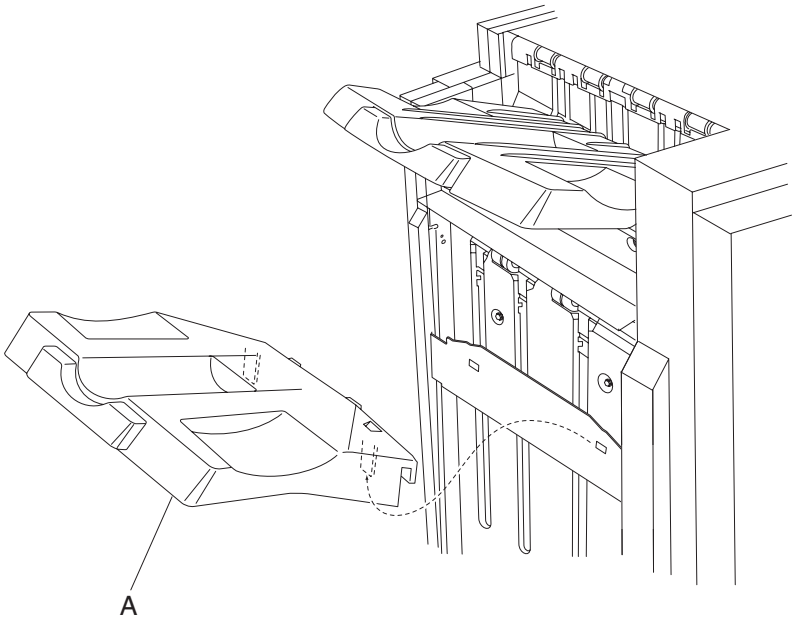
1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the two screws securing the right eject cover (A) to the finisher.



4. Remove the right eject cover (A).

Stacker media bin assembly removal

1. Release the two hooks securing the stacker media bin assembly (A) to the finisher.

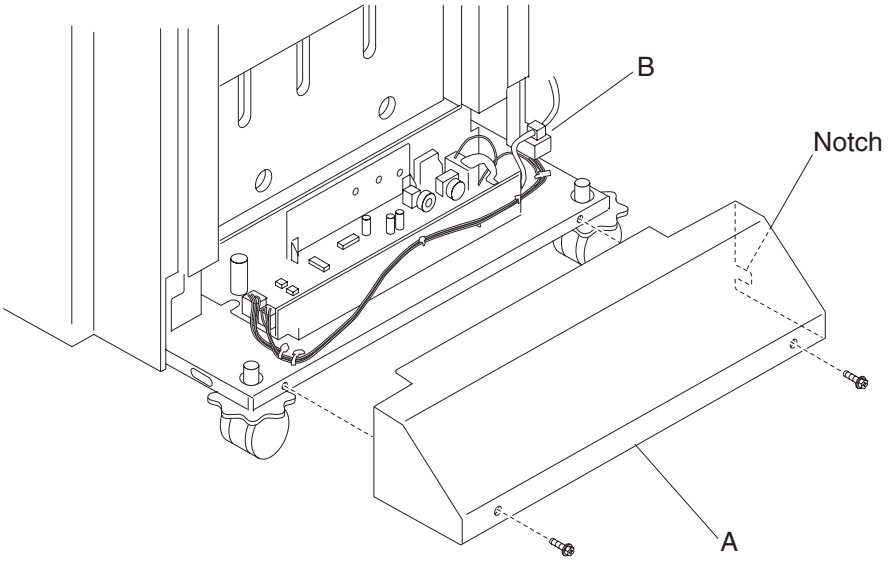


2. Lift the stacker media bin assembly (A) upward.
3. Remove the stacker media bin assembly. (A).

Right lower low voltage power supply (LVPS) cover removal

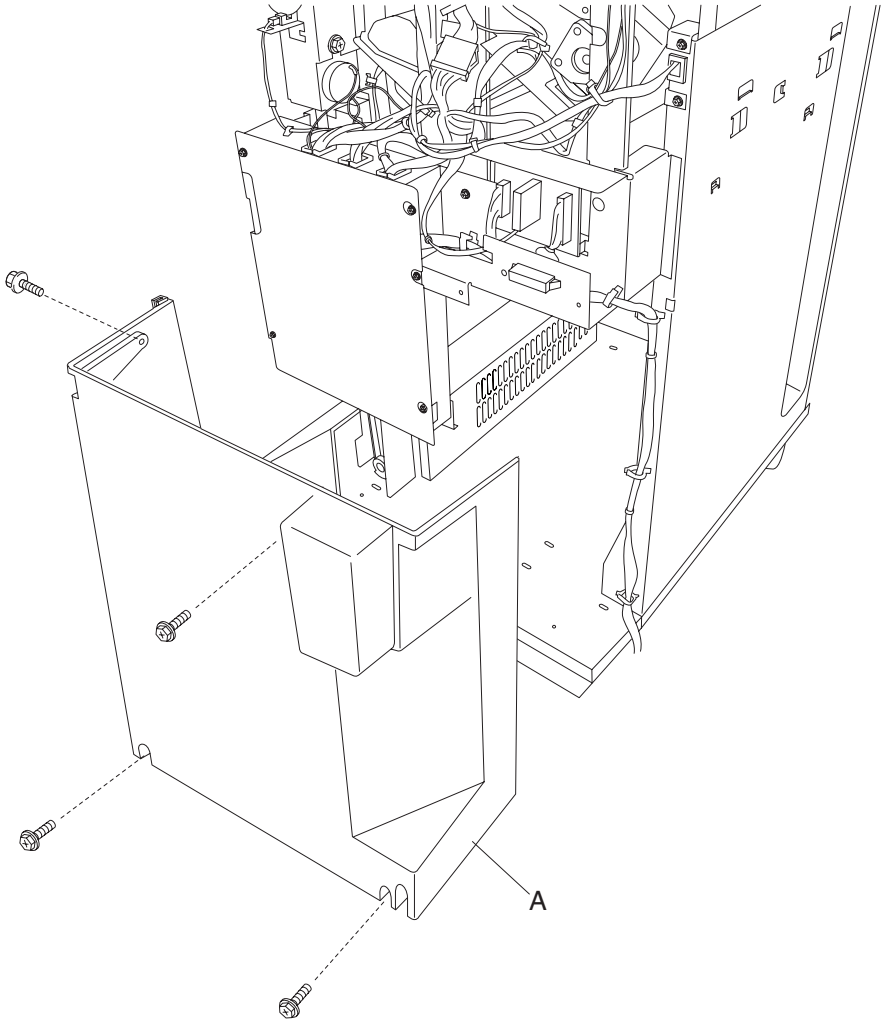
1. Remove the two screws securing the right lower LVPS cover (A) to the finisher.
2. Remove the right lower LVPS cover (A).

   Replacement note: Make sure to put the power cord (B) into the notch on the right lower LVPS cover (A).



Rear lower cover removal

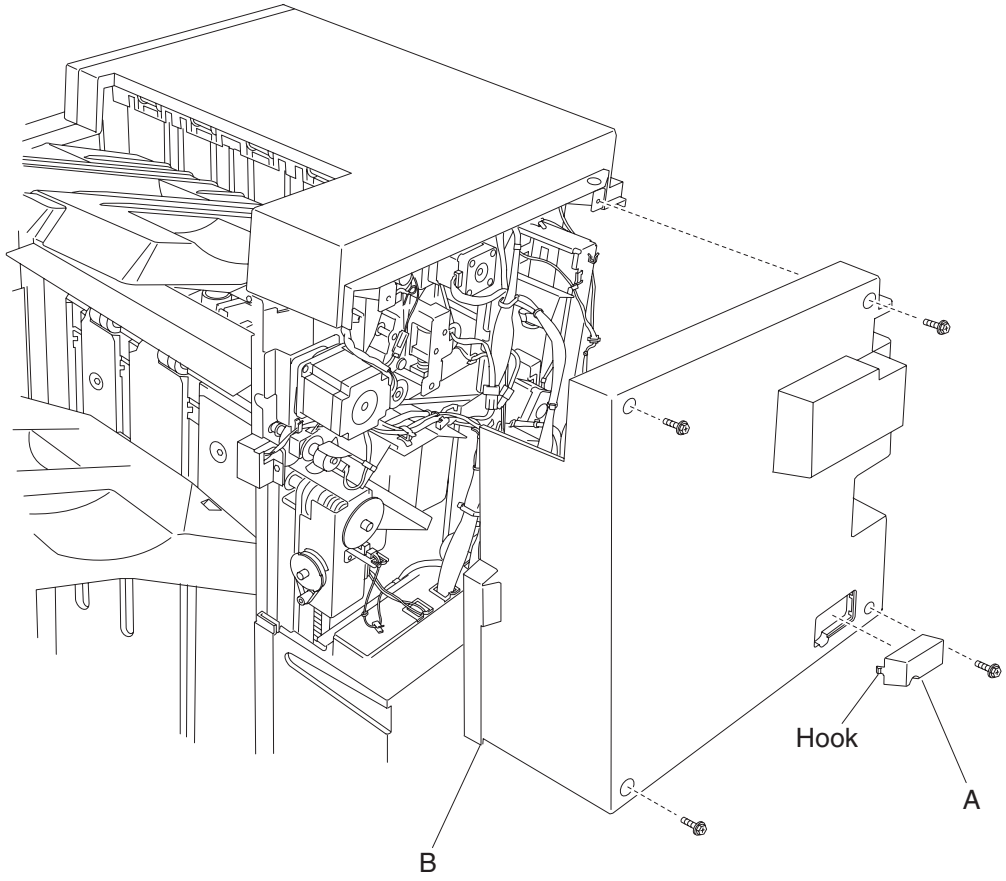
1. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
2. Remove the four screws securing the rear lower cover (A) to the finisher.



3. Remove the rear lower cover (A).

Rear upper cover removal

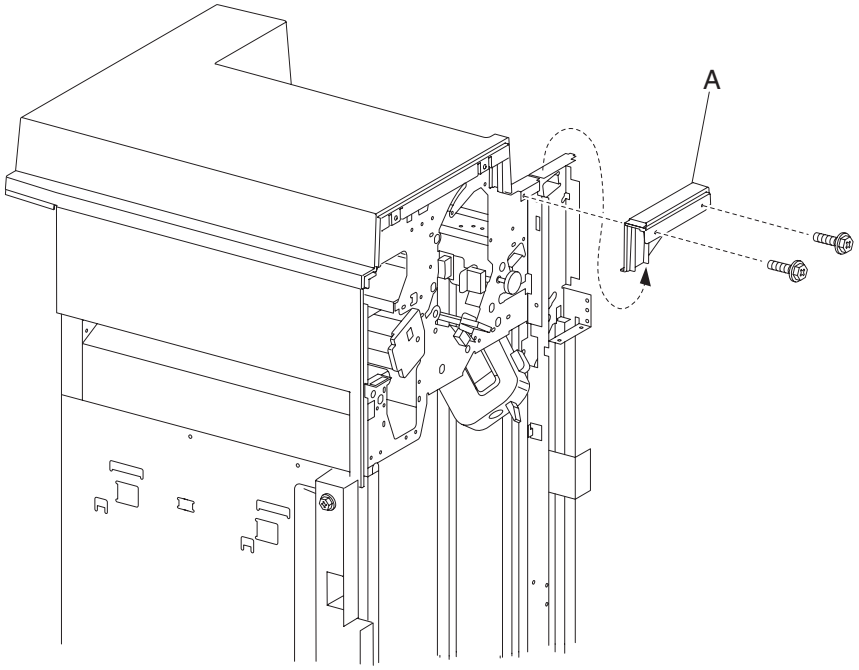
1. Release the hook of the bridge unit hookup cover (A) to the finisher.
2. Disconnect the bridge unit harness from the finisher.
3. Remove the four screws securing the rear upper cover (B) to the finisher.



4. Remove the rear upper cover (B).

Upper media bin front cover removal

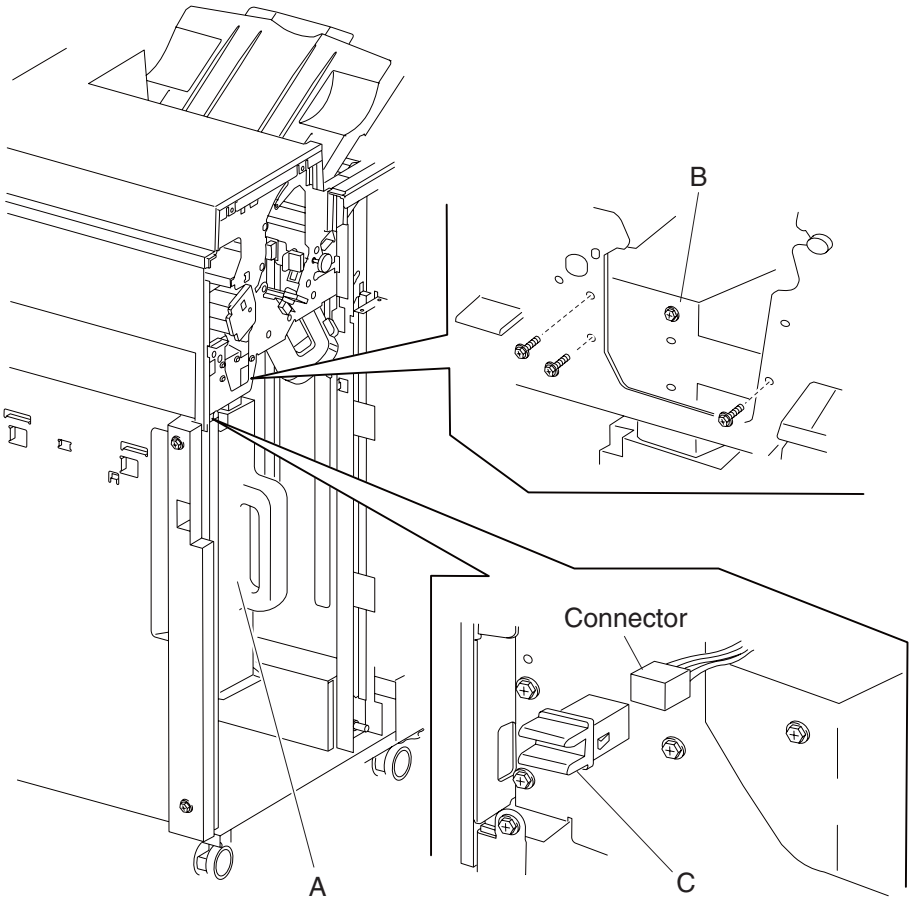
1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
3. Remove the two screws securing the upper media bin front cover (A).



4. Remove the upper media bin front cover (A).

Switch (finisher front door interlock) removal

1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
3. Remove the punch waste box (A).
4. Remove the three screws in the front securing the punch waste chute (B).
5. Gently pull down the punch waste chute (B) to gain better access to the switch (finisher front door interlock) (C).
6. Disconnect the connector from the switch (finisher front door interlock) (C).

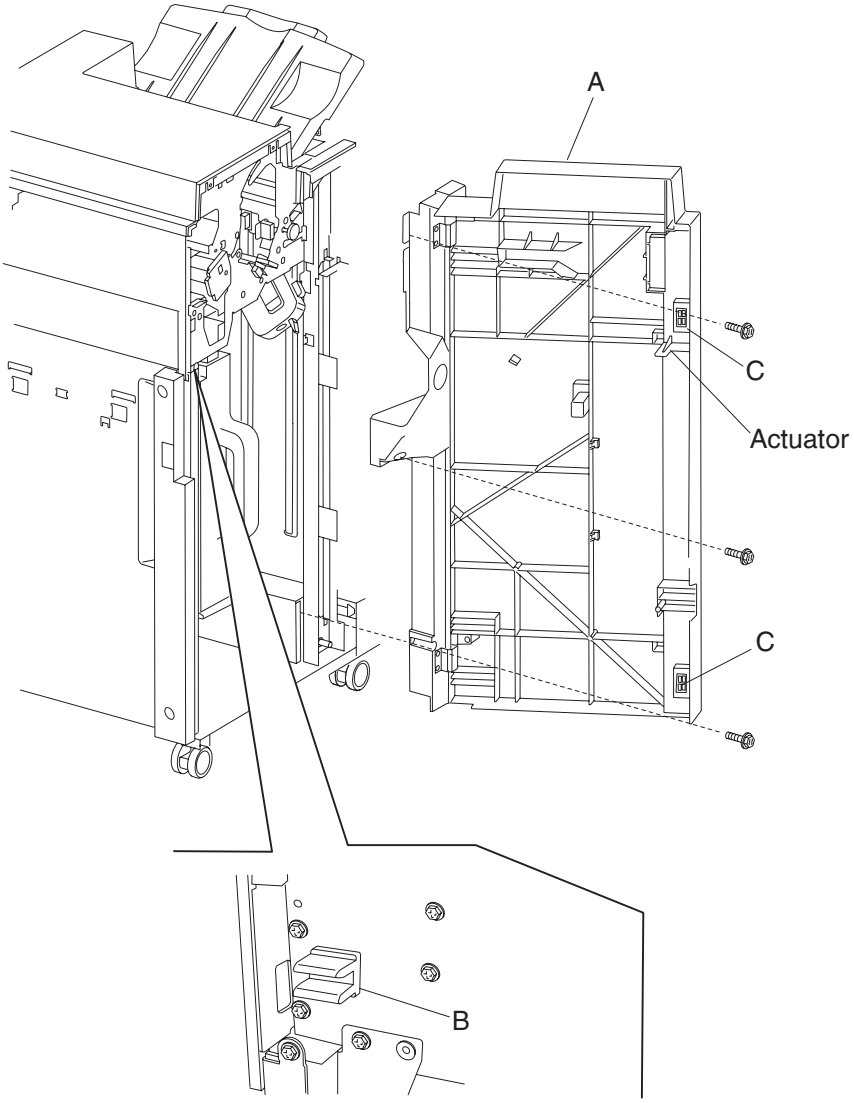


7. Release the hooks securing the switch (finisher front door interlock) (C) to the finisher.
8. Remove the switch (finisher front door interlock) (C).

Finisher front door assembly removal

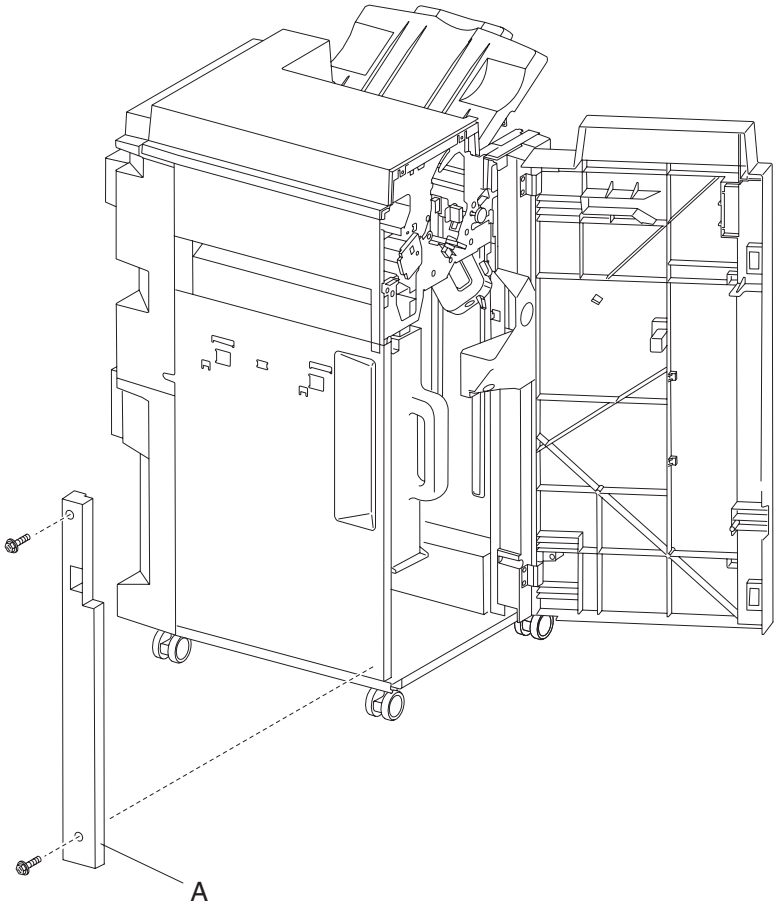
1. Open the finisher front door assembly (A).
2. Remove the three screws securing the finisher front door assembly.
3. Remove the finisher front door assembly.

   Replacement note: Make sure the actuator molded in the finisher front door assembly properly engages the switch (finisher front door interlock) (B). The two magnetic catches (C) should properly engage the finisher.



Left lower cover removal

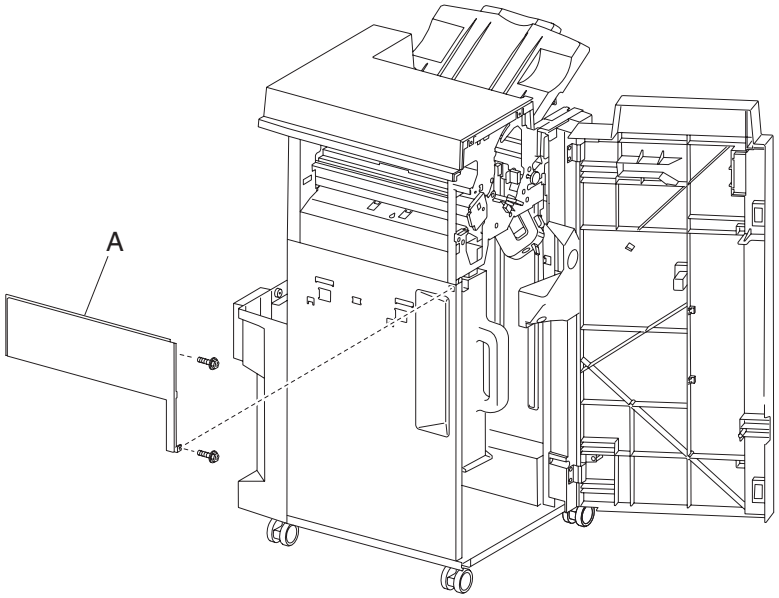
1. Open the finisher front door assembly.
2. Remove the two screws securing the left lower cover (A).



3. Remove the left lower cover (A).

Left upper cover removal

1. Open the finisher front door assembly.
2. Remove the two screws securing the left upper cover (A).

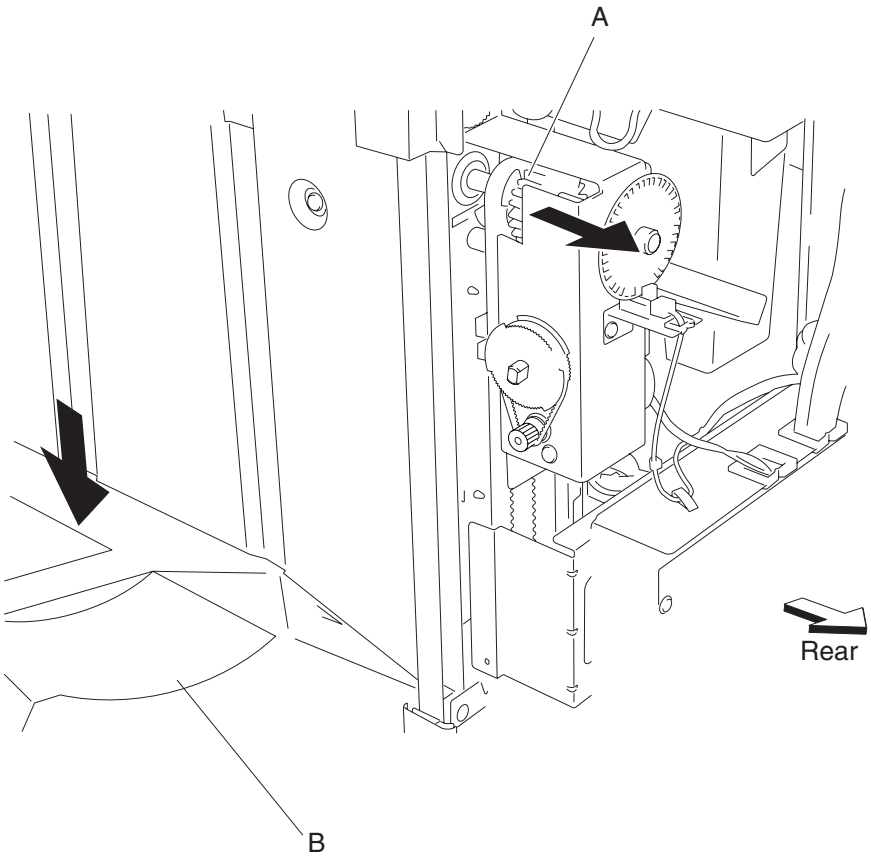


3. Remove the left upper cover (A).

Carriage lift belt left removal

1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
3. Move the slip clutch gear 24T (A) toward the rear to disengage the stacker bin (B).
4. Move the stacker bin (B) down to its lowest position after being disengaged.

   Note: Make sure the stacker bin is at its lowest position before continuing.

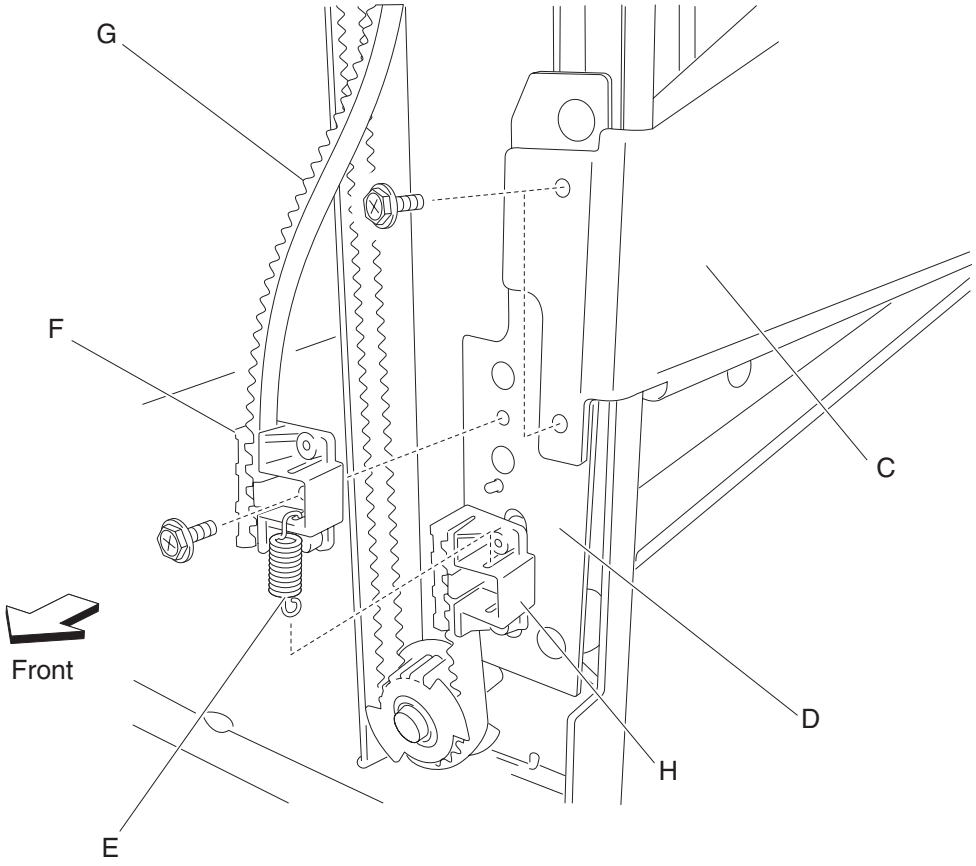


5. Remove the two screws securing the bin bracket (C) to the left carriage bracket (D).
6. Remove the spring (E) from the left carriage lift assembly.
7. Remove the screw securing the upper belt clamp (F) to the left carriage bracket (D).
8. Remove the upper belt clamp (F).
9. Remove the left carriage bracket with the carriage lift belt (G) from the finisher.
10. Release the hook securing the carriage lift belt (G) to the lower belt clamp (H).
11. Remove the carriage lift belt (G).

    Replacement notes:

    • Make sure the carriage lift belt (G) is inserted into the upper belt clamp (F) as shown.

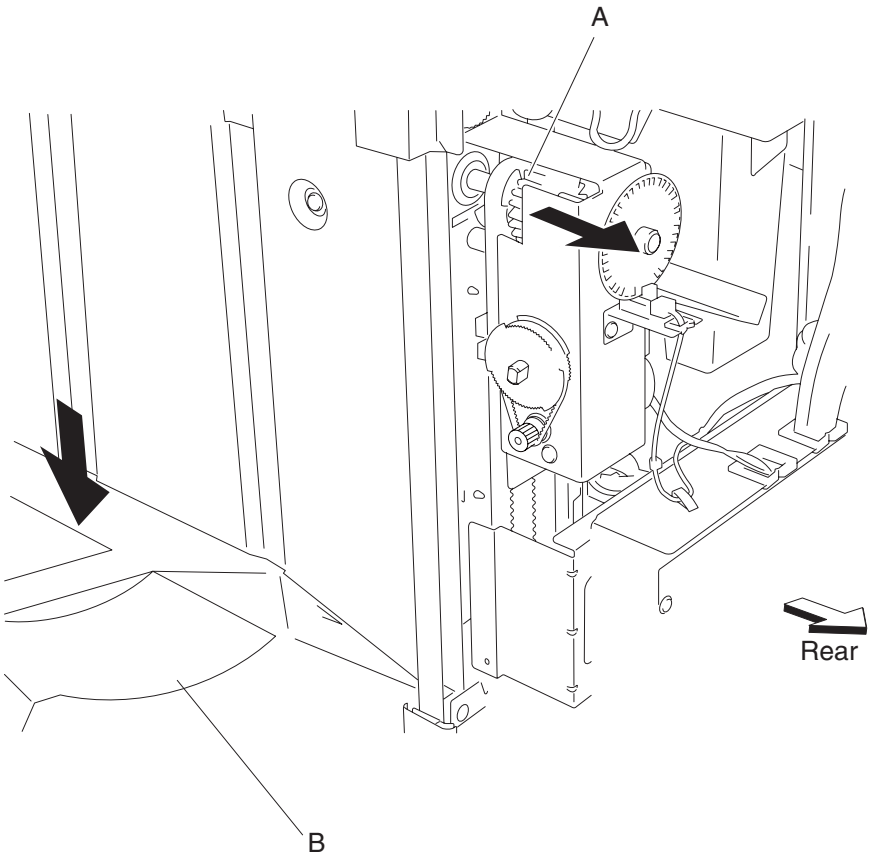
    • Make sure the bin bracket (C) is level to prevent binding.



Carriage lift belt right removal

1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
3. Move the slip clutch gear 24T (A) toward the rear to disengage the stacker bin (B).
4. Move the stacker bin (B) to its lowest position.

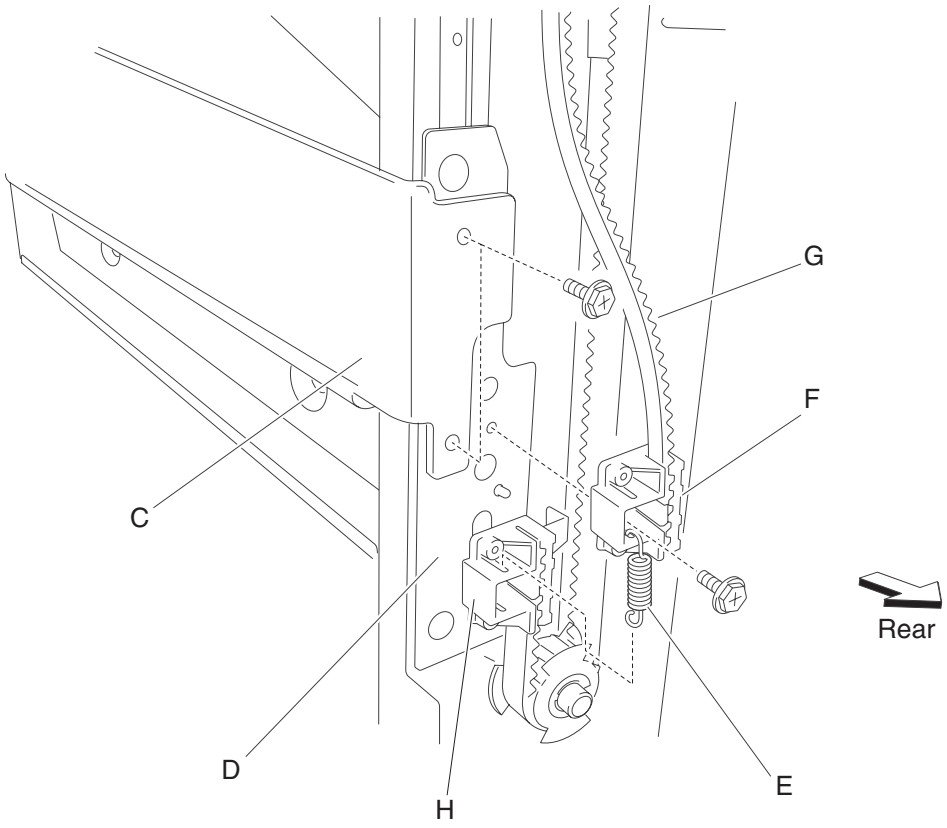
   Note: Make sure the stacker bin is at the lowest position before continuing.



5. Remove the two screws securing the bin bracket (C) to the right carriage bracket (D).
6. Remove the spring (E) from the right carriage bracket (D).
7. Remove the screw securing the upper belt clamp (F) to the right carriage bracket (D).
8. Remove the upper belt clamp (F).
9. Remove the right carriage bracket (D) with the carriage lift belt (G) from the finisher.
10. Release the hook securing the carriage lift belt (G) to the lower belt clamp (H).
11. Remove the carriage lift belt (G).

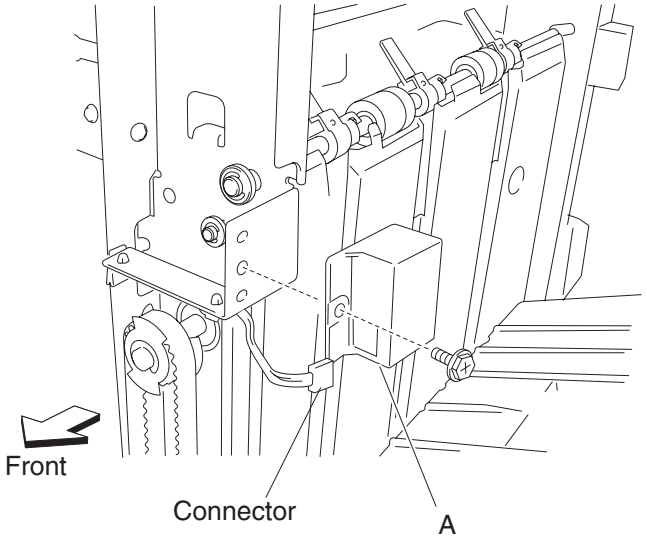
Replacement notes:

- Make sure the carriage lift belt (G) is inserted into the upper belt clamp (F) as shown.
- Make sure the bin bracket (C) is level to prevent binding.



Sensor (stacker bin level 1) removal

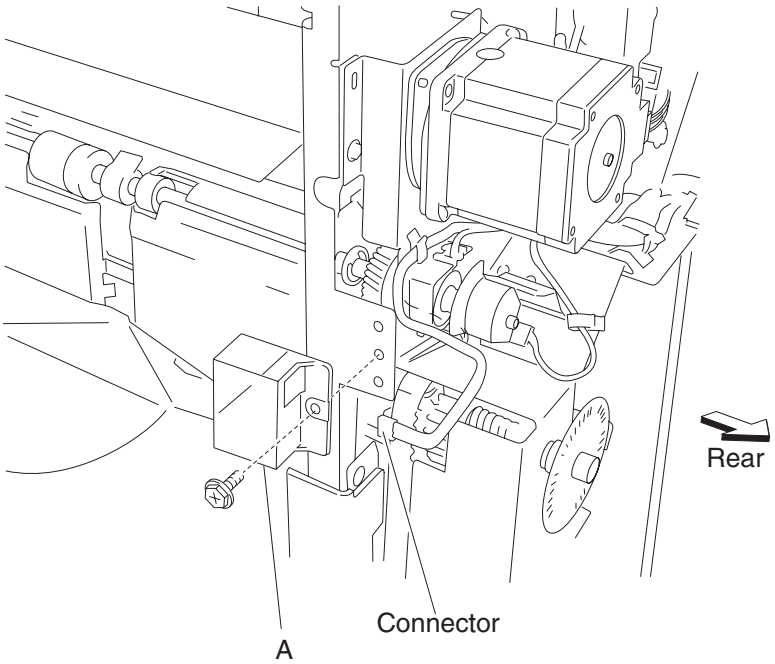
1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Disconnect the connector from the sensor (stacker bin level 1) (A).



4. Remove the screw securing the sensor (stacker bin level 1) (A) to the finisher.
5. Remove the sensor (stacker bin level 1) (A).

Sensor (stacker bin level 2) removal

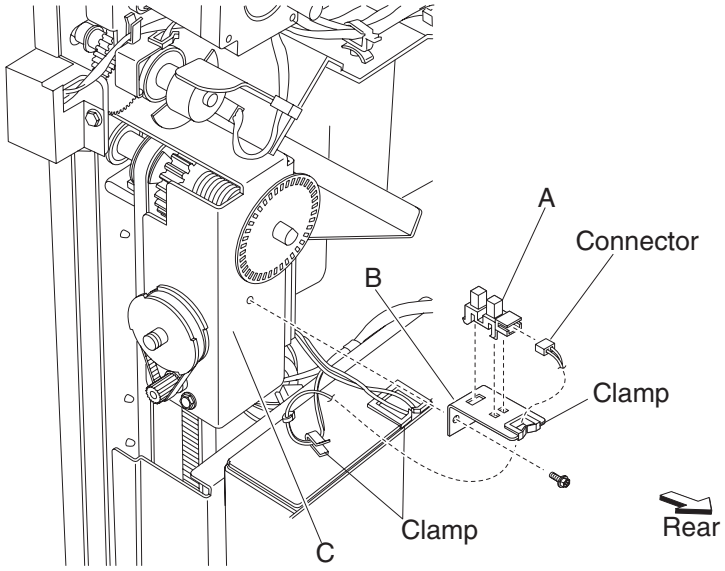
1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Disconnect the connector from the lift tray height sensor (stacker bin level 2) (A).



4. Remove the screw securing the sensor (stacker bin level 2) (A).
5. Remove the sensor (stacker bin level 2) (A).

Sensor (stacker bin level encoder) removal

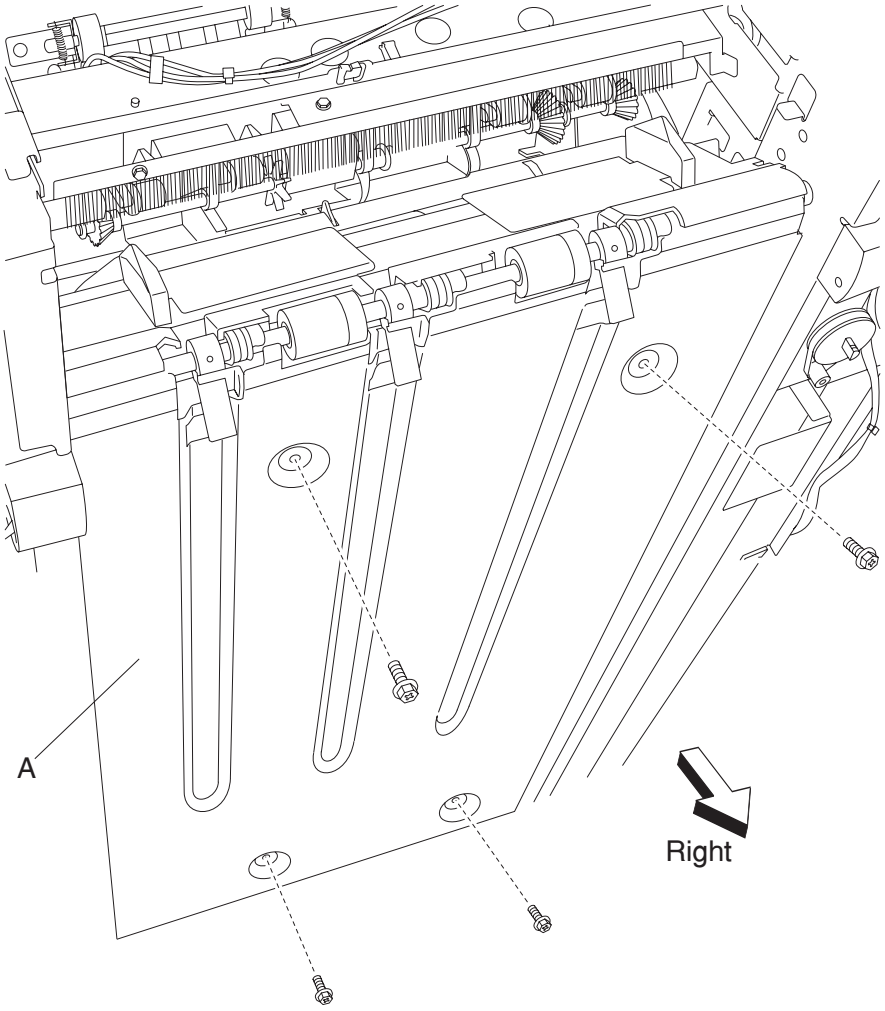
1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Disconnect the connector from the sensor (stacker bin level encoder) (A).
3. Release the harness from the clamp.
4. Remove the screw securing the bracket (B) from the stacker bin lift motor assembly (C).



5. Release the hooks securing the sensor to the bracket (B).
6. Remove the sensor (stacker bin level encoder) (A).

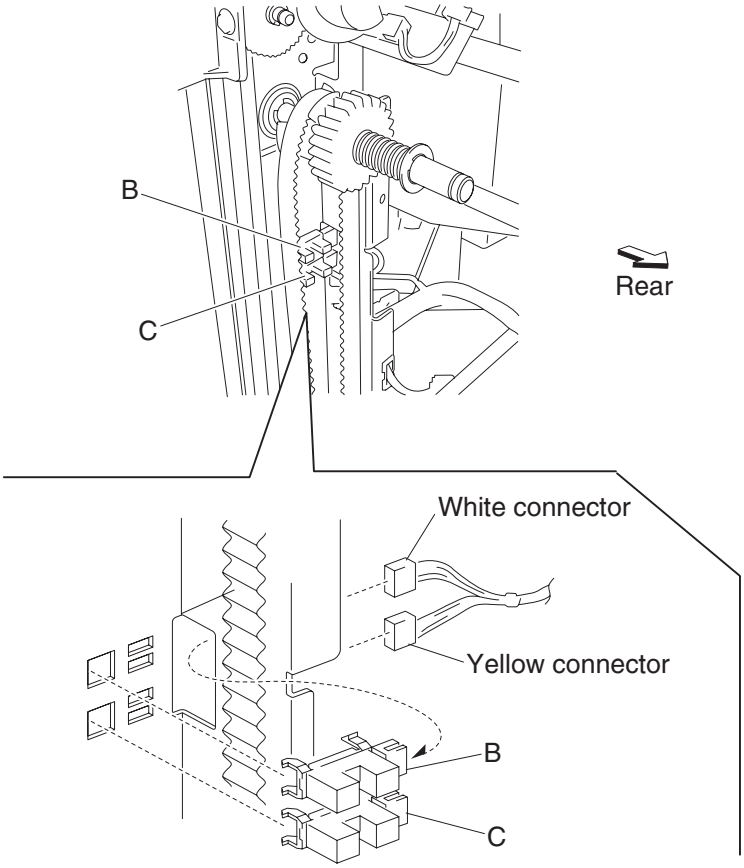
Sensor (stacker bin upper limit) or sensor (stacker bin no media) removal

1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Remove the rear lower cover. See **"Rear lower cover removal" on page 4-22**.
3. Remove the stacker media bin assembly. See **"Stacker media bin assembly removal" on page 4-21**.
4. Remove the stacker bin lift motor assembly. See **"Stacker bin lift motor assembly removal" on page 4-37**.
5. Remove the four screws securing the metal cover (A) to the finisher.
6. Remove the metal cover (A).



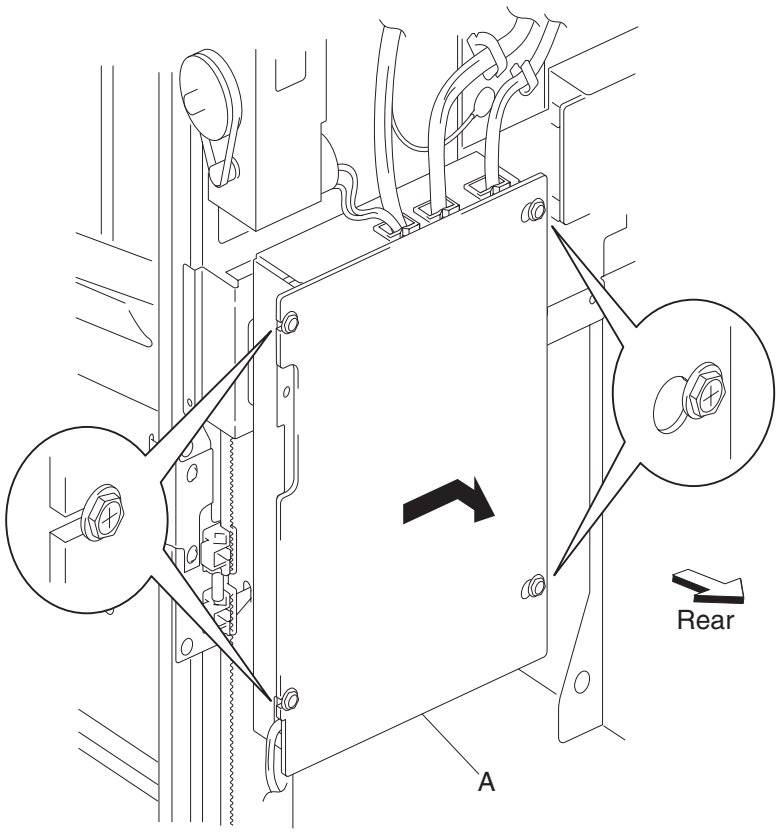
7. Disconnect the connector from the sensor (stacker bin upper limit) (B) or the sensor (stacker bin no media) (C).
8. Release the hooks of the selected sensor.
9. Remove the sensor.

Replacement note: Make sure that the yellow connector is plugged into the sensor (stacker bin no media) (C).



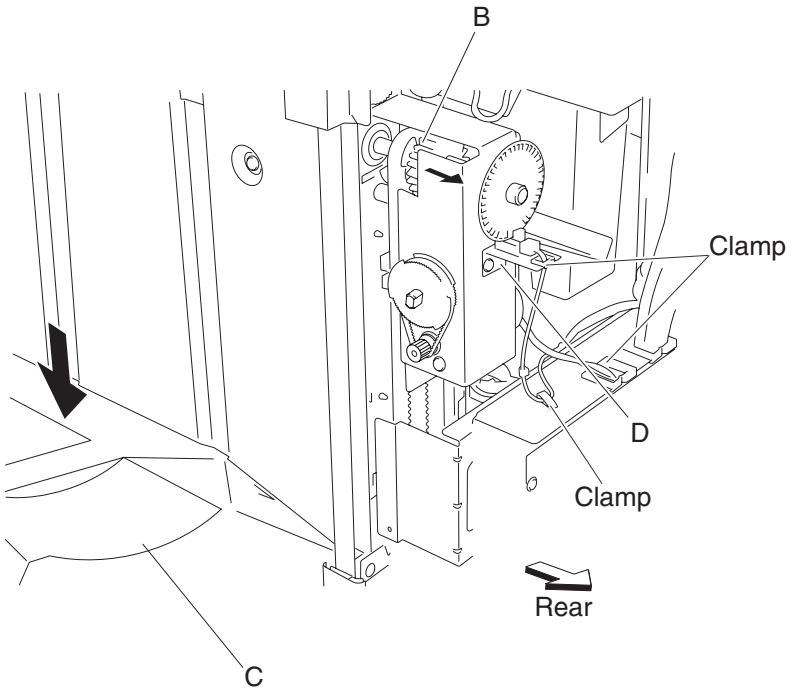
Stacker bin lift motor assembly removal

1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Remove the rear lower cover. See **"Rear lower cover removal" on page 4-22**.
3. Loosen the four screws securing the plate (A).
4. Move the plate (A) toward the right as shown.

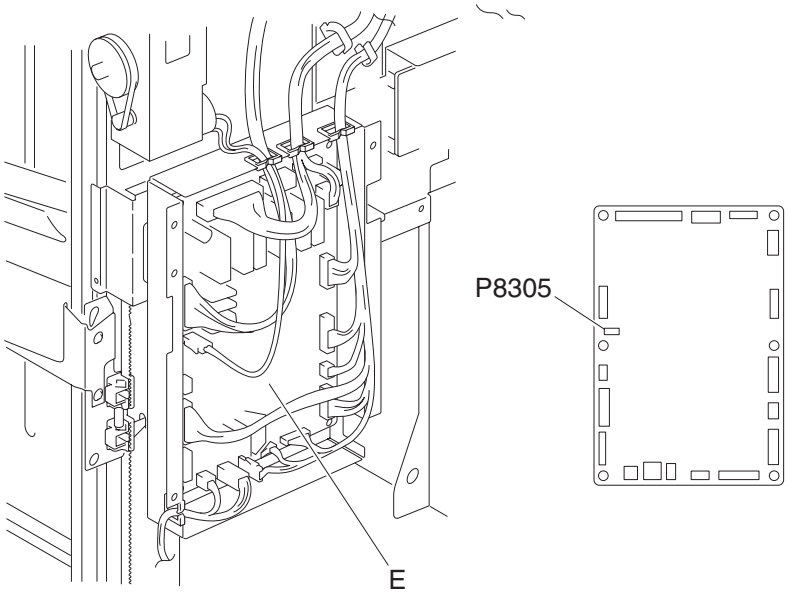


5. Remove the plate (A).

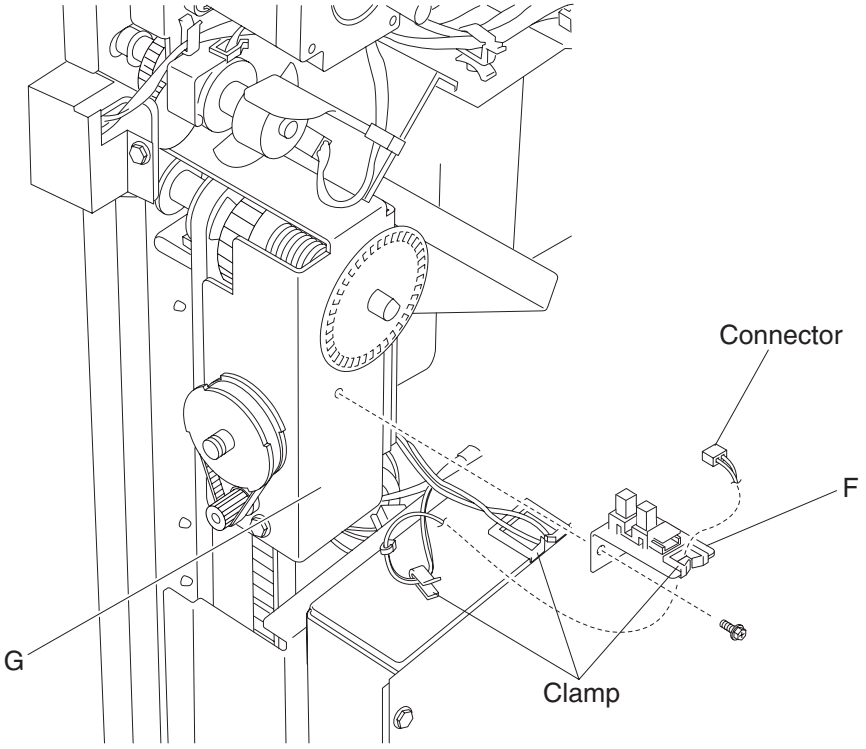
6. Move the slip clutch gear 24T (B) toward the rear to disengage the stacker bin (C).
7. Move the stacker bin (C) to the lowest position.
   Note: Make sure the stacker bin (C) is at the lowest position before continuing.
8. Disconnect the connector from the sensor (stacker bin level encoder) (D).
9. Release the harness from the clamps.



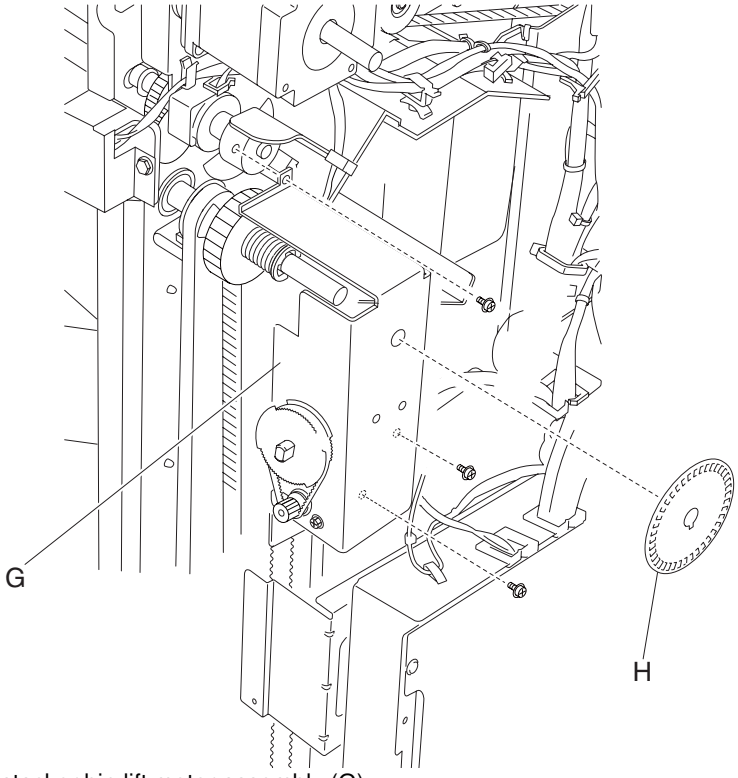
10. Disconnect the connector (P8305) from the finisher controller card assembly (E).



11. Remove the screw securing the bracket (F) to the stacker bin lift motor assembly (G).
12. Remove the bracket (F).



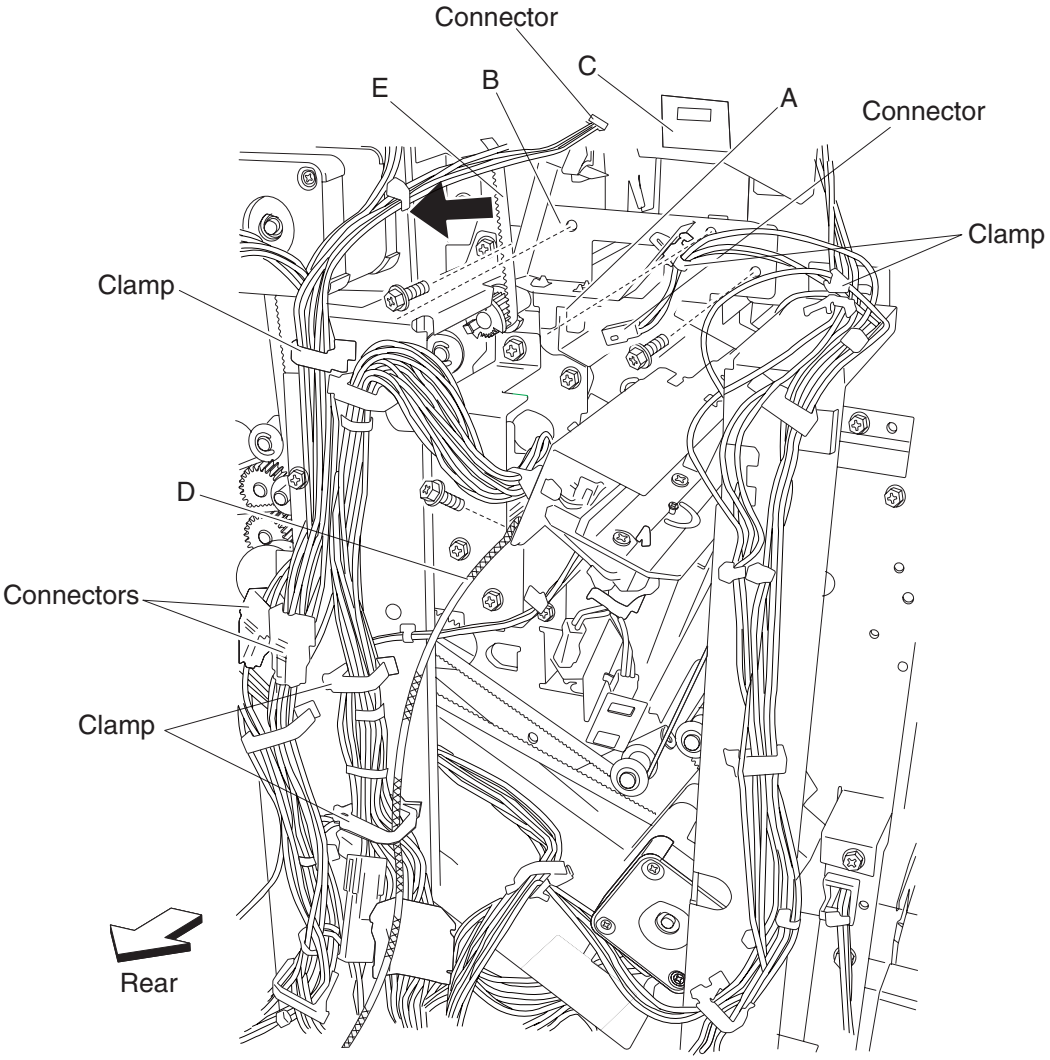
13. Release the hook securing the encoder (H) to the stacker bin lift motor assembly (G).
14. Remove the encoder.
15. Remove the three screws securing the stacker bin lift motor assembly (G) to the finisher.



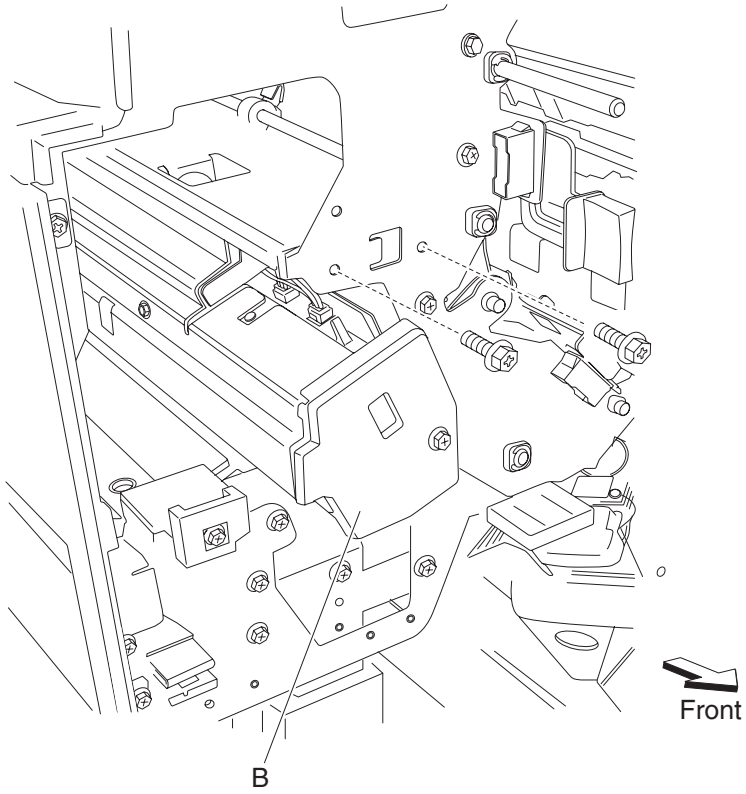
16. Remove the stacker bin lift motor assembly (G).

Punch carriage assembly removal

1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
4. Remove the connector from the sensor (punch carriage shift HP) (A).
5. Remove the top cover. See **"Top cover removal" on page 4-18**.
6. Release the harness from the punch carriage assembly (B).
7. Remove the connector from the punch carriage shift motor assembly (C).
8. Release the two punch unit assembly harnesses from the three clamps on the rear of the finisher.
9. Disconnect the two punch unit assembly harnesses from the main harness.
10. Remove the screw securing the grounding wire (D) to the punch unit carriage assembly (B).
11. Remove the two screws on the rear securing the punch carriage assembly (B) to the finisher.



12. Remove the two screws on the front securing the punch carriage assembly (B) to the finisher.



13. While moving the belt (buffer/transport) (E) to the left as shown, pull the punch carriage assembly (B) gently out of the rear of the finisher.

    Warning: Do not force the punch carriage assembly (B) out of the finisher. Be sure to hold the unit firmly to avoid dropping it.

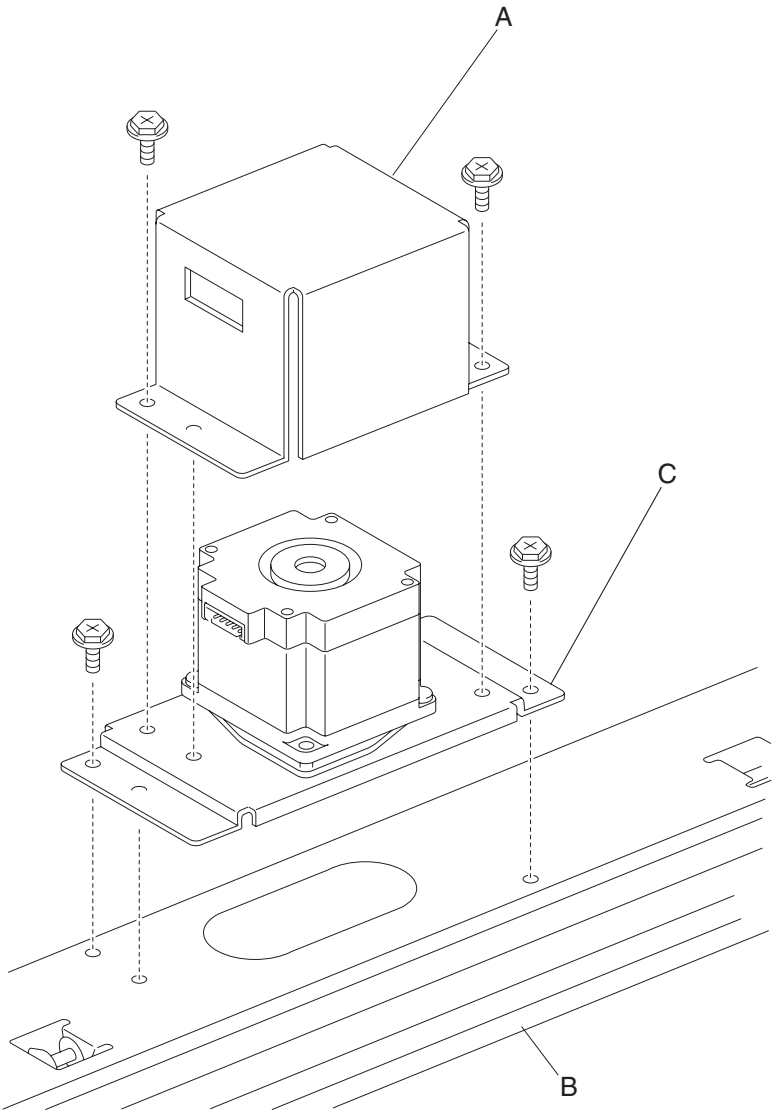
    Replacement notes:

    Warning: Make sure the punch carriage assembly is able to shift back and forth completely without binding the harnesses, or damage will occur.

    - Do not force the punch unit into the finisher.
    - Be sure to hold the punch carriage assembly firmly to avoid dropping it.
    - Make sure all harnesses are properly clamped.
    - Make sure the harnesses do not come into contact with any rotating mechanisms.

Punch carriage shift motor assembly removal

1. Open the finisher front door assembly.
2. Remove the upper media bin assembly. See **“Upper media bin assembly removal” on page 4-19**.
3. Remove the top cover. See **“Top cover removal” on page 4-18**.
4. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
5. Remove the punch carriage assembly. See **“Punch carriage assembly removal” on page 4-40**.
6. Remove the two screws securing the cover (A) to the punch carriage assembly (B).
7. Remove the cover (A).
8. Remove the two screws securing the punch carriage shift motor assembly (C) to the punch unit assembly (B).

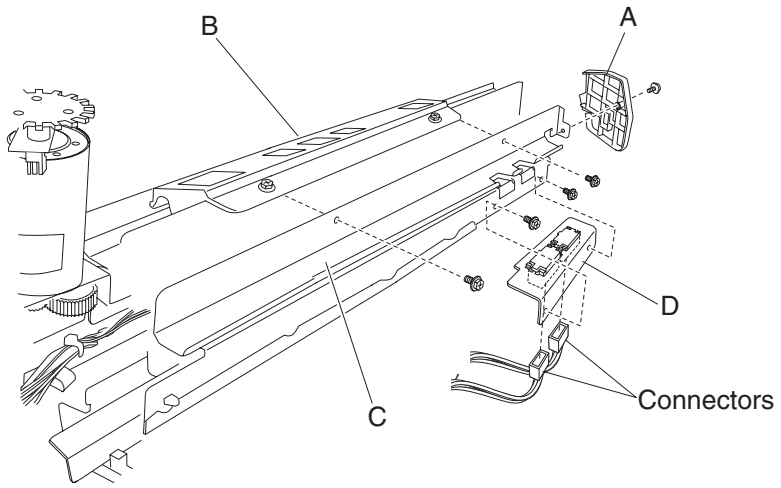


9. Remove the punch carriage shift motor assembly (C).

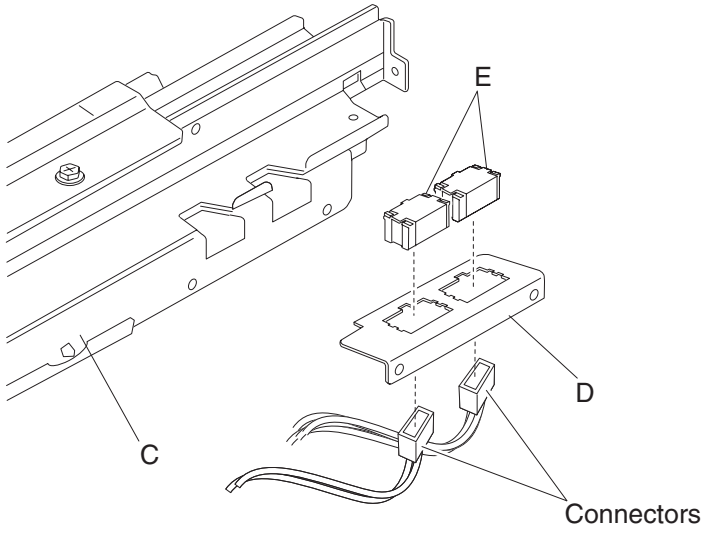
Sensor (punch unit side registration pair) with bracket removal

1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
4. Remove the top cover. See **"Top cover removal" on page 4-18**.
5. Remove the punch carriage assembly. See **"Punch carriage assembly removal" on page 4-40**.
6. Remove the screw securing the cover (A) to the punch unit assembly (B).
7. Remove the cover.
8. Remove the two screws securing the paper guide (C) to the punch unit assembly (B).

   Note: Do not remove the harness attached to the paper guide (C).



9. Turn the paper guide (C) upside down.
10. Remove the two screws securing the bracket (D) to the paper guide (C).
11. Remove the bracket (D).
12. Remove the two connectors from the sensor (punch unit side registration pair) (E).
13. Release the hooks securing the sensors (punch unit side registration pair) (E) to the bracket (D).

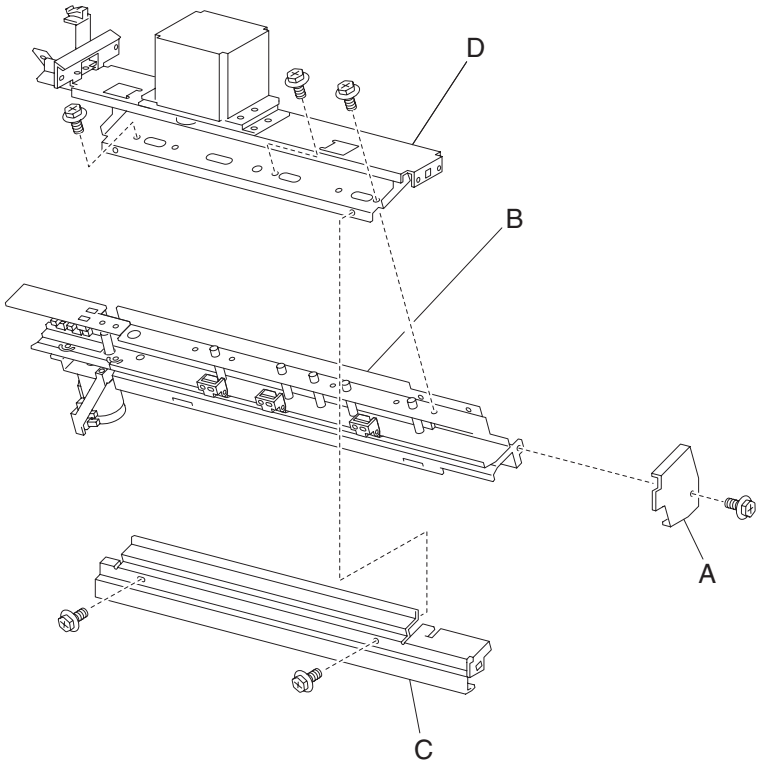


14. Remove the sensor (punch unit side registration pair) (E).

    Note: The two sensors are identical.

Punch unit assembly removal

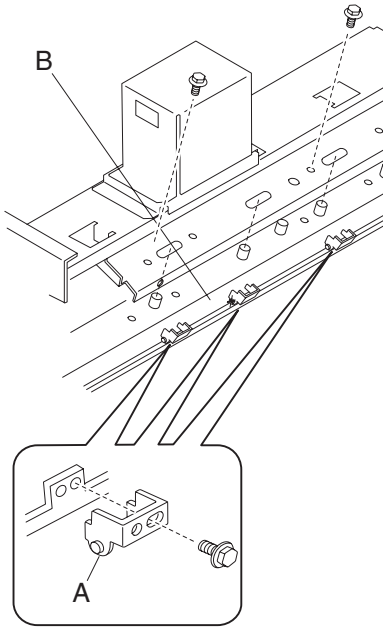
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
4. Remove the top cover. See **"Top cover removal" on page 4-18**.
5. Remove the punch carriage assembly. See **"Punch carriage assembly removal" on page 4-40**.
6. Remove the screw securing the cover (A) to the punch unit assembly (B).
7. Remove the cover (A).
8. Remove the two screws securing the bracket (C) to the punch carriage assembly (D).
9. Remove the bracket (C).
10. Remove the three screws securing the punch carriage assembly (D) to the punch unit assembly (B).



11. Remove the punch unit assembly (B).

Punch media stop assembly removal

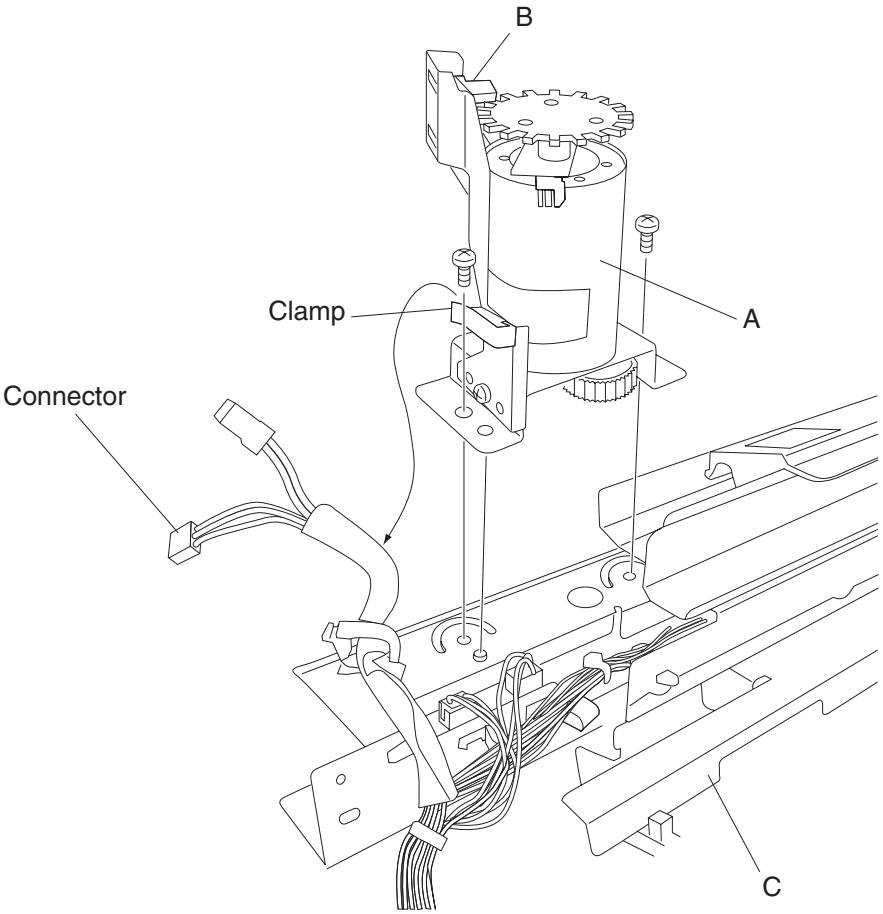
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
3. Remove the upper media bin assembly. See **“Upper media bin assembly removal” on page 4-19**.
4. Remove the top cover. See **“Top cover removal” on page 4-18**.
5. Remove the punch carriage assembly. See **“Punch carriage assembly removal” on page 4-40**.
6. Remove the punch unit assembly. See **“Punch unit assembly removal” on page 4-44**.
7. Remove the three screws securing the three punch media stop assemblies (A) to the punch unit assembly (B).



8. Remove the three punch media stop assemblies (A).

Punch unit motor assembly removal

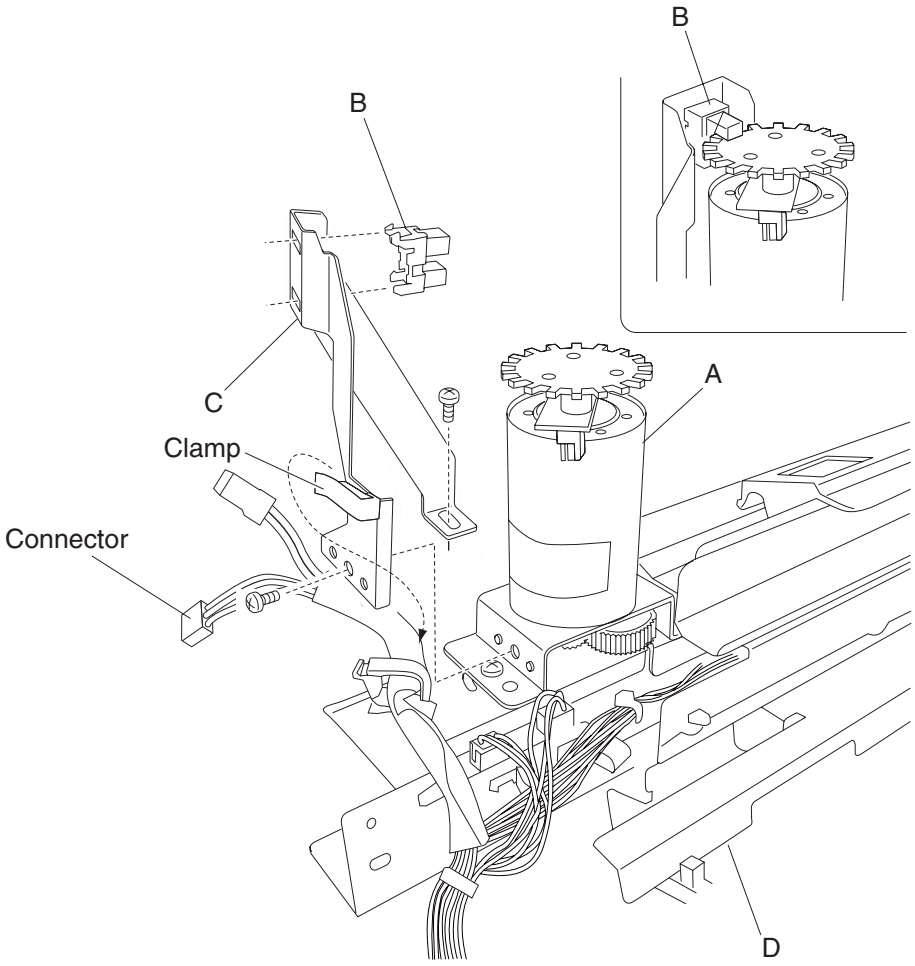
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
4. Remove the connector from the sensor (punch carriage shift HP) (A).
5. Remove the top cover. See **"Top cover removal" on page 4-18**.
6. Remove the punch carriage assembly. See **"Punch carriage assembly removal" on page 4-40**.
7. Disconnect the connector from the punch unit motor assembly (A).
8. Disconnect the connector from the sensor (punch unit motor encoder) (B).
9. Remove the harness from the clamp.
10. Remove the two screws securing the punch unit motor assembly (A) to the punch unit assembly (C).



11. Remove the punch unit motor assembly.

Sensor (punch unit motor encoder) removal

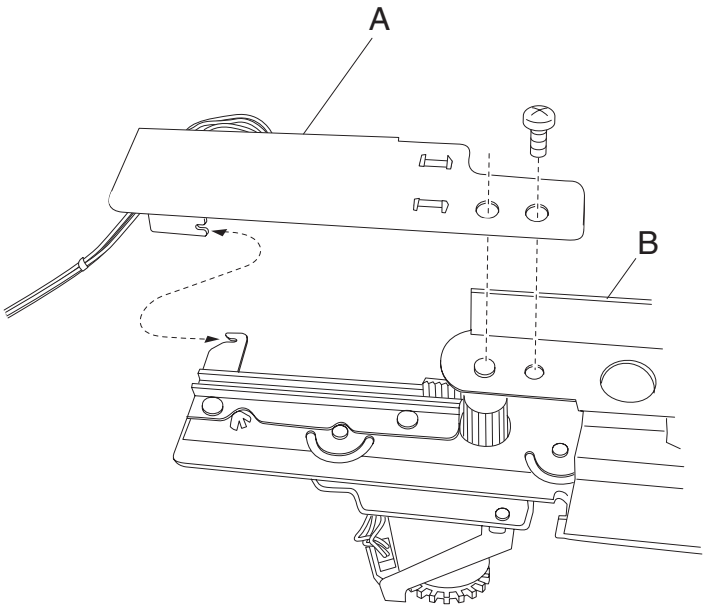
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
3. Remove the upper media bin assembly. See **“Upper media bin assembly removal” on page 4-19**.
4. Remove the top cover. See **“Top cover removal” on page 4-18**.
5. Remove the punch carriage assembly. See **“Punch carriage assembly removal” on page 4-40**.
6. Disconnect the connector from the punch unit motor assembly (A).
7. Disconnect the connector from the sensor (punch unit motor encoder) (B).
8. Remove the harness from the clamp.
9. Remove the two screws securing the bracket (C) to the punch unit assembly (D).



10. Release the hooks securing the sensor (punch unit motor encoder) (B) to the bracket (C).
11. Remove the sensor (punch unit motor encoder) (B).

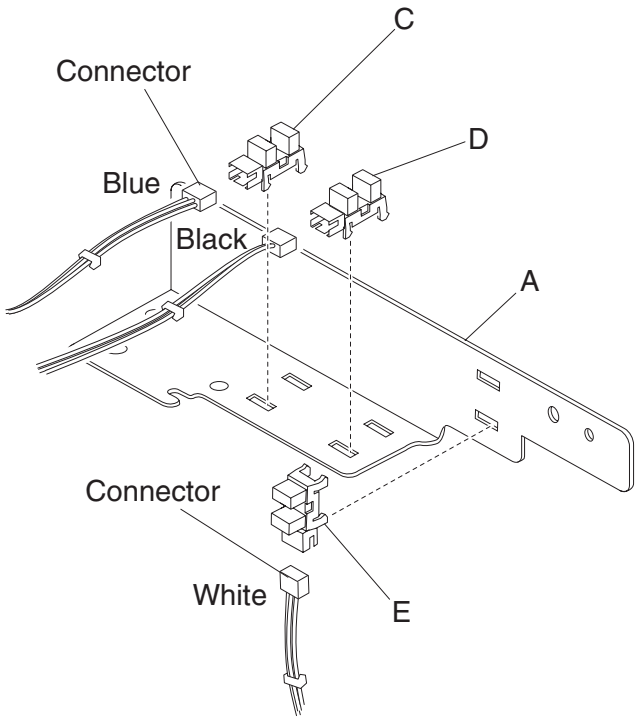
Sensor (punch hole select), sensor (punch cam front), and sensor (punch unit HP) removal

1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the punch carriage assembly. See **"Punch carriage assembly removal" on page 4-40**.
4. Remove the screw securing the bracket (A) to the punch unit assembly (B).



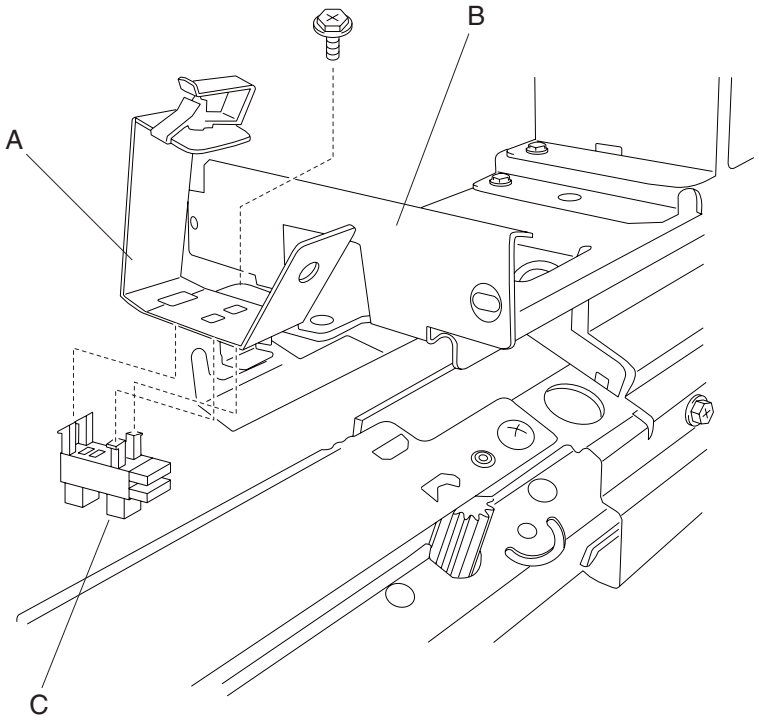
5. Disconnect the connector from the sensor (punch hole select) (C), the sensor (punch cam front) (D), or the sensor (punch unit HP) (E).
6. Release the hooks securing the sensor(s) to the bracket.
7. Remove the sensor(s).

Replacement note: Make sure the color coded-connectors are connected to the proper sensors, as shown.



Sensor (punch carriage shift HP) removal

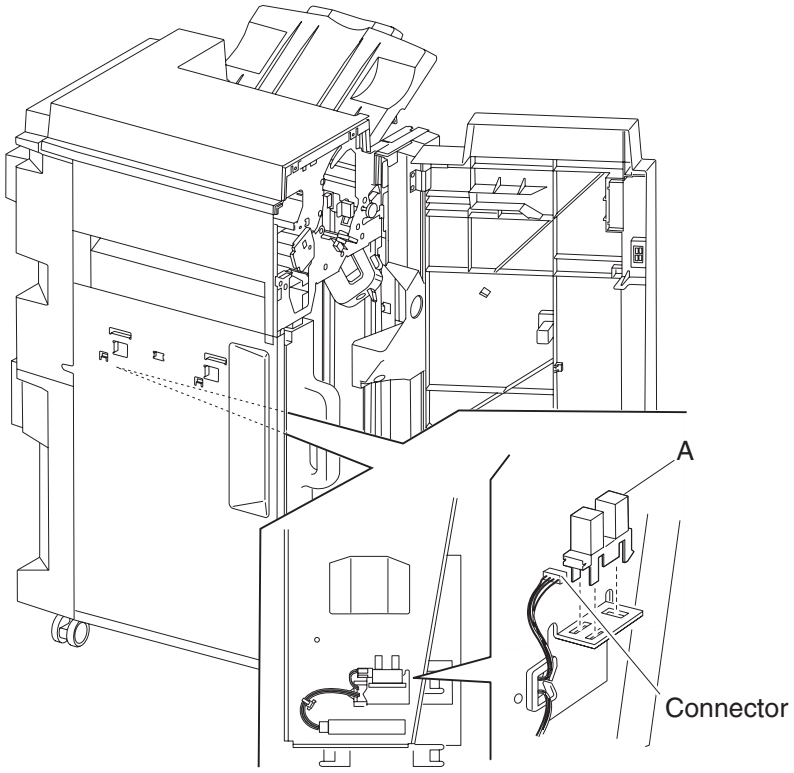
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the punch carriage assembly. See **"Punch carriage assembly removal" on page 4-40**.
4. Remove the one screw securing the bracket (A) to the punch carriage unit (B).
5. Release the hooks securing the sensor (punch carriage shift HP) (C) to the bracket (A).



6. Remove the sensor (punch carriage shift HP) (C).

Sensor (punch waste box set) removal

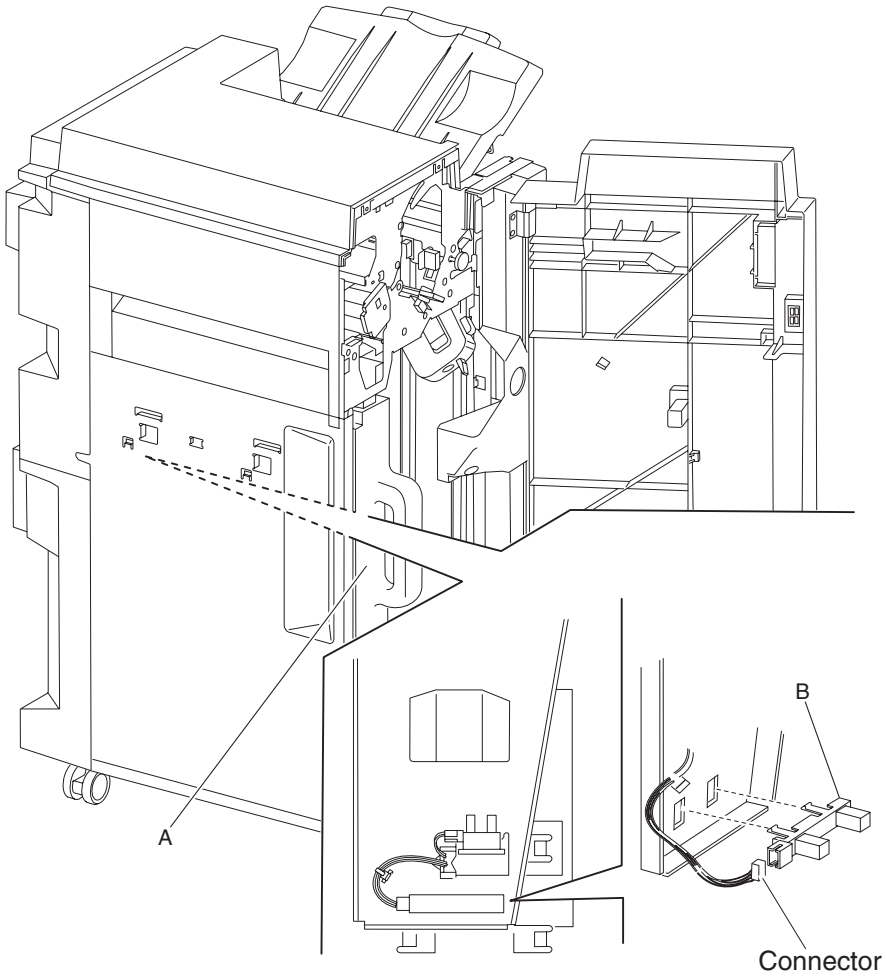
1. Open the finisher front door assembly.
2. Pull the punch waste box.
3. Disconnect the connector from the sensor (punch waste box set) (A).
4. Release the hooks securing the sensor (punch waste box set) (A) to the finisher.



5. Remove the sensor (punch waste box set) (A).

Sensor (punch waste box full) removal

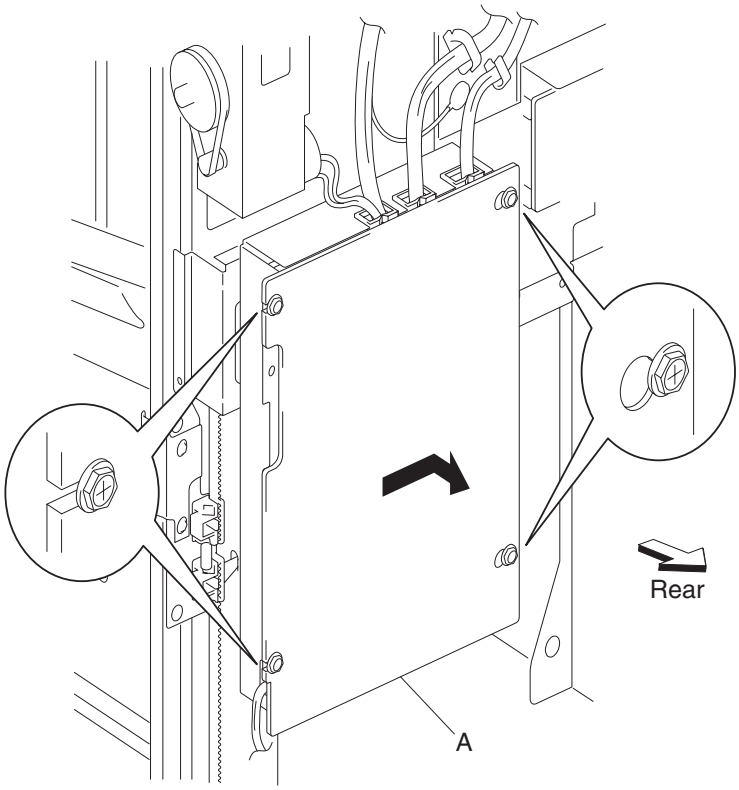
1. Open the finisher front door assembly.
2. Remove the punch waste box (A) from the finisher.
3. Disconnect the connector from the sensor (punch waste box full) (B).
4. Release the hooks securing the sensor (punch waste box full) (B) to the finisher.



5. Remove the sensor (punch waste box full) (B).

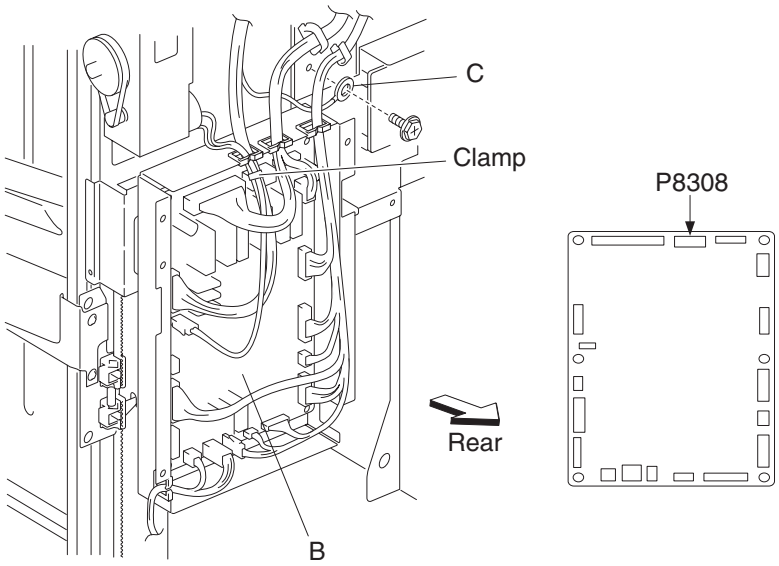
Stapler unit frame removal

1. Remove the finisher front door assembly. See **“Finisher front door assembly removal” on page 4-26**.
2. Remove the staple cartridge.
3. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
4. Remove the rear lower cover. See **“Rear lower cover removal” on page 4-22**.
5. Loosen the four screws securing the plate (A) to the finisher.
6. Move the plate (A) toward the right and out in the direction shown.

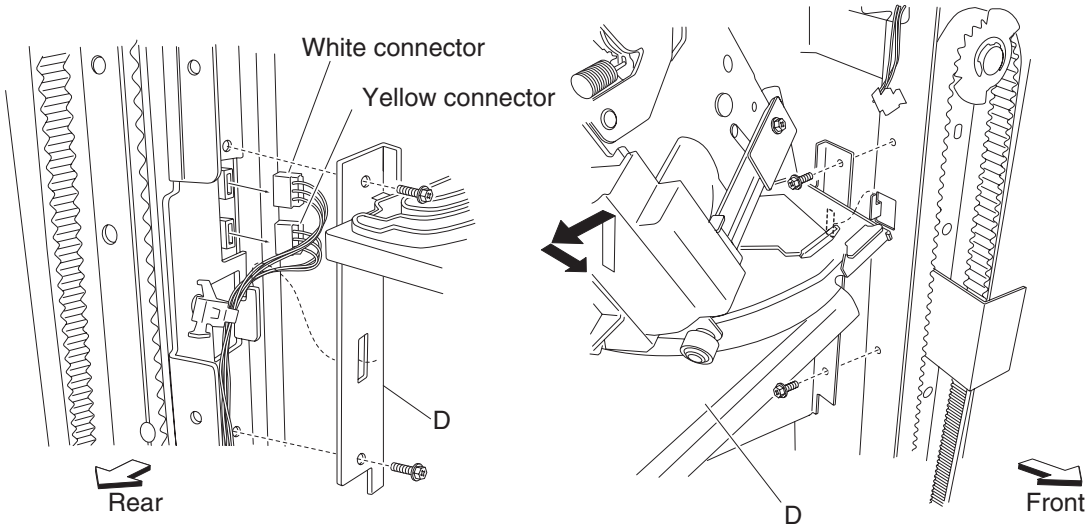


7. Remove the plate.

8. Disconnect the connector P8308 from the finisher controller card assembly (B).
9. Remove the screw securing the ground wire (C) to the finisher.
10. Release the harness from the clamp.



11. Remove the media stacker bin lift motor assembly. See **"Stacker media bin assembly removal" on page 4-21**.
12. Disconnect the white connector and the yellow connector from the sensor (stacker bin upper limit) and the sensor (stacker bin no media).
13. Remove the four screws securing the stapler unit frame (D) to the finisher.
14. Move the stapler unit frame upward and outward in the direction of the arrow, as shown.



15. Remove the stapler unit frame.

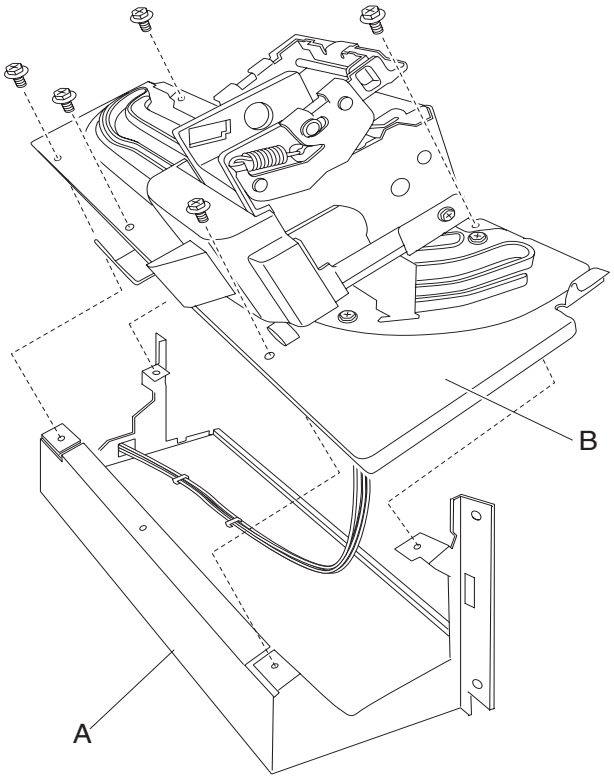
    Warning: Do not force the stapler unit frame out of the finisher.

    Warning: Be sure to hold the stapler unit frame firmly to avoid dropping it.

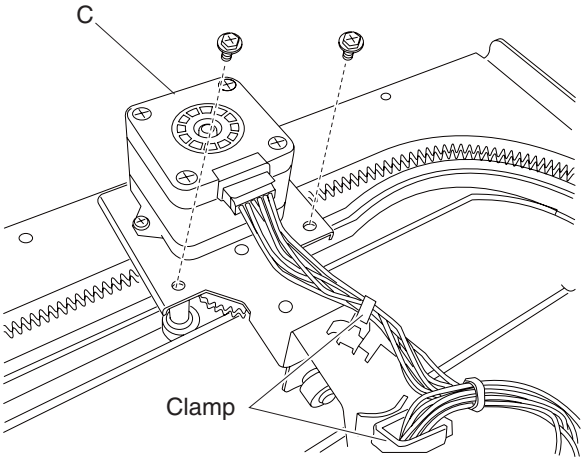
    Replacement notes:
    - Do not force the stapler unit frame into the finisher.
    - Be sure to hold the stapler unit frame firmly to avoid dropping it.
    - Maker sure no harnesses are pinched when replacing the stapler unit frame.
    - Be sure to replace the grounding wire.
    - Ensure that the white connector and the yellow connector are properly replaced.

Stapler unit assembly removal

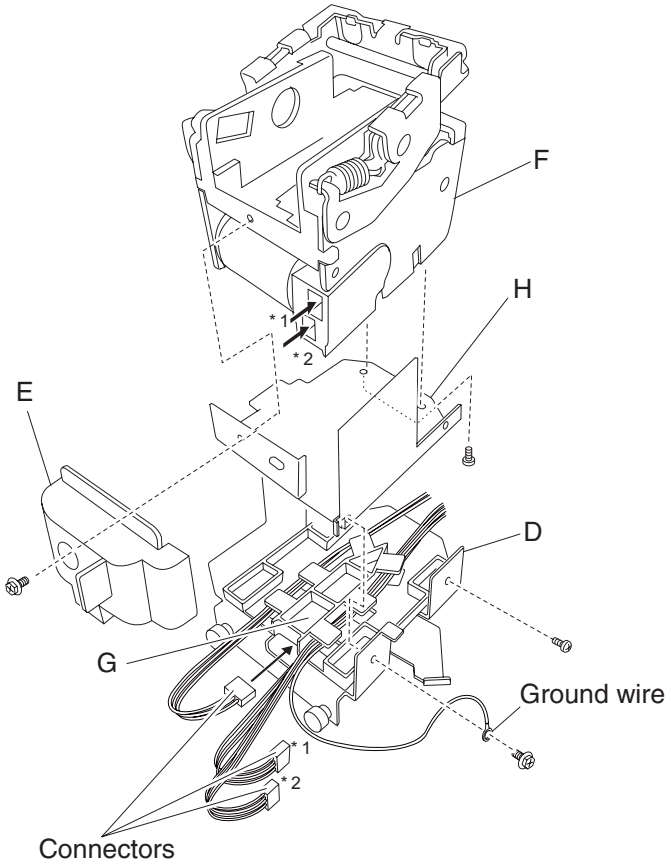
1. Remove the finisher front door assembly. See **“Finisher front door assembly removal” on page 4-26**.
2. Remove the staple cartridge.
3. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
4. Remove the rear lower cover. See **“Rear lower cover removal” on page 4-22**.
5. Remove the stapler unit frame. See **“Stapler unit frame removal” on page 4-53**.
6. Remove the five screws securing the stapler unit frame (A) to the plate (B).



7. Remove the stapler unit frame (A).
8. Release the harness from the three clamps on the stapler unit frame (A).
9. Remove the two screws securing the stapler carriage motor assembly (C) to the stapler carriage assembly (D).
10. Remove the stapler carriage motor assembly (C).



11. Remove the screw securing the stapler cover (E) to the stapler unit assembly (F).
12. Remove the stapler cover (E).
13. Disconnect the two connectors from the stapler unit assembly (F).
14. Disconnect the connector from the sensor (stapler carriage HP) (G).
15. Remove the two screws securing the bracket (H) to the stapler carriage assembly (D).
16. Remove the bracket (H).
17. Remove the two screws securing the bracket (H) to the stapler unit assembly (F).



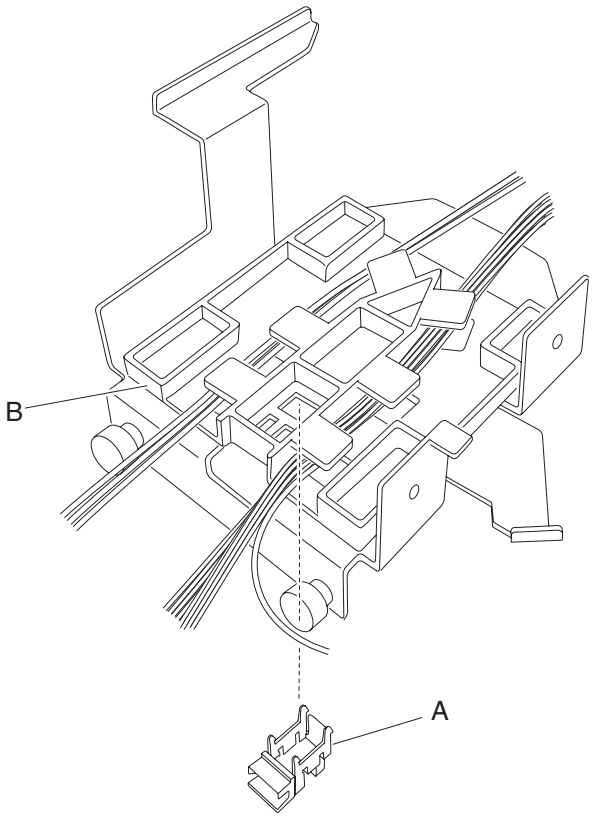
18. Remove the stapler unit assembly (F).

Replacement notes:

- When replacing the stapler unit assembly (F), make sure the ground wire is reconnected.
- Make sure the stapler carriage assembly (D) and the stapler carriage motor assembly (C) move freely without binding.

Sensor (stapler carriage HP) removal

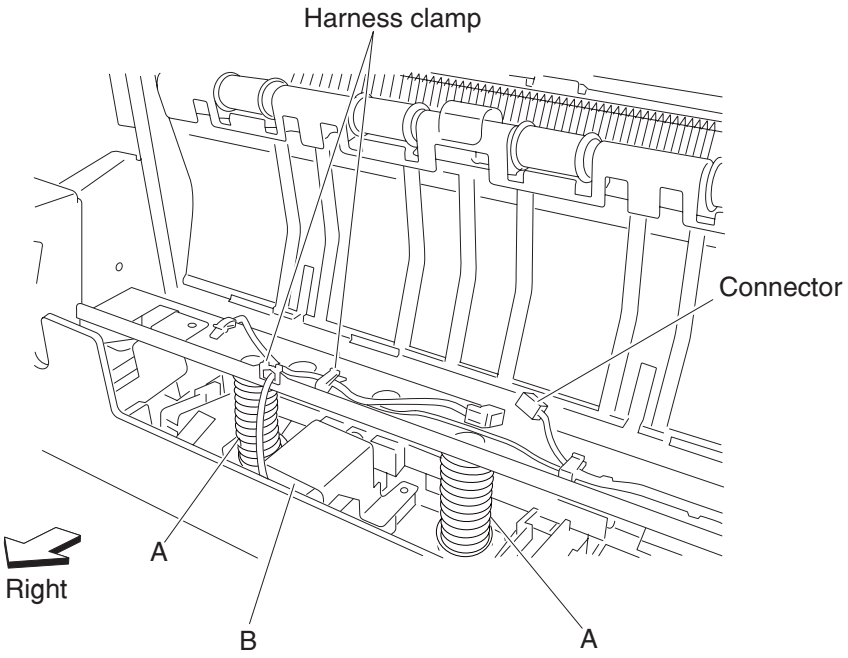
1. Remove the finisher front door assembly. See **“Finisher front door assembly removal” on page 4-26**.
2. Remove the staple cartridge.
3. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
4. Remove the rear lower cover. See **“Rear lower cover removal” on page 4-22**.
5. Remove the stapler unit frame. See **“Stapler unit frame removal” on page 4-53**.
6. Remove the stapler unit assembly. See **“Stapler unit assembly removal” on page 4-55**.
7. Release the hooks securing the sensor (stapler carriage HP) (A) to the stapler carriage assembly (B).



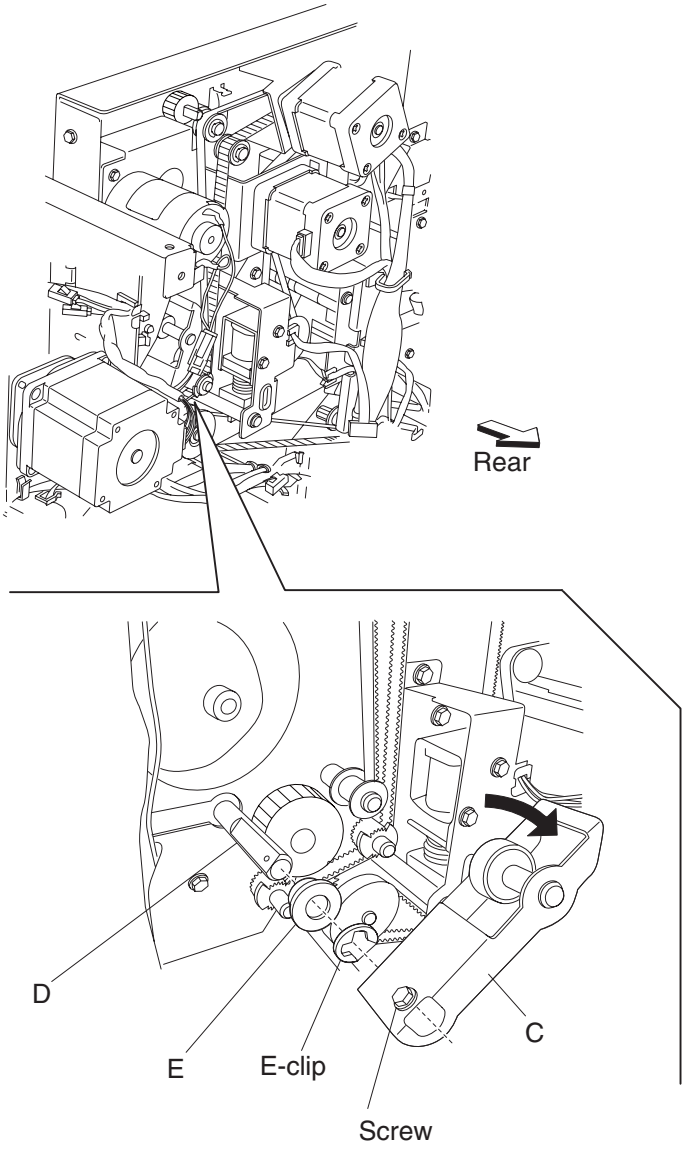
8. Remove the sensor (stapler carriage HP) (A).

Media eject unit assembly removal

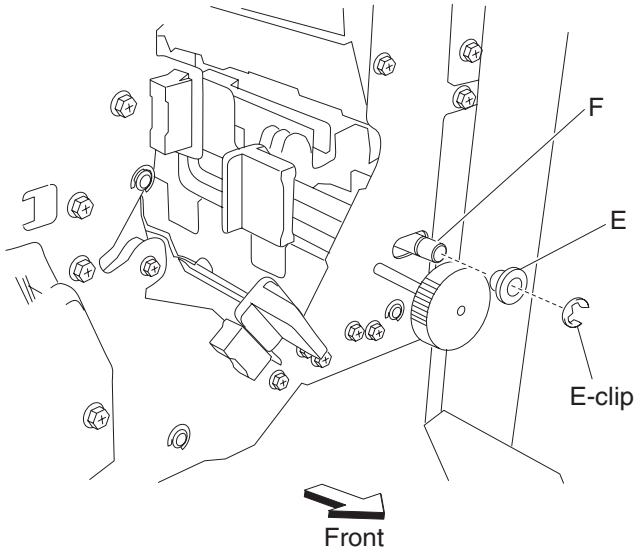
1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
4. Remove the upper media bin vertical cover. See **"Right eject cover removal" on page 4-20**.
5. Remove the two media eject unit springs (A) by pushing them downward.
6. Disconnect the connector from the eject unit solenoid (B).
7. Release the harness from the two clamps.



8. Remove the screw securing the eject clamp lever assembly (C) from the shaft (D) on the rear of the finisher.
9. Remove the eject clamp lever assembly (C).
10. Remove the e-clip securing the shaft (D) to the rear of the finisher.
11. Remove the 8 mm bushing (E) on the rear side.



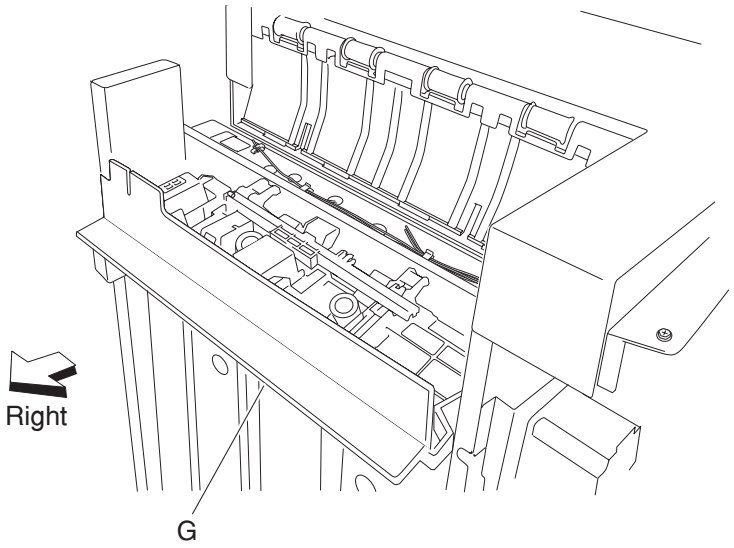
12. Remove the e-clip securing the shaft (F) to the front of the finisher.
13. Remove the 8 mm bushing (E) on the front side.



14. Gently move the left side of the media eject unit assembly (G) out of the finisher followed by the right side.

    Note: Do not force the media eject unit assembly out of the finisher. Remove the left side before the right side.

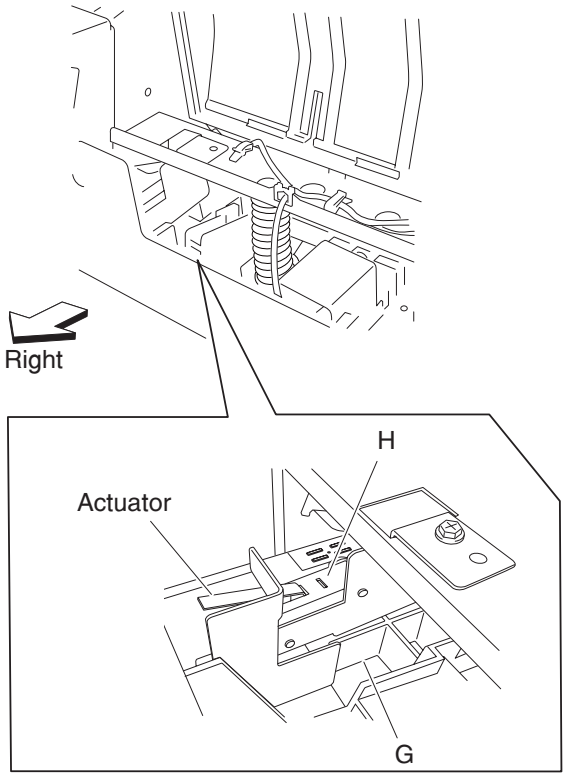
    Note: Tilting the media eject unit assembly slightly may make the removal easier.



15. Remove the media eject unit assembly.

Replacement notes:

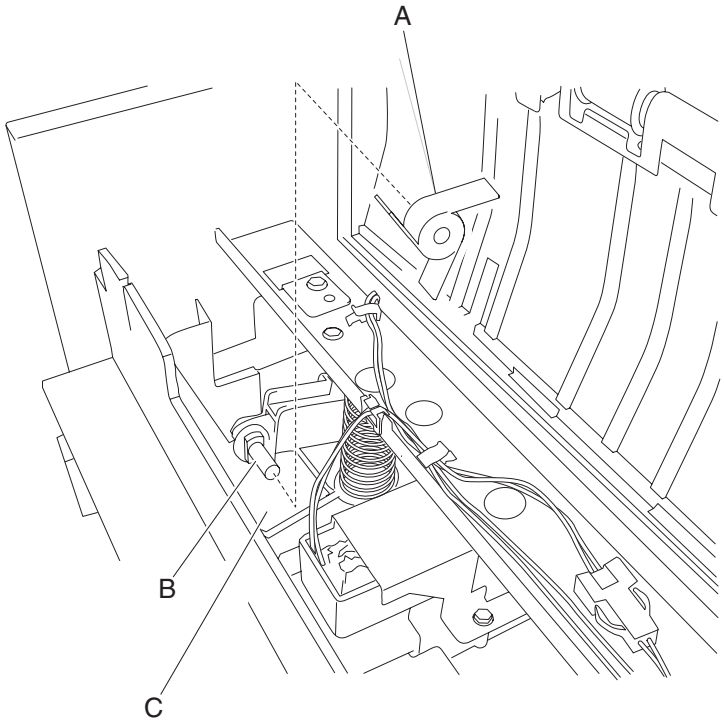
- Do not force the media eject unit assembly into the finisher. Insert the right side before the left side.
- Make sure the media eject unit assembly properly actuates the switch (eject cover interlock) (H) without binding.



Sub paddle removal

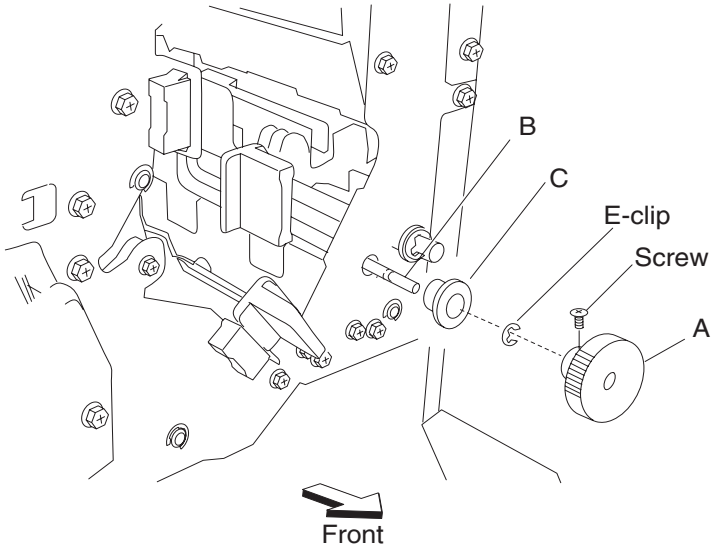
1. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
2. Gently remove the two sub paddles (A) from the two shafts (B).

   Replacement note: Make sure the sub paddles are properly installed as shown in the figure. The paddles must not come in contact with the media eject unit assembly (C).



Sub paddle drive shaft assembly removal

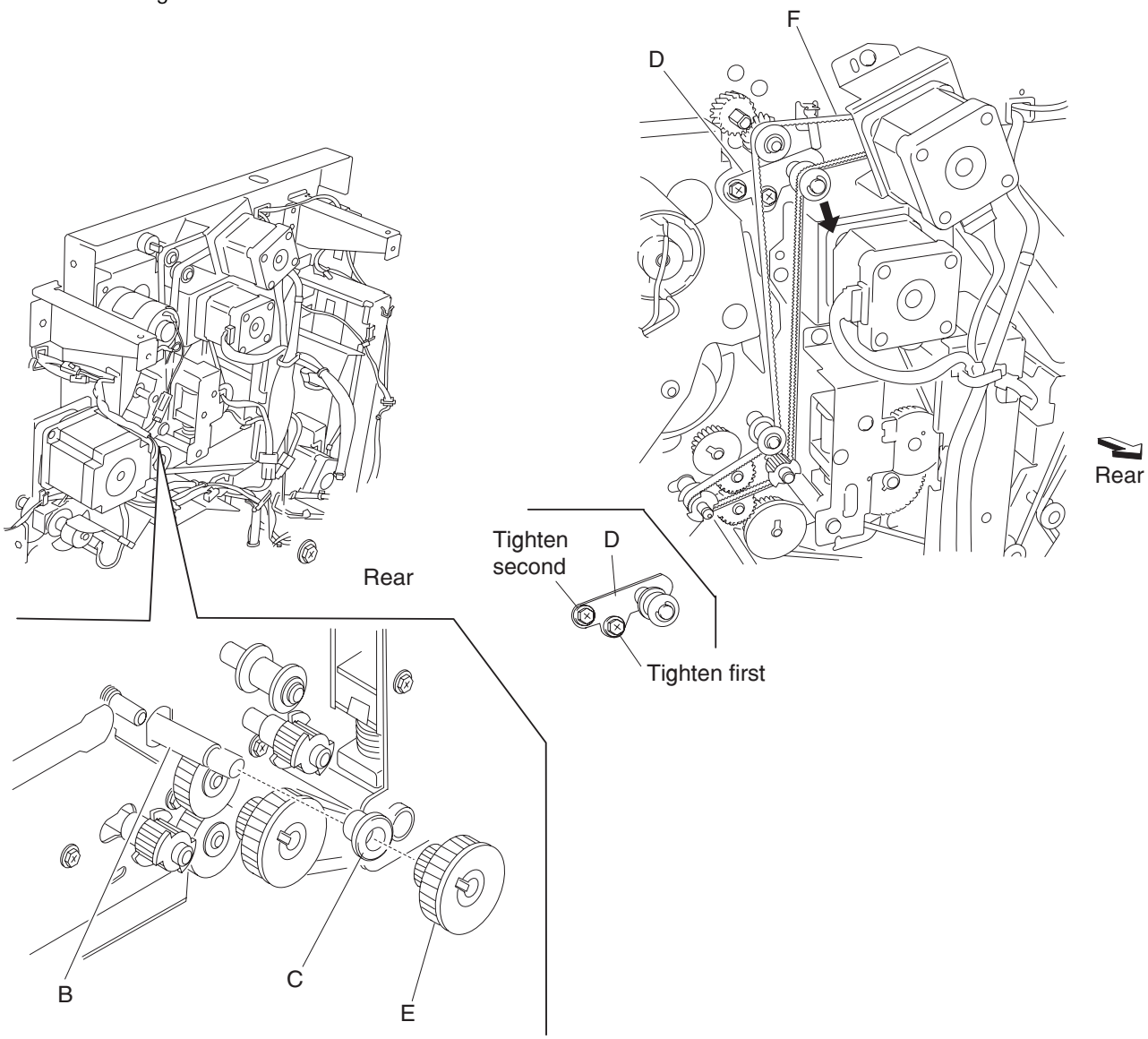
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
3. Remove the media eject unit assembly. See **“Media eject unit assembly removal” on page 4-58**.
4. Loosen the screw securing the knob (A) to the sub paddle drive shaft assembly (B) on the front of the finisher.
5. Remove the knob (A).
6. Remove the one e-clip securing the sub paddle drive shaft assembly (B).
7. Remove the bushing (C).



8. Loosen the two screws securing the belt tensioner bracket (D) to the rear of the finisher.
9. Release the hook of the sub paddle drive gear 23T (E) from the sub paddle drive shaft assembly (B).
10. Remove the sub paddle drive gear 23T (E).
11. Remove the e-clip and the 6 mm bushing (C).
12. Move the sub paddle drive shaft assembly (B) toward the rear of the finisher and outward.
13. Remove the sub paddle drive shaft assembly (B).

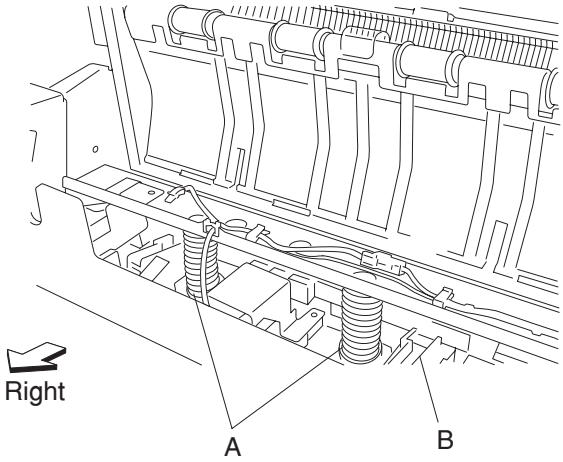
Replacement notes:

- The tension of the belt (exit) (F) is automatically adjusted by the force of the spring attached to the belt tensioner bracket (D).
- Tighten the two screws in the order shown.



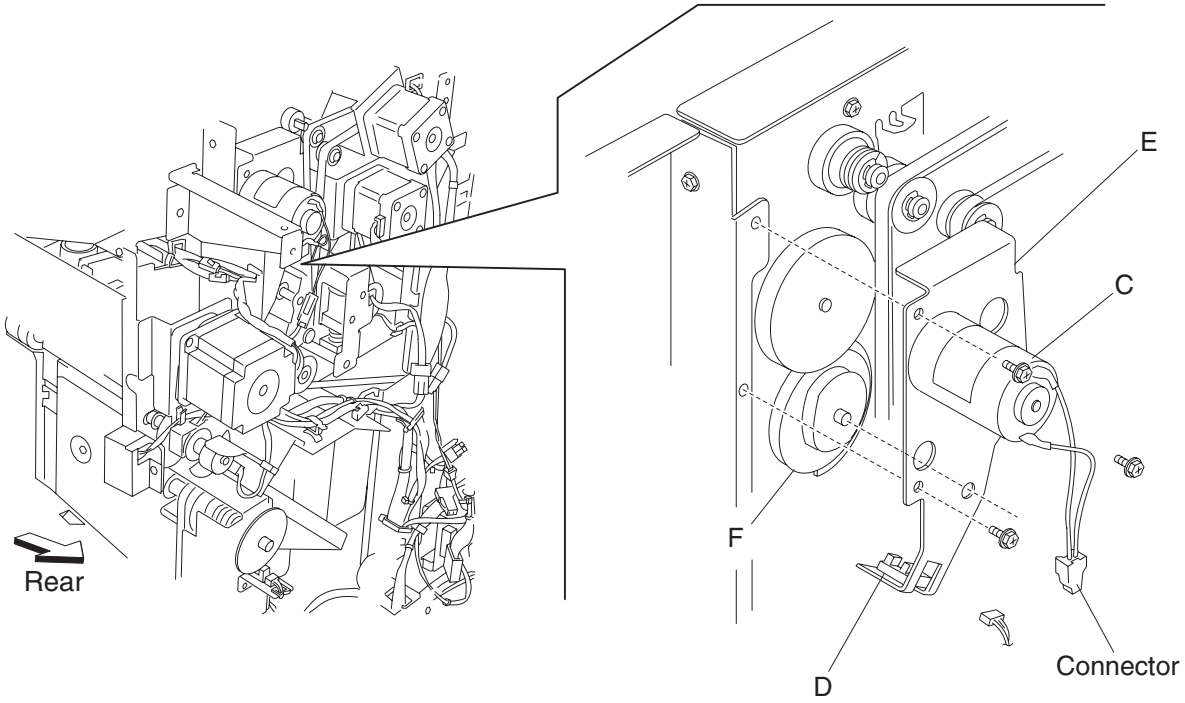
Media eject clamp motor assembly removal

1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
3. Remove the two media eject unit springs (A) attached to the media eject unit assembly (B) by pushing them downward.



4. Disconnect the connector from the media eject clamp motor (C).
5. Disconnect the connector from the sensor (media eject clamp HP) (D).
6. Remove the three screws securing the bracket (E) to the finisher.
7. Remove the bracket (E).

   Note: When removing the bracket, turn the media eject clamp gear 70T (F) so that it does not interact with the sensor (media eject clamp HP) (D).

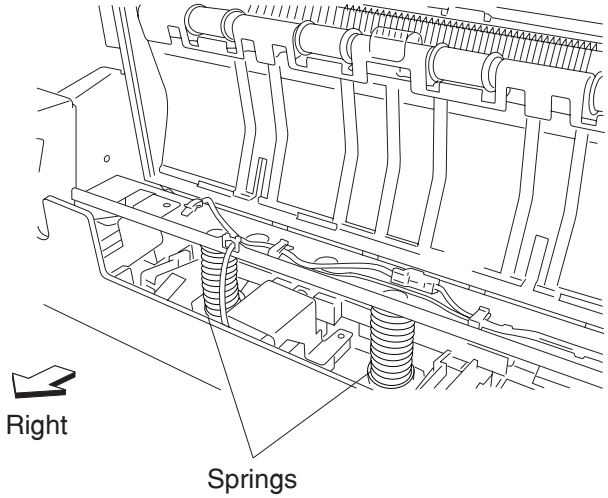


8. Remove the two screws securing the media eject clamp motor to the bracket (E).
9. Remove the media eject clamp motor (C).

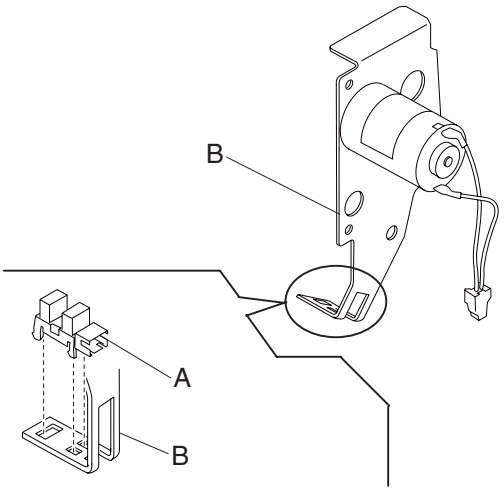
   Replacement note: When replacing the bracket, turn the media eject clamp gear 70T (F) so that it interacts with the sensor (media eject clamp HP).

Sensor (media eject clamp HP) removal

1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
3. Remove the two media eject unit springs attached to the media eject unit assembly by pushing them downward.

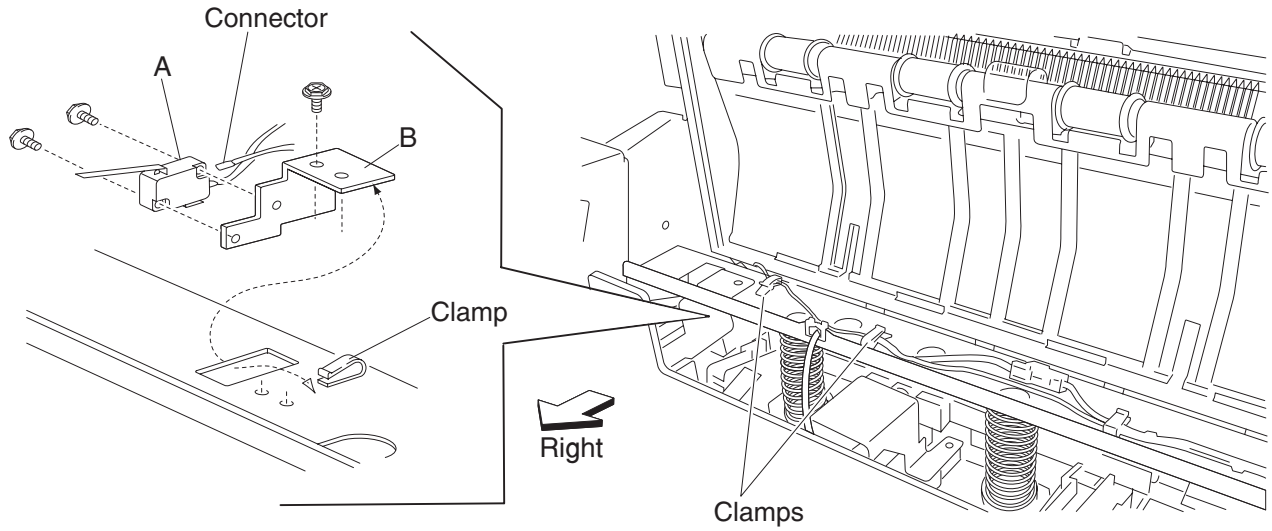


4. Remove the media eject clamp motor assembly. See **"Media eject clamp motor assembly removal" on page 4-65**.
5. Release the hooks of the sensor (media eject clamp HP) (A) from the bracket (B).
6. Remove the sensor (media eject clamp HP) (A).



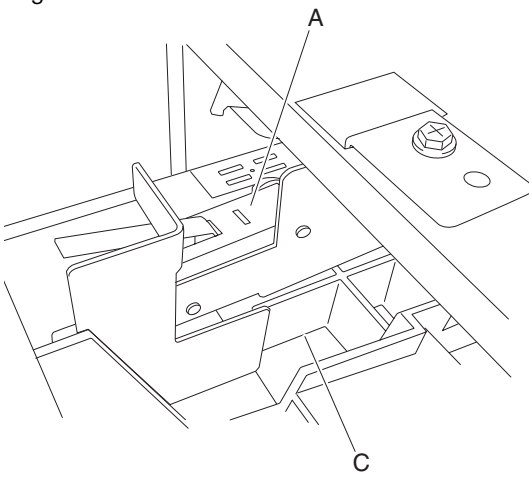
Switch (eject cover interlock) removal

1. Remove the upper media bin assembly. See **“Upper media bin assembly removal” on page 4-19**.
2. Disconnect the connector from the switch (eject cover interlock) (A).
3. Release the harness from the two clamps.
4. Remove the screw securing the bracket (B) to the finisher.
5. Remove the bracket (B) from the square hole in the finisher.
6. Remove the two screws securing the switch (eject cover interlock) (A) from the bracket (B).



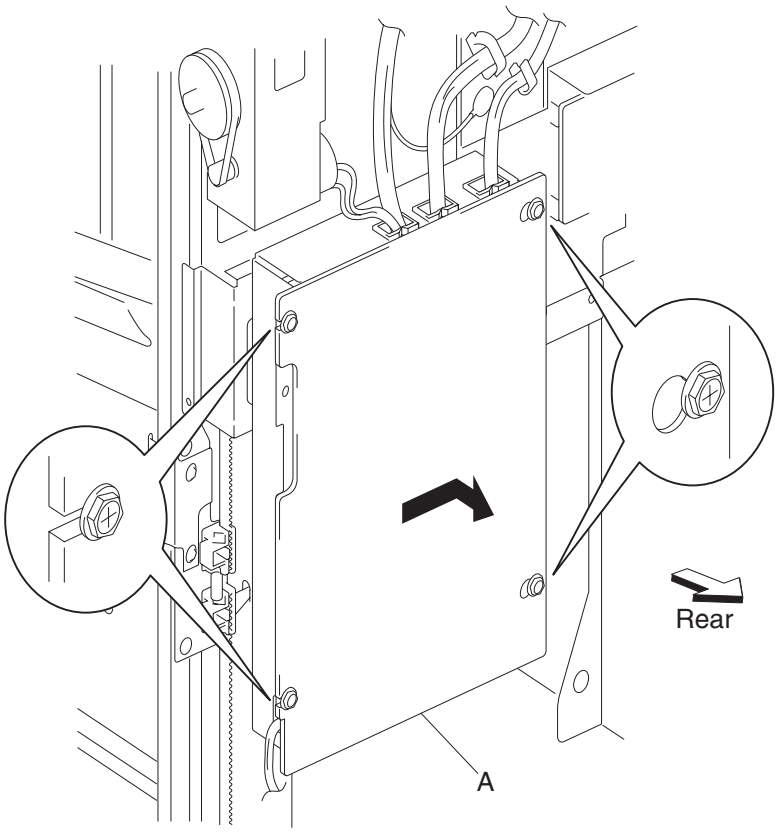
7. Remove the switch (eject cover interlock) (A).

   Replacement note: Make sure the media eject unit assembly (C) properly actuates the switch (media eject interlock) (A) without binding.



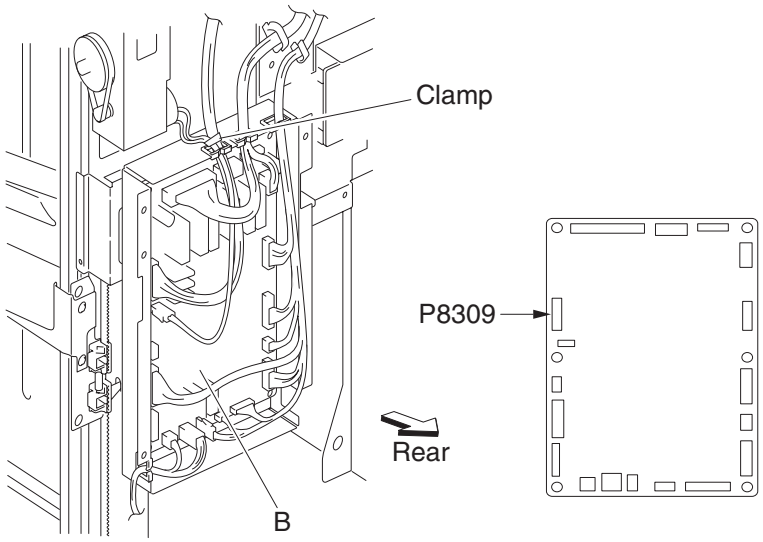
Media compiler unit assembly removal

1. Remove the finisher front door assembly. See**"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the rear lower cover. See **"Rear lower cover removal" on page 4-22**.
4. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
5. Remove the upper media bin vertical cover. See **"Right eject cover removal" on page 4-20**.
6. Remove the stapler unit frame. See **"Stapler unit frame removal" on page 4-53**.
7. Remove the media eject clamp motor assembly. See **"Media eject clamp motor assembly removal" on page 4-65**.
8. Remove the media eject unit assembly. See **"Media eject unit assembly removal" on page 4-58**.
9. Remove the media eject motor assembly. See **"Media eject motor assembly removal" on page 4-77**.
10. Loosen the four screws securing the plate (A) to the finisher.
11. Move the plate to the right and outward.

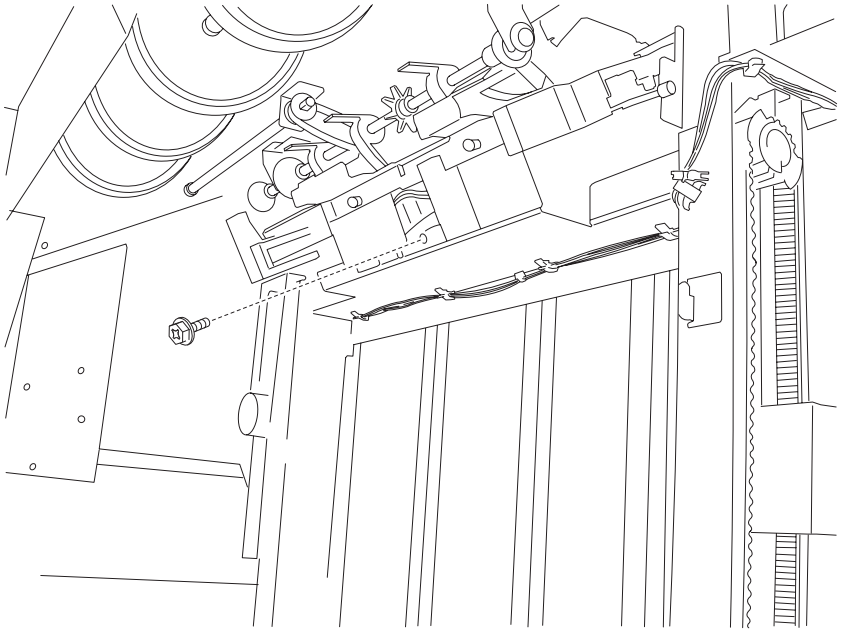


12. Remove the plate.

13. Disconnect the connector P8309 from the finisher controller card assembly (B).
14. Release the harness from the clamps.

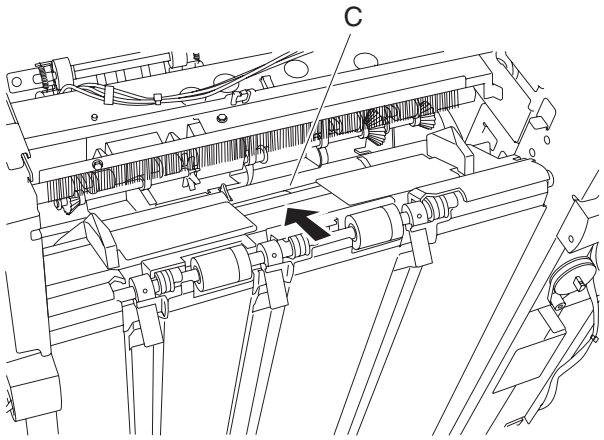


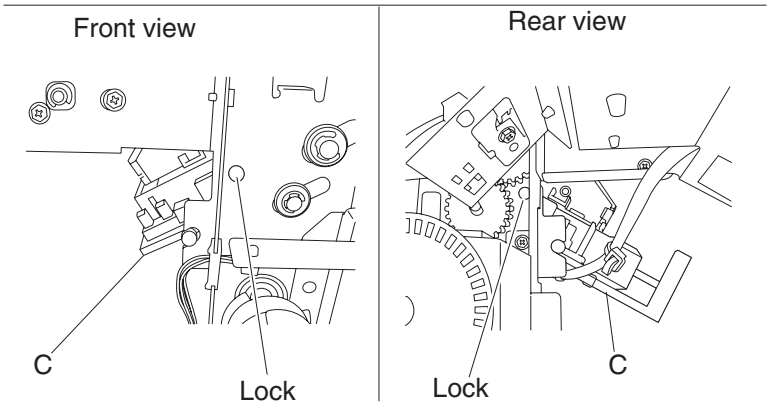
15. Remove the screw securing the media compiler unit assembly (C) to the finisher. This screw is found inside the finisher.



Inside view

16. Release the media compiler assembly (C) by pushing the front lock and the rear lock inward to release the front boss and the rear boss from the finisher.





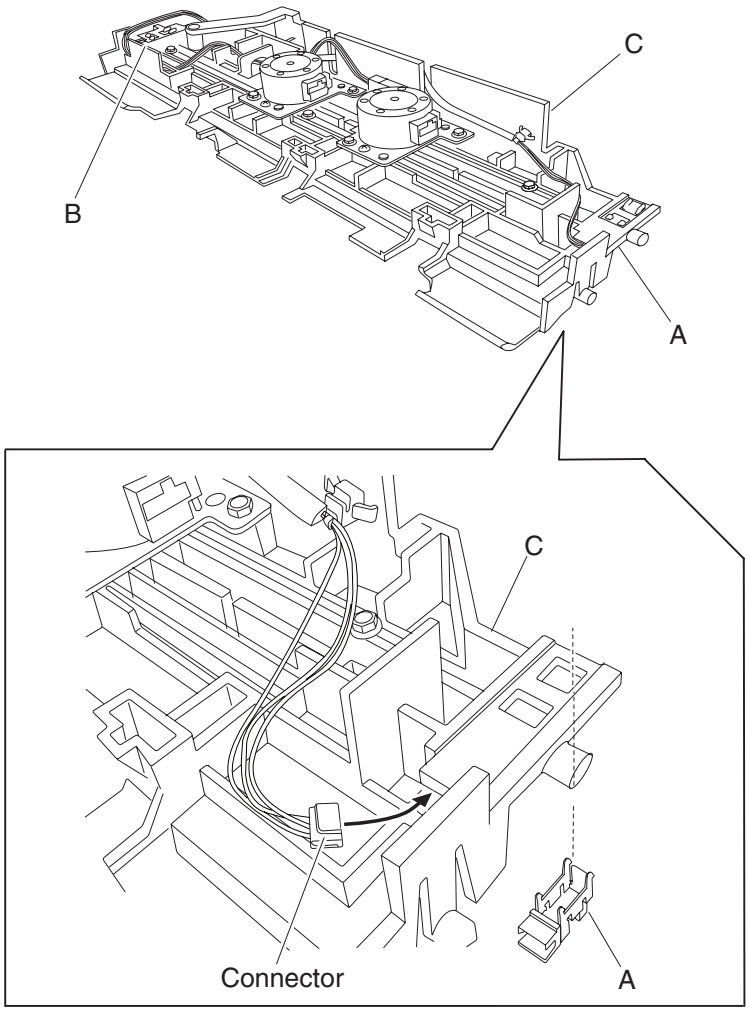
17. Remove the harness from any additional parts.
18. Remove the media compiler unit assembly through the inside of the finisher and out the front.

Sensor (front tamper HP) and sensor (rear tamper HP) removals

1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the rear lower cover. See **"Rear lower cover removal" on page 4-22**.
4. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
5. Remove the upper media bin vertical cover. See **"Right eject cover removal" on page 4-20**.
6. Remove the stapler unit frame. See **"Stapler unit frame removal" on page 4-53**.
7. Remove the media eject clamp motor assembly. See **"Media eject clamp motor assembly removal" on page 4-65**.
8. Remove the media eject unit assembly. See **"Media eject unit assembly removal" on page 4-58**.
9. Remove the media eject motor assembly. See **"Media eject motor assembly removal" on page 4-77**.
10. Remove the media compiler unit assembly. See **"Media compiler unit assembly removal" on page 4-68**.
11. Disconnect the connector from the sensor (front tamper HP) (A) or the sensor (rear tamper HP) (B).
12. Release the hooks securing the sensor (front tamper HP) (A) or the sensor (rear tamper HP) (B) from the media compiler unit assembly (C).

13. Remove the sensor(s).

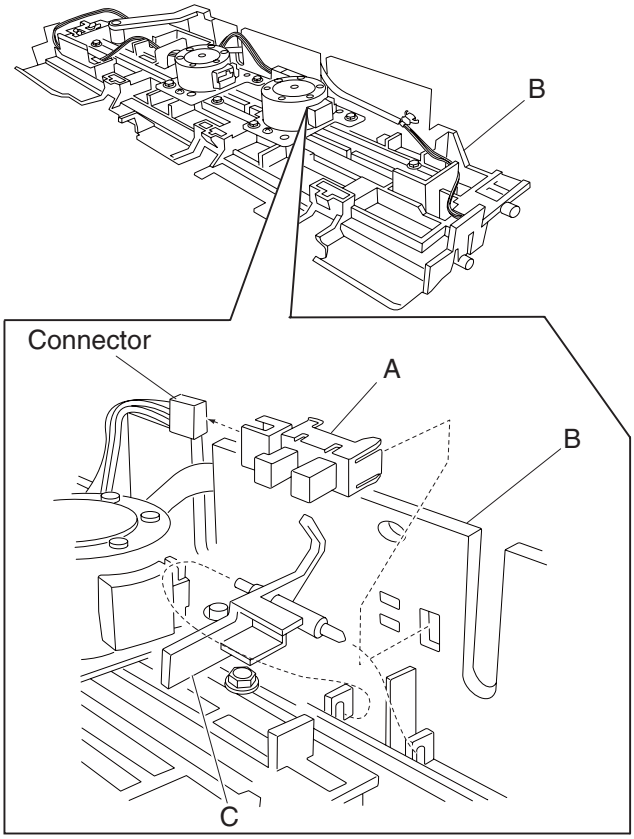
    Note: The sensors are identical.



Sensor (compiler media in) removal

1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the rear lower cover. See **"Rear lower cover removal" on page 4-22**.
4. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
5. Remove the upper media bin vertical cover. See **"Right eject cover removal" on page 4-20**.
6. Remove the stapler unit frame. See **"Stapler unit frame removal" on page 4-53**.
7. Remove the media eject clamp motor assembly. See**"Media eject clamp motor assembly removal" on page 4-65**.
8. Remove the media eject unit assembly. See **"Media eject unit assembly removal" on page 4-58**.
9. Remove the media eject motor assembly. See **"Media eject motor assembly removal" on page 4-77**.
10. Remove the media compiler unit assembly. See **"Media compiler unit assembly removal" on page 4-68**.
11. Disconnect the connector from the sensor (compiler media in) (A).
12. Release the hooks securing the sensor (compiler media in) (A) to the compiler unit assembly (B).

13. Move the compiler media present actuator (C) downward as shown.

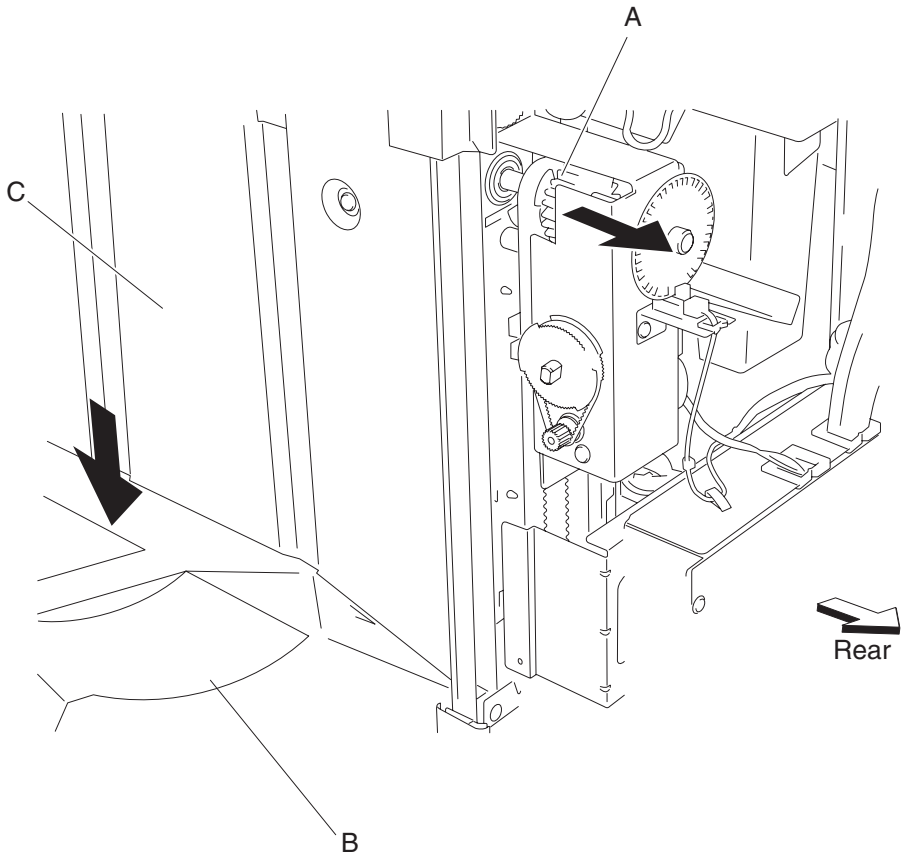


14. Remove the sensor (compiler media present) (A).

Media eject shaft assembly removal

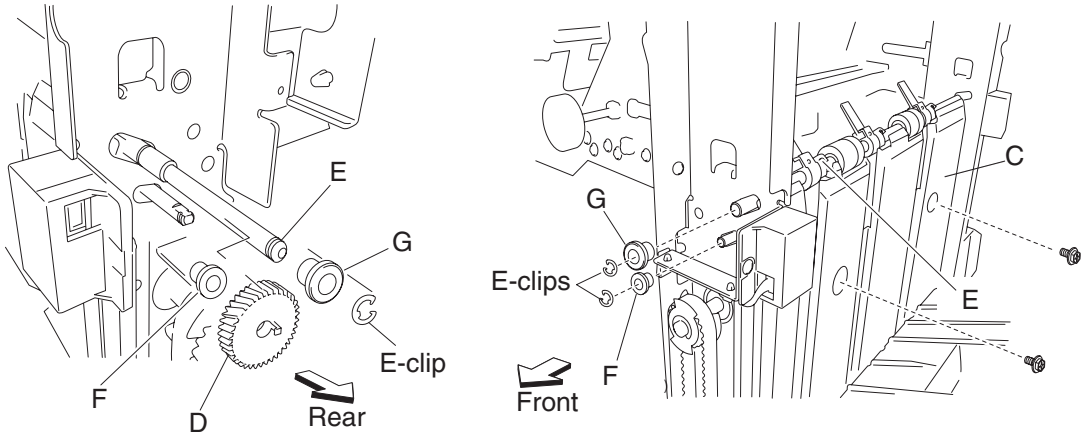
1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Move the slip clutch gear 24T (A) toward the rear as shown to disengage the stacker bin (B).
4. Move the stacker bin down as shown to its lowest position after it is disengaged.

   Note: Make sure the stacker bin is at its lowest position before continuing.
5. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
6. Remove the four screws securing the right panel (C) to the finisher.

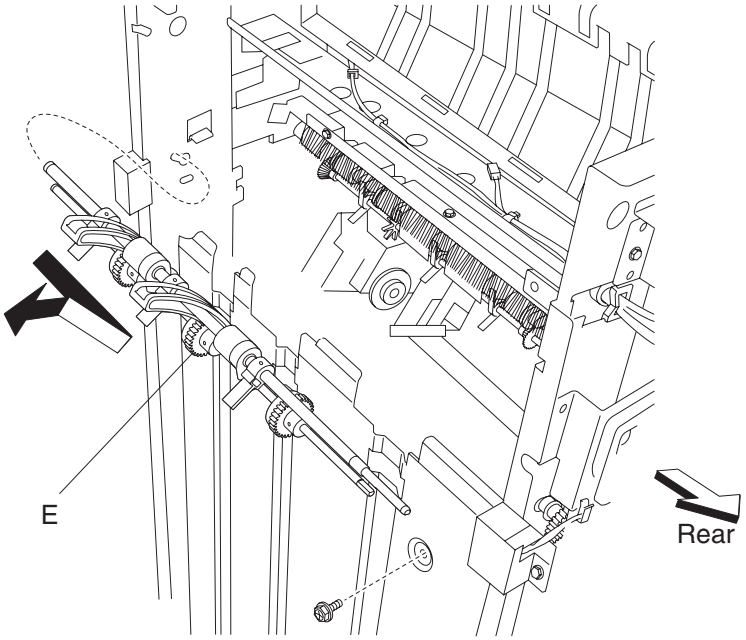


7. Remove the media eject motor assembly. See **"Media eject motor assembly removal" on page 4-77**.
8. Release the hook of the media eject shaft gear 39T (D) from the media eject shaft assembly (E).
9. Remove the media eject shaft gear 39T (D).
10. Remove the 6 mm bushing (F).
11. Use a prying tool to remove the e-clip securing the media eject shaft assembly (E) to the rear of the finisher.
12. Remove the 8 mm bushing (G).
13. Remove the two e-clips securing the media eject shaft assembly (E) to the front of the finisher.
14. Remove the 6 mm bushing (F) and the 8 mm bushing (G).

15. Move the media eject shaft assembly toward the rear and outward as shown.

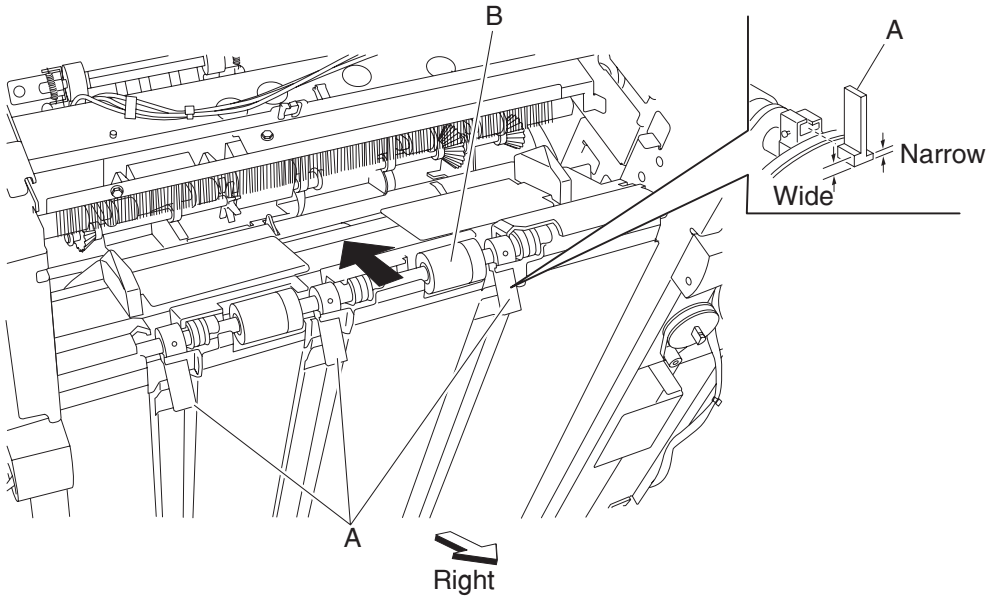


16. Remove the media eject shaft assembly (E).



Clamp paddle removal

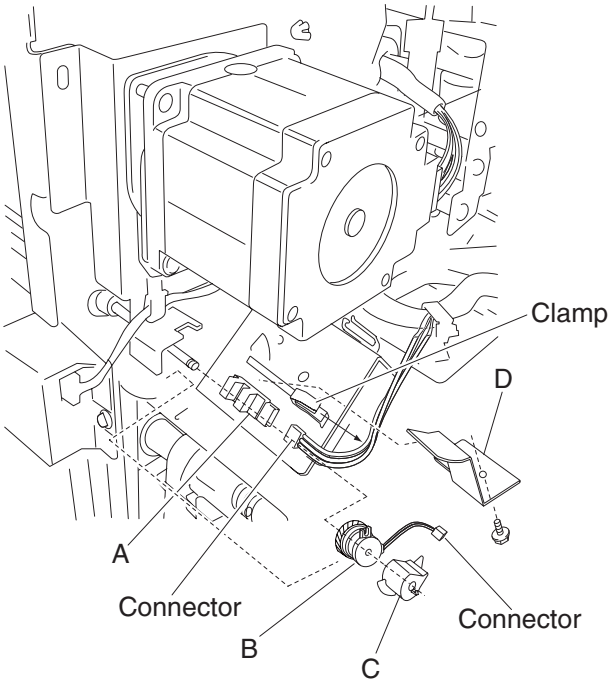
1. Remove the finisher front door assembly. See **“Finisher front door assembly removal” on page 4-26**.
2. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
3. Remove the media eject shaft assembly. See **“Media eject shaft assembly removal” on page 4-73**.
4. Remove the three clamp paddles (A) by sliding them out of the media eject shaft assembly (B).

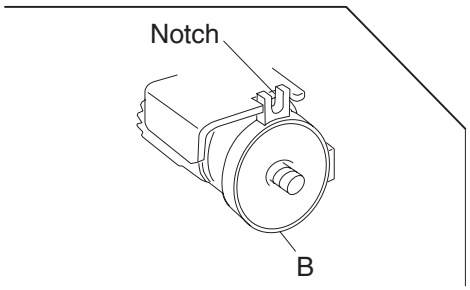


Replacement note: Replacement is easier if you lightly moisten the rubber surface of the paddles with water.

Media eject clutch assembly removal

1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Disconnect the connector from the sensor (media eject shaft HP) (A).
3. Release the harness from the clamp.
4. Disconnect the connector from the media eject clutch (B).
5. Release the harness from the clamp.
6. Release the hook securing the media eject clutch actuator (C) to the media eject clutch (B).
7. Remove the screw securing the spring clamp (D) to the finisher.



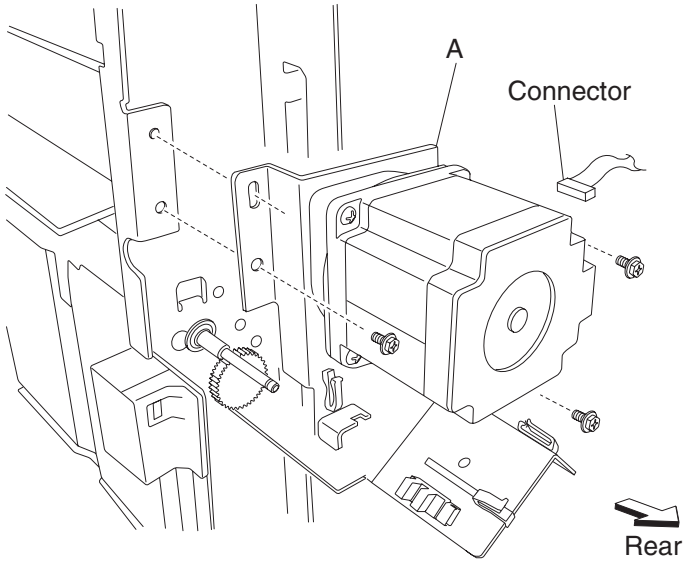


8. Remove the spring clamp (D).
9. Remove the media eject clutch actuator (C).
10. Remove the media eject clutch assembly (B).

    Installation note: Make sure the hook on the media eject clutch assembly is placed in the notch of the bracket.

Media eject motor assembly removal

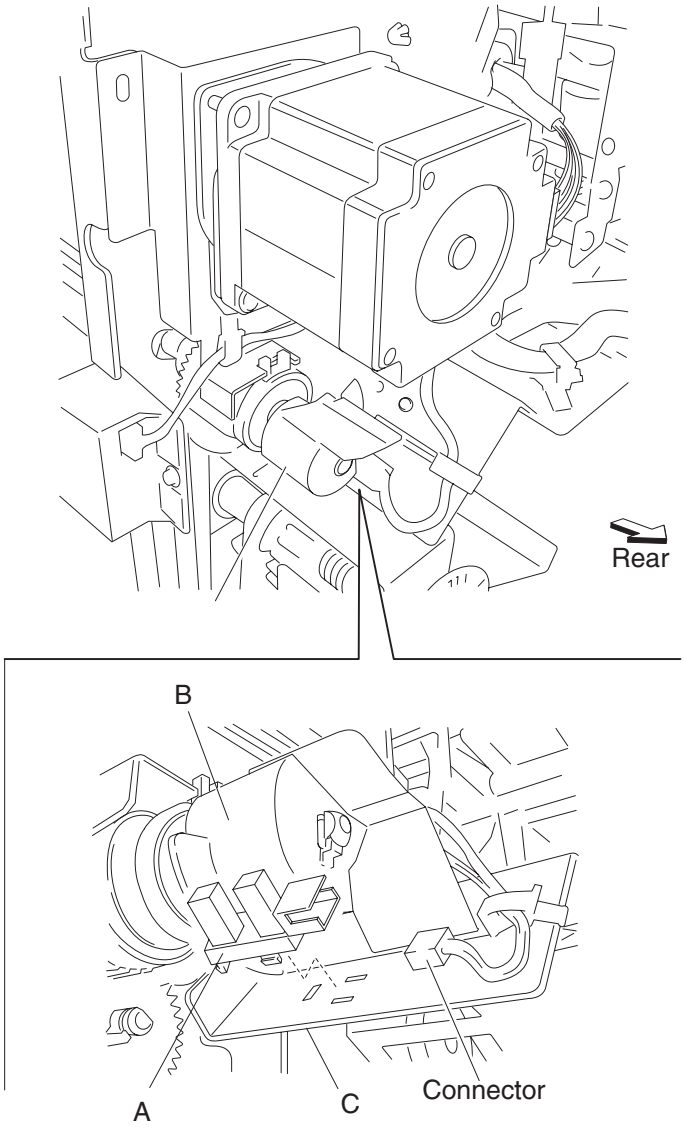
1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Remove the media eject clutch. See **"Media eject clutch assembly removal" on page 4-76**.
3. Disconnect the connector from the media eject motor assembly (A).
4. Disconnect the connector from the sensor (media bin level 2) (B).
5. Remove the three screws securing the media eject motor assembly (A).



6. Remove the media eject motor assembly (A).
7. Remove any remaining harnesses from the clamps.

Sensor (media eject shaft HP) removal

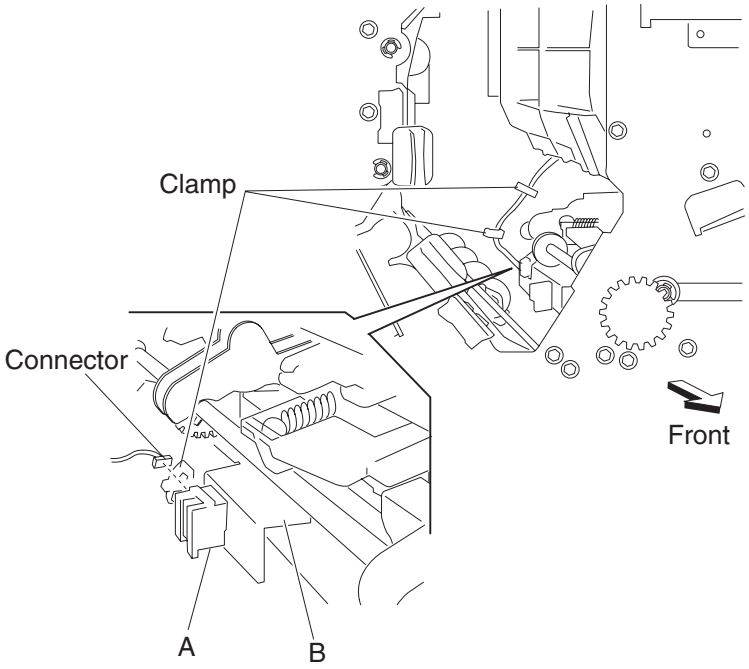
1. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
2. Disconnect the connector from the sensor (media eject shaft HP) (A).
3. Rotate the media eject clutch actuator (B) by hand so it clears the sensor (media eject shaft HP) (A).
4. Release the hooks securing the sensor (media eject shaft HP) (A) to the bracket (C).



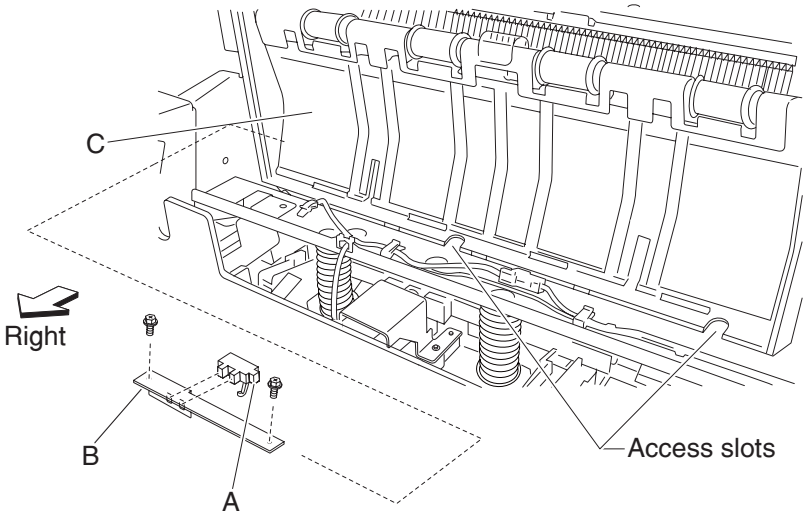
5. Remove the sensor (media eject shaft HP) (A).

Sensor (lower media exit) removal

1. Open the finisher front door assembly.
2. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
3. Disconnect the connector from the sensor (lower media exit) (A).
4. Remove the harness from the clamps.
5. Remove the two screws securing the bracket (B) to the finisher.



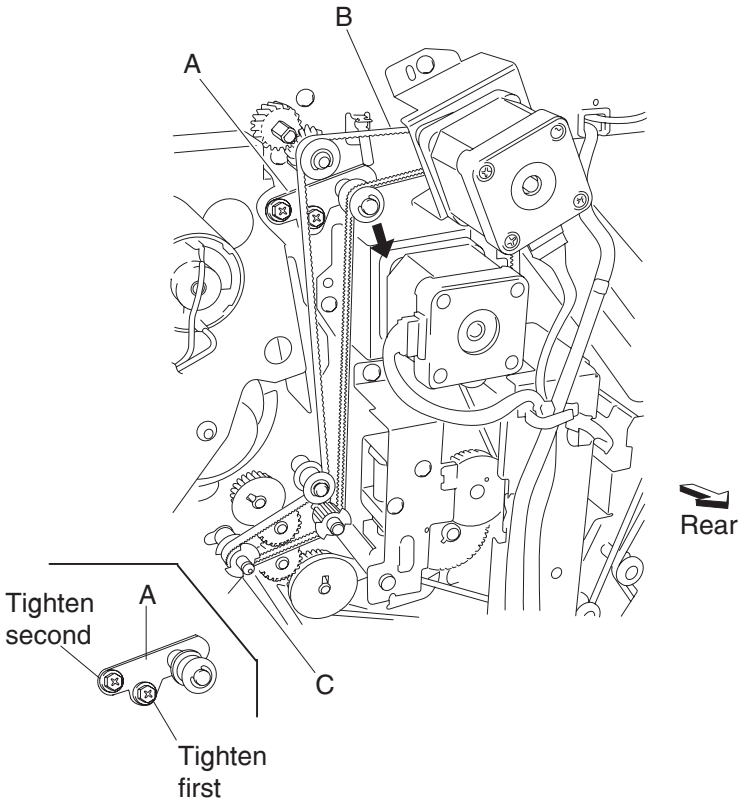
Note: The upper media bin vertical cover (C) has slots that make access to the screws easier, as shown.

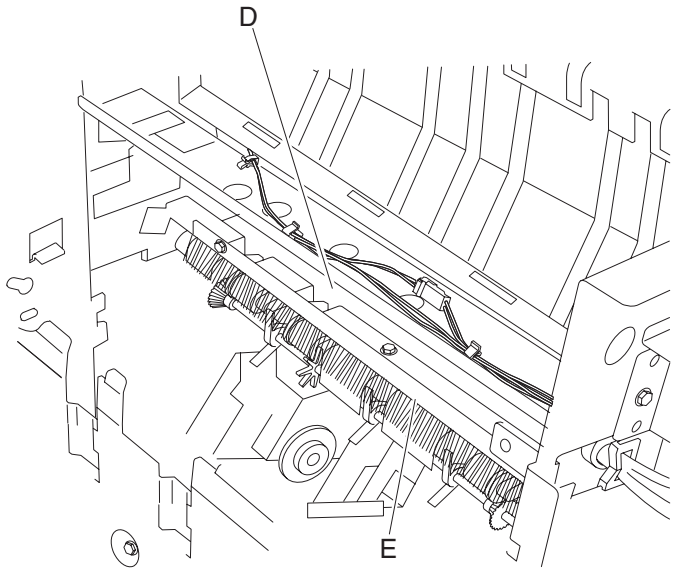


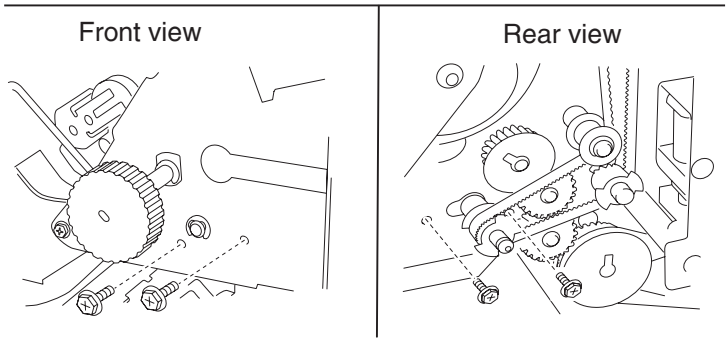
6. Remove the bracket (B).
7. Release the hooks securing the sensor (lower media exit) (A) to the bracket.
8. Remove the sensor (lower media exit) (A).

Lower media exit roll assembly removal

1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
4. Remove upper media bin vertical cover. See **"Right eject cover removal" on page 4-20**.
5. Remove the rear lower cover. See **"Rear lower cover removal" on page 4-22**.
6. Remove the stapler unit frame. See **"Stapler unit frame removal" on page 4-53**.
7. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
8. Remove the upper media bin vertical cover. See **"Right eject cover removal" on page 4-20**.
9. Remove the stapler unit frame. See **"Stapler unit frame removal" on page 4-53**.
10. Remove the media eject clamp motor assembly. See **"Media eject clamp motor assembly removal" on page 4-65**.
11. Remove the media eject unit assembly. See **"Media eject unit assembly removal" on page 4-58**.
12. Remove the media compiler unit assembly. See **"Media compiler unit assembly removal" on page 4-68**.
13. Remove the media eject clutch. See **"Media eject clutch assembly removal" on page 4-76**.
14. Remove the media eject motor assembly. See **"Media eject motor assembly removal" on page 4-77**.
15. Remove the media eject shaft assembly. See **"Media eject shaft assembly removal" on page 4-73**.
16. Remove the main paddle shaft assembly. See **"Paddle and roll exit assembly removal" on page 4-84**.
17. Loosen the two screws securing the belt tensioner bracket (A) to the finisher, and move the bracket down in the direction of the arrow.
18. Remove the belt (exit) (B) from the lower exit roll drive pulley 20T (C).

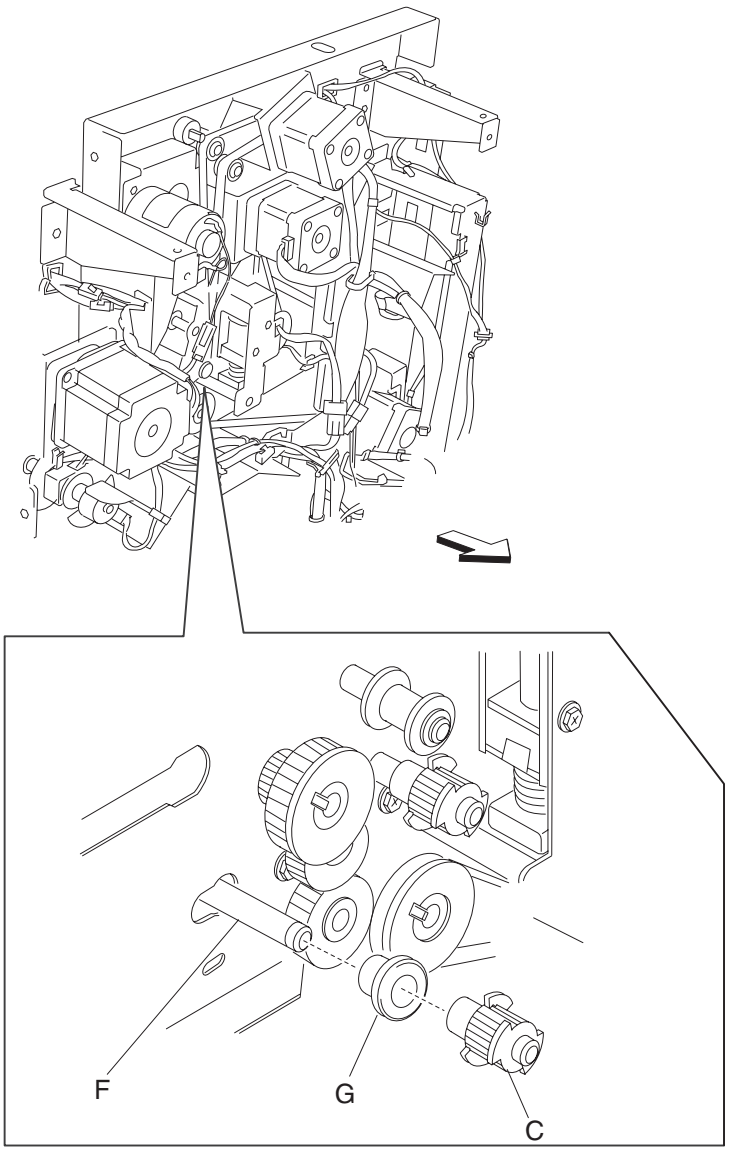






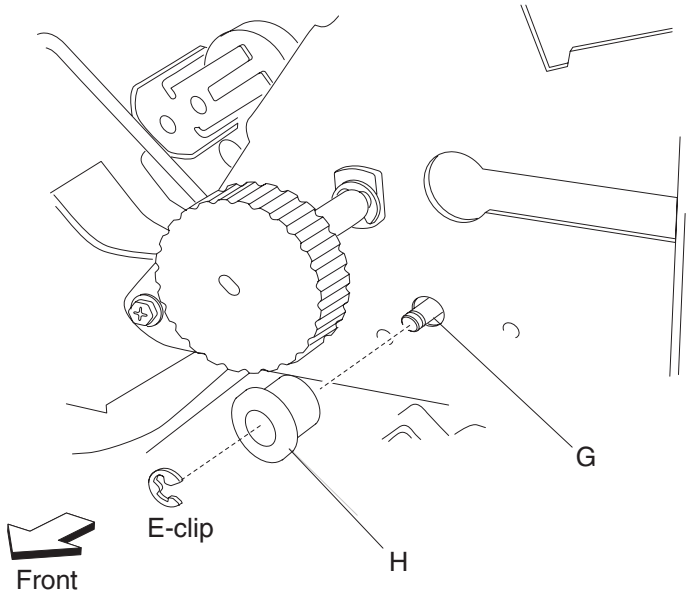
19. Release the hook of the lower exit roll drive pulley 20T (C) from the lower media exit roll assembly (F).
20. Remove the lower exit roll drive pulley 20T (C).

21. Remove the 6 mm ball bearing (G).

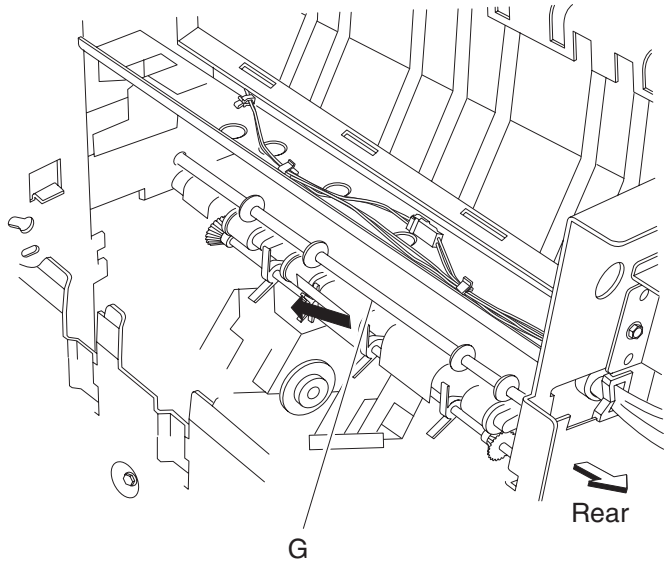


22. Use a prying tool to remove the e-clip on the front of the finisher securing the lower media exit roll assembly (F) to the finisher.

23. Remove the 6 mm bushing (H).



24. Move the lower media exit roll assembly (F) towards the rear and outward, as shown.

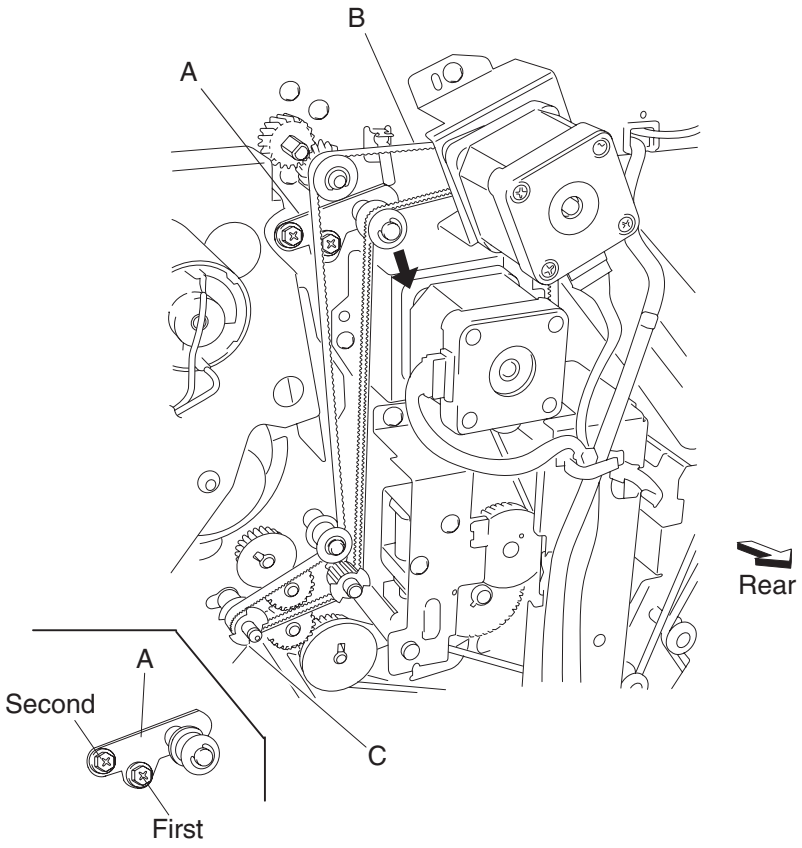


25. Remove the lower media exit roll assembly (F).

Paddle and roll exit assembly removal

1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the rear lower cover. See **"Rear lower cover removal" on page 4-22**.
4. Remove the upper media bin assembly. See**"Upper media bin assembly removal" on page 4-19**.
5. Remove the upper media bin vertical cover. See **"Right eject cover removal" on page 4-20**.
6. Remove the stapler unit frame. See **"Stapler unit frame removal" on page 4-53**.
7. Remove the media eject clamp motor assembly. See**"Media eject clamp motor assembly removal" on page 4-65**.
8. Remove the media eject unit assembly. See **"Media eject unit assembly removal" on page 4-58**.
9. Remove the media compiler unit assembly. See **"Media compiler unit assembly removal" on page 4-68**.
10. Remove the media eject motor assembly. See **"Media eject motor assembly removal" on page 4-77**.
11. Remove the media eject shaft assembly. See **"Media eject shaft assembly removal" on page 4-73**.
12. Loosen the two screws securing the belt tensioner bracket (A) to the finisher, and move it down, as shown.

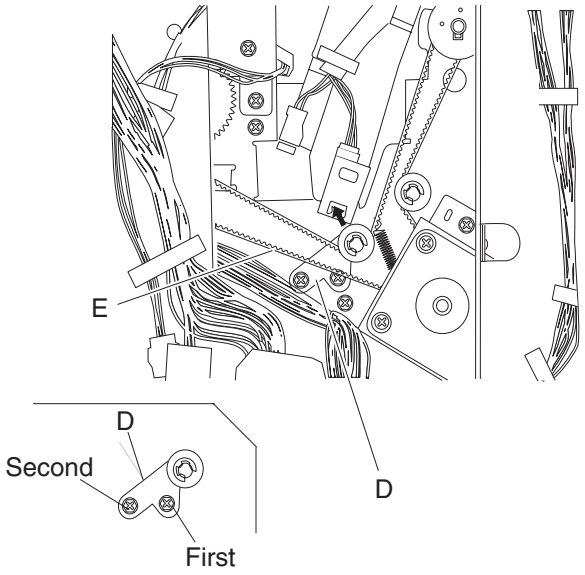
    Replacement note: When replacing the belt tensioner bracket (A), tighten the screws in the order shown.
13. Remove the belt (exit) (B) from the lower exit roll drive pulley 20T (C).

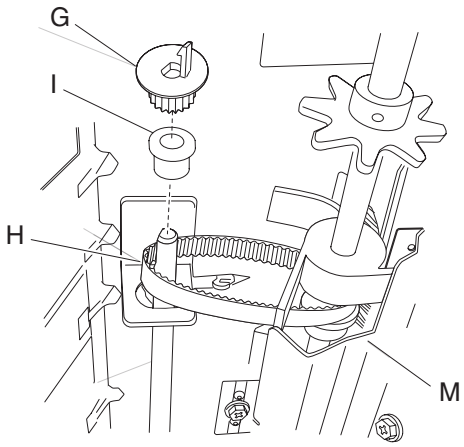


14. Loosen the two screws securing the belt tensioner bracket (D) to the finisher and move it upward, as shown.

    Replacement note: When replacing the belt tensioner bracket (D), tighten the screws in the order shown.
15. Remove the belt (paddle/entrance) (E) from the main paddle drive pulley/gear 44/20T (F).
16. Release the hook from the main paddle shaft drive pulley 17T (G) inside the finisher.
17. Remove the main paddle shaft drive pulley 17T (G).

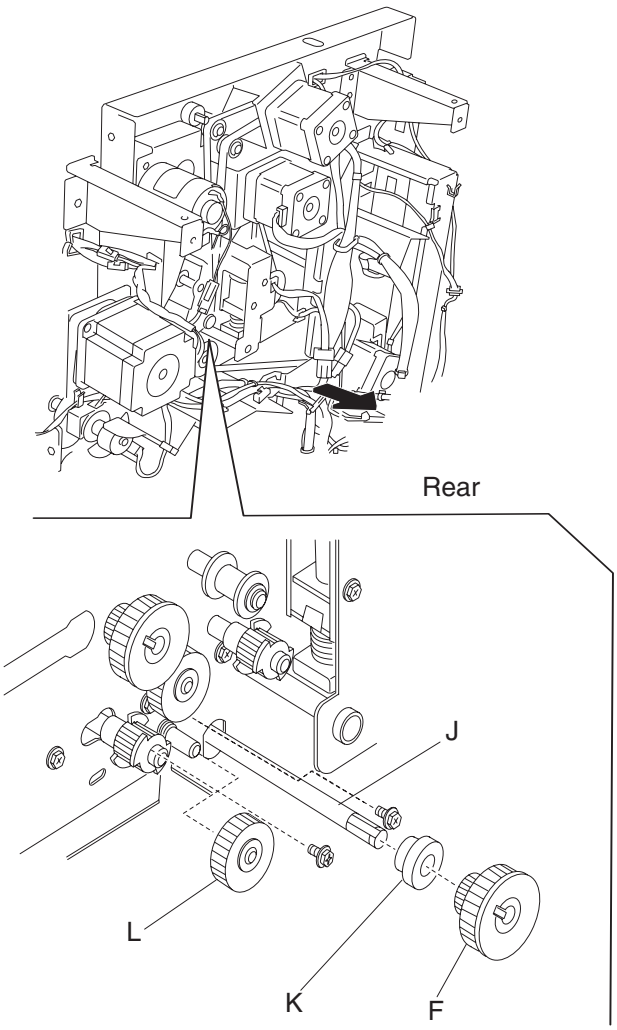
    Note: The belt (H) will become attached.





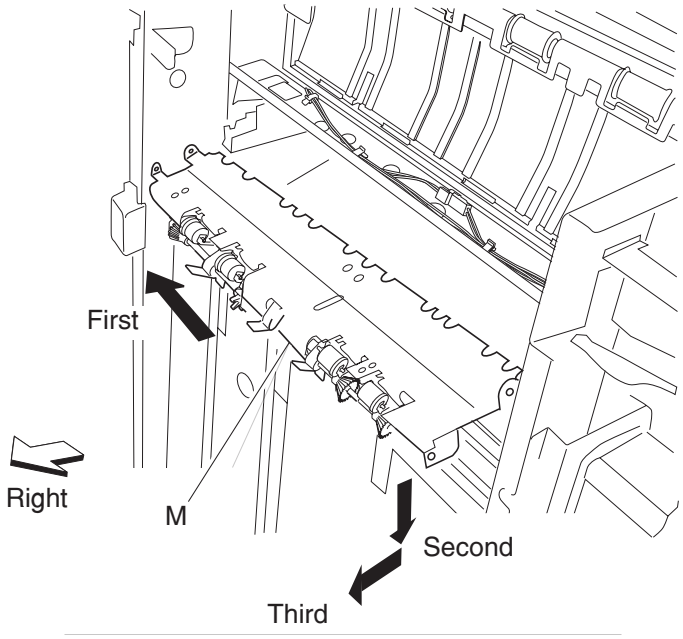
18. Remove the 6 mm bushing (I).
19. Release the hook of the main paddle drive pulley/gear 44/20T (F) from the shaft (J).
20. Remove the main paddle drive pulley/gear 44/20T (F).
21. Remove the 6 mm bushing (K).
22. Remove the main paddle idler gear 23T right (L).
23. Remove the two front and the two rear screws securing the main paddle shaft assembly (M).
24. Move the main paddle shaft assembly (M) forward and then downward and outward.

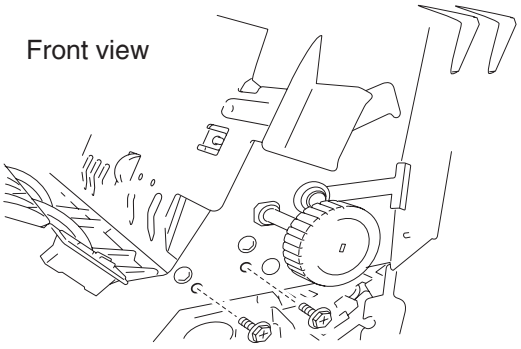
25. Remove the main paddle shaft assembly.



Replacement notes:

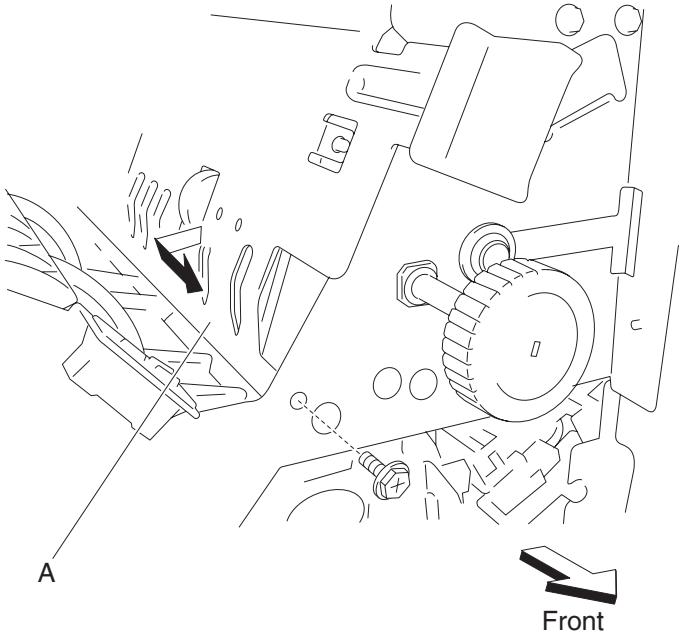
- The tension of the belt (exit) (A) and the belt (paddle/entrance) (E) is automatically adjusted by the force of the spring attached to the belt tensioner bracket (A and D).
- Tighten the screws in the order shown.





Lower pinch guide assembly removal

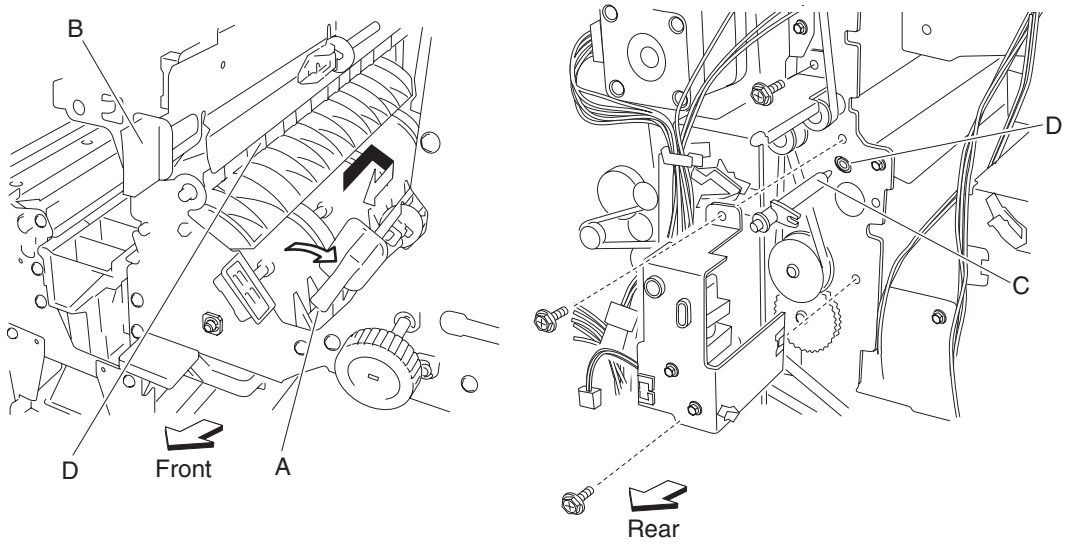
1. Open the finisher front door assembly.
2. Open the lower pinch guide assembly (A) by lifting it upward.
3. Remove the screw securing the lower pinch guide assembly (A) to the finisher.
4. Move the lower pinch guide assembly (A) upward and outward.



5. Remove the lower pinch guide assembly (A).

Finisher diverter gate removal

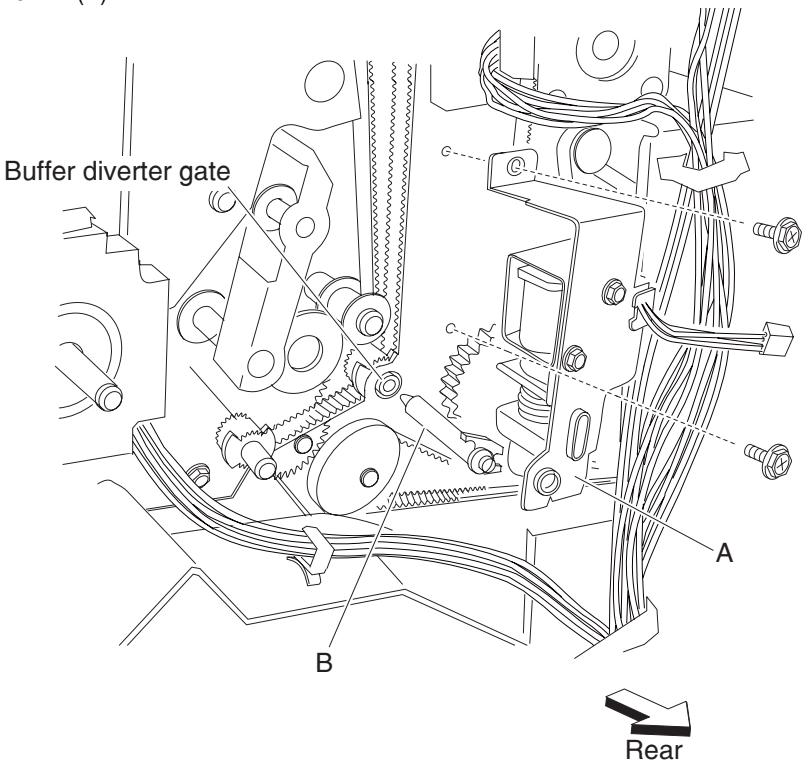
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
3. Open the lower pinch guide assembly (A) to the right.
4. Open the upper pinch guide assembly (B) to the right.
5. Remove the finisher diverter gate solenoid. See **“Finisher diverter gate solenoid removal” on page 4-100**.
6. Remove the link (C).
7. Move the finisher diverter gate (D) toward the rear, to the right, and forward, as shown.



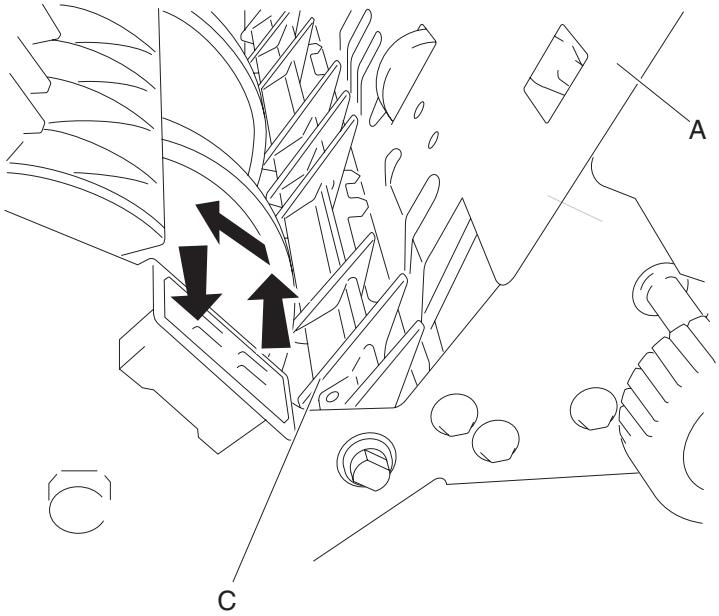
8. Remove the finisher diverter gate (D).

Buffer diverter gate removal

1. Open the finisher front door assembly.
2. Move the lower pinch guide assembly (A) to the right.
3. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
4. Remove the buffer diverter gate solenoid. See **"Buffer diverter gate solenoid removal" on page 4-101**.
5. Remove the link (B).



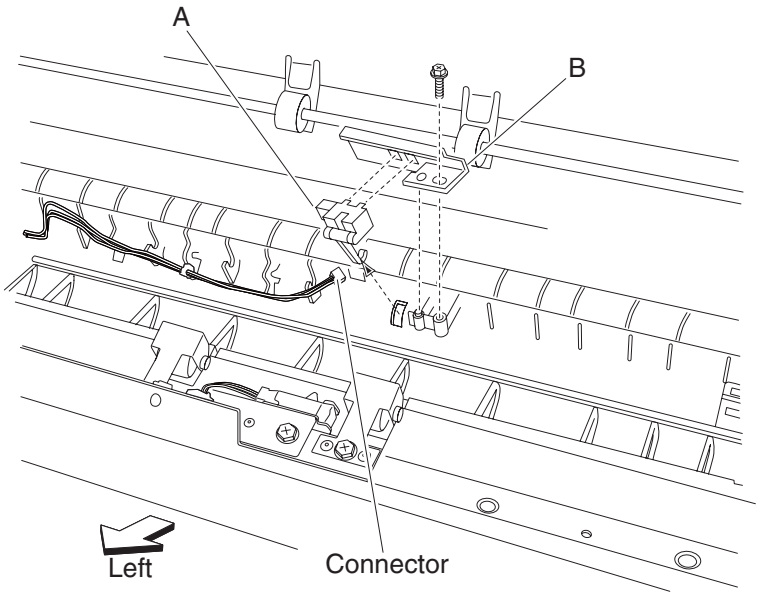
6. Move the buffer diverter gate (C) toward the rear, the left, and then forward, as shown.



7. Remove the buffer diverter gate (C).

Sensor (buffer path) removal

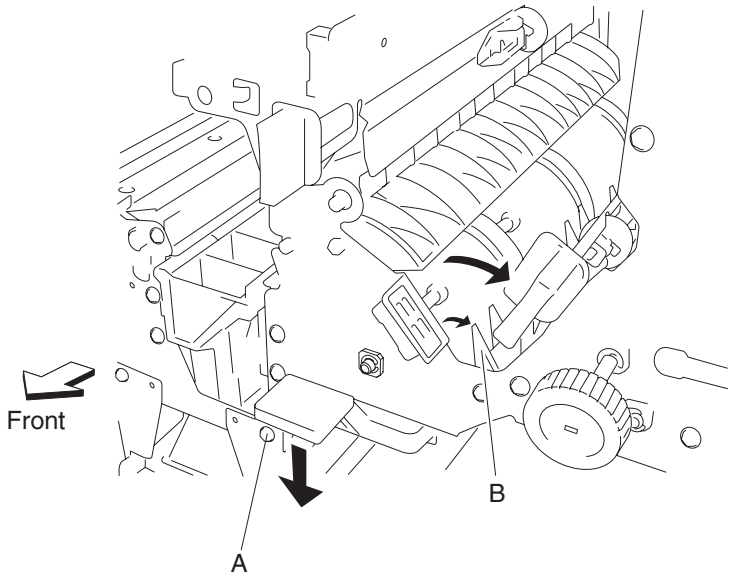
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
3. Remove the upper media bin assembly. See **“Upper media bin assembly removal” on page 4-19**.
4. Remove the top cover. See **“Top cover removal” on page 4-18**.
5. Remove the left lower cover. See **“Left lower cover removal” on page 4-27**.
6. Remove the left upper cover. See **“Left upper cover removal” on page 4-28**.
7. Remove the punch carriage assembly. See **“Punch carriage assembly removal” on page 4-40**.
8. Disconnect the connector from the sensor (buffer path) (A).
9. Remove the screw securing the bracket (B) to the finisher.



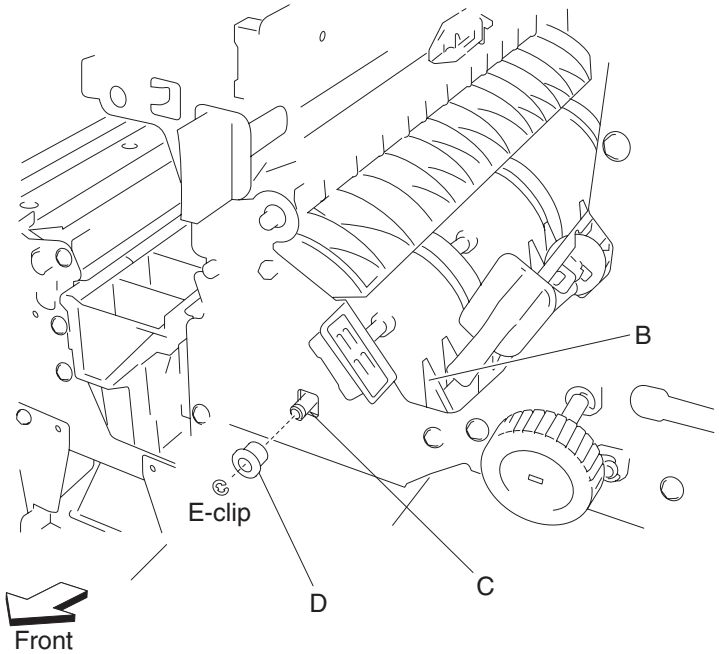
10. Remove the bracket (B).
11. Release the hooks securing the sensor (buffer path) (A) to the bracket (B).
12. Remove the sensor (buffer path) (A).

Finisher buffer roll assembly removal

1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Open the finisher front door assembly.
3. Remove the stapler unit cartridge.
4. Move the stapler unit assembly by hand as far to the rear as it will go.
5. Lower the buffer pinch guide assembly (A).
6. Move the lower pinch guide assembly to the right.
7. Position the buffer diverter gate (B) using your finger to its upper-most position.

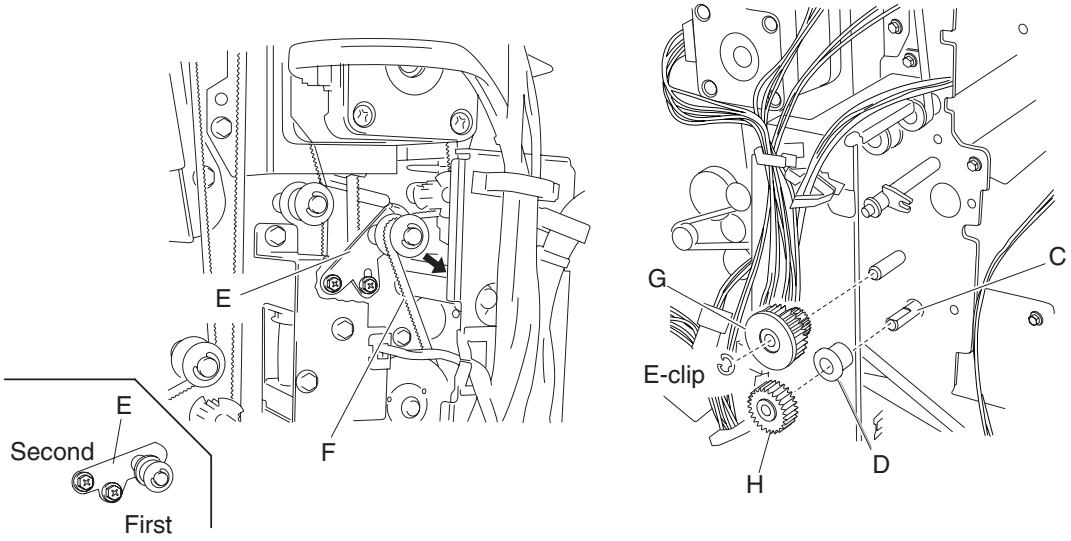


8. Use a prying tool to remove the e-clip securing the buffer roll assembly (C) to the front of the finisher.
9. Remove the 6 mm bushing (D).



10. Remove the finisher diverter gate solenoid. See **"Finisher diverter gate solenoid removal" on page 4-100**.

11. Loosen the two screws securing the belt tensioner bracket (E) to the finisher and move it downward, as shown.
12. Remove the belt (buffer/transport) (F) from the buffer roll drive gear 46T (G).

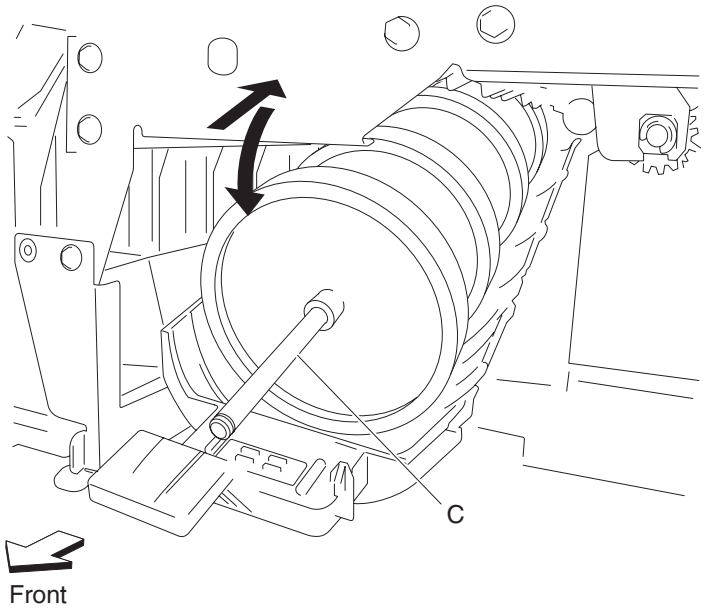


13. Use a prying tool to remove the e-clip securing the buffer roll drive gear 23/53T (G).
14. Remove the buffer roll drive gear 53/23T (G).
15. Release the hook of the buffer roll drive gear 46T (H) from the buffer roll assembly (C).
16. Remove the buffer roll drive gear 46T (H).
17. Remove the 6 mm bushing (D).
18. Remove the buffer roll assembly (C) from inside the finisher.

    Note: When removing the buffer roll assembly (C), do not touch the rubber surface.

    Replacement notes:

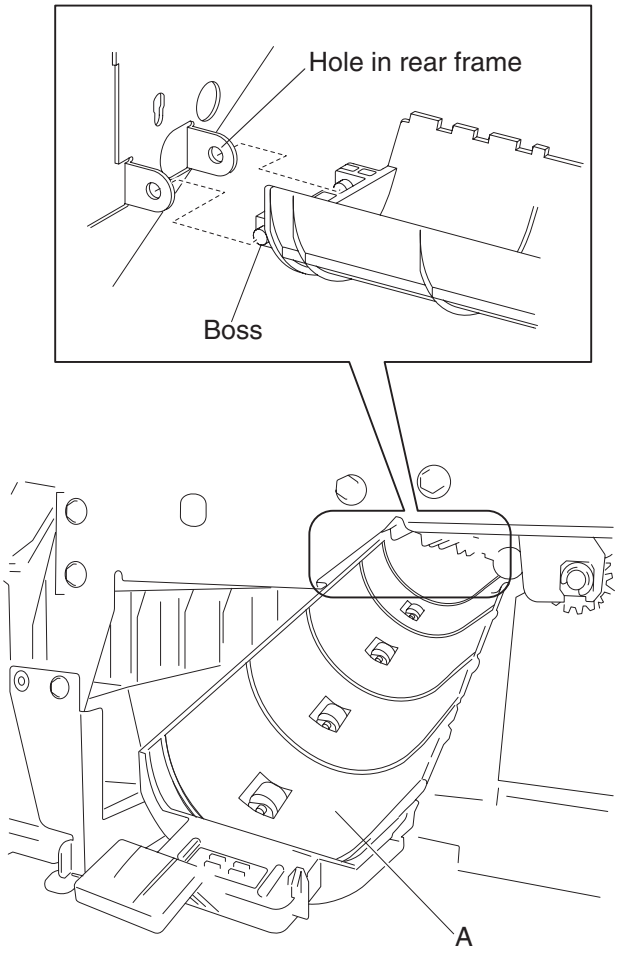
    • Make sure the flat spot on the end of the buffer roll assembly (C) is installed to the rear.



    • When replacing the buffer roll assembly, do not touch the rubber surface.
    • The tension of the belt (buffer/transport) (F) is automatically adjusted by the force of the spring attached to the belt tensioner bracket (E).
    • Tighten the two screws in the order shown.

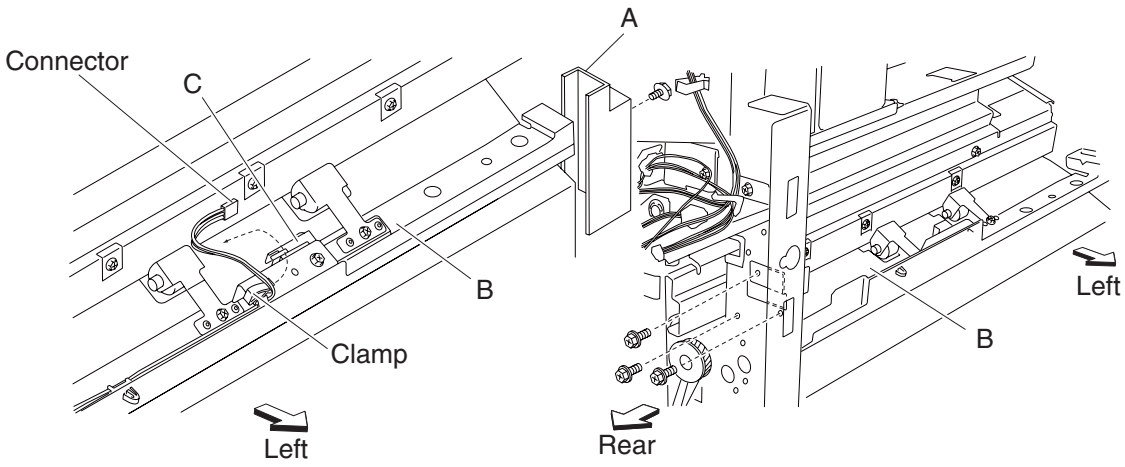
Buffer pinch guide assembly removal

1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the rear lower cover. See **"Rear lower cover removal" on page 4-22**.
4. Remove the stapler unit frame. See **"Stapler unit frame removal" on page 4-53**.
5. Lower the buffer pinch guide assembly (A) as far as it will go.
6. Move the buffer pinch guide assembly (A) to the right to remove the two bosses from the holes in the finisher.



Media entrance pinch guide assembly removal

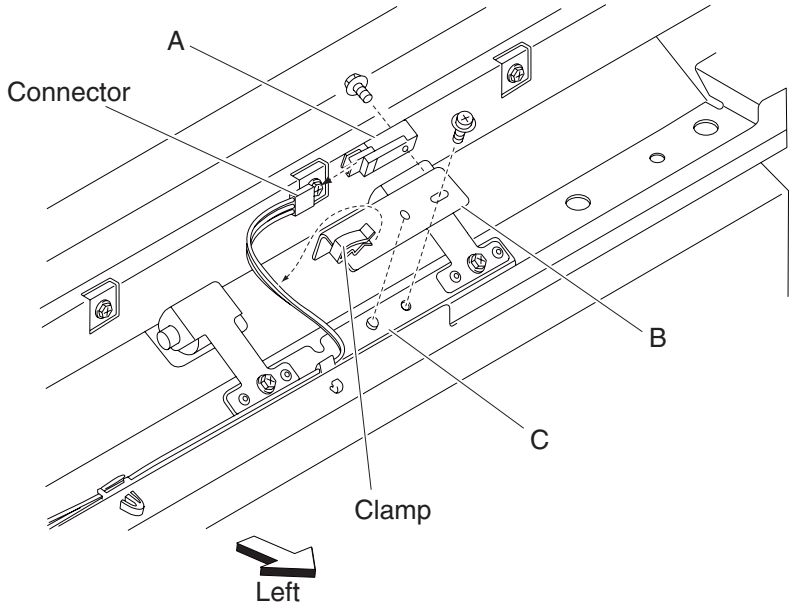
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the left lower cover. See **"Left lower cover removal" on page 4-27**.
4. Remove the left upper cover. See **"Left upper cover removal" on page 4-28**.
5. Remove the screw securing the cover (A) to the media entrance pinch guide assembly (B).
6. Remove the cover (A).
7. Disconnect the connector from the sensor (finisher media entrance) (C).
8. Release the harness from the clamps.
9. Remove the three screws securing the media entrance pinch guide assembly (B).



10. Remove the entrance pinch guide assembly (B) from the finisher.

Sensor (finisher media entrance) removal

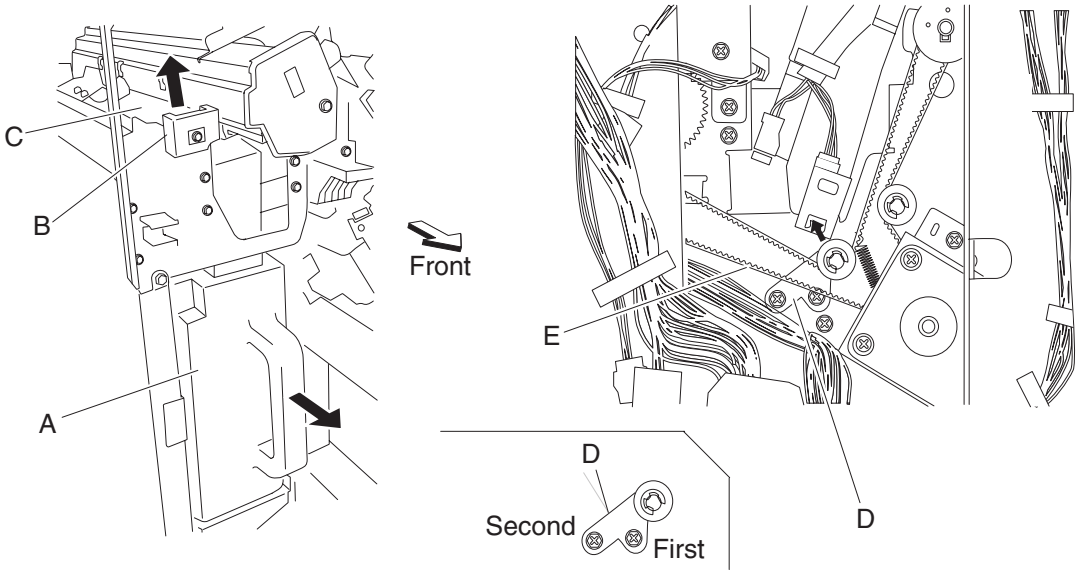
1. Open the front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
4. Remove the top cover. See **"Top cover removal" on page 4-18**.
5. Remove the left lower cover. See **"Left lower cover removal" on page 4-27**.
6. Remove the left upper cover. See **"Left upper cover removal" on page 4-28**.
7. Disconnect the connector from the sensor (finisher media entrance) (A).
8. Release the harness from the clamp.
9. Remove the screw securing the bracket (B) to the media entrance pinch guide assembly (C).



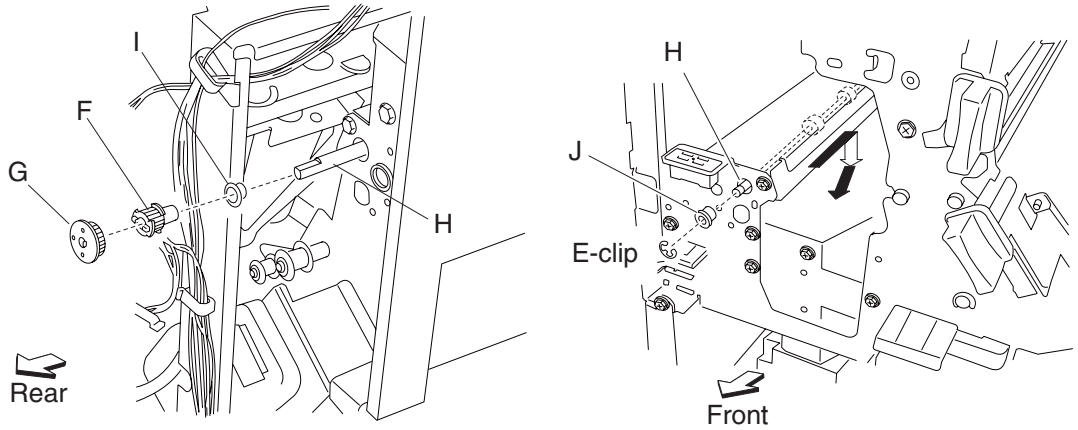
10. Release the hooks securing the sensor (finisher media entrance) (A) to the bracket (B).
11. Remove the sensor (finisher media entrance) (A).

Finisher media entrance roll assembly removal

1. Remove the finisher front door assembly. See **"Finisher front door assembly removal" on page 4-26**.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the left upper cover. See **"Left upper cover removal" on page 4-28**.
4. Remove the punch waste box (A) from the finisher.
5. Remove the screw securing the cover (B) to the media entrance pinch guide assembly.
6. Remove the cover (B).
7. Lift the media entrance pinch guide assembly (C).
8. Loosen the two screws securing the belt tensioner bracket (D) to the finisher and move it upward in the direction of the arrow.
9. Remove the belt (entrance/paddle) (E) from the entrance drive pulley 20T (F).



10. Release the hook securing the entrance drive gear 23T (G) to the media entrance roll assembly (H).
11. Remove the entrance drive gear 23T (G).
12. Remove the entrance drive pulley 20T (F).
13. Remove the bushing (I).
14. Remove the e-clip securing the media entrance roll assembly (H) to the front of the finisher.
15. Remove the bushing (J).



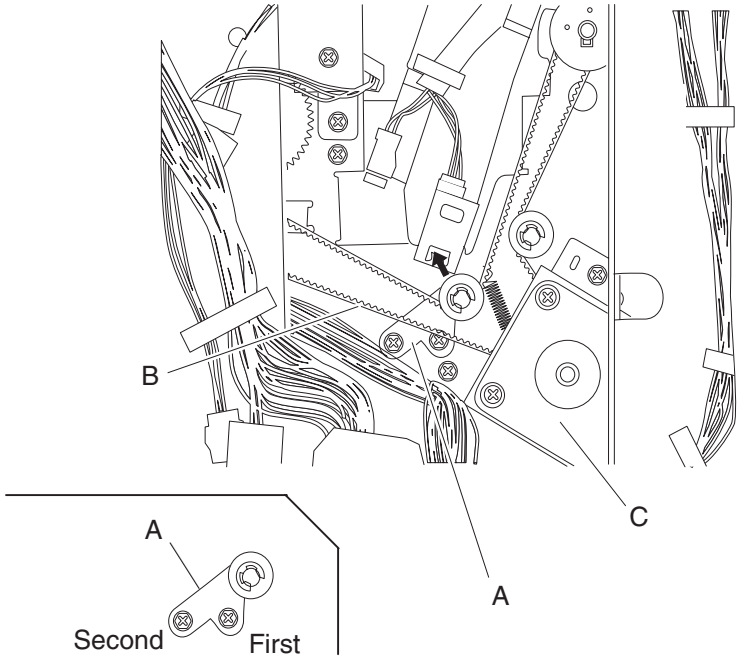
16. Move the media entrance roll assembly (H) toward the rear, downward, and then forward.
17. Remove the media entrance roll assembly (H) through the inside of the finisher.

    Note: When removing the media entrance roll assembly (H), do not touch the rubber surface.

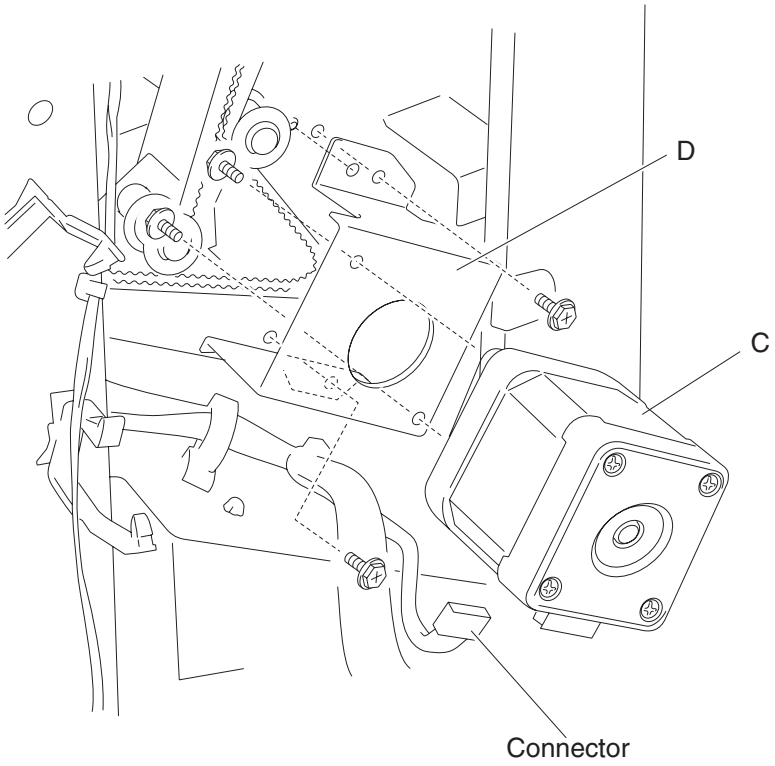
    Replacement notes:
    - Make sure the flat spot on the media entrance roll assembly (H) is installed to the rear.
    - When replacing the media entrance roll assembly (H), do not touch the rubber surface.
    - The tension of the belt (entrance/paddle) (E) is automatically adjusted to the force of the spring attached to the belt tensioner bracket (D).
    - Tighten the two screws in the order shown.

Drive motor (entrance/paddle) and belt (entrance/paddle) removal

1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Loosen the two screws securing the belt tensioner bracket (A) to the finisher and move upward, as shown.
3. Remove the belt (entrance/paddle) (B) from the drive motor (entrance/paddle) (C).
4. Disconnect the connector from the drive motor (entrance/paddle) (C).



5. Remove the two screws securing the bracket (D) to the finisher.



6. Remove the bracket (D).
7. Remove the two screws securing the bracket (D) to the drive motor (entrance/paddle) (C).
8. Remove the drive motor (entrance/paddle) (C).
9. Remove the belt (entrance/paddle) (B).

Replacement notes:

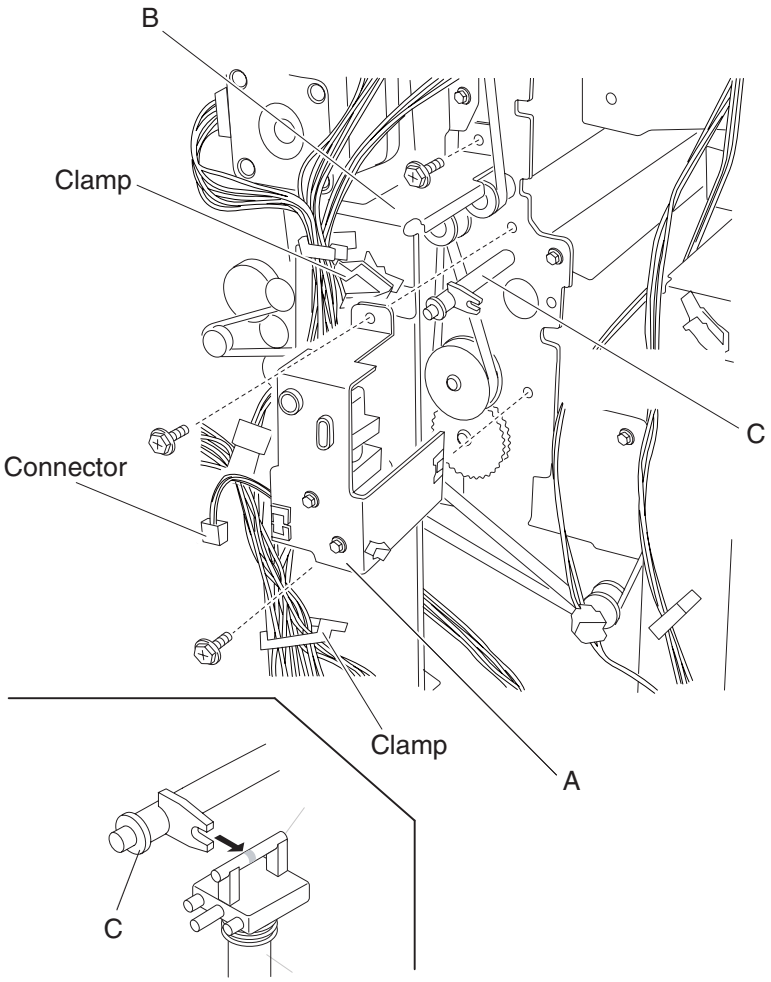
- The tension of the belt (entrance/paddle) (B) is automatically adjusted by the force of the spring attached to the belt tensioner bracket (A).
- Tighten the two screws in the order shown.

Finisher diverter gate solenoid removal

1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Disconnect the connector from the finisher diverter gate solenoid (A).
4. Release the harness from the clamp.
5. Remove the two screws securing the bracket (B) to the finisher.

   Note: The bracket should not be removed from the finisher, it should be gently moved to provide better access to the finisher diverter gate solenoid mounting screws.
6. Remove the two screws securing the finisher diverter gate solenoid (A) to the finisher.
7. Remove the finisher diverter gate solenoid (A).

   Note: The link (C) may remain inserted into the finisher.



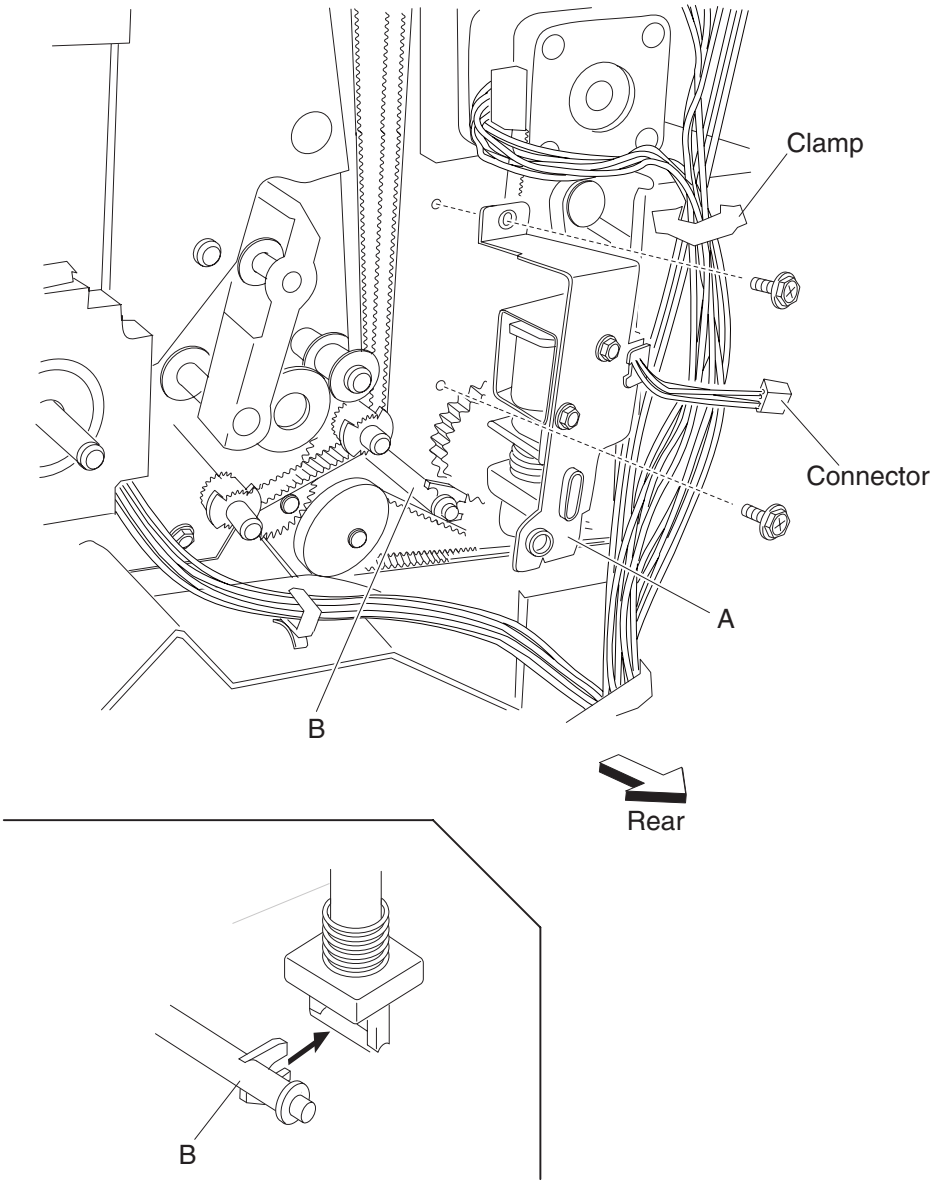
8. Remove the link.

   Note: When the link is removed, the finisher diverter gate may become detached. See **"Finisher diverter gate removal" on page 4-89**.

Buffer diverter gate solenoid removal

1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Disconnect the connector from the buffer diverter gate solenoid (A).
4. Release the harness from the clamp.
5. Remove the two screws securing the buffer diverter gate solenoid to the finisher.
6. Remove the buffer diverter gate solenoid.

   Note: The link (B) may remain inserted into the finisher.

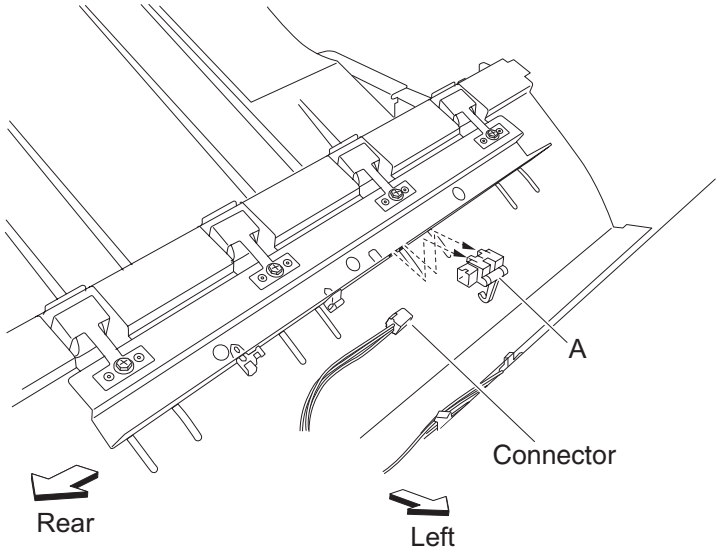


7. Remove the link.

   Note: When the link is removed, the buffer diverter gate may become detached. See **"Buffer diverter gate removal" on page 4-90**.

Sensor (upper media exit) removal

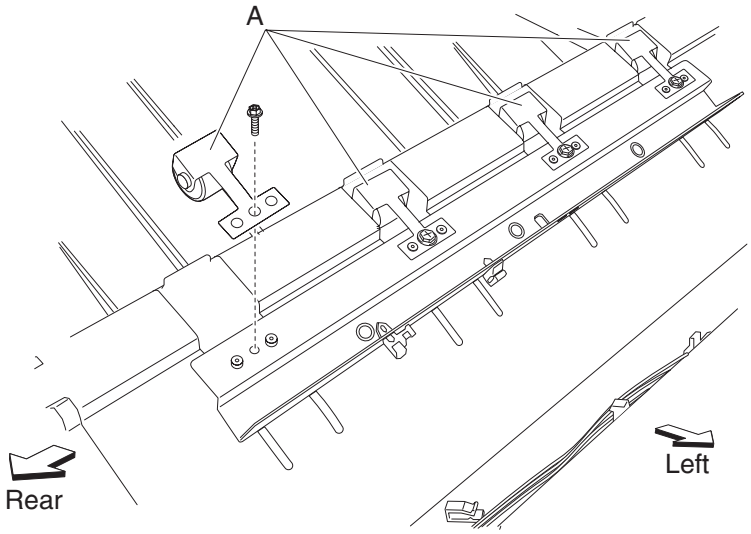
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
4. Remove the top cover. See **"Top cover removal" on page 4-18**.
5. Disconnect the connector from the sensor (upper media exit) (A).



6. Release the hooks securing the sensor (upper media exit) (A) to the finisher.
7. Remove the sensor (upper media exit) (A).

Upper media exit pinch roll assembly removal

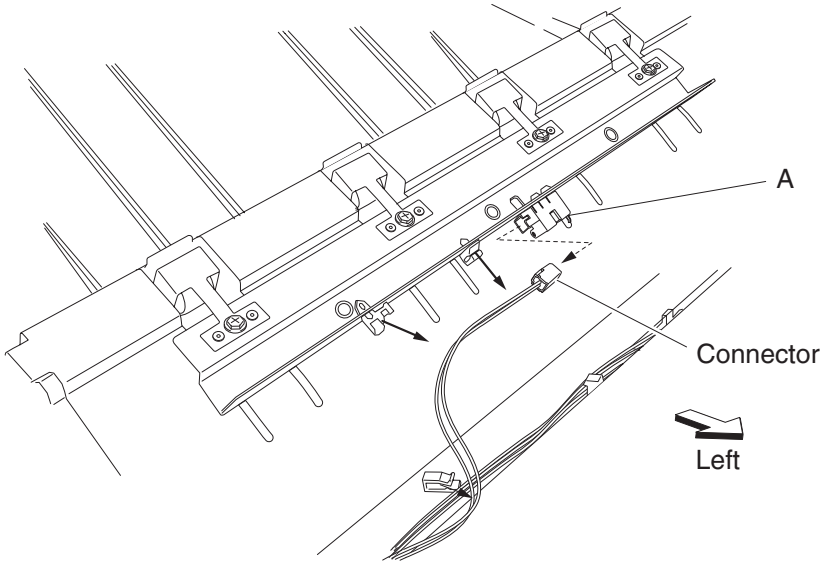
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the upper media bin assembly. See **"Upper media bin assembly removal" on page 4-19**.
4. Remove the top cover. See **"Top cover removal" on page 4-18**.
5. Remove the four screws securing the four upper media exit pinch roll assemblies (A) to the finisher.



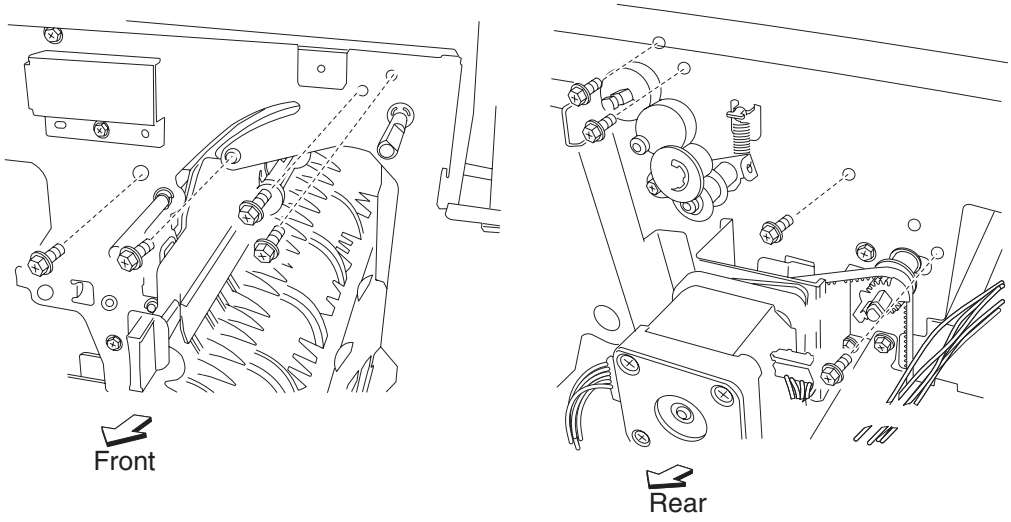
6. Remove the four upper media exit pinch roll assembly (A).

Upper media exit roll assembly removal

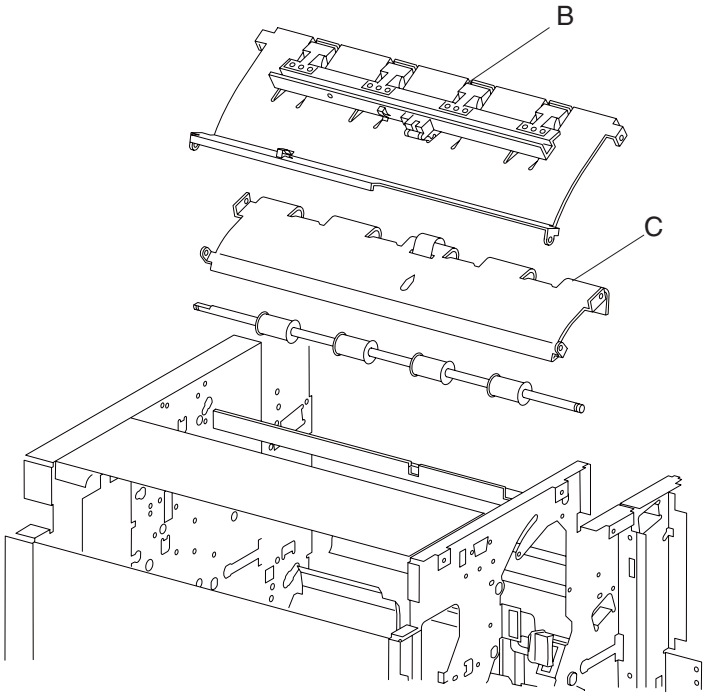
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
3. Remove the upper media bin assembly. See **“Upper media bin assembly removal” on page 4-19**.
4. Remove the top cover. See **“Top cover removal” on page 4-18**.
5. Remove the drive motor (exit). See **“Drive motor (exit) assembly and belt (exit) removal” on page 4-110**.
6. Disconnect the connector from the sensor (upper media exit) (A).



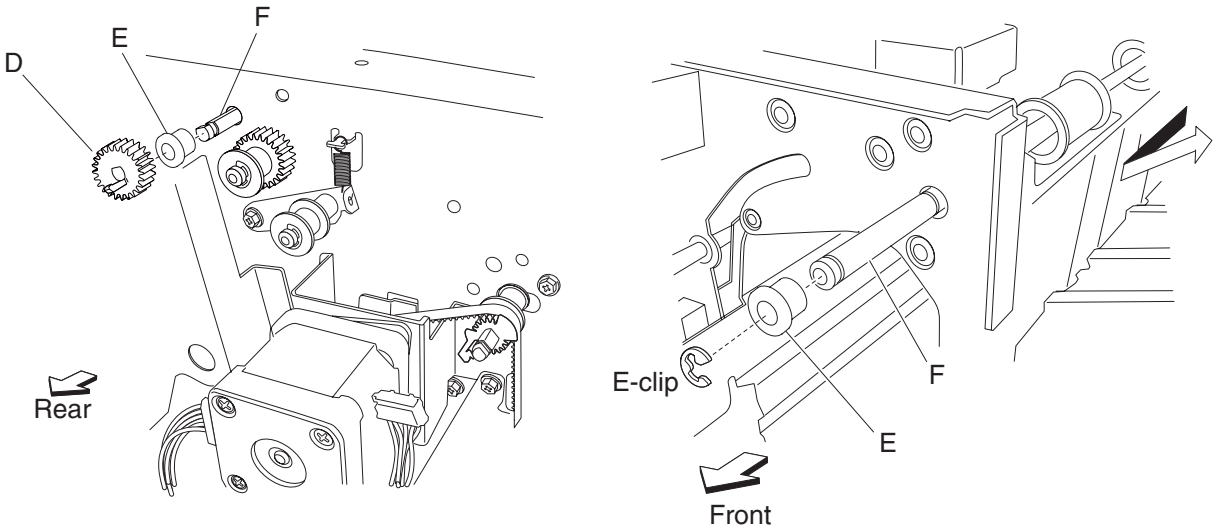
7. Release the harness from the clamps.
8. Remove the two front and two rear screws securing the upper exit guide assembly (B).
9. Remove the upper exit guide assembly.
10. Remove the two front screws and the two rear screws securing the bracket (C) to the finisher.



11. Remove the bracket (C).



12. Release the hook from the upper media exit roll drive gear 20T(D).
13. Remove the upper media exit roll drive gear 20T.
14. Remove the 6 mm bushing.
15. Use a prying tool to remove the e-clip securing the upper media exit roll assembly (F) to the front of the finisher.
16. Remove the 6 mm bushing (E).
17. Move the upper media exit roll assembly frontward and outward in the direction of the arrow.



18. Remove the upper media exit roll assembly (F).

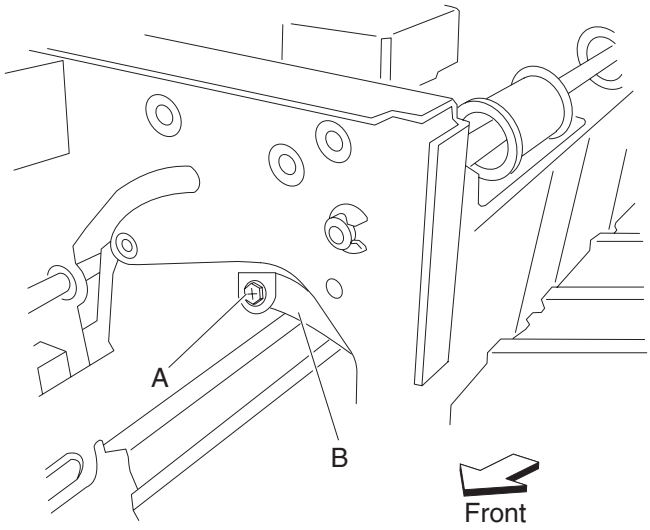
Note: When removing the upper media exit roll assembly (F), do not touch the rubber surface.

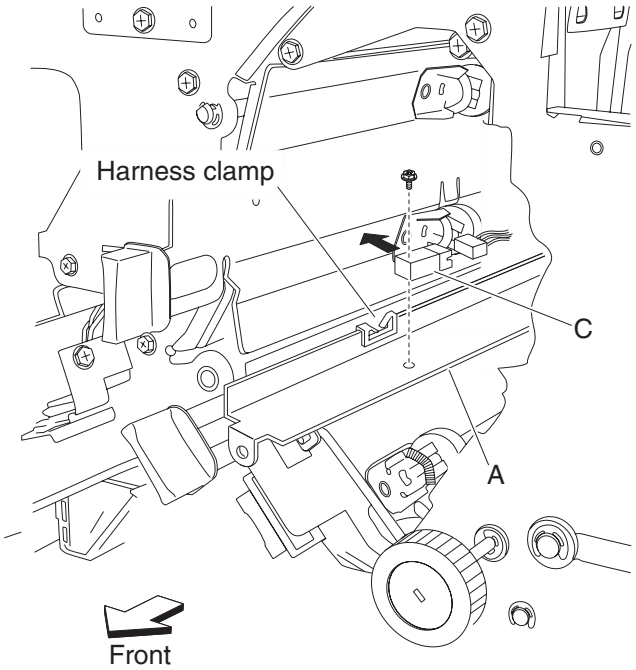
Replacement notes:

- Maker sure the flat spot of the upper media exit roll assembly (F) is installed to the rear.
- When replacing the upper media exit roll assembly (F), do not touch the rubber surface.

Sensor (upper media bin full) removal

1. Open the finisher front door assembly.
2. Remove the screw securing the bracket (A) to the upper media bin vertical cover (B).
3. Move the bracket frontward and downward to gain access to the harness and connector.
4. Release the harness from the clamp.
5. Move the bracket (B) frontward again, and remove the screw securing the sensor (upper media bin full) (C) to the bracket.

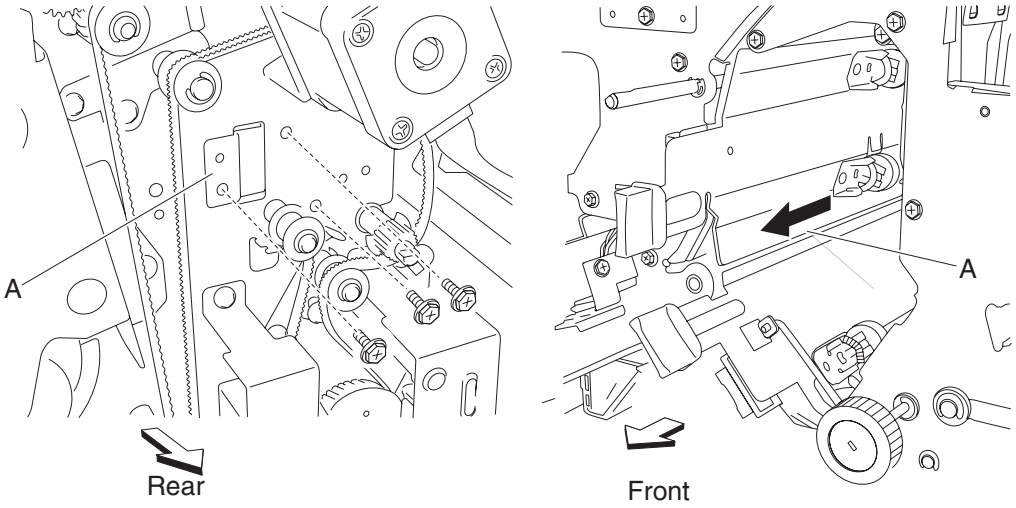




6. Remove the sensor (upper media bin full) (C).
7. Disconnect the connector from the sensor (upper media bin full) (C).

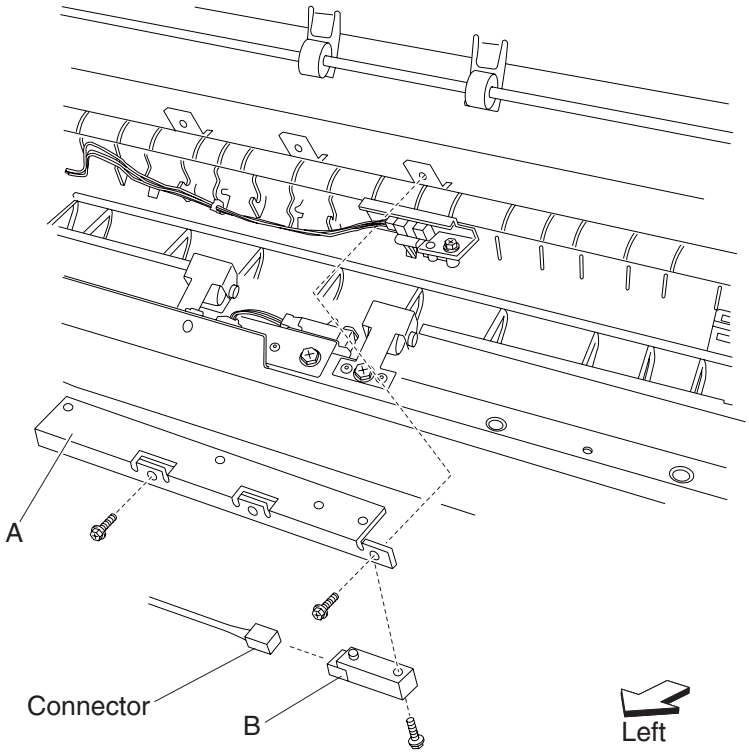
Upper pinch guide assembly removal

1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the drive motor (buffer/transport). See **"Drive motor (buffer/transport) and belt (buffer/transport) removal" on page 4-112**.
4. Remove the three screws securing the hinge of the upper pinch guide assembly (A) on the rear of the finisher.
5. Move the upper pinch guide assembly hinge from the rear of the finisher.
6. Remove the upper pinch guide assembly (A) from the inside of the finisher in the direction of the arrow.



Sensor (diverter gate) removal

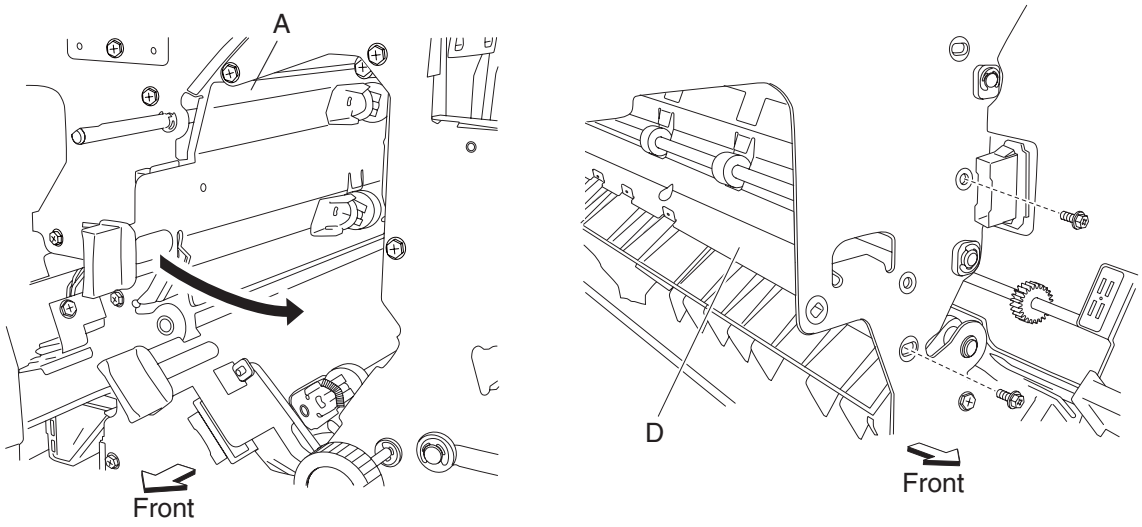
1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
3. Remove the upper media bin assembly. See **“Upper media bin assembly removal” on page 4-19**.
4. Remove the top cover. See **“Top cover removal” on page 4-18**.
5. Remove the left lower cover. See **“Left lower cover removal” on page 4-27**.
6. Remove the left upper cover. See **“Left upper cover removal” on page 4-28**.
7. Remove the punch carriage assembly. See **“Punch carriage assembly removal” on page 4-40**.
8. Remove the two screws securing the bracket (A) to the finisher.
9. Remove the bracket (A).
10. Disconnect the connector from the sensor (diverter gate) (B).
11. Remove the screw securing the sensor (diverter gate) (B) to the bracket (A).



12. Remove the sensor (diverter gate) (B).

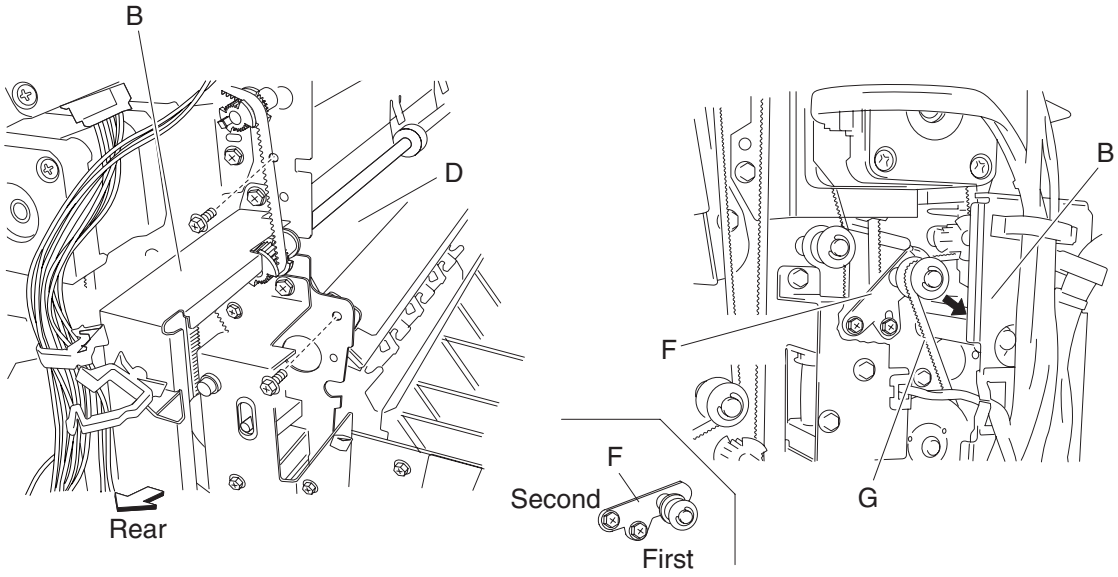
Upper media transport roll assembly removal

1. Open the finisher front door assembly.
2. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
3. Remove the top cover. See **"Top cover removal" on page 4-18**.
4. Remove the left lower cover. See **"Left lower cover removal" on page 4-27**.
5. Remove the left upper cover. See **"Left upper cover removal" on page 4-28**.
6. Remove the punch carriage assembly. See **"Punch carriage assembly removal" on page 4-40**.
7. Open the upper pinch guide assembly (A) toward the right.
8. Remove the two screws securing the bracket (B) on the rear of the finisher.



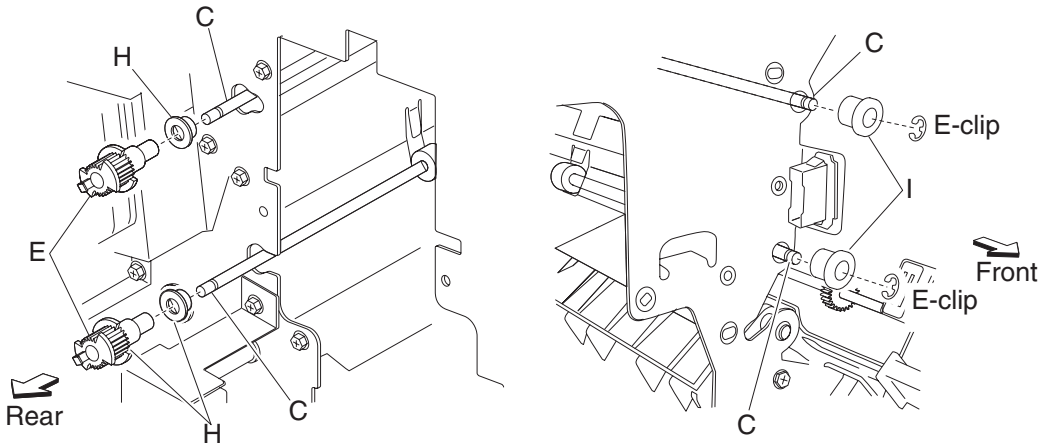
9. Move the bracket (B) slightly toward the exit side of the finisher.

   Note: It is not necessary to remove the bracket from the finisher; it should only be slightly moved to provide better access to the two upper media transport roll assemblies (C) for removal.



10. Remove the two screws securing the bracket (D).

    Note: It is not necessary to remove the bracket from the finisher; it should only be slightly moved to provide better access to the two upper media transport roll drive pulleys 20T(E).
11. Loosen the two screws securing the belt tensioner bracket (F) to the finisher, and move the bracket downward as shown.
12. Remove the belt (buffer/transport) (G) from the two upper media transport roll drive pulleys 20T (E).
13. Release the hook securing the appropriate upper media transport roll drive pulley 20T (E) to the appropriate upper media transport roll assembly (C).
14. Remove the appropriate upper media transport roll drive pulley 20T (E).
15. Remove the appropriate bushing (H).
16. With a prying tool, remove the e-clip securing the appropriate upper media transport roll assembly (C) to the front of the finisher.



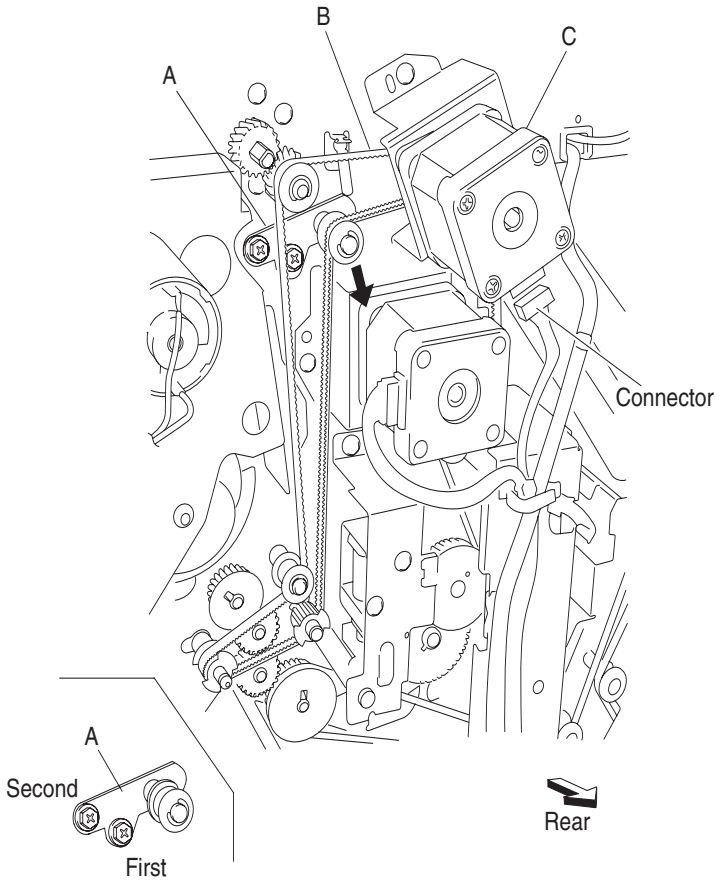
17. Remove the appropriate 6 mm bushing (I).
18. Move the appropriate upper media transport roll assembly (C) toward the front and outward.
19. Remove the appropriate upper media transport roll assembly (C).

    Note: When removing the upper media transport roll assembly (C), do not touch the rubber surface.

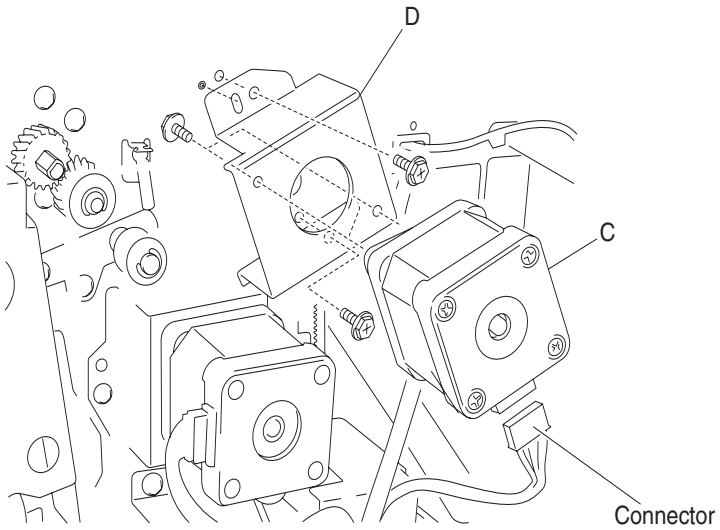
    Replacement notes
    - Make sure the flat spot on the upper media transport roll assembly (C) is installed to the rear.
    - When replacing the upper media transport roll assembly (C), do not touch the rubber surface.
    - The tension of the belt (buffer/transport) (G) is automatically adjusted by the force of the spring attached to the belt tensioner bracket (F).
    - Tighten the two screws in the order shown.

Drive motor (exit) assembly and belt (exit) removal

1. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
2. Loosen the two screws securing the belt tensioner bracket (A) to the finisher, and move it down as shown.
3. Remove the belt (exit) (B) from the drive motor (exit) assembly (C).
4. Disconnect the connector from the drive motor (exit) assembly.



5. Remove the two screws securing the bracket (D) to the finisher.
6. Remove the bracket (D).
7. Remove the two screws securing the drive motor (exit) assembly to the bracket (D).



8. Remove the drive motor (exit) assembly (C).

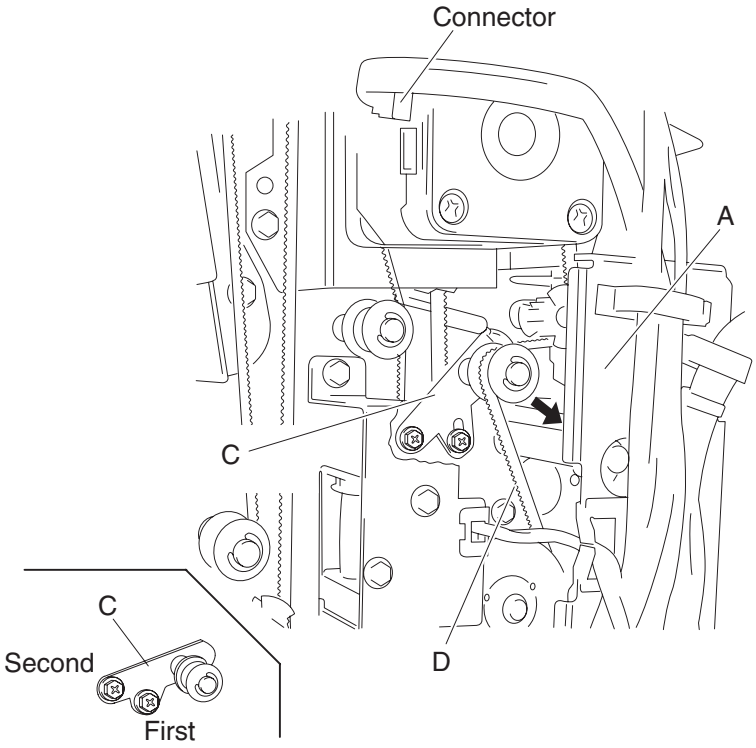
   Replacement notes:

   - The tension of the belt (exit) (B) is automatically adjusted by the force of the spring attached to the belt tensioner bracket (A).
   - Tighten the two screws in the order shown.

Drive motor (buffer/transport) and belt (buffer/transport) removal

1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Remove the two screws securing the bracket (A) on the rear of the finisher.
3. Move the bracket slightly.

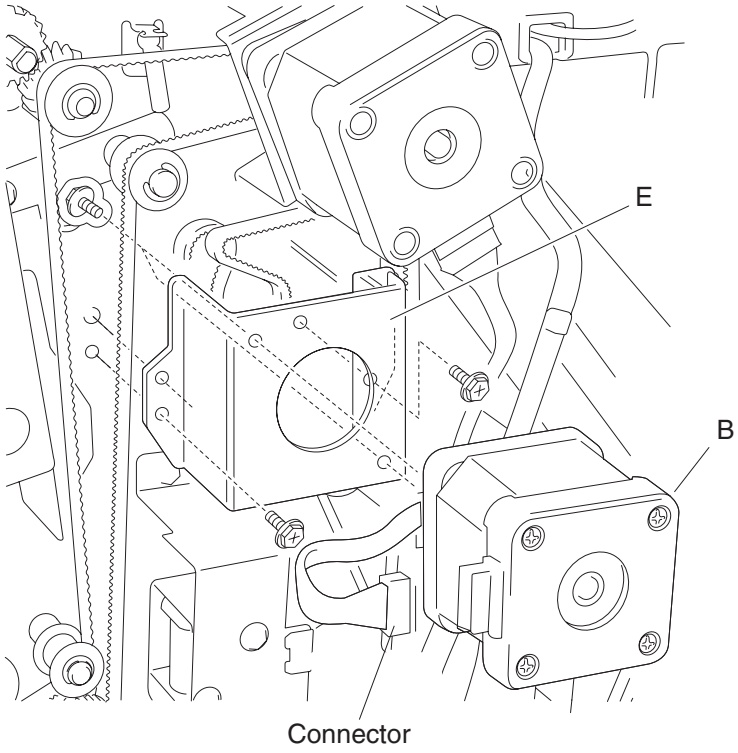
   Note: It is not necessary to remove the bracket from the finisher. It should only be slightly moved to provide better access to the drive motor (buffer/transport) (B) for removal.
4. Loosen the two screws securing the belt tensioner bracket (C) to the finisher, and move it down as shown.
5. Remove the belt (buffer/transport) (D) from the drive motor (buffer/transport).



6. Disconnect the connector from the drive motor (buffer/transport).
7. Remove the two screws securing the bracket (E) to the finisher.
8. Remove the bracket.
9. Remove the two screws securing the drive motor (buffer/transport) to the bracket.
10. Remove the drive motor (buffer/transport).
11. Remove the belt (buffer/transport) (D).

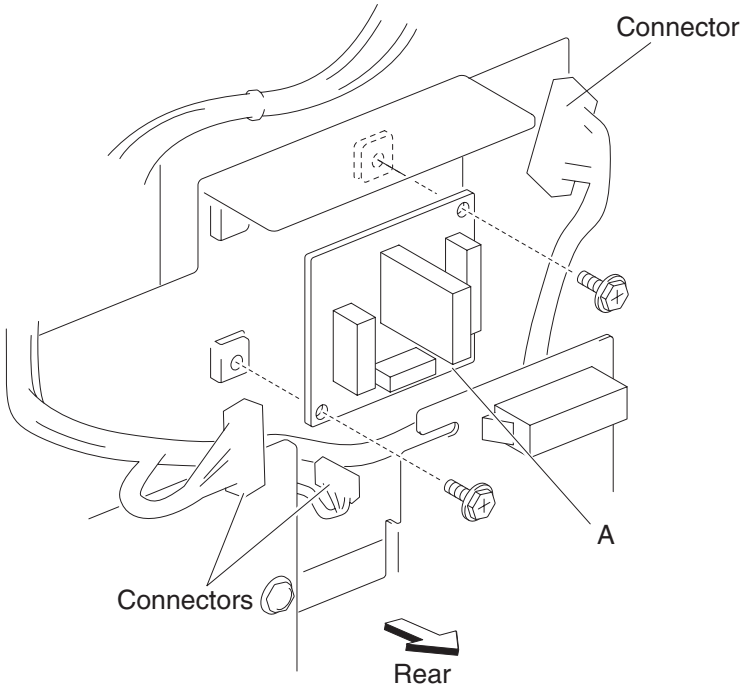
Replacement notes:

- The tension of the belt (buffer/transport) (D) is automatically adjusted by the force of the spring attached to the belt tensioner bracket (C).
- Tighten the two screws in the order shown.



Bridge unit interface card assembly removal

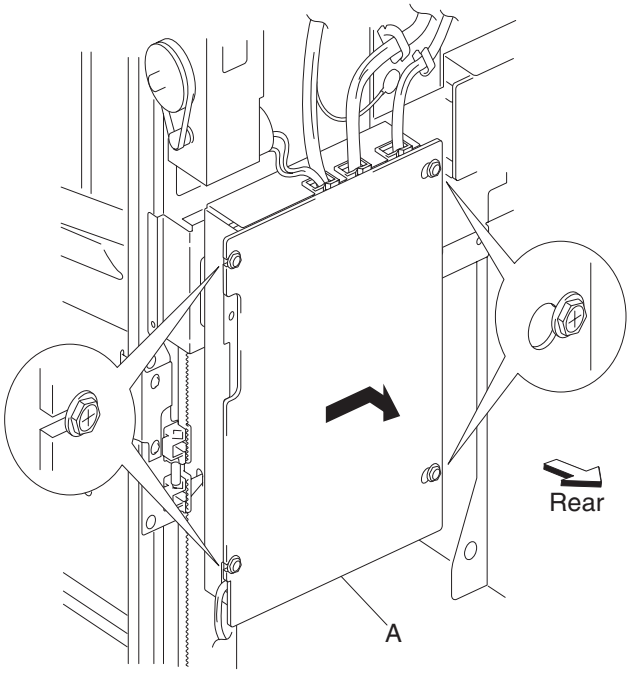
1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Disconnect all the connectors from the bridge unit interface card assembly (A).
3. Remove the two screws securing the bridge unit interface card assembly (A) to the finisher.



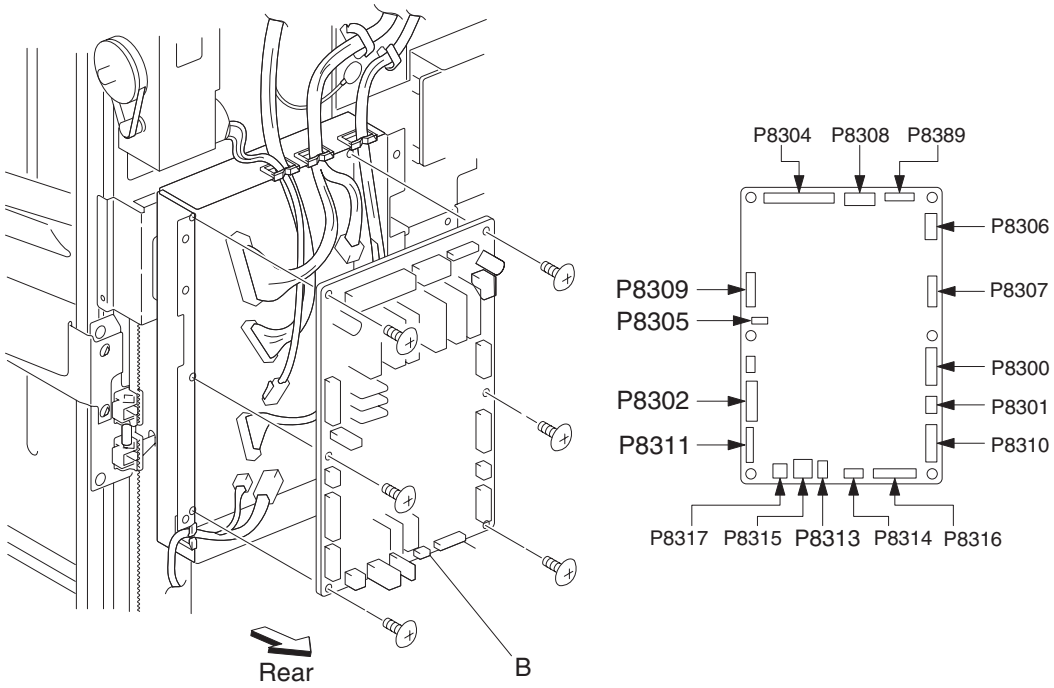
4. Remove the bridge unit interface card assembly (A).

Finisher controller card assembly removal

1. Remove the rear upper cover. See **"Rear upper cover removal" on page 4-23**.
2. Remove the rear lower cover. See **"Rear lower cover removal" on page 4-22**.
3. Loosen the four screws securing the plate (A) to the finisher.
4. Move the plate (A) to the right and outward.



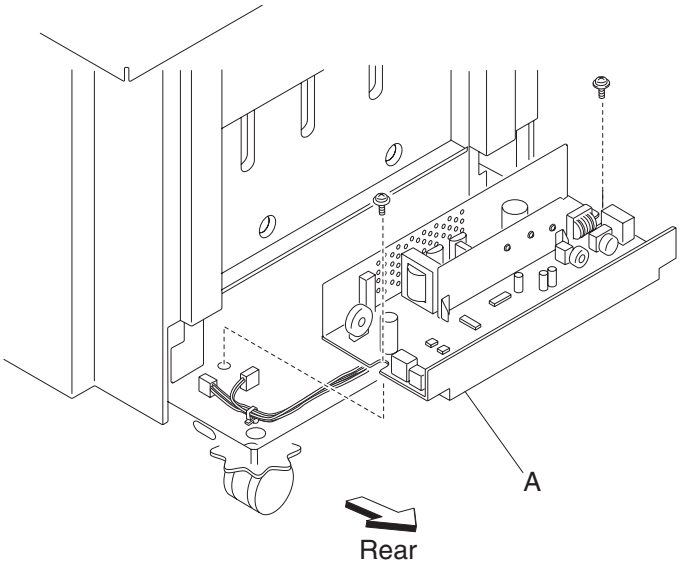
5. Remove the plate (A).
6. Disconnect the connectors from the finisher controller card assembly (B).



7. Remove the six screws securing the finisher controller card assembly (B).
8. Remove the finisher controller card assembly (B).

Finisher low voltage power supply (LVPS) removal

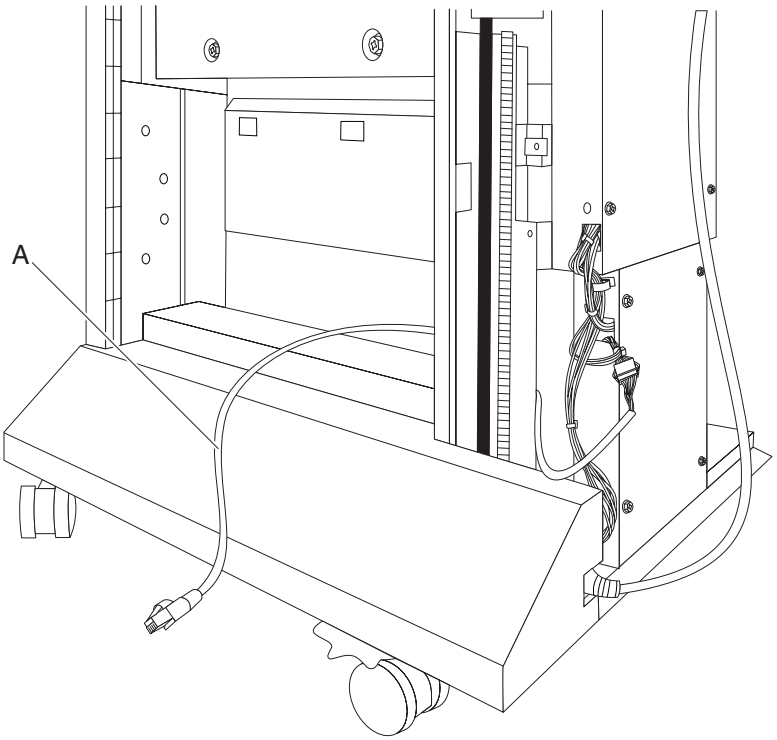
1. Remove the right lower cover. See **“Rear lower cover removal” on page 4-22**.
2. Disconnect all the connectors from the finisher LVPS (A).
3. Remove the two screws securing the finisher LVPS (A) to the finisher.



4. Remove the finisher LVPS (A).

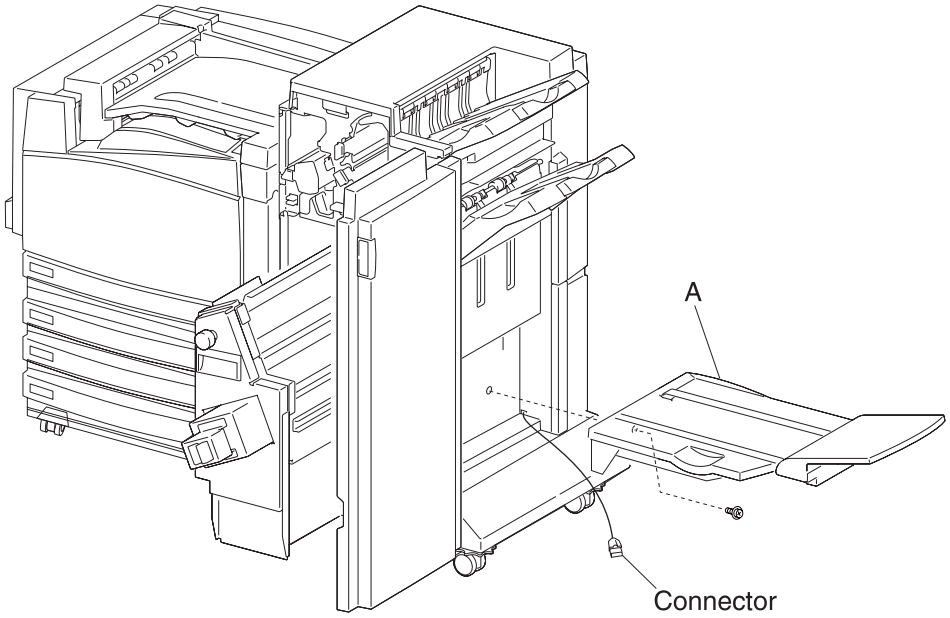
Booklet bin hookup cable assembly removal

1. Disconnect booklet hookup cable assembly from the booklet bin assembly.
2. Remove rear lower cover. See **“Rear lower cover removal” on page 4-22**.
3. Disconnect the booklet bin hookup cable assembly from the rear of the finisher.
4. Release the clamps securing the booklet bin hookup cable assembly from the finisher.
5. Remove booklet bin hookup cable assembly (A).



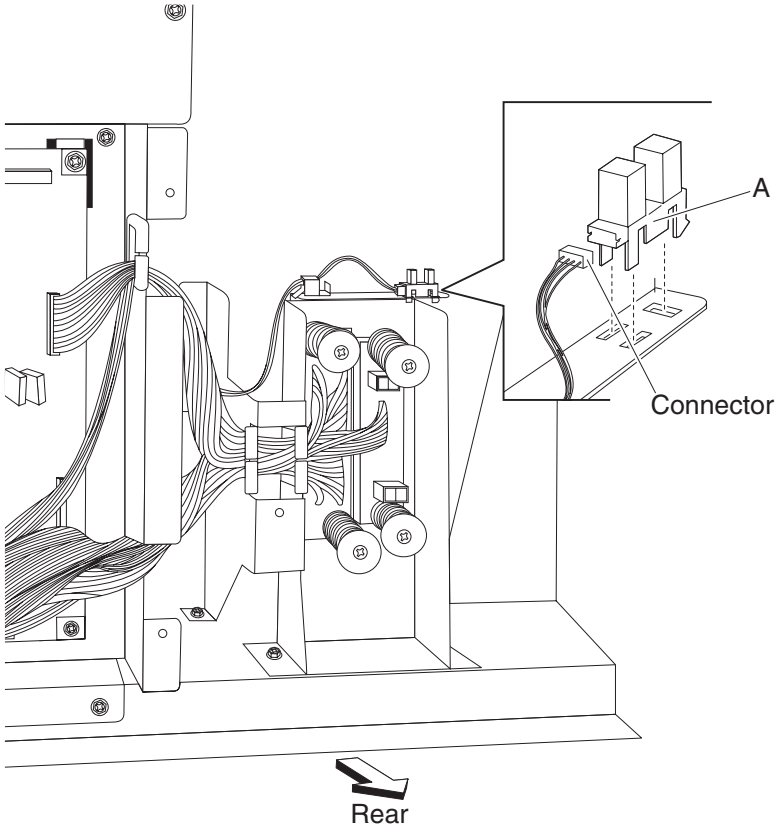
Booklet bin assembly removal

1. Disconnect booklet hookup cable assembly from the booklet bin assembly.
2. Remove the screw securing the booklet bin assembly (A) to the finisher.
3. Remove booklet bin assembly (A).



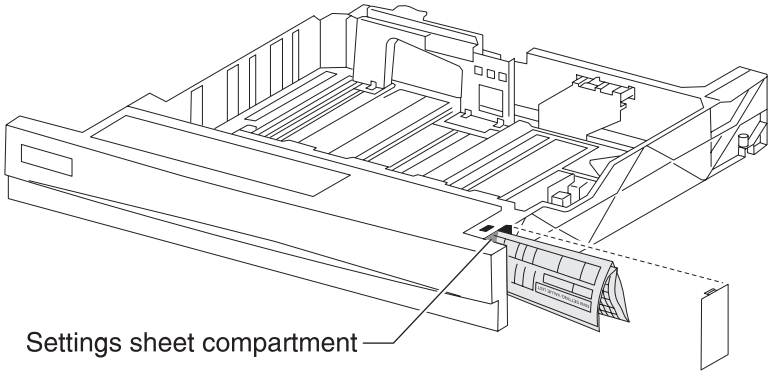
Sensor (booklet unit interlock) removal

1. Open the finisher front door assembly.
2. Pull the booklet unit assembly out of the finisher.
3. Remove rear lower cover. See **"Rear lower cover removal" on page 4-22**.
4. Disconnect the connector from the sensor (booklet unit interlock).
5. Remove sensor (booklet unit interlock) (A).



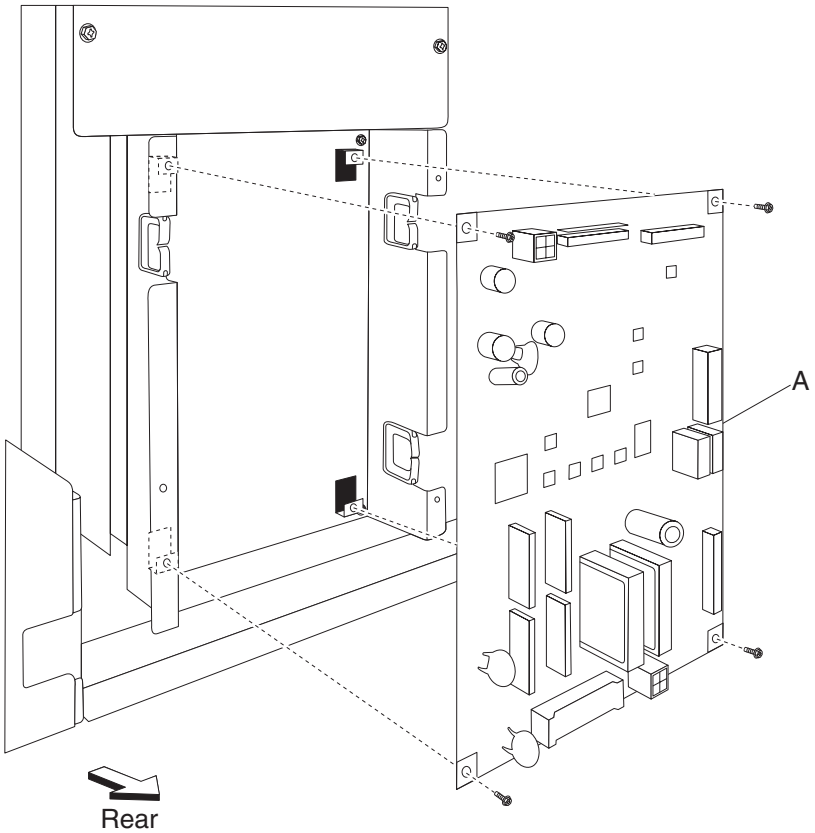
Booklet controller card assembly removal

Warning: When replacing the booklet controller card assembly, the existing booklet maker adjustments must be restored to the original settings, or booklet folding and stapling will be out of alignment. The existing booklet maker adjustments can be found on the settings sheet located in the tray 1 settings sheet compartment.



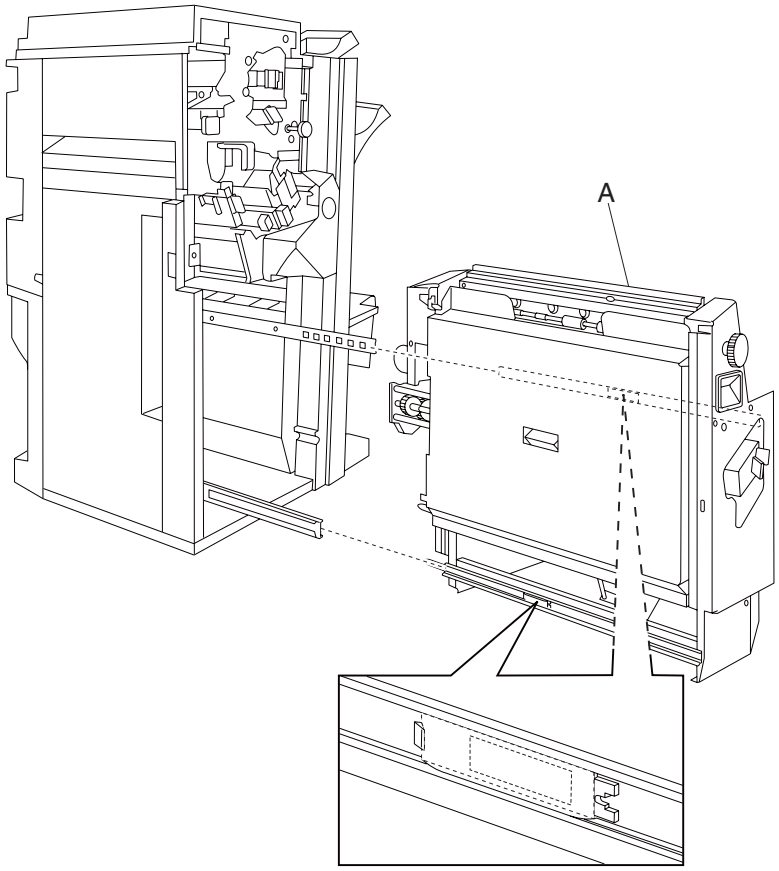
To enter replacement settings or if the setting sheet is not available, refer to booklet maker setup and adjustment located in chapter 4. See **"Booklet maker setup & adjustment" on page 4-142**.

1. Remove the rear lower cover. **"Rear lower cover removal" on page 4-22**.
2. Loosen the four screws securing the plate to the finisher.
3. Move the plate to the right and outward.
4. Remove the plate.
5. Disconnect the connectors from the booklet controller card assembly (A).
6. Remove the four screws securing the booklet controller card assembly (A).
7. Remove the booklet controller card assembly (A).



Booklet unit assembly removal

1. Open the finisher front door assembly.
2. Slide the booklet unit out.
3. Release the two latches securing the booklet unit (A) from the guides.
4. Remove booklet unit (A).

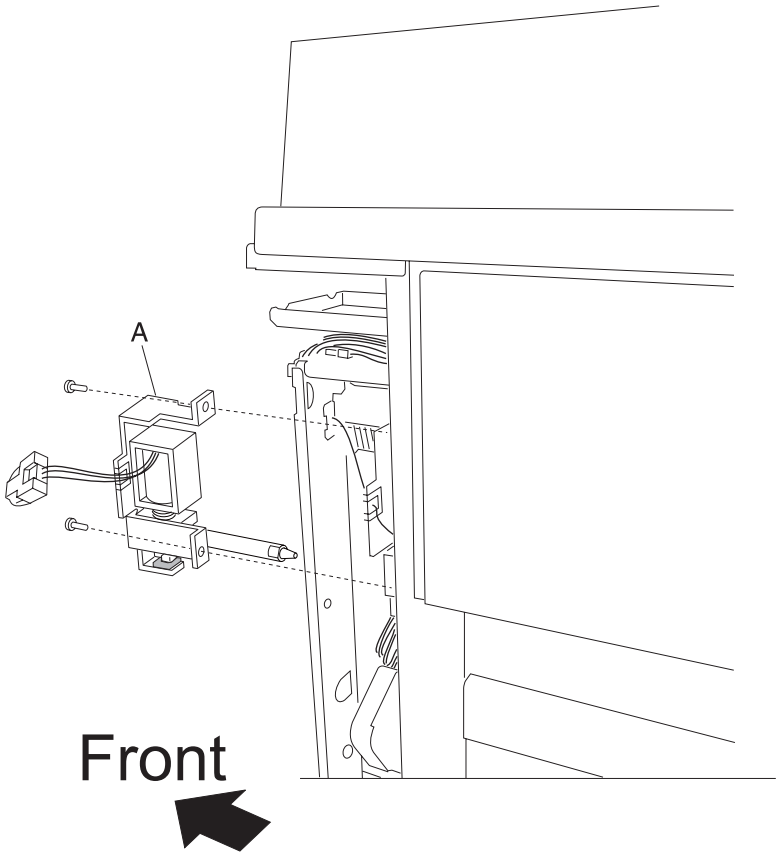


Booklet folding/exit drive motor assembly removal

1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Disconnect the connectors from the booklet unit motor assembly (A).
3. Remove the five screws securing the booklet folding/exit drive motor assembly (A) from the booklet gear train frame.
4. Remove the booklet folding/exit drive motor assembly (A).

Booklet diverter gate solenoid removal

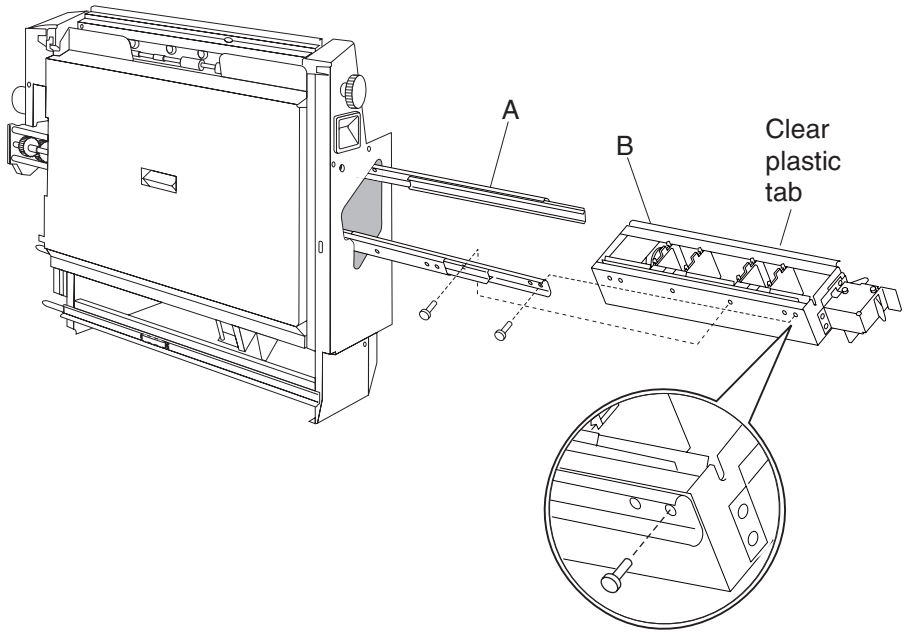
1. Remove the rear upper cover. See **“Rear upper cover removal” on page 4-23**.
2. Remove the two screws securing the booklet diverter gate solenoid (A) to the machine.
3. Remove the booklet diverter gate solenoid (A).
4. Release the harness from the clamp.
5. Disconnect the connector from the booklet diverter gate solenoid (A).



Booklet stapler unit assembly removal

1. Open the finisher front door assembly.
2. Pull the booklet stapler unit out of the machine.
3. Release the hook securing the right ball bearing slide (A).
4. Pull the booklet stapler unit assembly (B) from the machine.
5. Remove the two screws securing the booklet stapler unit assembly (B) to the left ball bearing slide (C).

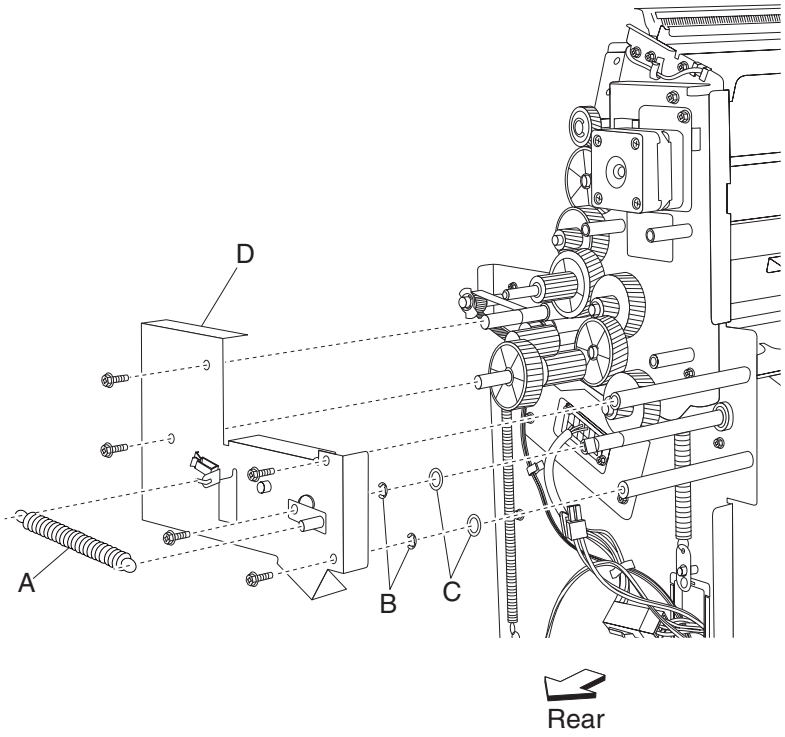
6. Remove the booklet stapler unit assembly (B).



Booklet knife solenoid frame removal

1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Remove the booklet unit motor assembly. See **"Booklet folding/exit drive motor assembly removal" on page 4-121**.
3. Disconnect the connectors from the booklet knife solenoid (A).
4. Remove the spring from the booklet knife solenoid frame (A).
5. Remove the five screws securing the booklet gear train frame from the booklet unit assembly.
6. Remove the two e-clips from shaft X & Y.
7. Remove the two bushings from shaft X & Y.

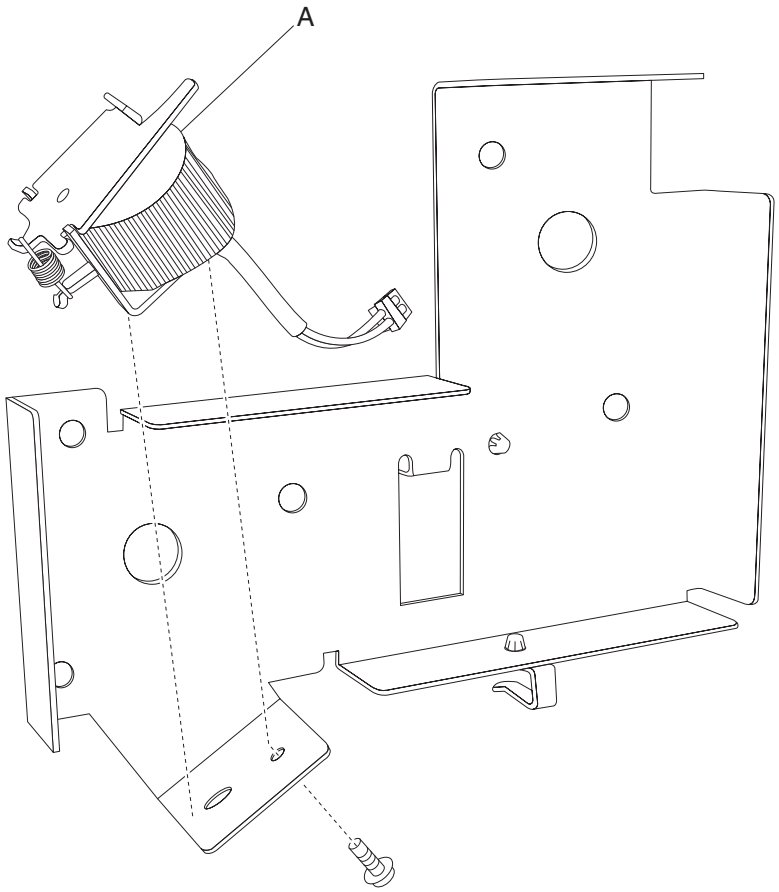
8. Remove the folding solenoid frame (A).



Booklet knife solenoid removal

1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Remove the booklet unit motor assembly. See **"Booklet folding/exit drive motor assembly removal" on page 4-121**.
3. Remove the knife solenoid frame. See **"Booklet knife solenoid frame removal" on page 4-123**.
4. Remove the screw securing the booklet knife solenoid from the knife solenoid frame (A).

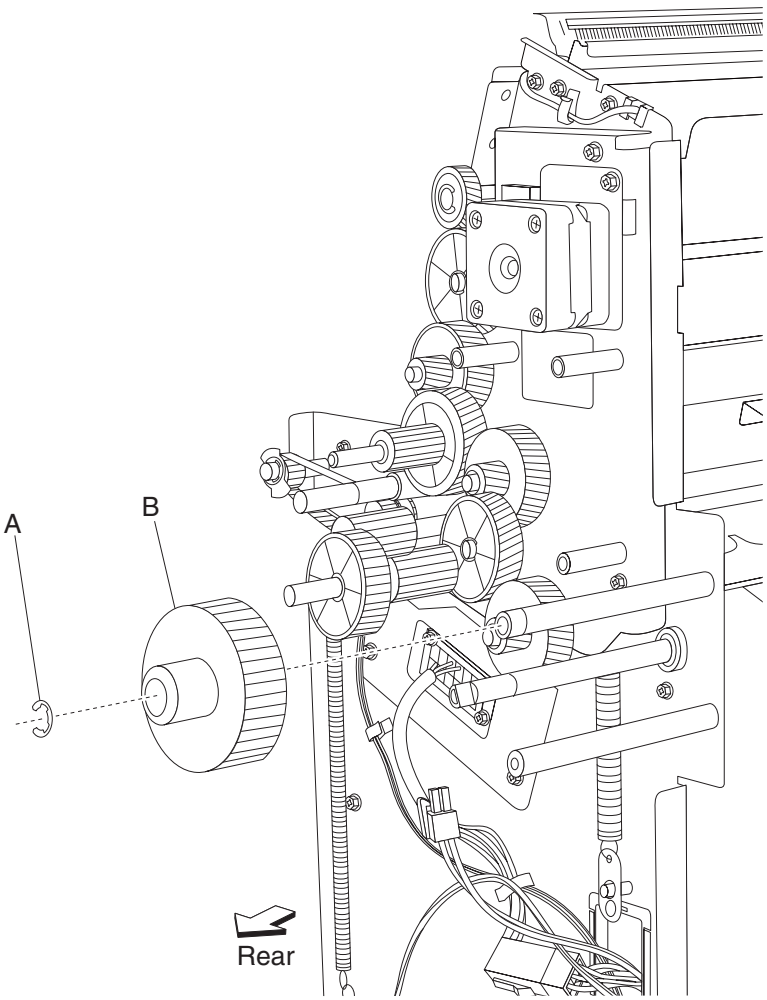
5. Remove the booklet knife solenoid (A).



Booklet knife sector drive gear 42T

1. Remove the booklet unit assembly. See **“Booklet unit assembly removal” on page 4-121**.
2. Remove the booklet unit motor assembly. See **“Booklet folding/exit drive motor assembly removal” on page 4-121**.
3. Remove the knife solenoid frame. See **“Booklet knife solenoid frame removal” on page 4-123**.
4. Remove the e-clip.

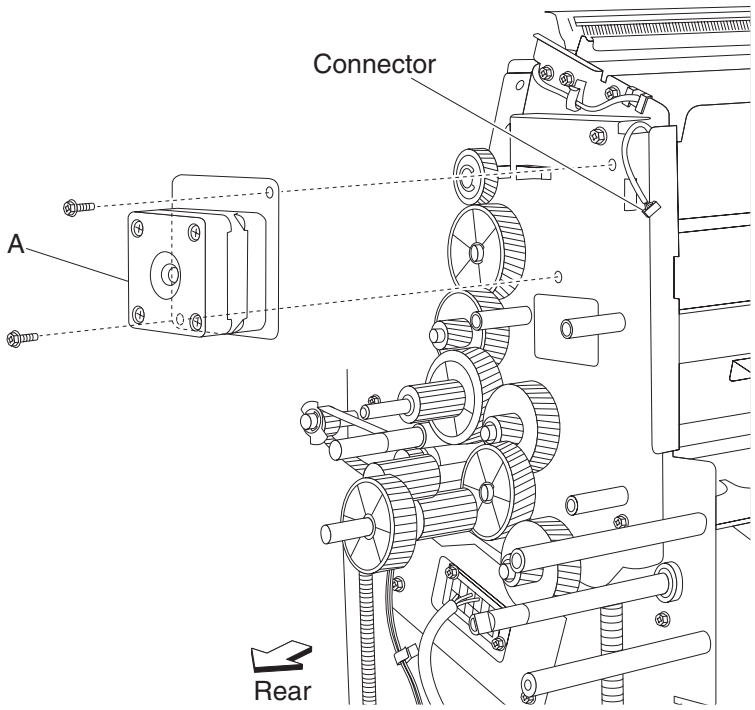
5. Remove the booklet knife sector drive gear 42T (A).



Booklet media entrance drive motor removal

1. Remove the booklet unit assembly. See **“Booklet unit assembly removal” on page 4-121**.
2. Remove the screws securing the booklet media entrance drive motor cover from the booklet unit.
3. Remove the booklet media entrance drive motor cover.
4. Disconnect the connectors from the booklet media entrance drive motor (A).
5. Remove the two screws securing the booklet media transport from the knife solenoid frame.

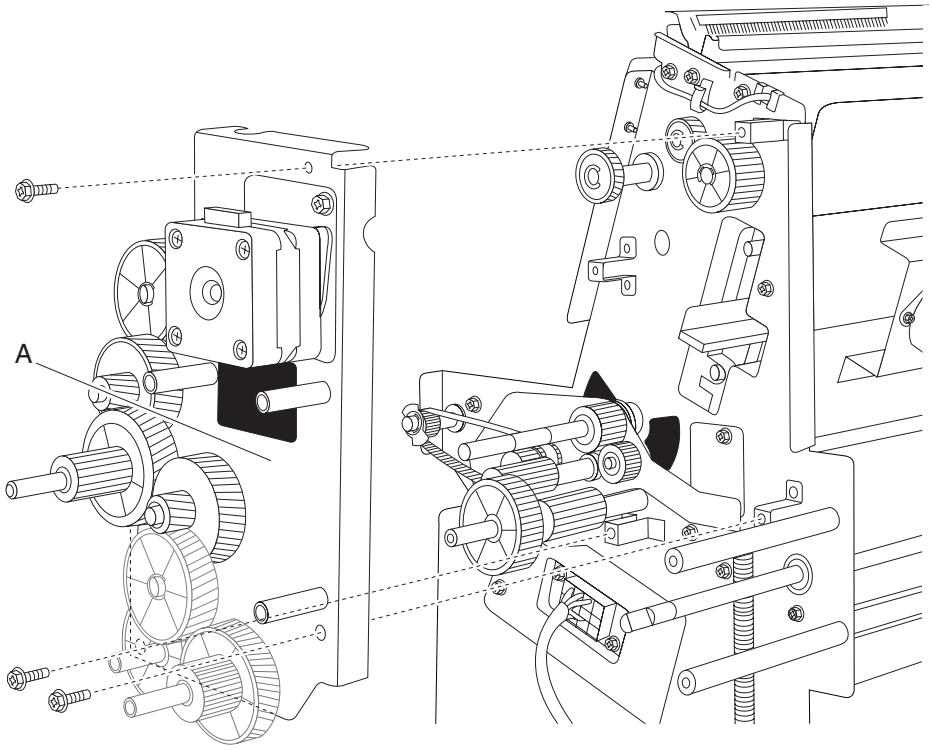
6. Remove the booklet media entrance drive motor (A).



Booklet unit gear train frame removal

1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Remove the booklet unit motor assembly. See **"Booklet folding/exit drive motor assembly removal" on page 4-121**.
3. Remove the knife solenoid frame. See **"Booklet knife solenoid frame removal" on page 4-123**.
4. Remove the booklet media entrance drive motor. See **"Booklet media entrance drive motor removal" on page 4-126**.
5. Remove the booklet knife sector drive gear 42T. See **"Booklet knife sector drive gear 42T" on page 4-125**.
6. Remove the gear 18T.
7. Remove the three screws securing the booklet unit gear train frame (A) from the booklet unit.

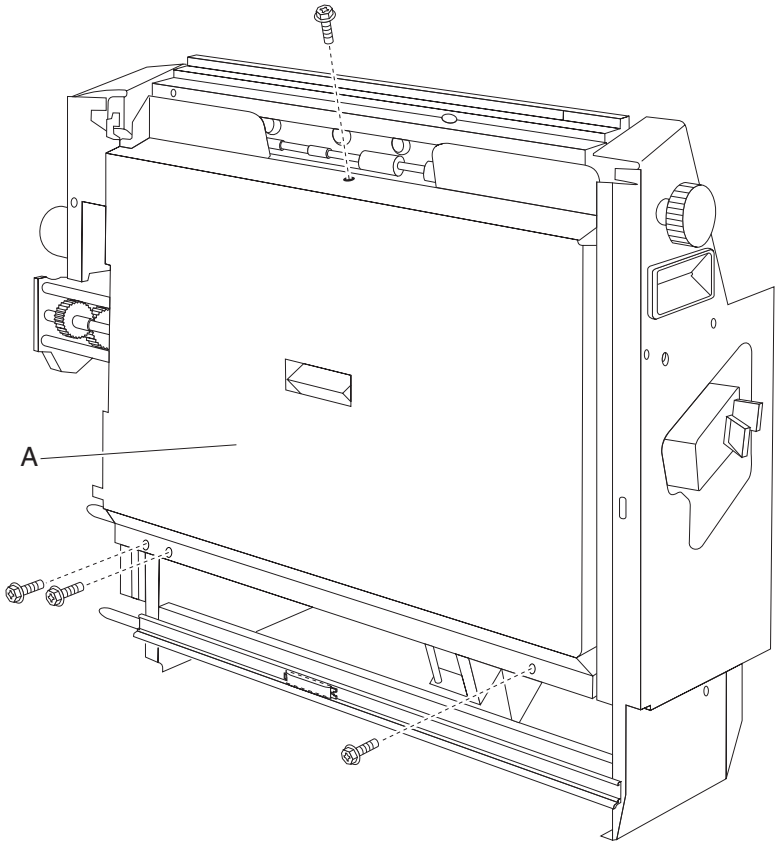
8. Remove the booklet unit gear train frame (A).



Booklet unit assembly left cover

1. Remove the booklet unit assembly. See **“Booklet unit assembly removal” on page 4-121**.
2. Remove the top screws securing the left cover to the booklet unit assembly.
3. Loosen the two screws securing the left cover to the booklet unit assembly.

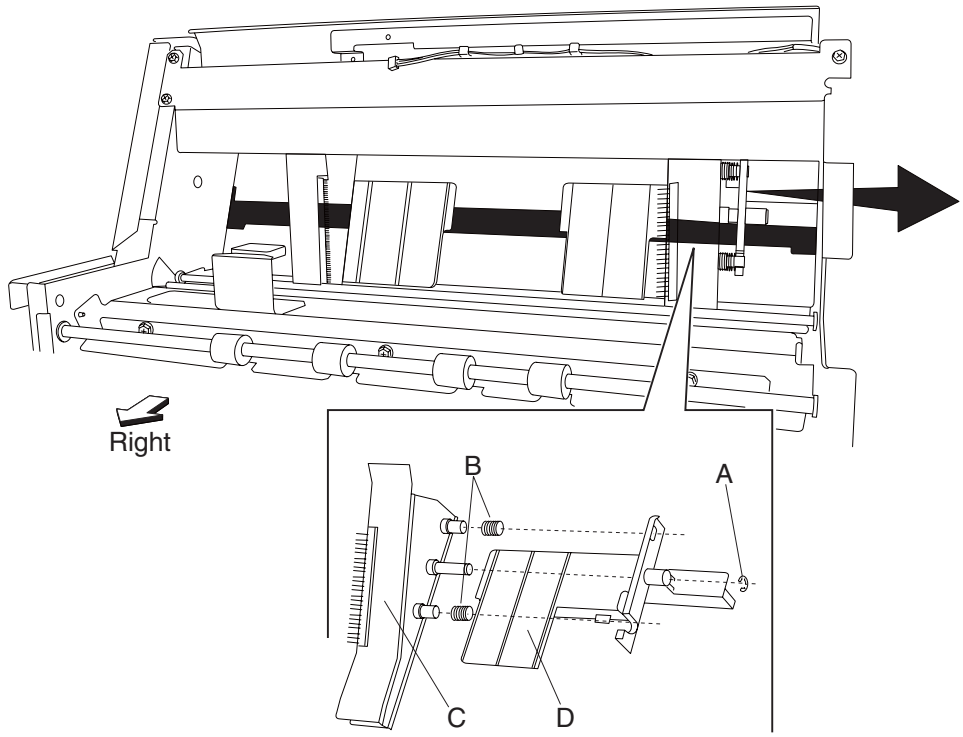
4. Remove the booklet unit assembly left cover (A).



Booklet rear tamper assembly removal

1. Remove the booklet unit assembly. See **“Booklet unit assembly removal” on page 4-121**.
2. Remove the booklet unit motor assembly. See **“Booklet folding/exit drive motor assembly removal” on page 4-121**.
3. Remove the knife solenoid frame. See **“Booklet knife solenoid frame removal” on page 4-123**.
4. Remove the booklet media entrance drive motor. See **“Booklet media entrance drive motor removal” on page 4-126**.
5. Remove the booklet knife sector drive gear 42T. See **“Booklet knife sector drive gear 42T” on page 4-125**.
6. Remove booklet unit gear train frame. See **“Booklet unit gear train frame removal” on page 4-127**.
7. Remove the booklet unit assembly left cover. See **“Booklet unit assembly left cover” on page 4-128**.
8. Remove the screw securing the sensor (booklet rear tamper HP).
9. Slide the booklet rear tamper guide out.
10. Remove the e-clip.
11. Remove the two springs from the booklet rear tamper guide.
12. Remove tamper guide.

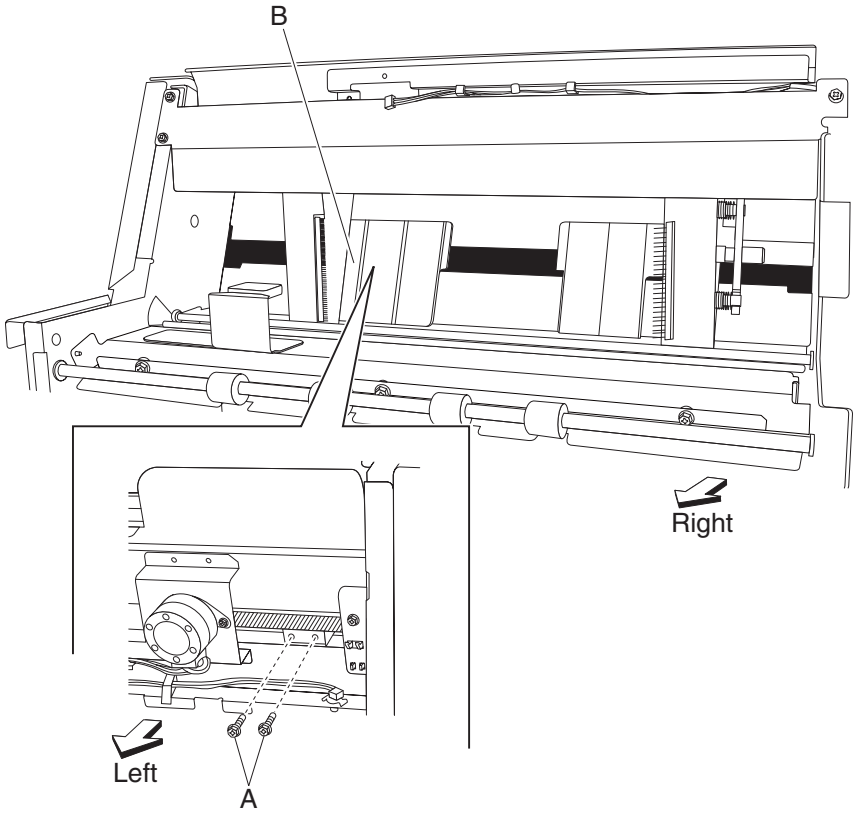
13.Remove the rear tamper assembly (A).



Booklet front tamper guide removal

1. Remove the booklet unit assembly. See **“Booklet unit assembly removal” on page 4-121**.
2. Remove booklet unit assembly left cover. See **“Booklet unit assembly left cover” on page 4-128**.
3. Remove the two screws securing the booklet front tamper guide from the rack.

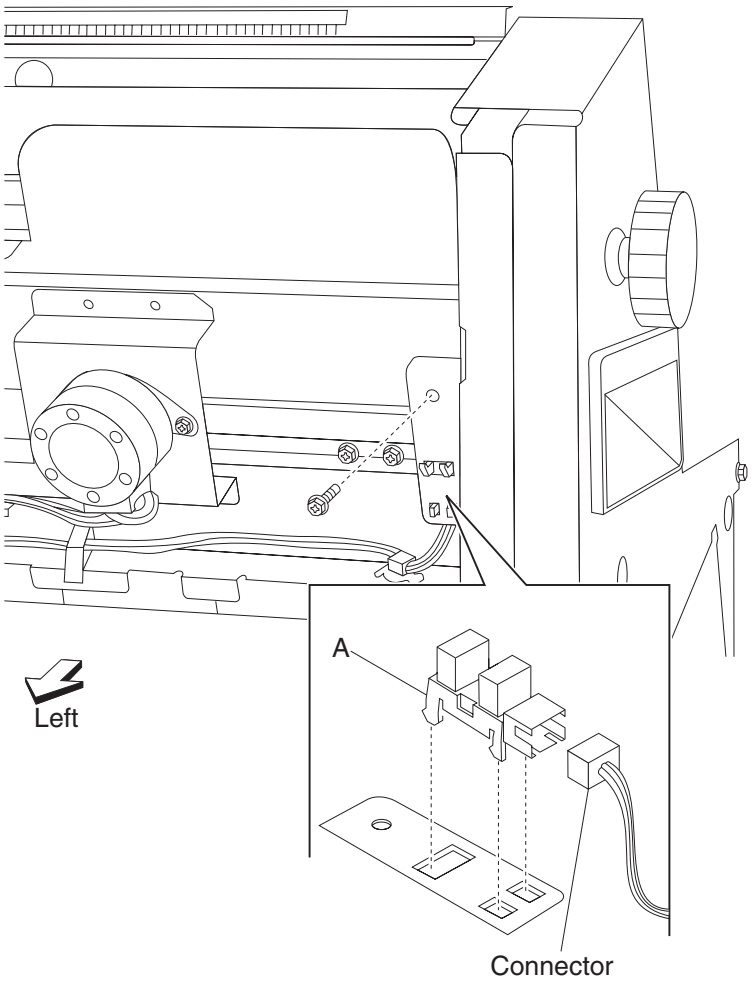
4. Remove the front tamper guide (A).



Sensor (booklet front tamper HP) removal

1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Remove the booklet unit assembly left cover. See **"Booklet unit assembly left cover" on page 4-128**.
3. Disconnect the connector from the booklet front tamper sensor.
4. Remove the screw securing the sensor (booklet front tamper HP) bracket from the booklet unit assembly.

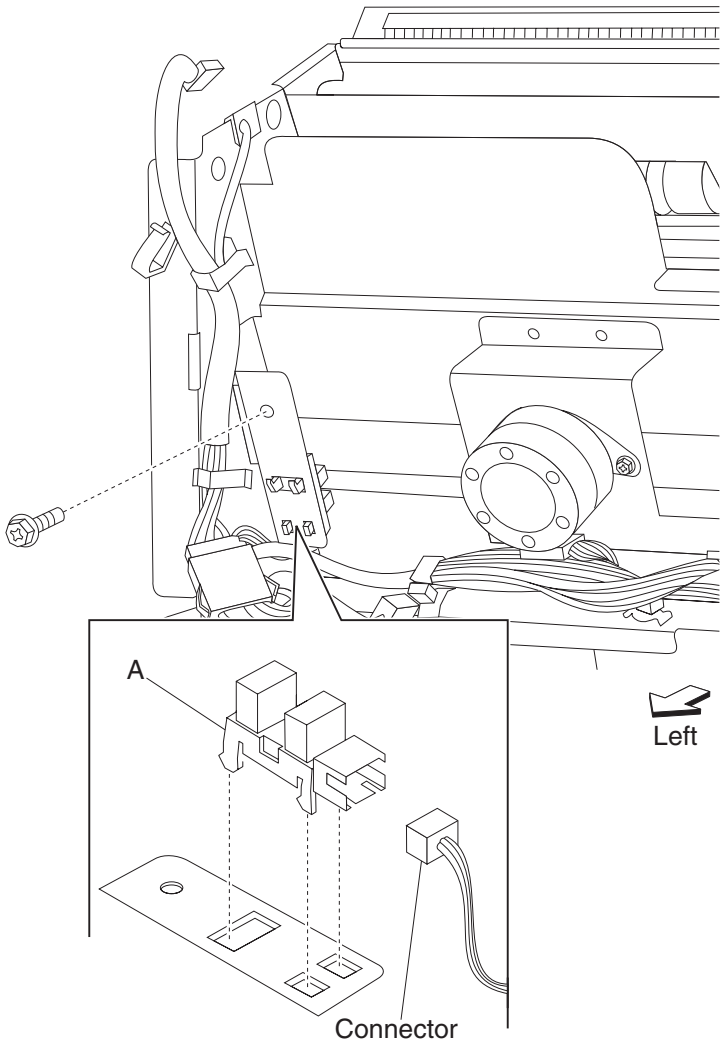
5. Remove sensor (booklet front tamper HP) (A).



Sensor (booklet rear tamper HP) removal

1. Remove the booklet unit assembly. See **“Booklet unit assembly removal” on page 4-121**.
2. Remove the booklet unit assembly left cover. See **“Booklet unit assembly left cover” on page 4-128**.
3. Disconnect the connector from the booklet left tamper sensor.
4. Remove the screw securing the sensor (booklet rear tamper HP) bracket from the booklet unit assembly.

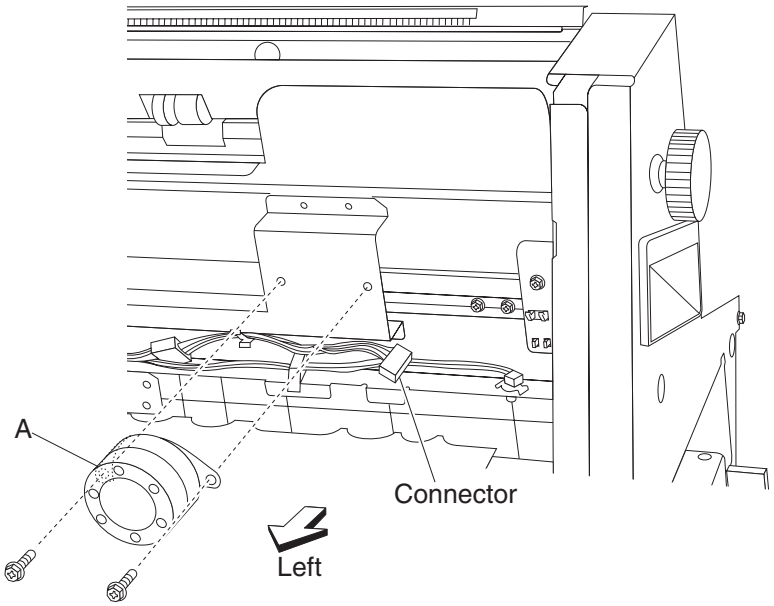
5. Remove sensor (booklet rear tamper HP) (A).



Booklet front tamper motor removal

1. Remove the booklet unit assembly. See **“Booklet unit assembly removal” on page 4-121**.
2. Remove the booklet unit assembly left cover. See **“Booklet unit assembly left cover” on page 4-128**.
3. Disconnect the connector from the booklet front tamper motor.
4. Remove the two screws securing the booklet front tamper motor from the tamper frame assembly.

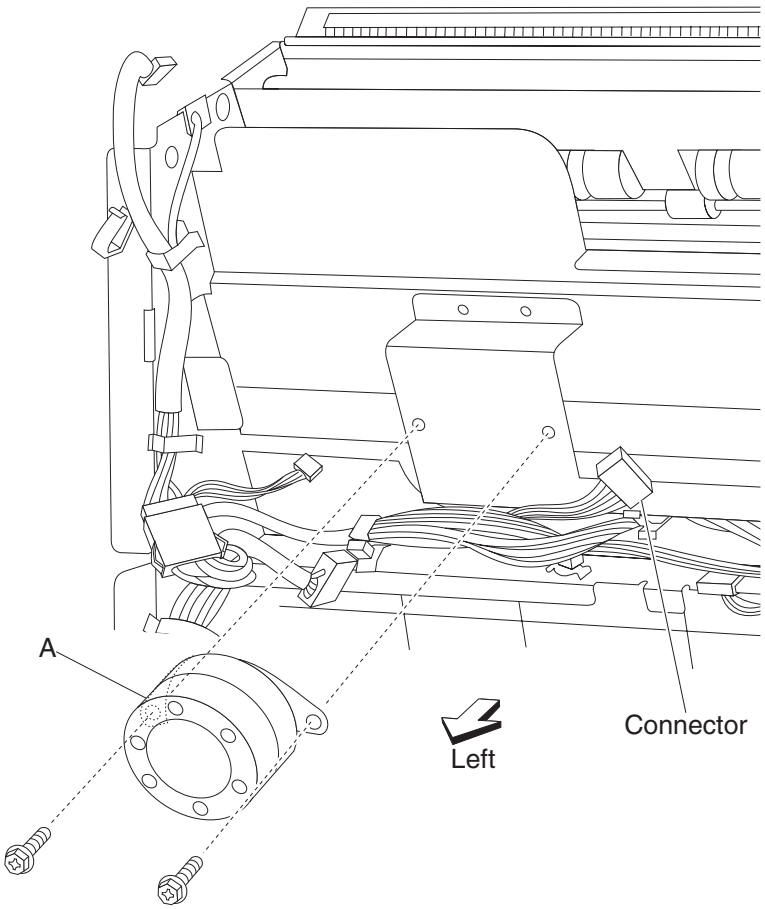
5. Remove the booklet front tamper motor (A).



Booklet rear tamper motor removal

1. Remove the booklet unit assembly. See **“Booklet unit assembly removal” on page 4-121**.
2. Remove the booklet unit assembly left cover. See **“Booklet unit assembly left cover” on page 4-128**.
3. Disconnect the connector from the booklet rear tamper motor (A).
4. Remove the two screws securing the booklet rear tamper motor (A) from the tamper frame assembly.

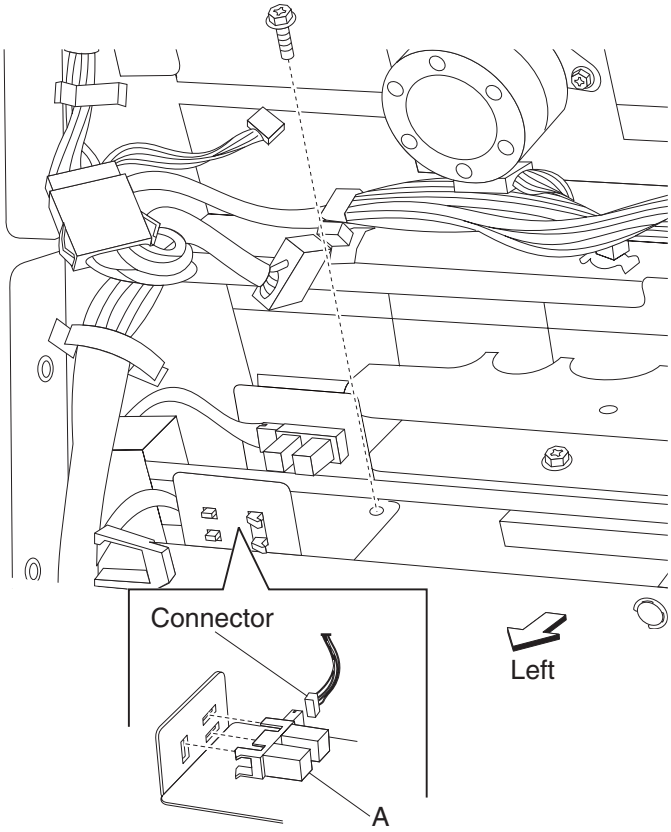
5. Remove the booklet rear tamper motor (A).



Sensor (booklet knife HP) removal

1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Remove the booklet unit assembly left cover. See **"Booklet unit assembly left cover" on page 4-128**.
3. Rotate knife sector gear clockwise until the flag is in the folding sensor position.
4. Remove one screw securing the sensor (knife HP sensor & Knife folding sensor) from the knife frame assembly.
5. Disconnect the connector from the sensor (booklet knife HP and booklet knife folding).

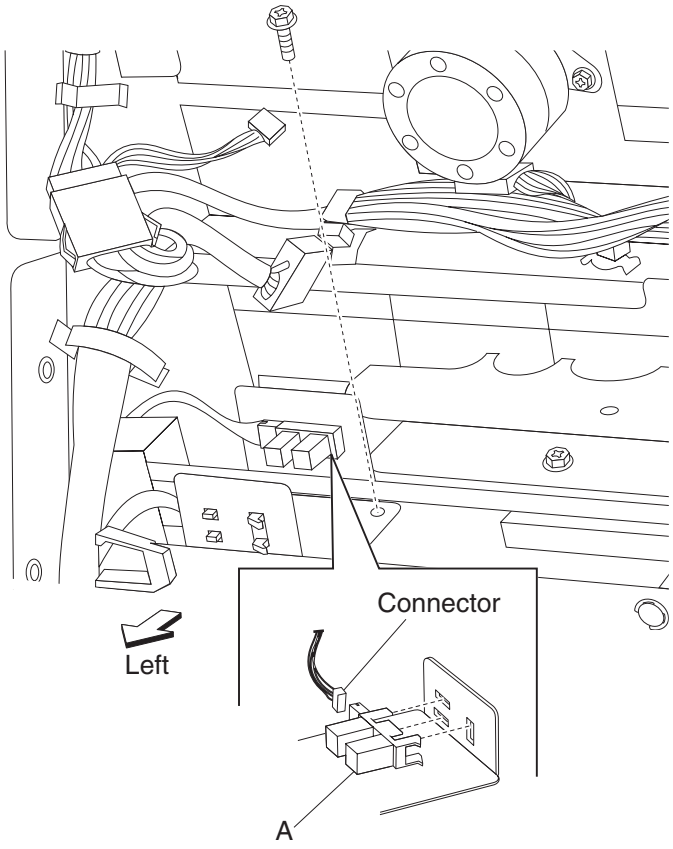
6. Remove sensor (booklet knife HP) (A).



Sensor (booklet knife folding) removal

1. Remove the booklet unit assembly. See **“Booklet unit assembly removal” on page 4-121**.
1. Remove the Complete booklet unit assembly left cover. See **“Booklet unit assembly left cover” on page 4-128**.
2. Rotate knife sector gear clockwise until the flag is in the folding sensor position.
3. Remove one screw securing the sensor (knife HP sensor & knife folding sensor) from the knife frame assembly.
4. Disconnect the connector from the sensor (booklet knife folding) (A).

5. Remove sensor (booklet knife folding) (A).



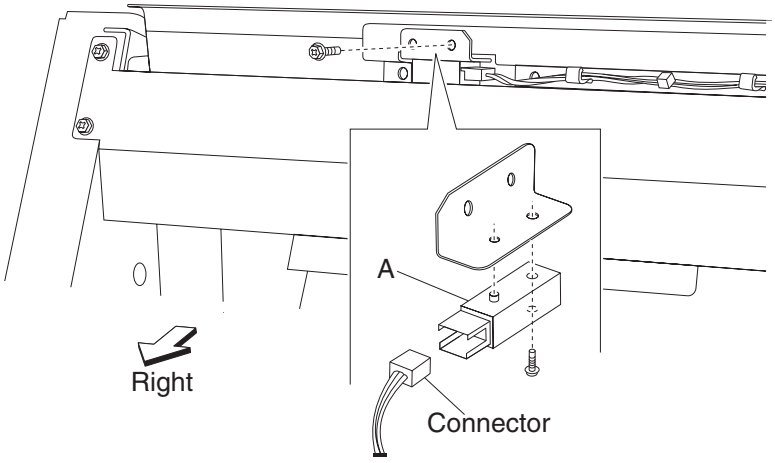
Booklet unit front door assembly removal

1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Remove the e-clip securing the shaft X from the booklet unit.
3. Remove the four screws securing the front door assembly from the frame of the booklet unit.
4. Remove the bushing.
5. Remove the booklet unit front door assembly (A).

Sensor (booklet unit media entrance) removal

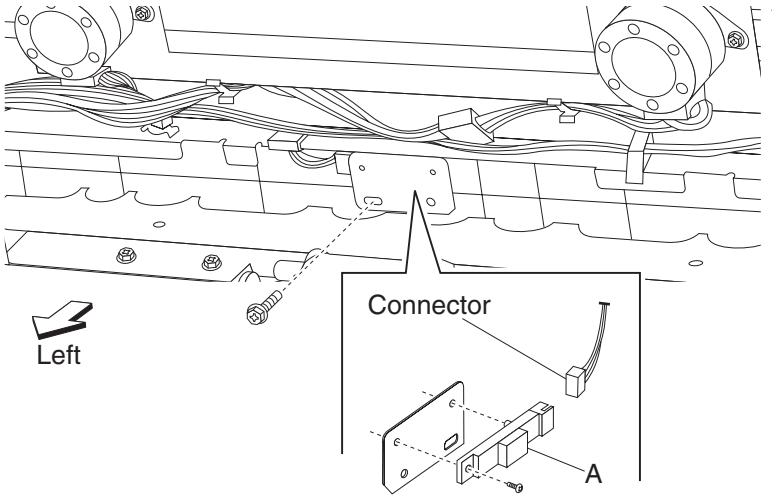
1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Disconnect the connectors from the Sensor (booklet unit media entrance) (A).
3. Remove the screw securing the Sensor (booklet unit media entrance) bracket from the pinch roll frame.
4. Remove the screw securing the Sensor (booklet unit media entrance) (A) from the bracket.

5. Remove Sensor (booklet unit media entrance) (A).



Sensor (booklet media compiler in) removal

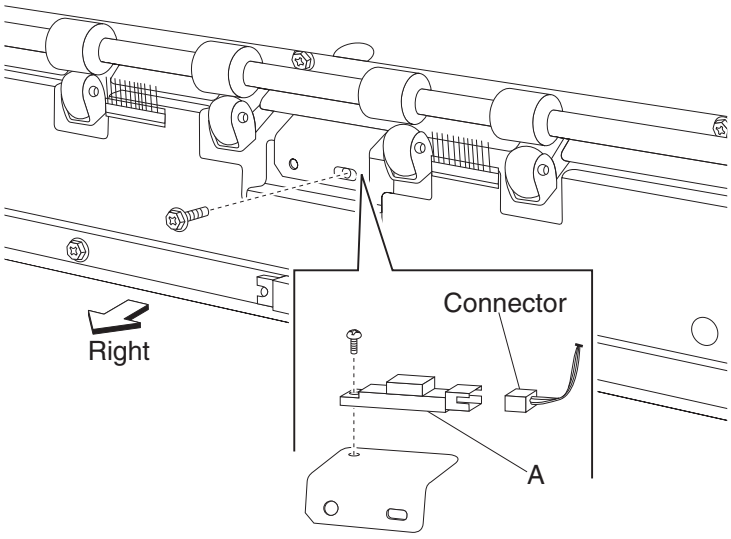
1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Remove the booklet unit assembly left cover. See **"Booklet unit assembly left cover" on page 4-128**.
3. Disconnect the connector from the Sensor (booklet media compiler in) (A).
4. Remove the screw securing the Sensor (booklet media compiler in) bracket from the booklet unit assembly.
5. Remove the screw securing the Sensor (booklet media compiler in) (A) from the bracket.
6. Remove Sensor (booklet media compiler in) (A).



Sensor (booklet unit media exit) removal

1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Remove the booklet unit assembly left cover. See **"Booklet unit assembly left cover" on page 4-128**.
3. Remove the screw securing the Sensor (booklet unit media exit) bracket from the booklet unit assembly.
4. Disconnect the connector from the Sensor (booklet unit media exit) (A).
5. Remove the screw securing the Sensor (booklet unit media exit) (A) from the bracket.

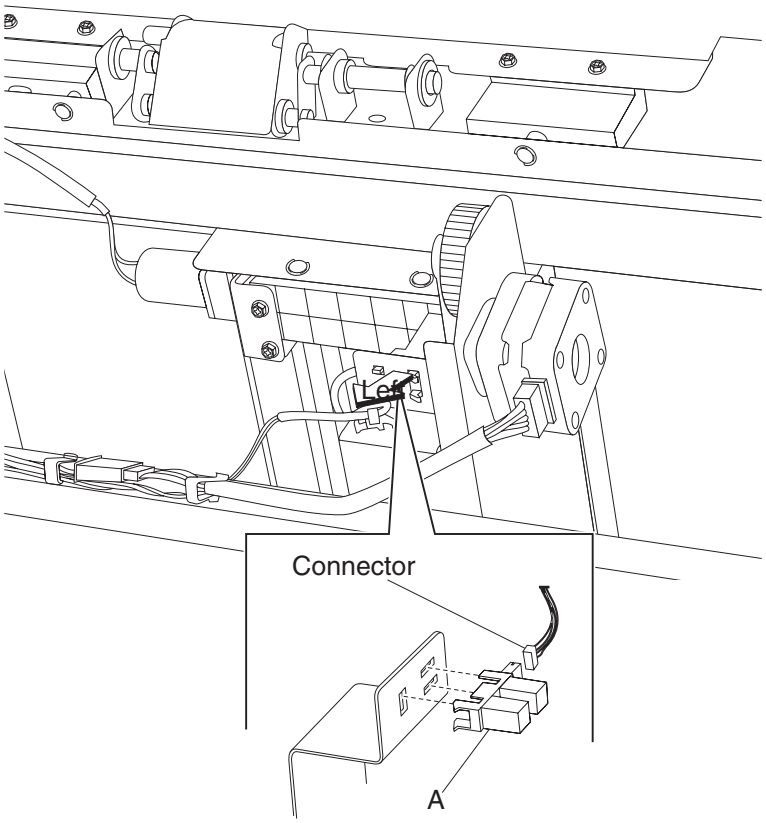
6. Remove Sensor (booklet unit media exit) (A).



Sensor (booklet end guide HP) removal

1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Remove the booklet unit assembly left cover. See **"Booklet unit assembly left cover" on page 4-128**.
3. Disconnect the connector from the sensor (booklet end guide HP) (A).
4. Release the hooks securing the sensor (booklet end guide HP) (A) from the booklet unit.

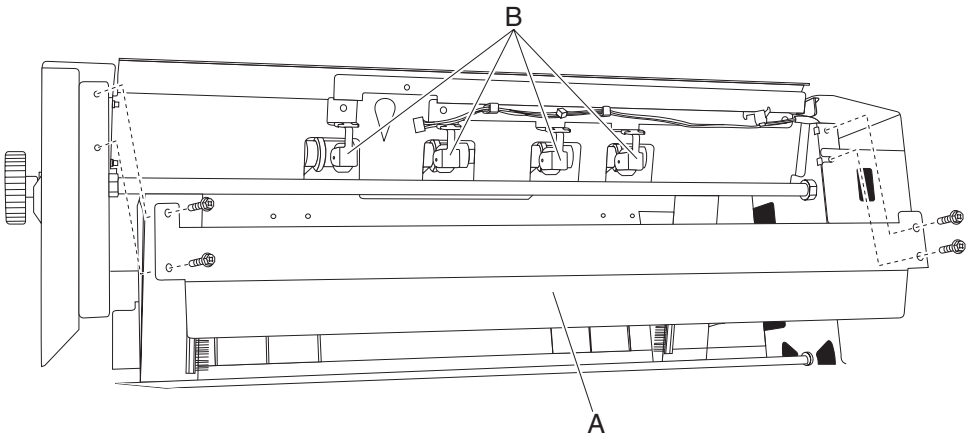
5. Remove sensor (booklet end guide HP) (A).



Booklet media pinch roll assembly removal

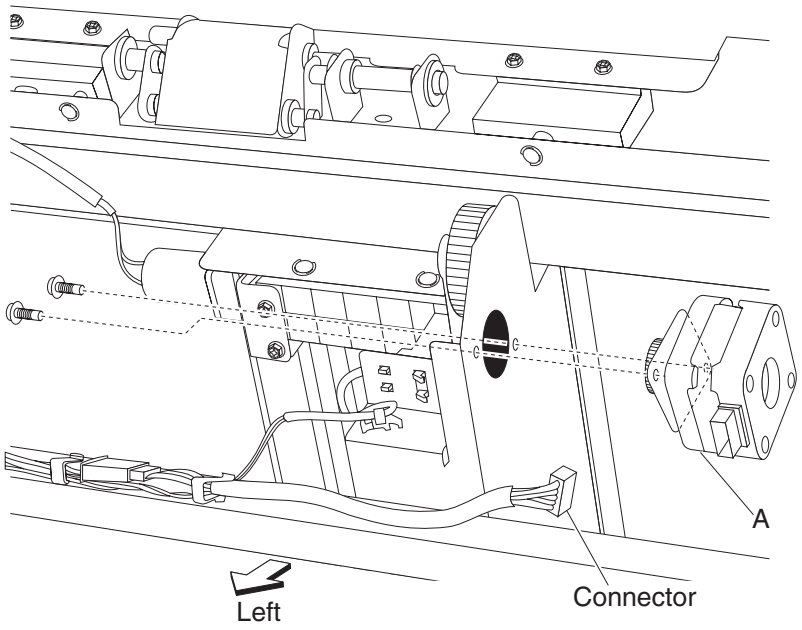
1. Remove the booklet unit assembly. See **“Booklet unit assembly removal” on page 4-121**.
2. Remove the Sensor (booklet unit media entrance). See **“Sensor (booklet unit media entrance) removal” on page 4-137**.
3. Remove the four screws securing the frame X from the booklet unit assembly.
4. Release the cable harness from the frame X.
5. Remove the booklet unit front door assembly. See **“Booklet unit front door assembly removal” on page 4-137**.
6. Remove the four screws securing the booklet media pinch roll assembly (A) from the booklet unit assembly.

7. Remove the booklet media pinch roll assembly (A).



Booklet paddle motor removal

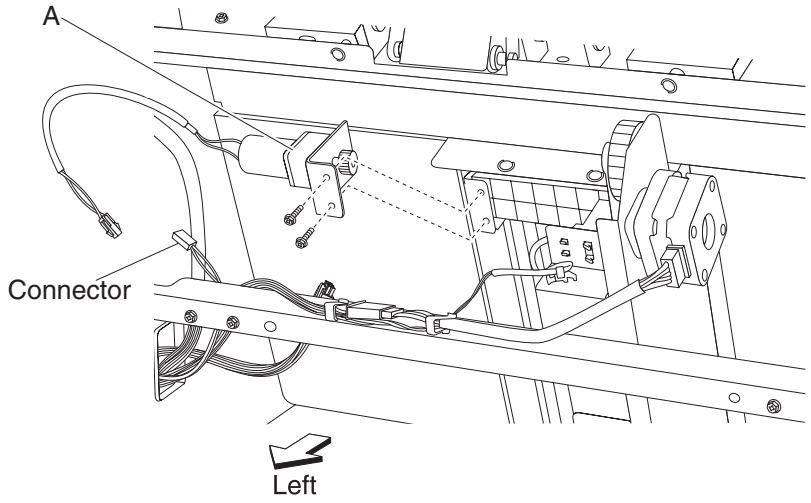
1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Remove the booklet unit assembly left cover. See **"Booklet unit assembly left cover" on page 4-128**.
3. Disconnect the connectors from the booklet paddle motor (A).
4. Remove the two screws securing the booklet paddle motor (A) from the compiler frame.
5. Remove booklet paddle motor (A).



Booklet end guide drive motor removal

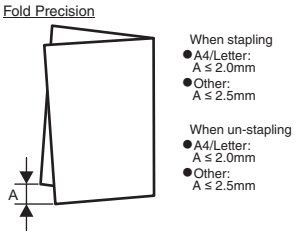
1. Remove the booklet unit assembly. See **"Booklet unit assembly removal" on page 4-121**.
2. Remove the booklet unit assembly left cover. See **"Booklet unit assembly left cover" on page 4-128**.
3. Disconnect the connectors from the sensor (booklet end guide drive motor).
4. Remove the two screws securing the booklet end guide drive motor (A) from the compiler frame.

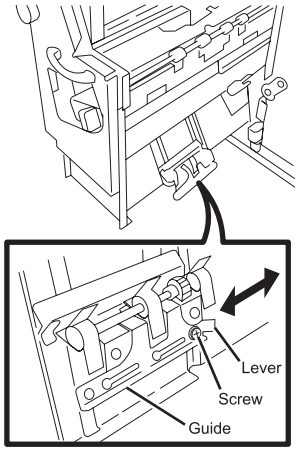
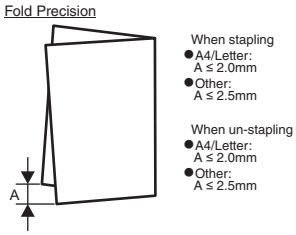
5. Remove the booklet end guide drive motor (A).



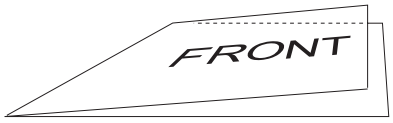
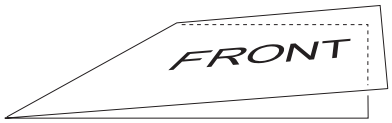
Booklet maker setup & adjustment

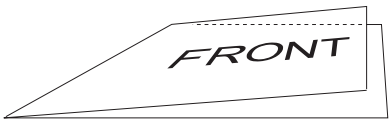
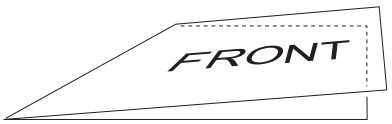
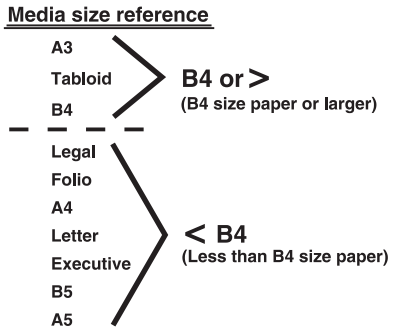
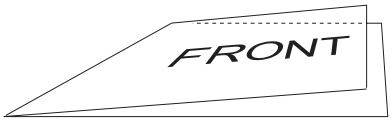
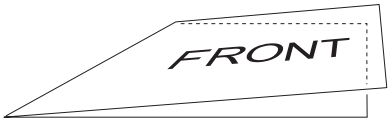
Folding precision skew adjustment

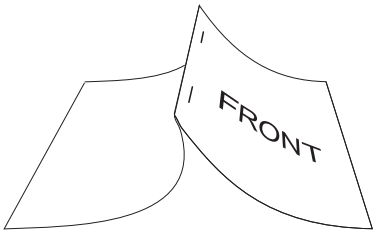
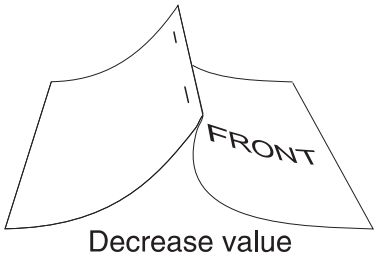
Step	Check	Yes	No
1	Print a 2 sheet booklet using the booklet maker. Does the booklet appear skewed as shown in the graphic below? 	Go to step 2.	The folding precision skew adjustment is in spec.

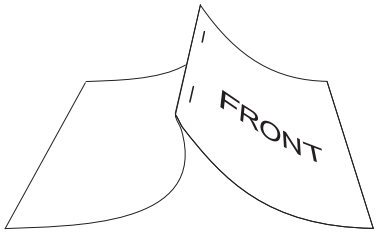
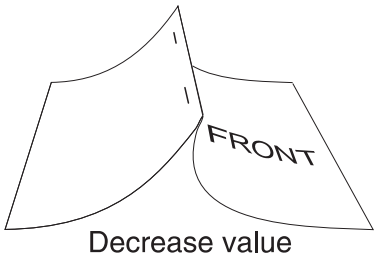
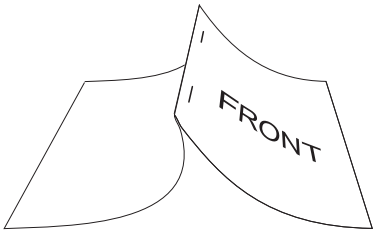
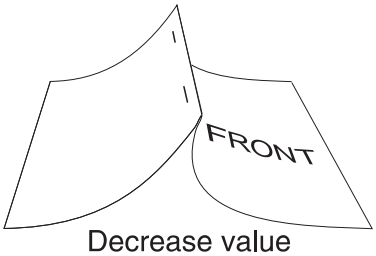
Step	Check	Yes	No
2	Check the booklet maker precision skew adjuster. 1. Open the finisher front door 2. Pull the booklet maker out of the finisher. 3. Loosen the screw securing the end guide skew lever.  4. Adjust the end guide skew lever by moving it either forward or rearward. 1 step on the scale = 1 mm shift. 5. Once the adjustment is made, tighten the screw. Print a 2 sheet booklet using the booklet maker. Do the booklet sheet edges appear skewed as shown in the graphic below? 	Repeat step 2 until the end guide precision skew is in spec.	Problem solved.

2 sheet fold & staple position fine adjustment

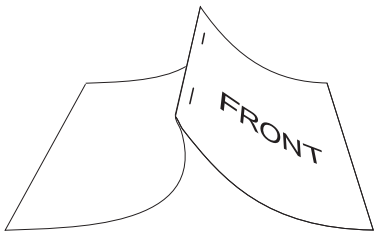
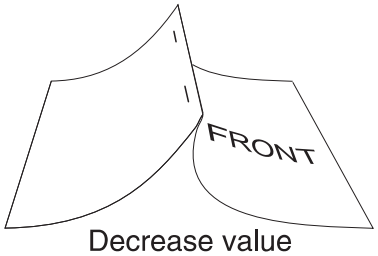
Step	Check	Yes	No
1	Print a 2 sheet booklet using the booklet maker. Does the booklet sheet edges appear overlapped as shown in the graphic below?  Decrease value  Increase value	Go to step 2.	The 2 sheet fold position fine adjustment is in spec. Go to step 3.

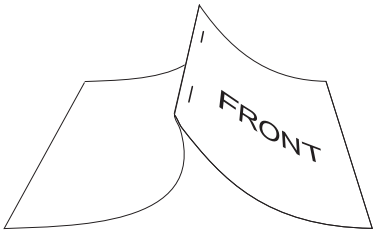
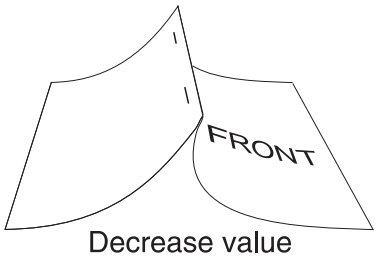
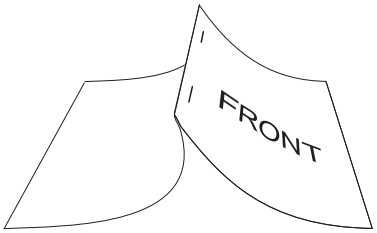
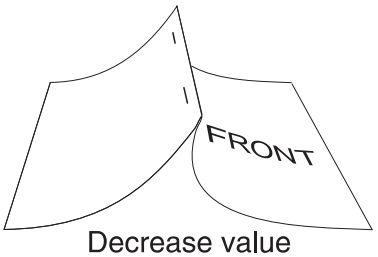
Step	Check	Yes	No
2	Adjust the 2 sheet position fine adjustment value based on the graphic below:  Decrease value  Increase value 1. Enter the diagnostic mode. 2. Touch **ENGINE ADJUST**. 3. Touch **Booklet fold adjust**. 4. Touch **Booklet 2 sheet.** 5. Make required fold position value adjustments according to the media size as shown in the graphic below. 1 step = .1 mm shift. Target amount to be adjusted is half the amount of the total Fold Misalignment.  6. Touch **Submit**. Print a 2 page booklet using the booklet maker. Do the booklet sheet edges appear overlapped as shown in the graphic below?  Decrease value  Increase value	Repeat step 2 until the 2 sheet fold position fine adjustment is in spec. Go to step 3.	Problem solved.

Step	Check	Yes	No
3	Print a 2 sheet stapled booklet using the booklet maker. Does the staple position fine adjustment appear to be offset from the fold as shown in the graphic below?  Increase value  Decrease value	Go to step 4.	The 2 sheet staple position fine adjustment is in spec.

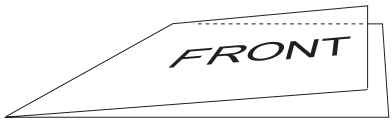
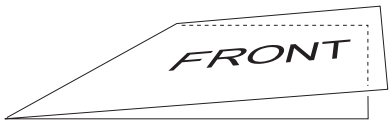
Step	Check	Yes	No
4	Adjust the 2 sheet staple position fine adjustment value as shown in the graphic below:  Increase value  Decrease value 1. Enter the diagnostic mode. 2. Touch **ENGINE ADJUST**. 3. Touch **Booklet fold adjust**. 4. Touch **Booklet 2 sheet.** 5. Make required staple position adjustments according to media size. 1 step =.1 mm shift. 6. Touch **Submit**. Print a 2 page booklet using the booklet maker. Does the staple position fine adjustment appear to be offset from the fold as shown in the graphic below?  Increase value  Decrease value	Repeat step 2 until the 2 sheet staple position fine adjustment is in spec.	Problem solved.

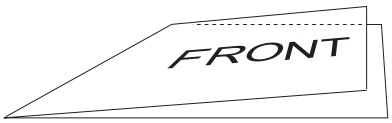
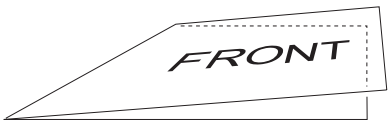
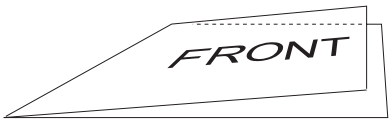
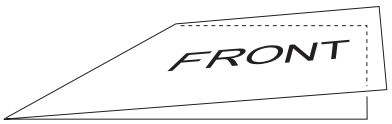
15 sheet staple position fine adjustment

Step	Check	Yes	No
1	Print a 15 sheet stapled booklet using the booklet maker. Does the staple position fine adjustment appear to be offset from the fold as shown in the graphic below?  Increase value  Decrease value	Go to step 2.	The 15 sheet staple position fine adjustment is in spec.

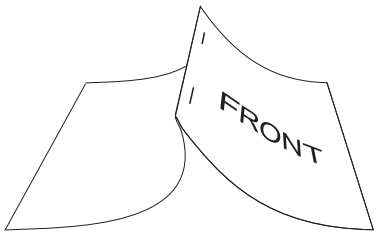
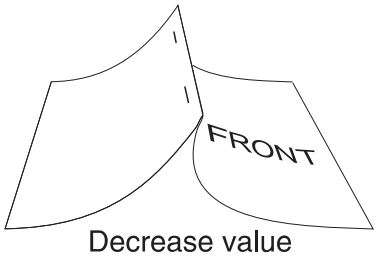
Step	Check	Yes	No
2	Adjust the 15 sheet staple position fine adjustment value as shown in the graphic below:  Increase value  Decrease value 1. Enter the diagnostic mode. 2. Touch **ENGINE ADJUST**. 3. Touch **Booklet fold adjust**. 4. Touch **Booklet 15 sheet.** 5. Make required staple position adjustments according to media size. 1 step = .1 mm shift. 6. Touch **Submit**. Print a 15 page booklet using the booklet maker. Does the staple position fine adjustment appear to be offset from the fold as shown in the graphic below?  Increase value  Decrease value	Repeat step 2 until the 15 sheet staple position fine adjustment is in spec.	Problem solved.

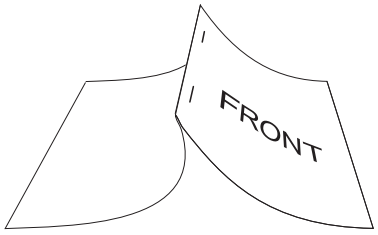
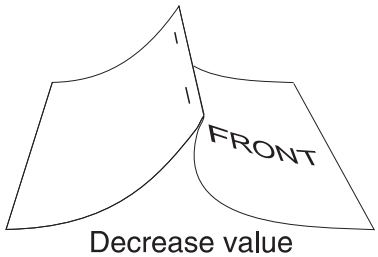
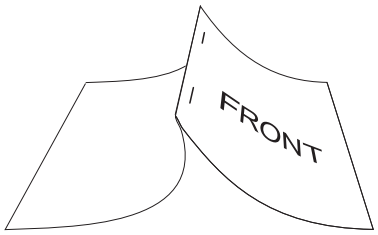
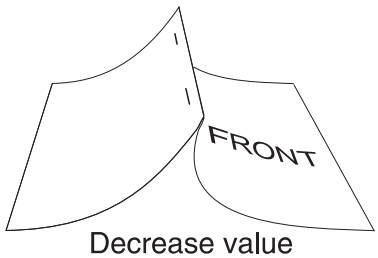
Booklet fold position fine adjustment (3-15 sheets)

Step	Check	Yes	No
1	**Note:** The booklet fold position fine adjustment is different depending on the amount of sheets that compose the booklet and the size of the media. Volume 1 = 3 sheets Volume 2 = 4 sheets Volume 3 = 5-7 sheets Volume 4 = 8-15 sheets S = media < B4 L = B4 media or > Print the appropriate booklet using the booklet maker. Do the booklet sheet edges appear overlapped as shown in the graphic below?  Decrease value  Increase value	Go to step 2.	The booklet fold position fine adjustment is in spec.

Step	Check	Yes	No
2	Adjust the fold position fine adjustment value based on the graphic below:  Decrease value  Increase value 1. Enter the diagnostic mode. 2. Touch **ENGINE ADJUST**. 3. Touch **Booklet fold adjust**. 4. Touch **Booklet fold pos fine adj.** 5. Make required adjustments according to media size. 1 step = .1 mm shift. Target amount to be adjusted is half the amount of the total Fold Misalignment 6. Touch **Submit**. Enter the user mode and print the appropriate booklet using the booklet maker. Do the booklet sheet edges appear overlapped as shown in the graphic below?  Decrease value  Increase value	Repeat step 2 until the Booklet fold position fine adjustment is in spec.	Problem solved.

Booklet staple position fine adjustment (3-14 sheets)

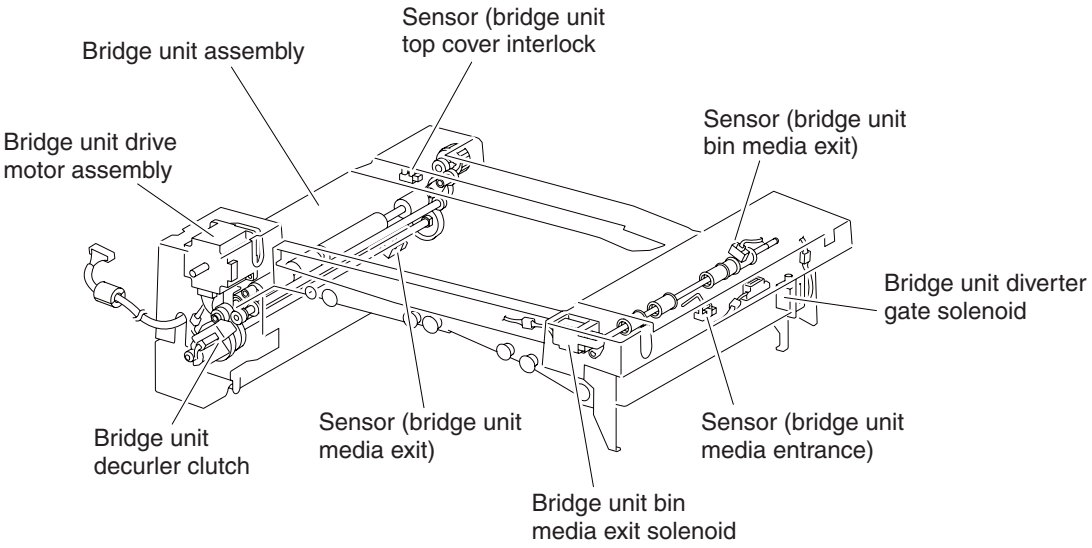
Step	Check	Yes	No
1	**Note:** The booklet staple position fine adjustment is different depending on the amount of sheets that compose the booklet. Volume 1 = 3 sheets Volume 2 = 4 sheets Volume 3 = 5-7 sheets Volume 4 = 8-14 sheets Print the appropriate booklet using the booklet maker. Does the staple position fine adjustment appear to be offset from the fold as shown in the graphic below?  Increase value  Decrease value	Go to step 2.	The booklet staple position fine adjustment is in spec.

Step	Check	Yes	No
2	Adjust the booklet staple position fine adjustment value as shown in the graphic below:  Increase value  Decrease value 1. Enter the diagnostic mode. 2. Touch **ENGINE ADJUST**. 3. Touch **Booklet fold adjust**. 4. Touch **Booklet fold pos fine adj.** 5. Make required adjustments according to media size. 1 step = .1 mm shift. Target amount to be adjusted is half the amount of the total Fold Misalignment. 6. Touch **Submit**. Enter user mode and print the appropriate booklet using the booklet maker. Does the staple position fine adjustment appear to be offset from the fold as shown in the graphic below?  Increase value  Decrease value	Repeat step 2 until the Booklet staple position fine adjustment is in spec.	Problem solved.

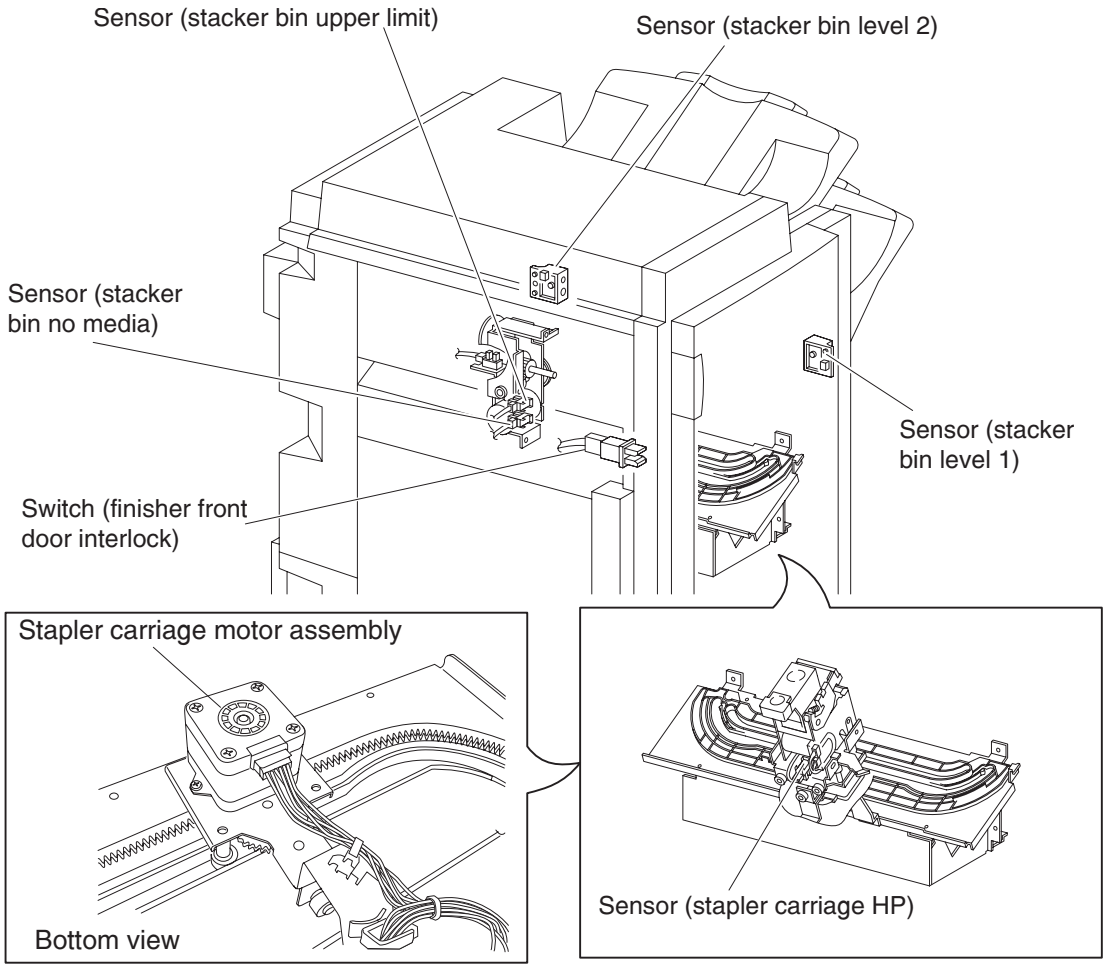
5. Connector locations

Finisher components

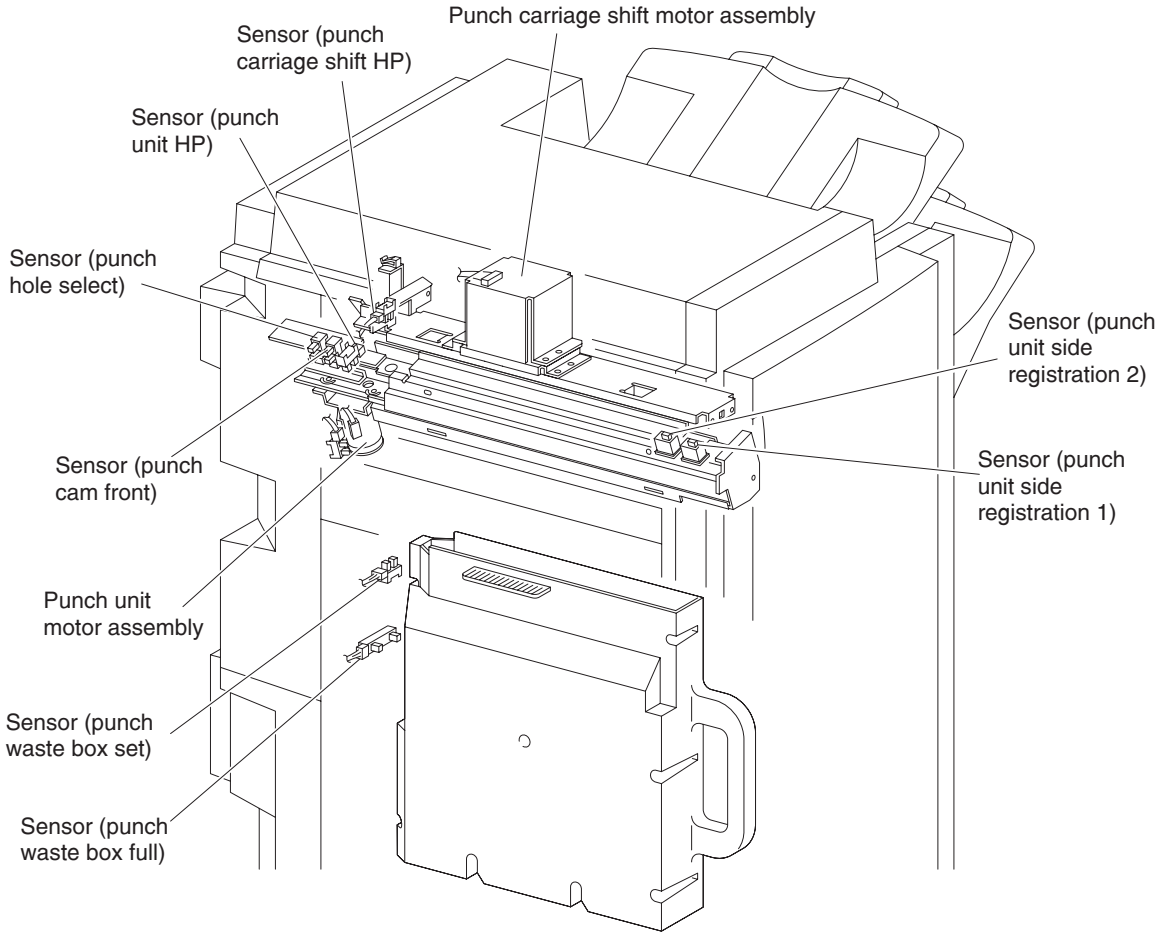
Bridge unit assembly



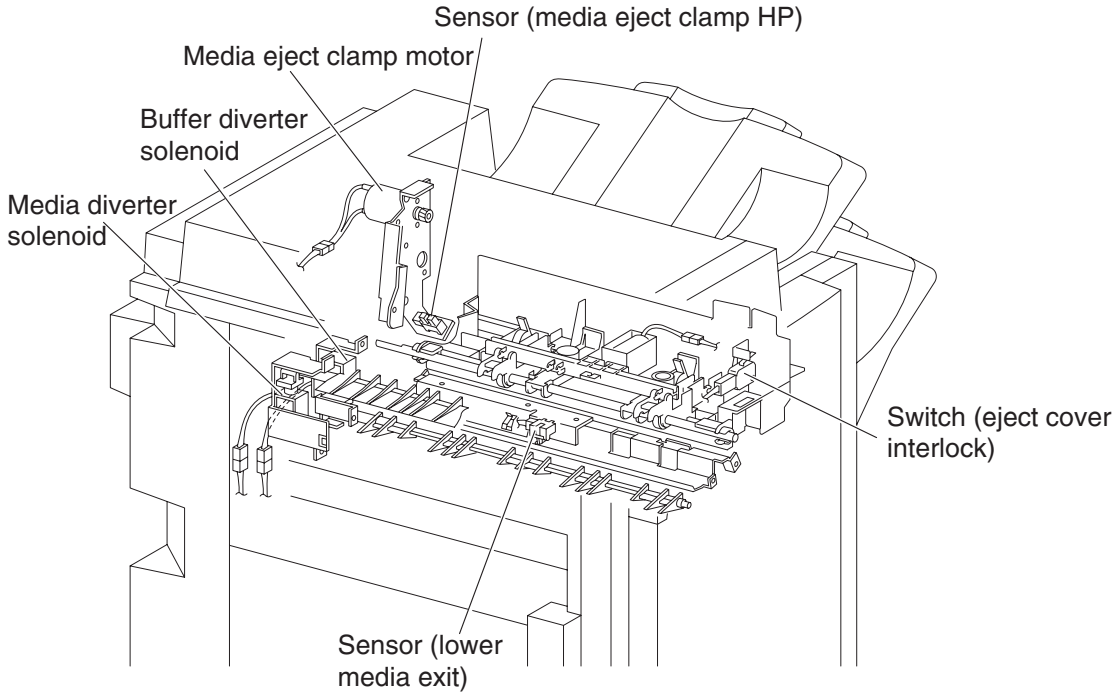
Stacker lift and stapler



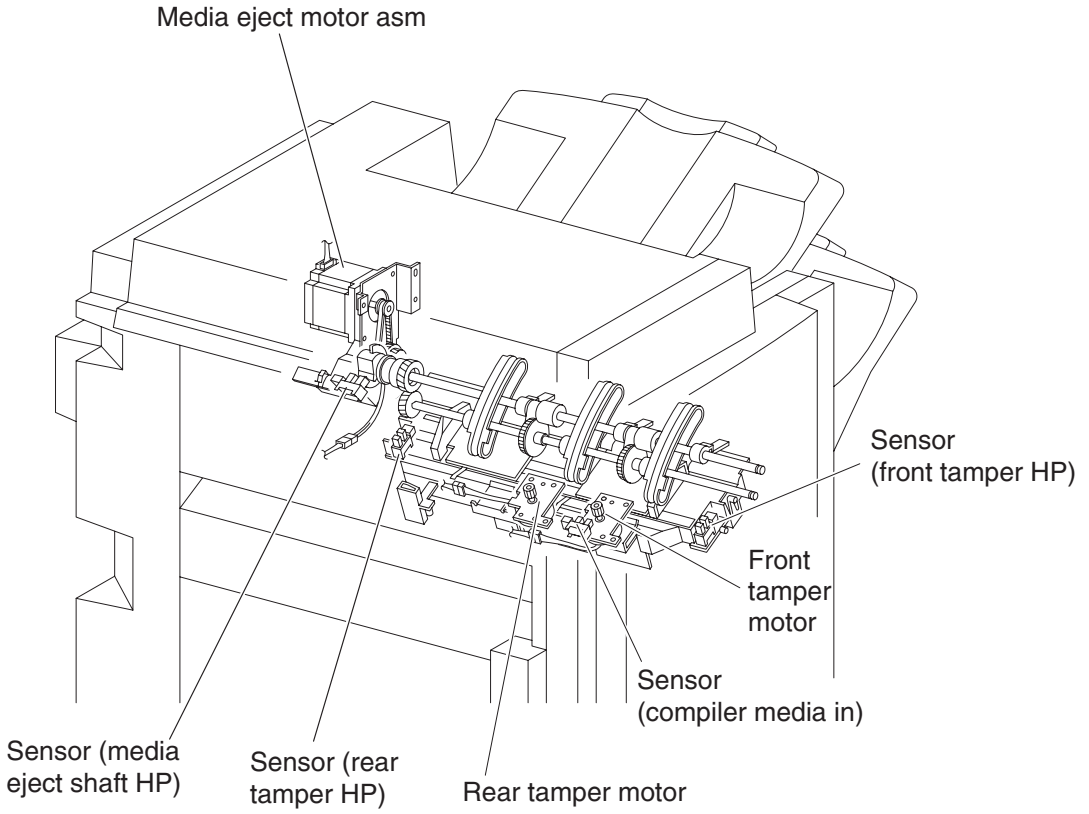
Punch unit


Punch carriage shift motor assembly
Sensor (punch carriage shift HP)
Sensor (punch unit HP)
Sensor (punch hole select)
Sensor (punch unit side registration 2)
Sensor (punch cam front)
Sensor (punch unit side registration 1)
Punch unit motor assembly
Sensor (punch waste box set)
Sensor (punch waste box full)

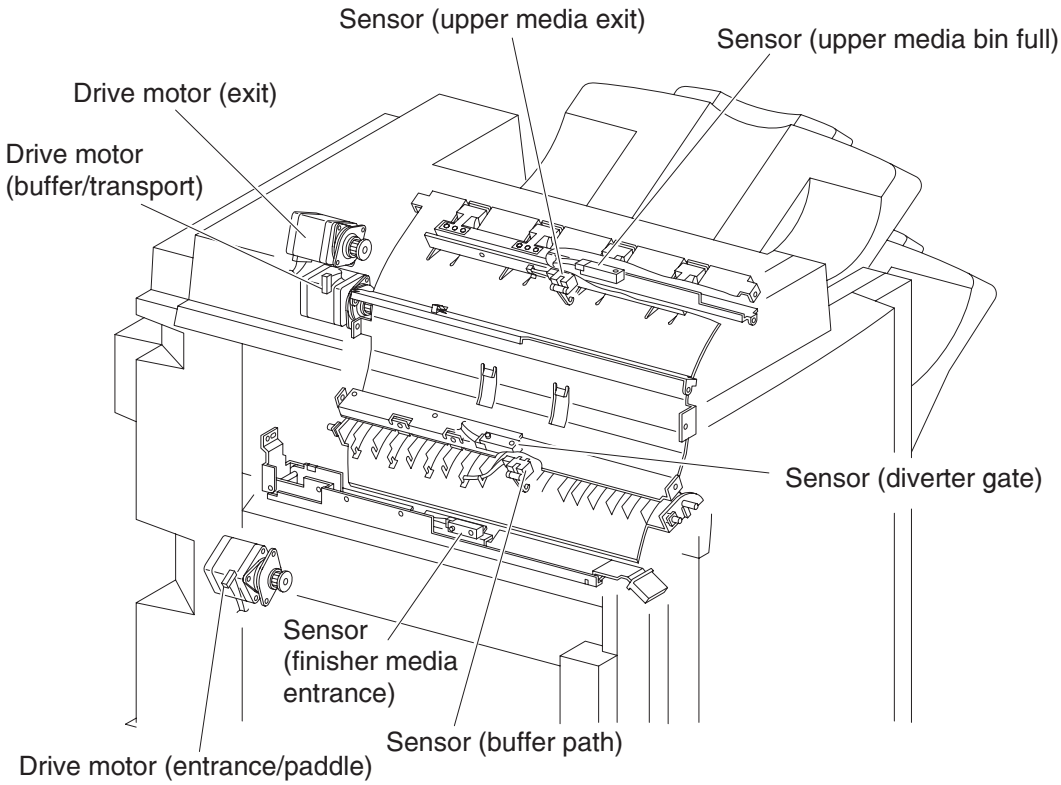
Diverter and media eject

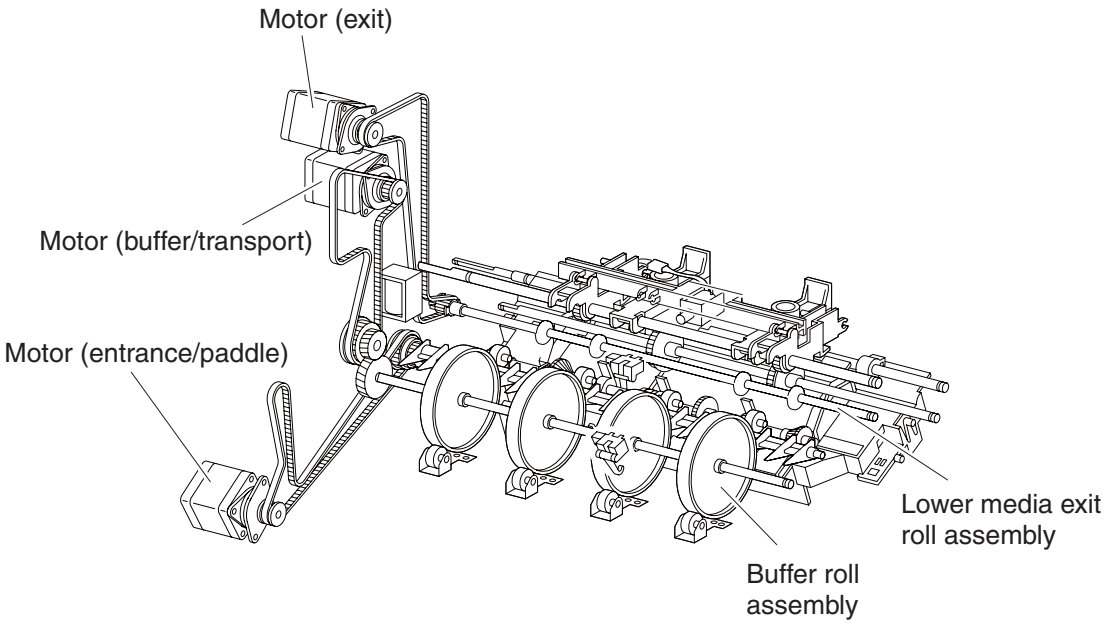


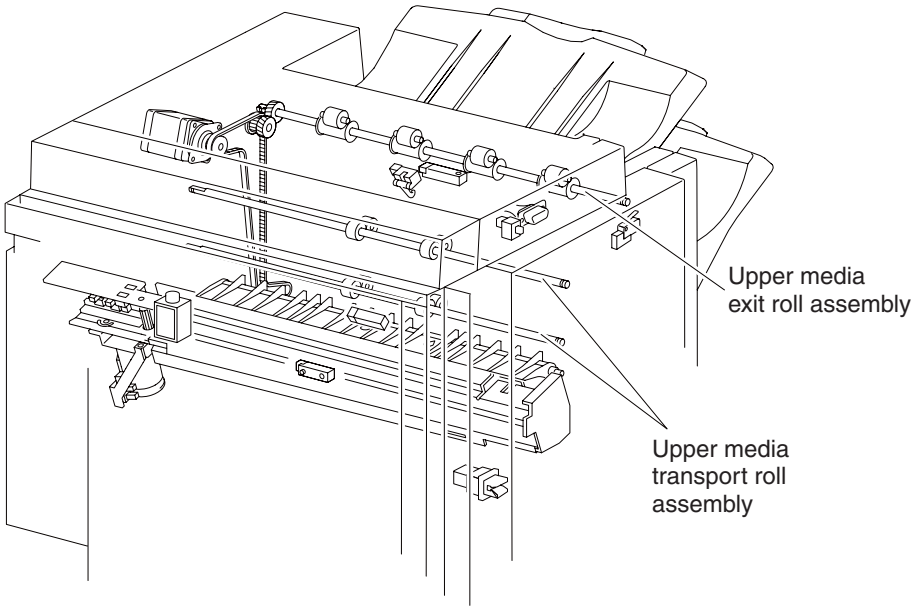
Media eject and media compiler



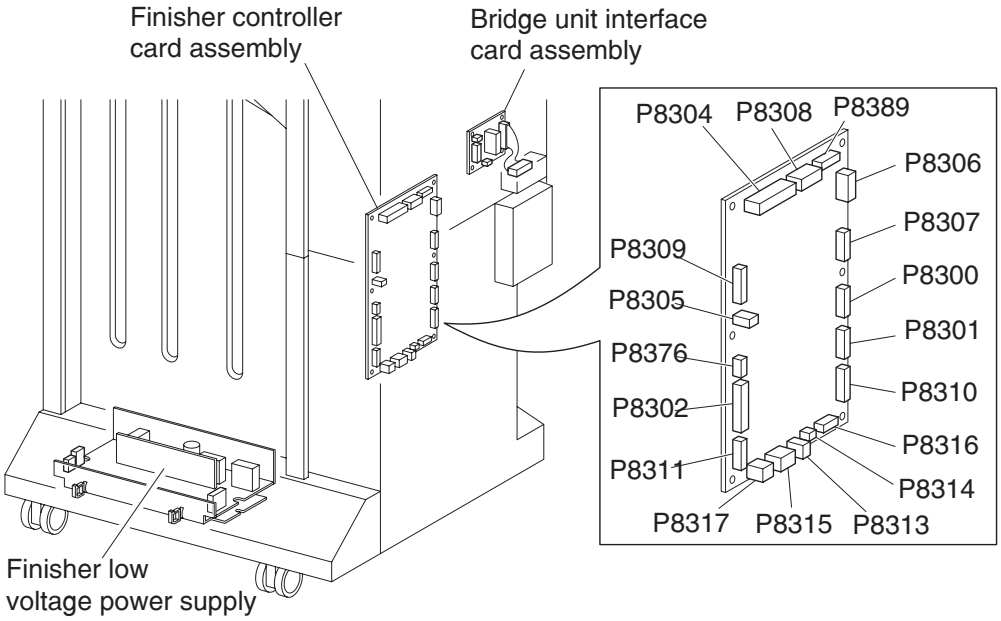
Buffer, upper exit, lower exit, and drive motors



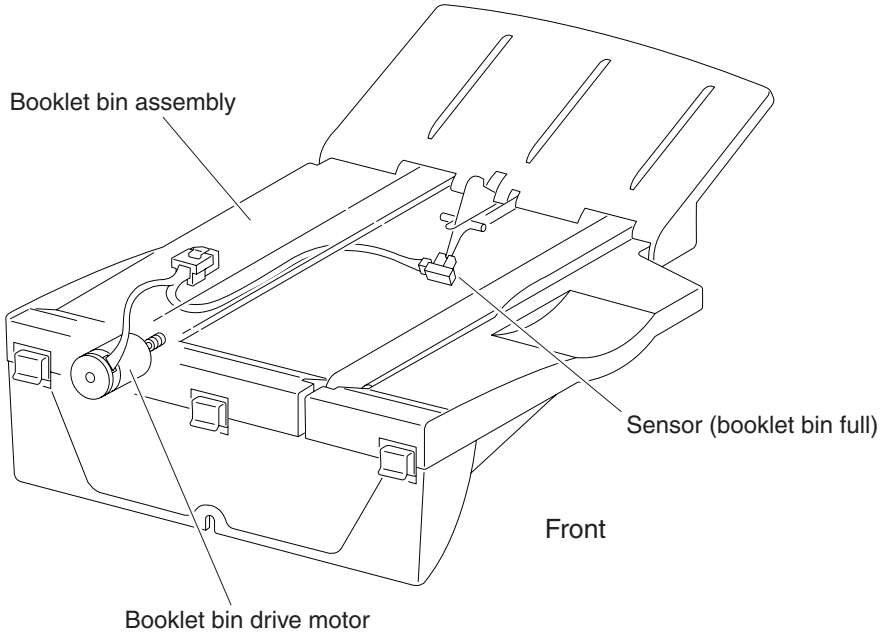




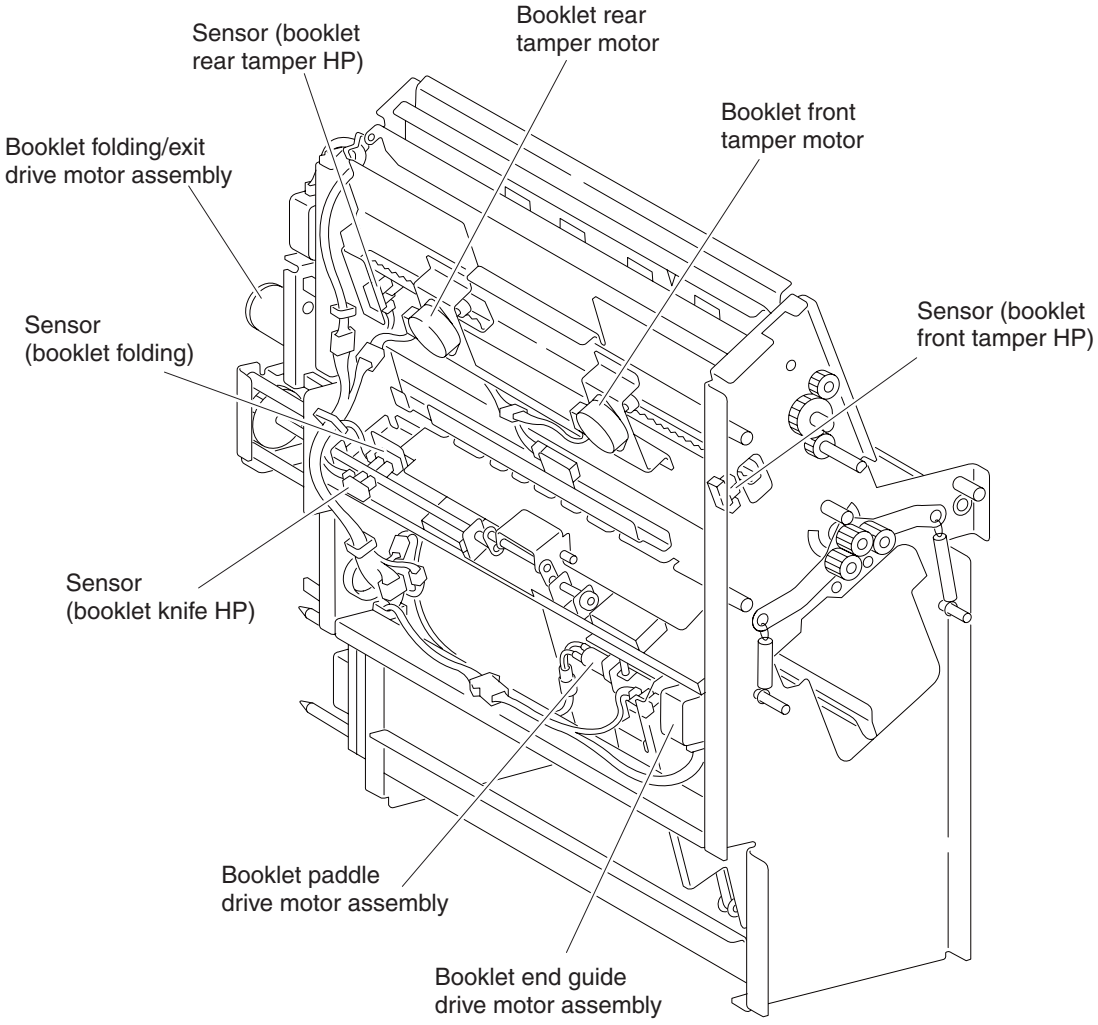
Finisher controller card assembly

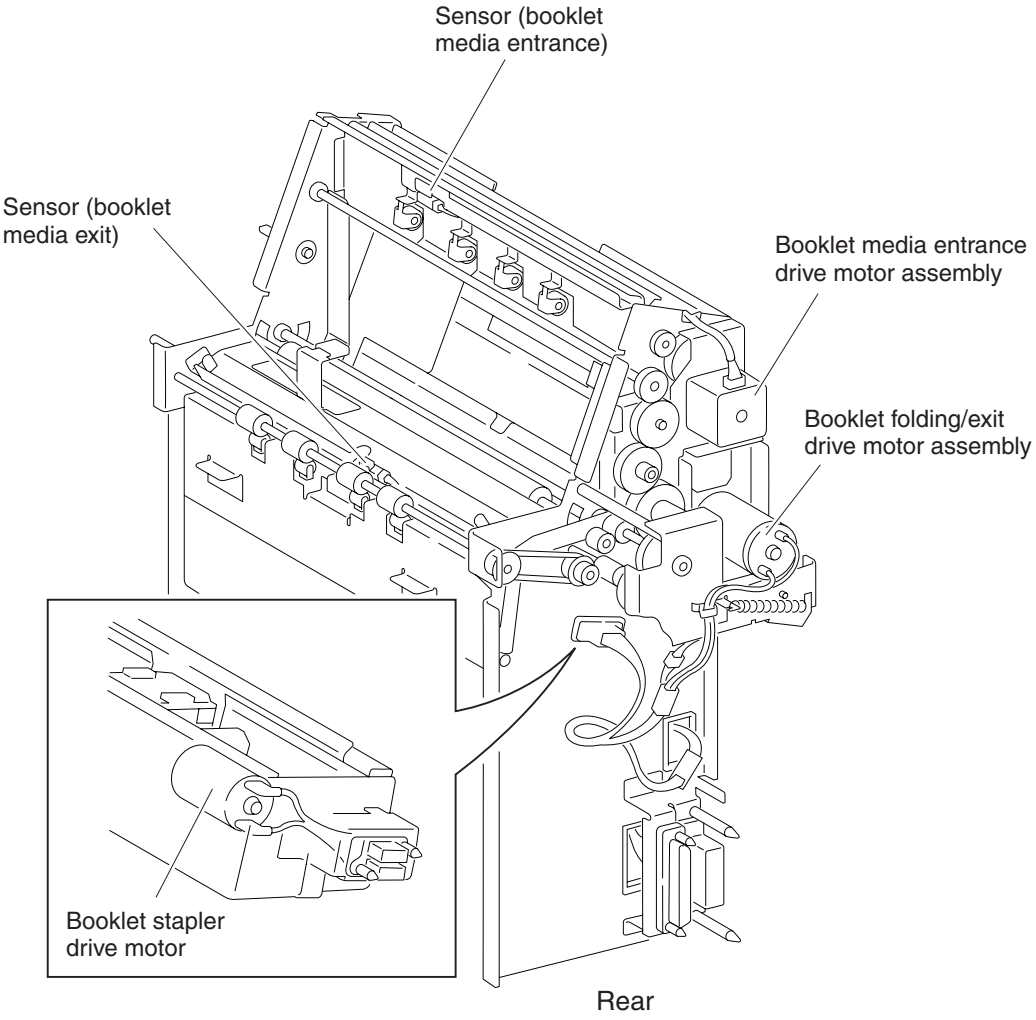


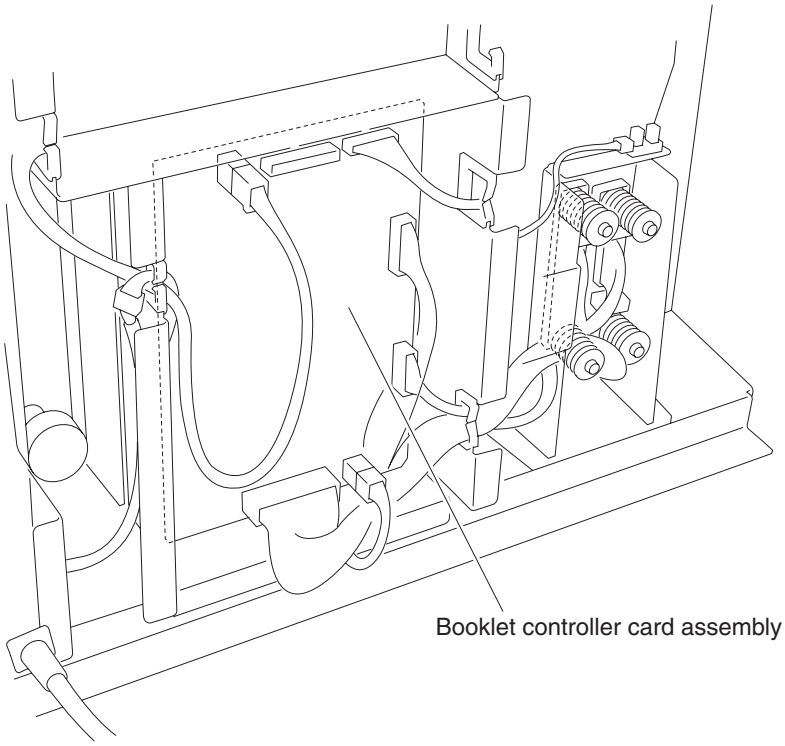
Booklet media bin



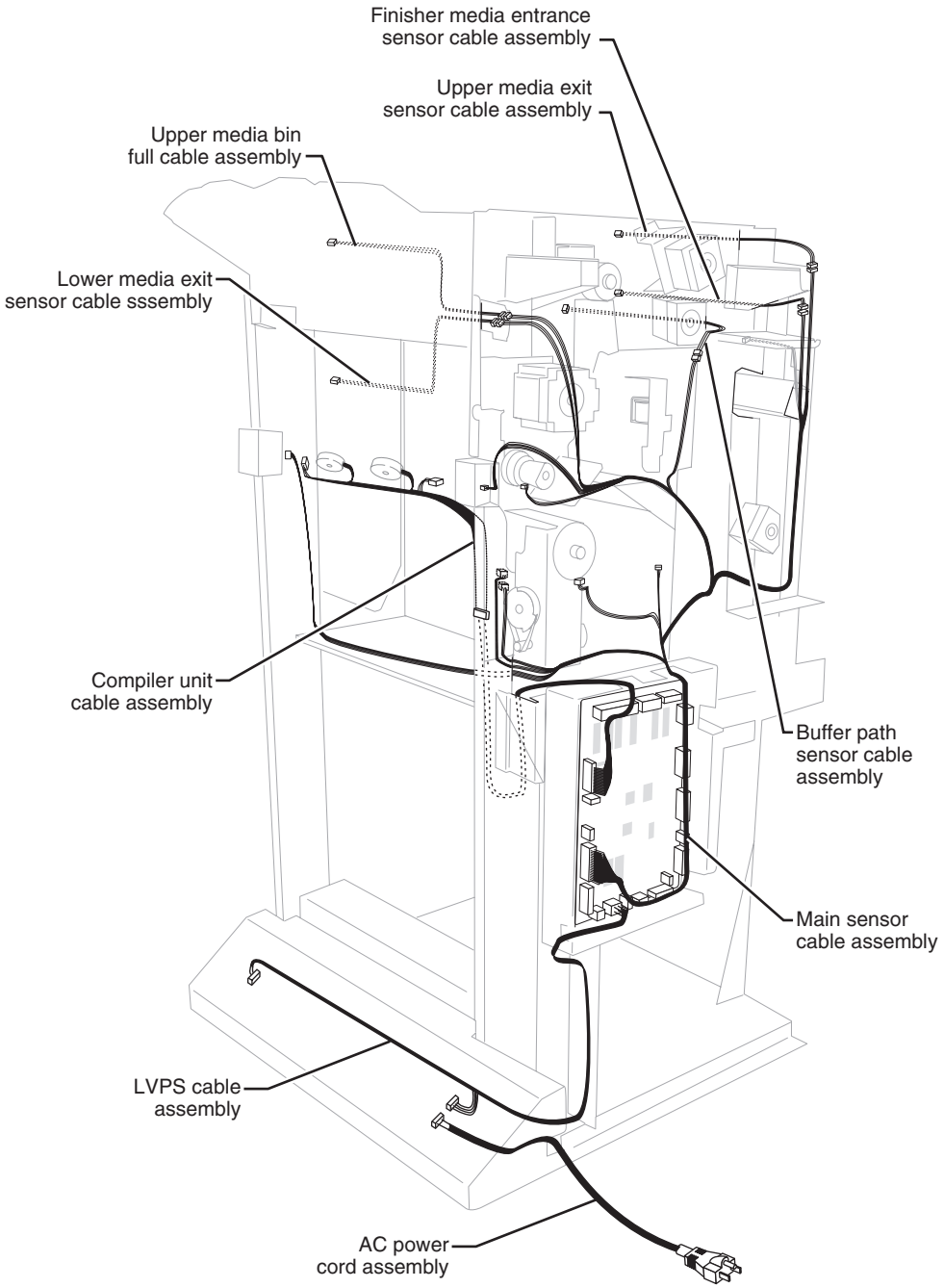
Booklet maker

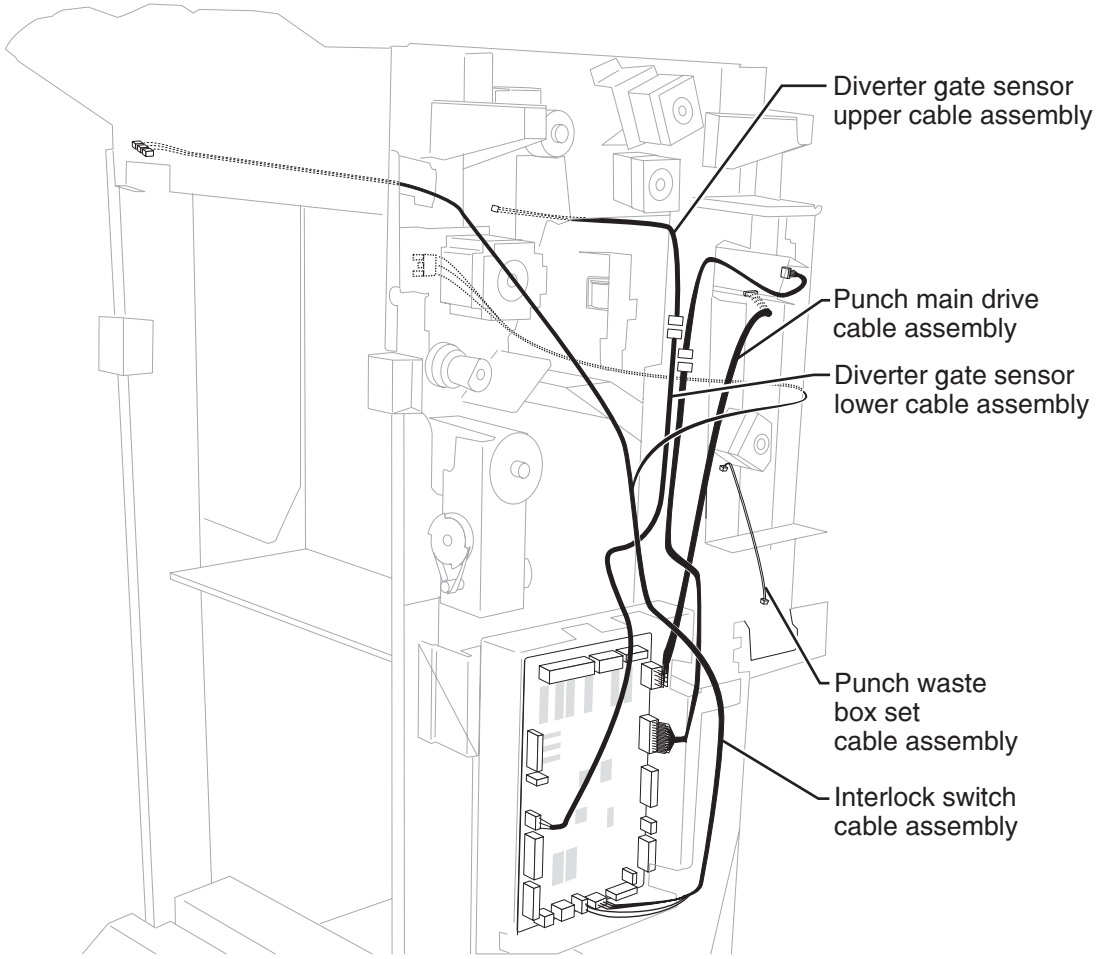


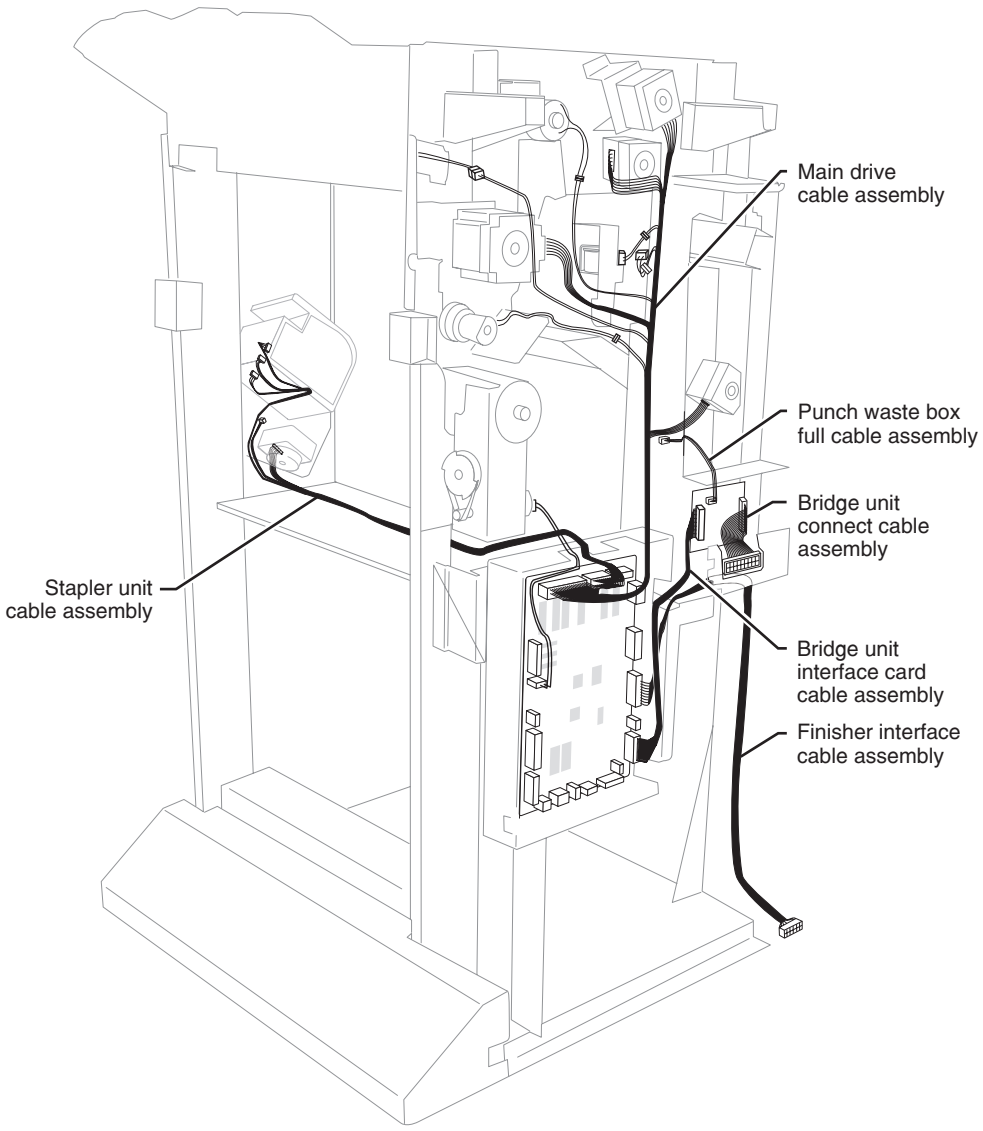

Sensor (booklet media entrance)
Sensor (booklet media exit)
Booklet media entrance drive motor assembly
Booklet folding/exit drive motor assembly
Booklet stapler drive motor
Rear


Booklet controller card assembly

Cabling


Finisher media entrance sensor cable assembly
Upper media exit sensor cable assembly
Upper media bin full cable assembly
Lower media exit sensor cable sssembly
Compiler unit cable assembly
Buffer path sensor cable assembly
Main sensor cable assembly
LVPS cable assembly
AC power cord assembly


Diverter gate sensor upper cable assembly
Punch main drive cable assembly
Diverter gate sensor lower cable assembly
Punch waste box set cable assembly
Interlock switch cable assembly


Main drive
cable assembly
Punch waste box
full cable assembly
Bridge unit
connect cable
assembly
Stapler unit
cable assembly
Bridge unit
interface card
cable assembly
Finisher interface
cable assembly

6. Preventive maintenance

This chapter describes procedures for printer preventive maintenance. Follow these recommendations to help prevent problems and maintain optimum performance.

Safety inspection guide

The purpose of this inspection guide is to aid you in identifying unsafe conditions.

If any unsafe conditions exist, find out how serious the hazard could be and if you can continue before you correct the hazard.

Check the following items:

- Damaged, missing, or altered parts, especially in the area of the On/Off switch and the power supply
- Damaged, missing, or altered covers, especially in the area of the top cover and the power supply cover
- Possible safety exposure from any non-Lexmark attachments

Lubrication specifications

Lubricate only when parts are replaced or as needed, not on a scheduled basis. Use of lubricants other than those specified can cause premature failure. Some unauthorized lubricants may chemically attack polycarbonate parts. Use IBM no. 10 oil, P/N 1280443 (Approved equivalents: Mobil DTE27, Shell Tellus 100, Fuchs Renolin MR30), IBM no. 23 grease (Approved equivalent Shell Darina 1), and grease, P/N 99A0394 to lubricate appropriate areas.

Maintenance recommendations

Finisher	Every service call	Every 300,000 pages
Bridge unit belts	Inspect	Clean with water or alcohol
Main paddles (3)	Inspect	Clean with water or alcohol
Sub paddles (2)	Inspect	Clean with water or alcohol
Clamp paddles (3)	Inspect	Clean with water or alcohol
Punch waste box	Clean	Clean
Stapler cartridge	Inspect for correct operation	Inspect for correct operation

7. Parts catalog

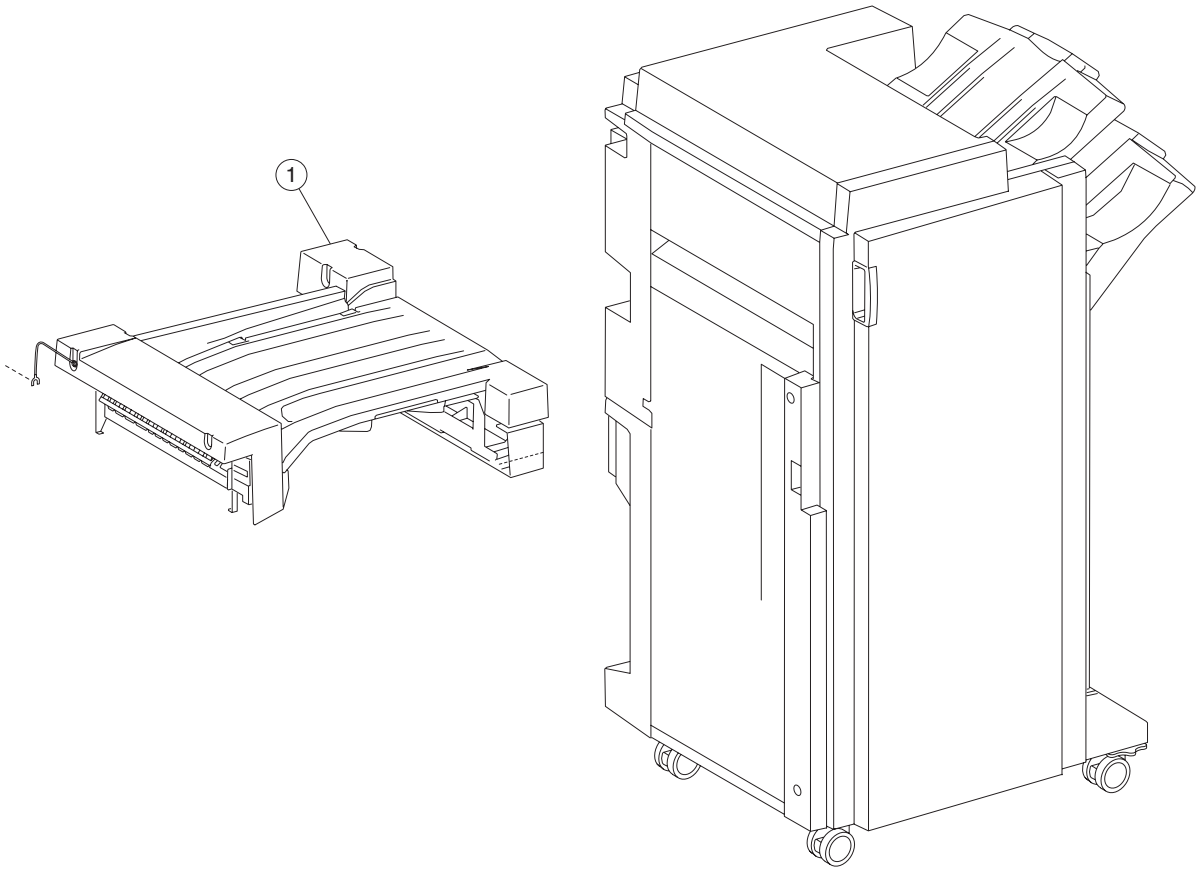
How to use this parts catalog

The following legend is used in the parts catalog:

Asm-Index	Part number	Units/ option	Units/ FRU	Description

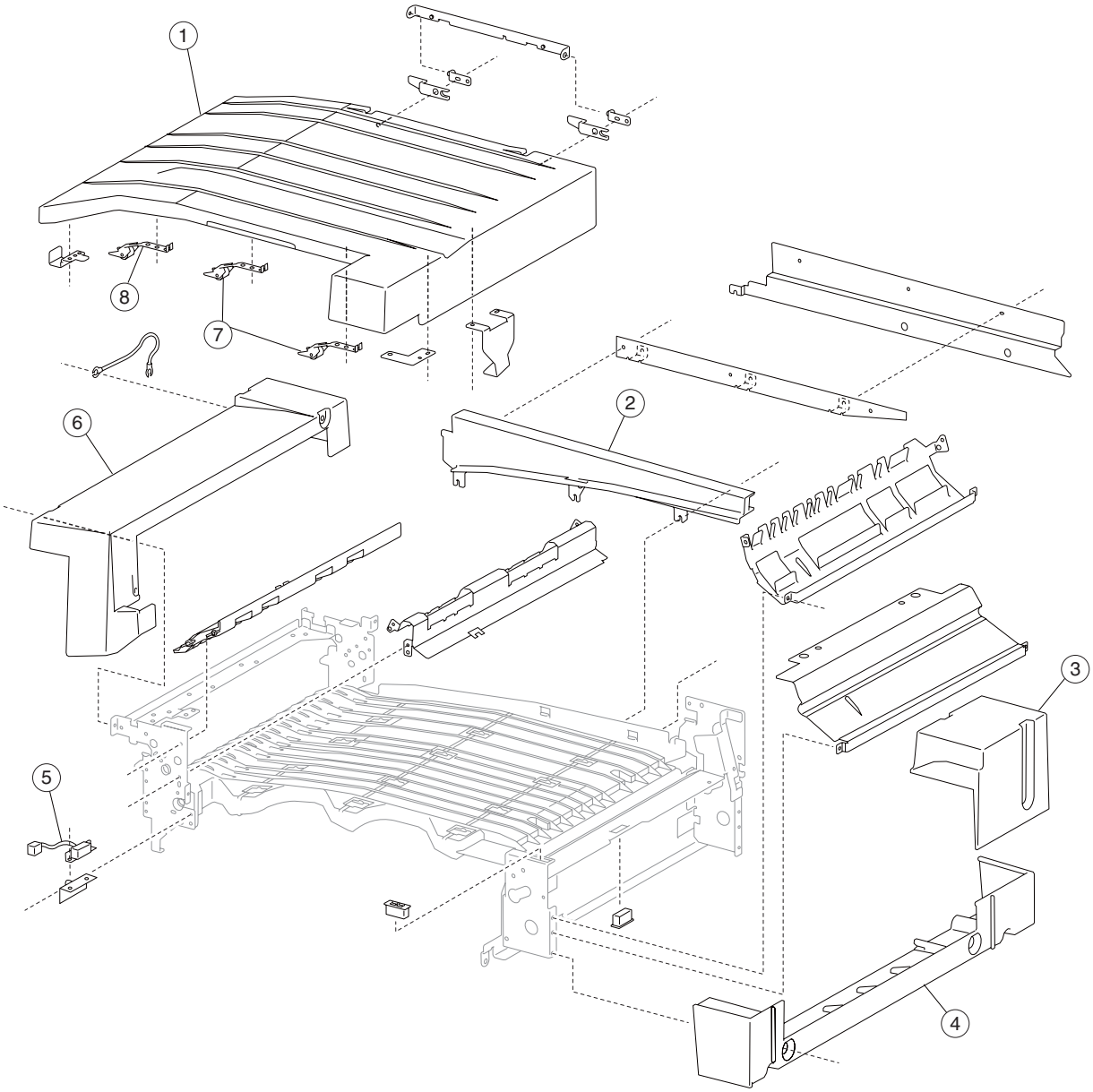
- **Asm-index**: Identifies the assembly and the item in the diagram. For example 3-1 indicates Assembly 3 and item number 1 in the table.
- **Part number**: Identifies the unique number that identifies this FRU.
- **Units/option**: Refers to the number of units in a particular option. It does not include the rest of the base machine.
- **Units/FRU**: Refers to the number of units packaged together and identified by the part number.
- **NS**: (Not shown) in the Assembly-Index column indicates that the part is procurable but is not pictured in the illustration.
- **PP**: (Parts Packet) in the parts description column indicates the part is contained in a parts packet.

Assembly 1: Finisher—bridge unit



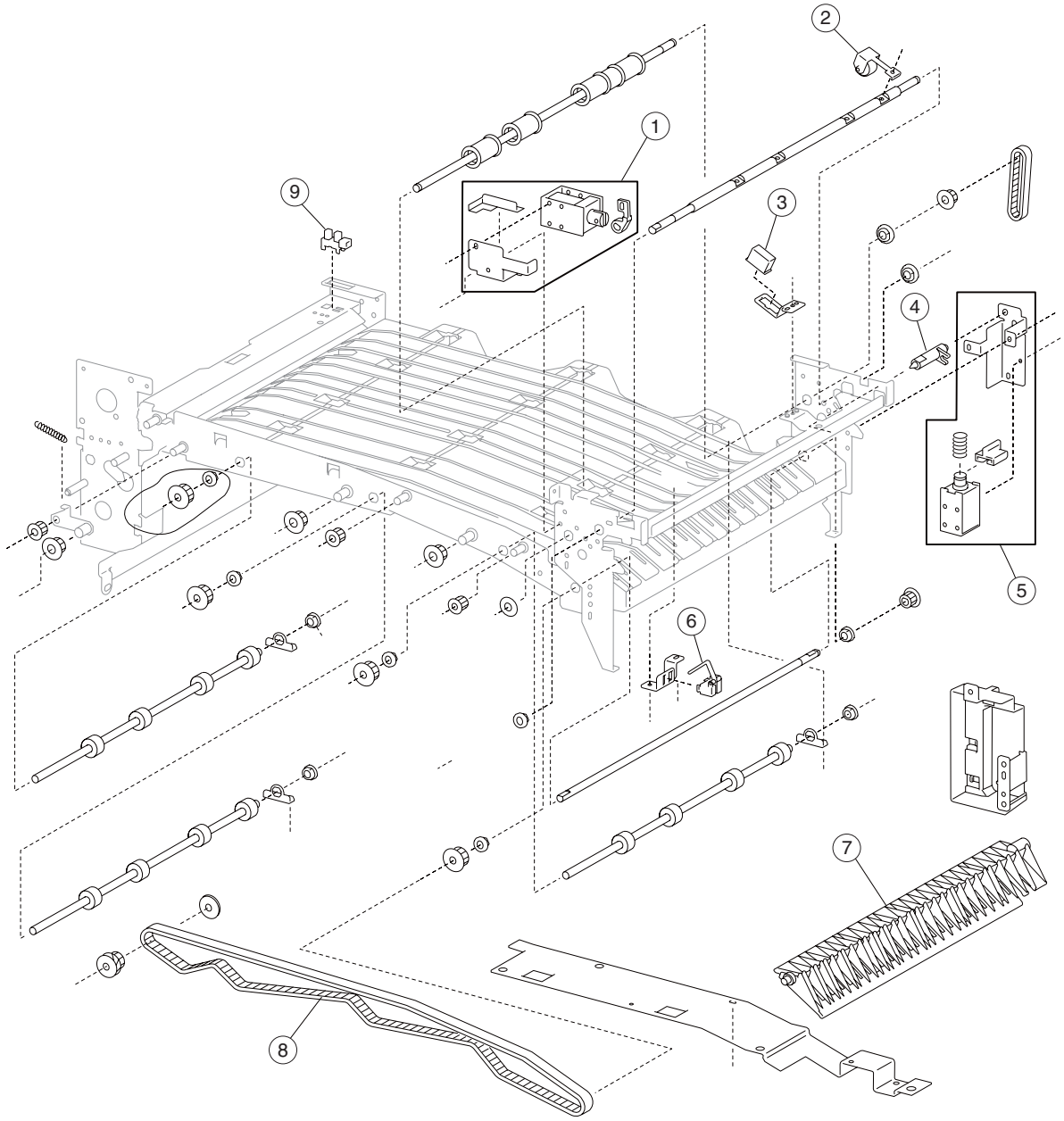
Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X3893	1	1	Bridge unit assembly (this comes assembled)

Assembly 2: Finisher—bridge unit covers



Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X3898	1	1	Bridge unit top cover
2	40X3895	1	1	Bridge unit rear cover
3	40X3896	1	1	Bridge unit motor cover
4	40X3897	1	1	Bridge unit right cover
5	40X3901	1	1	Switch (bridge unit top cover interlock)
6	40X3894	1	1	Bridge unit left upper cover
7	40X3900	8	1	Straight pinch roll assembly
8	40X3899	4	1	Angle pinch roll assembly

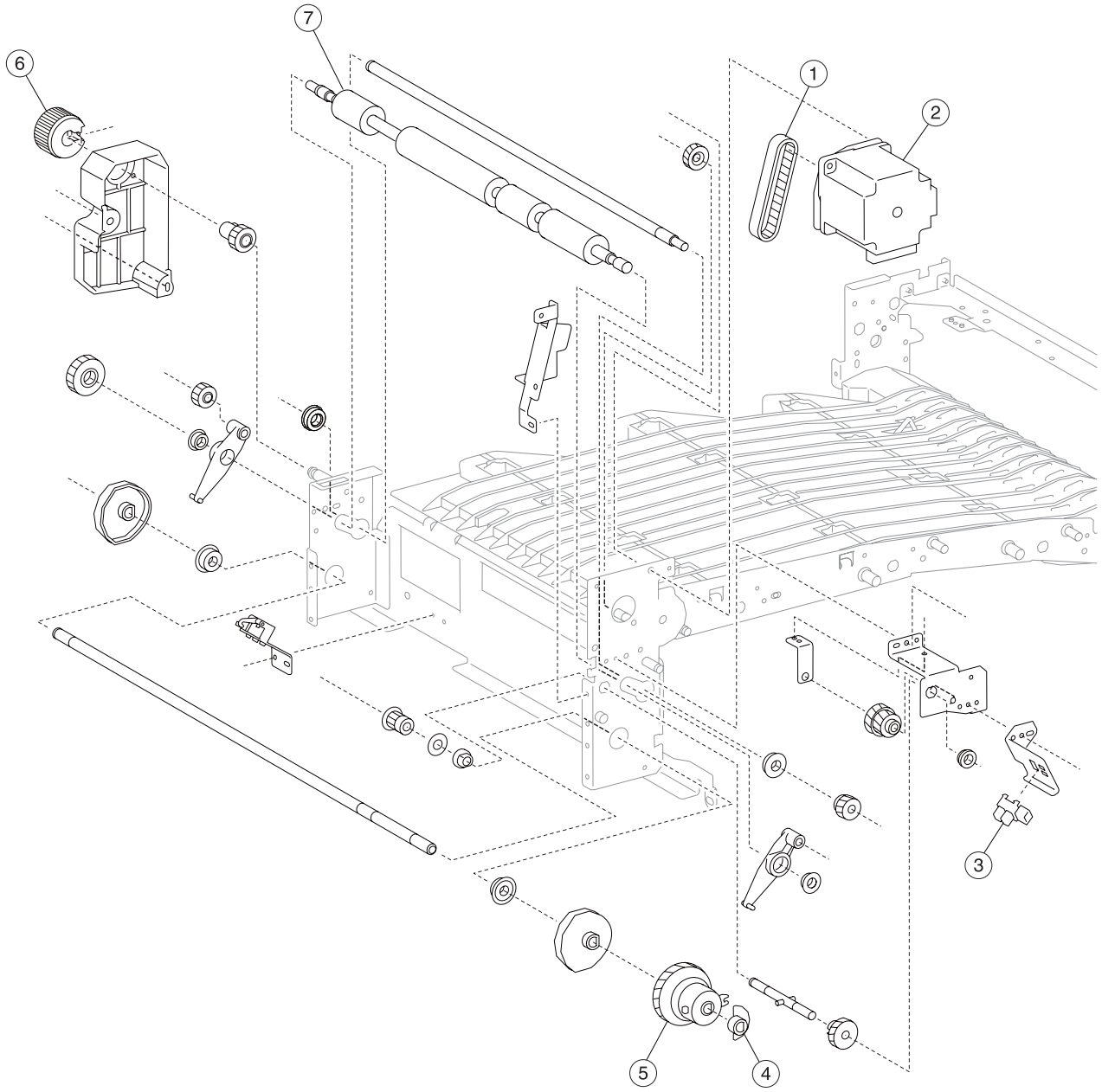
Assembly 3: Finisher—media drive 1



Assembly 3: Finisher—media drive 1

Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X3903	1	1	Bridge unit bin media exit solenoid
2	40X3904	4	1	Pinch spring
3	40X3905	1	1	Sensor (bridge unit bin media exit)
4	40X3907	1	1	Solenoid link
5	40X3906	1	1	Bridge unit diverter gate solenoid
6	40X3910	1	1	Sensor (bridge unit media entrance)
7	40X3908	1	1	Bridge unit diverter gate
8	40X3909	1	1	Bridge unit media transport drive belt
9	40X0825	2	1	Sensor (bridge unit top cover interlock)

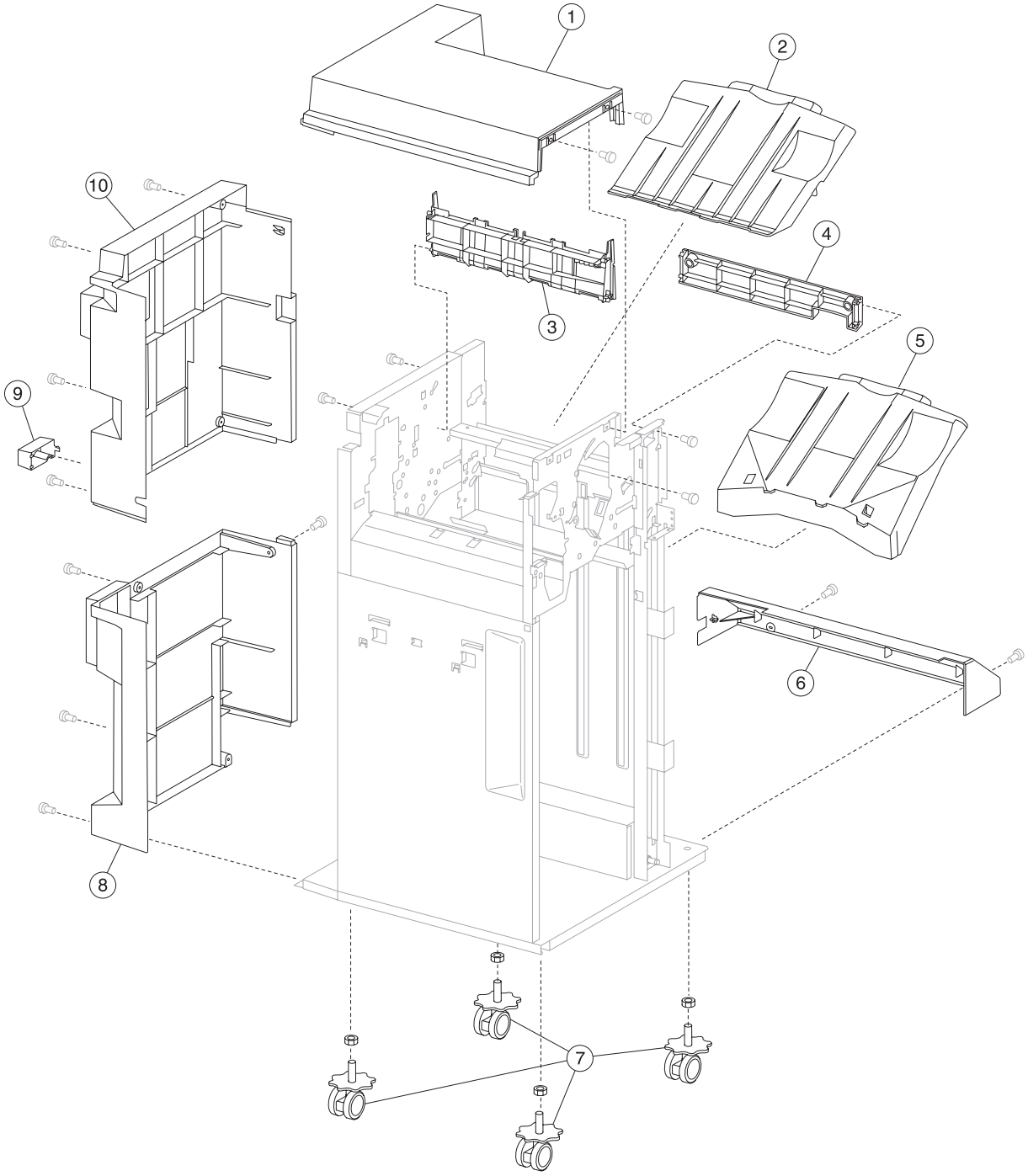
Assembly 4: Finisher—media drive 2



Assembly 4: Finisher—media drive 2

Asm-Index	Part number	Units/option	Units/FRU	Description
1	40X3912	1	1	Bridge unit exit/decurler drive belt
2	40X3911	1	1	Bridge unit drive motor
3	40X0825	2	1	Sensor (decurler cam HP)
4	40X3917	1	1	Sensor flag
5	40X3916	1	1	Decurler clutch
6	40X3914	1	1	Bridge unit manual feed knob
7	40X3913	1	1	Bridge unit decurler roll assembly

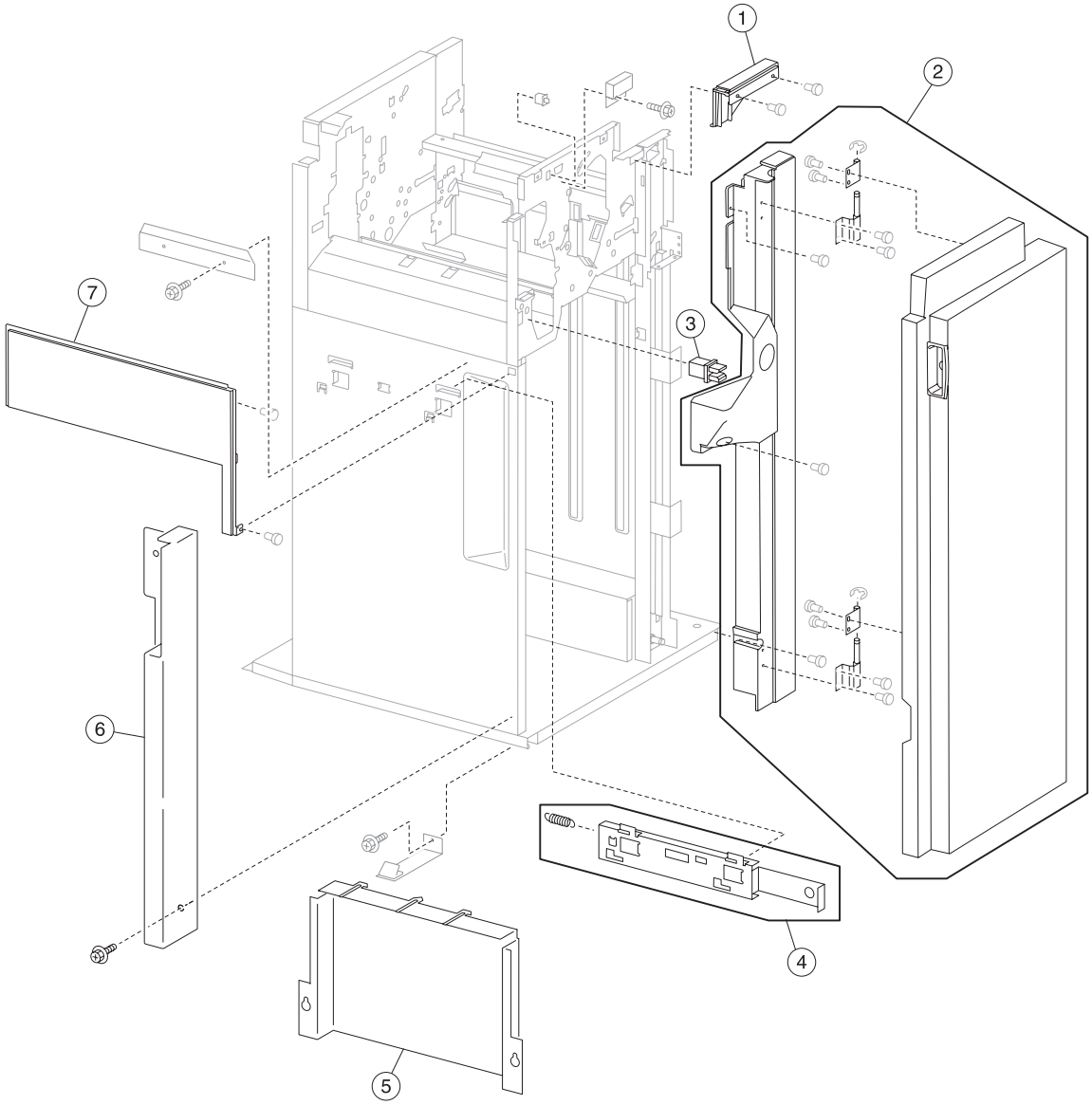
Assembly 5: Finisher—covers



Assembly 5: Finisher—covers

Asm-Index	Part number	Units/option	Units/FRU	Description
1	40X0829	1	1	Top cover
2	40X0831	1	1	Upper media bin assembly
3	40X0830	1	1	Upper media bin vertical cover
4	40X0832	1	1	Right eject cover
5	40X0833	1	1	Stacker media bin
6	40X0834	1	1	Right lower LVPS cover
7	40X0835	4	1	Caster
8	40X0836	1	1	Rear lower cover
9	40X0837	1	1	Bridge unit hookup cover
10	40X0838	1	1	Rear upper cover

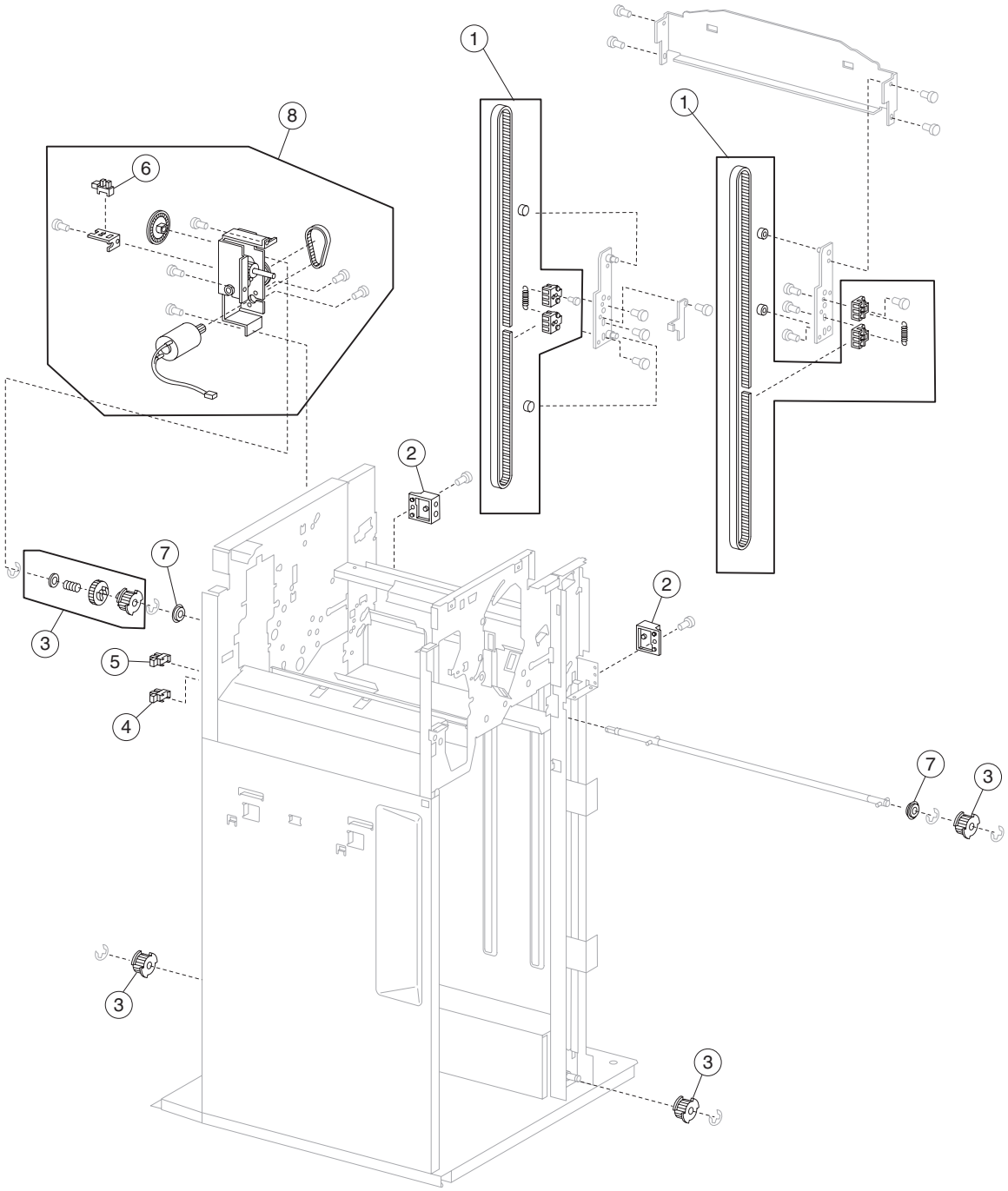
Assembly 6: Finisher—covers and front door



Assembly 6: Finisher—covers and front door

Asm-Index	Part number	Units/option	Units/FRU	Description
1	40X0839	1	1	Upper media bin front cover
2	40X0841	1	1	Finisher front door assembly (this comes assembled)
3	40X0840	1	1	Switch (finisher front door interlock)
4	40X0842	1	2	Finisher docking latch kit includes: • Finisher docking latch assembly • Spring
5	40X4116	1	3	Finisher docking bracket
6	40X3929	1	1	Left lower cover
7	40X0845	1	1	Left upper cover

Assembly 7: Finisher—stacker bin lift

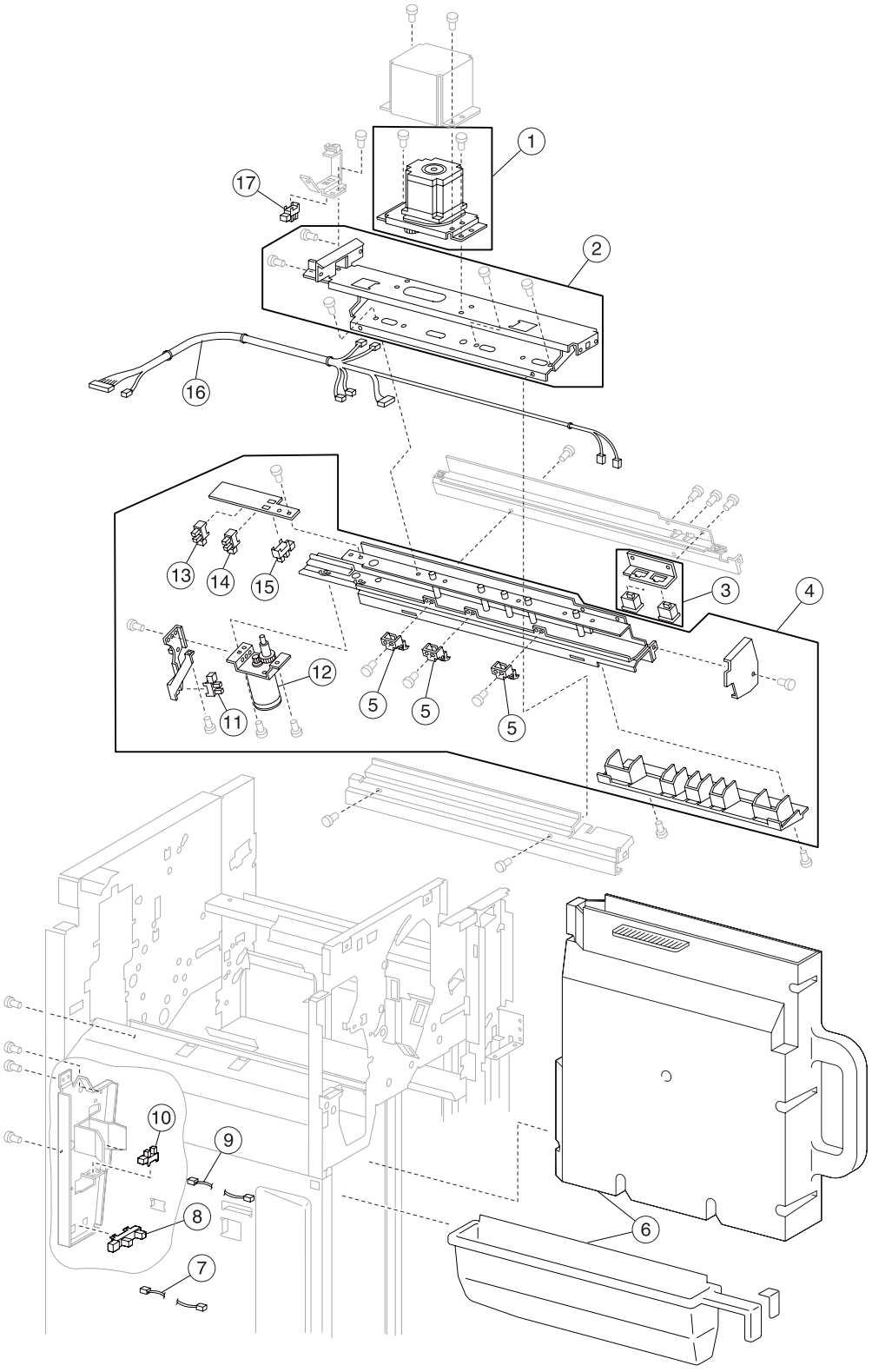


Assembly 7: Finisher—stacker bin lift

Asm-Index	Part number	Units/option	Units/FRU	Description
1	40X4040	2	6	Carriage lift belt kit includes: • Carriage lift belt • Belt clamp (2 each) • Spring • Roll (2 each)
	40X4043			??
2	40X0847	2	1	Sensor (stacker bin level)
3	40X0849	1	7	Stacker slip clutch pulley kit includes: • Pulley, 18T (3 each) • Slip clutch pulley, 18T • Slip clutch gear, 24T • Spring • Washer
4	40X0850	1	1	Sensor (stacker bin no media)
5	40X0850	1	1	Sensor (stacker bin upper limit)
6	40X0850	1	1	Sensor (stacker bin level encoder)
7	40X0848	2	1	Ball bearing 10 mm
8	40X4409	1	3	Stacker bin lift motor assembly (booklet finisher only) • Bracket with sensor • Encoder • Stacker bin lift motor
8	40X0851	1	3	Stacker bin lift motor assembly • Bracket with sensor • Encoder • Stacker bin lift motor

Note: Assembly index items 4, 5, and 6 are identical sensors with different functions; therefore, they are the same part number with different descriptions.

Assembly 8: Finisher—punch

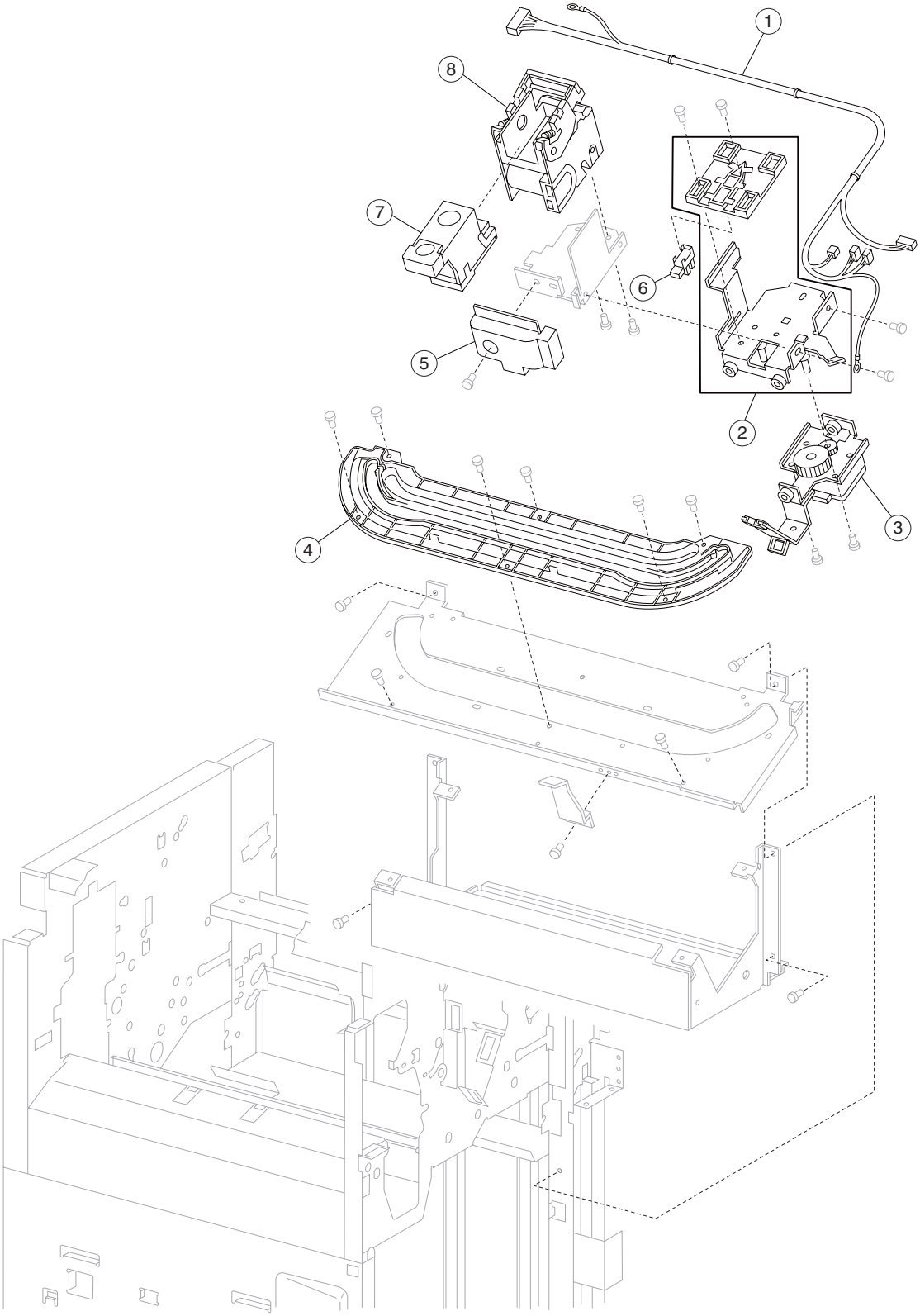


Assembly 8: Finisher—punch

Asm-Index	Part number	Units/option	Units/FRU	Description
1	40X0854	1	1	Punch carriage shift motor assembly
2	40X0855	1	1	Punch carriage assembly
3	40X0856	1	1	Sensor (punch unit side reg) assembly • Sensor (punch unit side reg1) • Sensor (punch unit side reg2) • Bracket
4	40X3936	1	1	2/3 punch unit assembly (this comes assembled)
4	40X3937	1	1	2/4 punch unit assembly (this comes assembled)
5	40X3941	3	1	Punch media stopper assembly
6	40X0862	1	1	Punch waste box (non-booklet making finisher)
6	40X3946	1	1	Punch waste box (booklet making finisher)
7	40X0930	1	1	Punch waste box full cable assembly
8	40X0864	1	1	Sensor (punch waste box full) (non-booklet making finisher only)
9	40X0865	1	1	Punch waste box set cable assembly
10	40X0861	1	1	Sensor (punch waste box set)
11	40X3944	1	1	Sensor (punch unit motor encoder)
12	40X3943	1	1	Punch unit motor assembly
13	40X0850	1	1	Sensor (punch hole select)
14	40X0850	1	1	Sensor (punch cam front)
15	40X0850	1	1	Sensor (punch unit HP)
16	40X0853	1	1	Punch unit cable assembly
17	40X3938	1	1	Sensor (punch carriage shift HP)

Note: Assembly index items 11, 13, 14, 15, and 17 are identical sensors with different functions; therefore, they are the same part number with different descriptions.

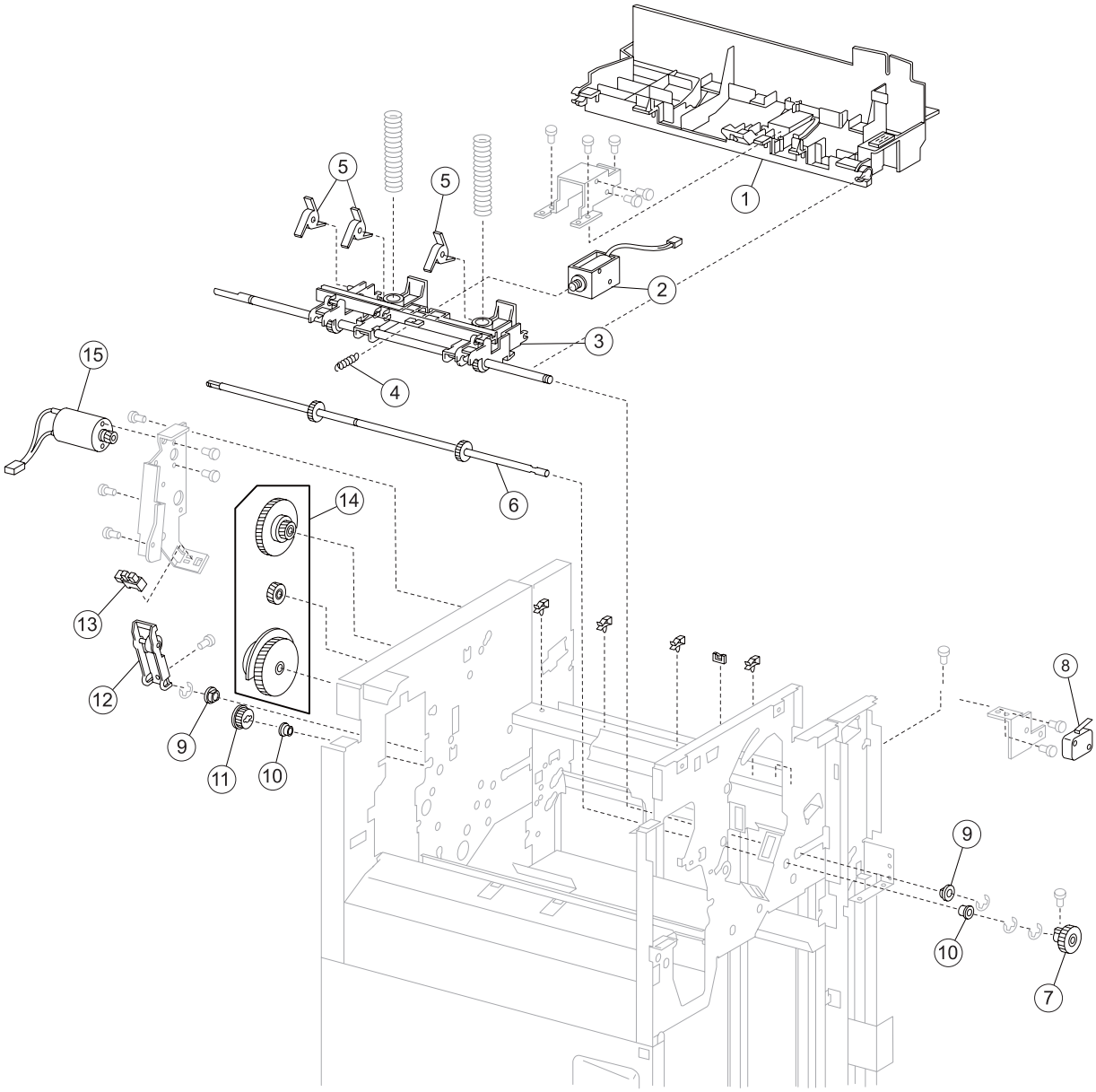
Assembly 9: Finisher—stapler



Assembly 9: Finisher—stapler

Asm-Index	Part number	Units/option	Units/FRU	Description
1	40X0870	1	1	Stapler unit cable assembly
2	40X0869	1	2	Stapler carriage kit includes: • Stapler carriage wire guide • Stapler carriage assembly
3	40X0871	1	1	Stapler carriage motor assembly
4	40X0872	1	1	Stapler carriage rack gear
5	40X0868	1	1	Stapler unit cover
6	40X0850	1	1	Sensor (stapler carriage HP)
7	40X0866	1	1	Staple cartridge
8	40X0867	1	1	Stapler unit assembly

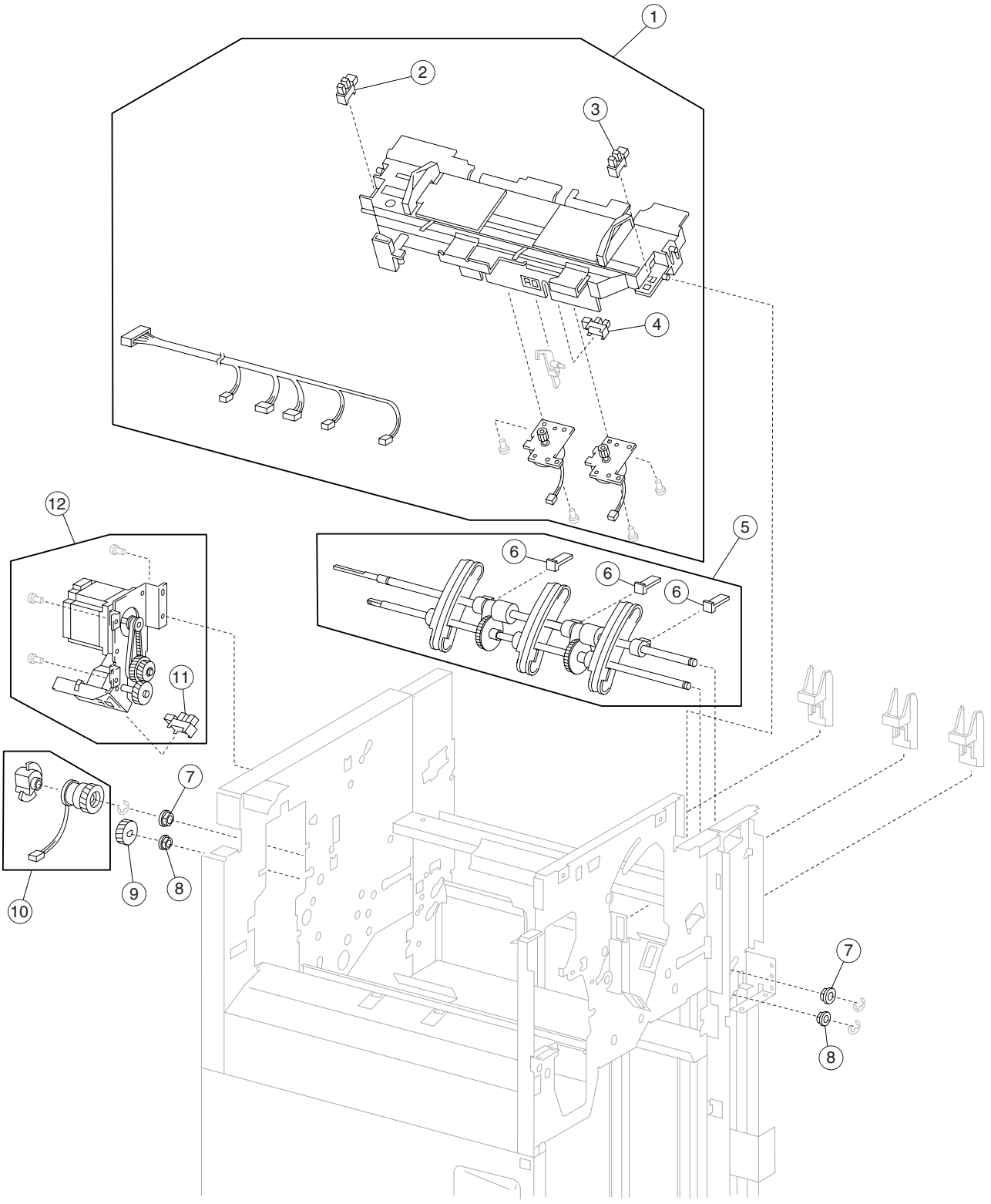
Assembly 10: Finisher—media eject



Assembly 10: Finisher—media eject

Asm-Index	Part number	Units/option	Units/FRU	Description
1	40X4144	1	1	Finisher media eject door
2	40X4120	2	1	Sub paddle solenoid
3	40X4146	1	2	Eject clamp shaft assembly
4	40X4147	1	1	Spring
5	40X0874	4	1	Sub paddle assembly
6	40X4058	15	1	Sub paddle drive shaft assembly
7	40X4077	1	1	Knob
8	40X0882	2	2	Switch (eject cover interlock)
9	40X1388	4	1	Bushing 8 mm
10	40X0888	15	1	Bushing 6 mm
11	40X0879	2	1	Sub paddle/entrance drive gear 23T
12	40X0877	1	1	Eject clamp lever assembly
13	40X0825	1	1	Sensor (media eject clamp HP)
14	40X0881	1	3	Eject clamp gear kit includes: • Eject clamp gear 70T • Eject clamp gear 23T • Eject clamp gear 68/20T
15	40X0876	1	1	Media eject clamp motor

Assembly 11: Finisher—eject and compiler unit

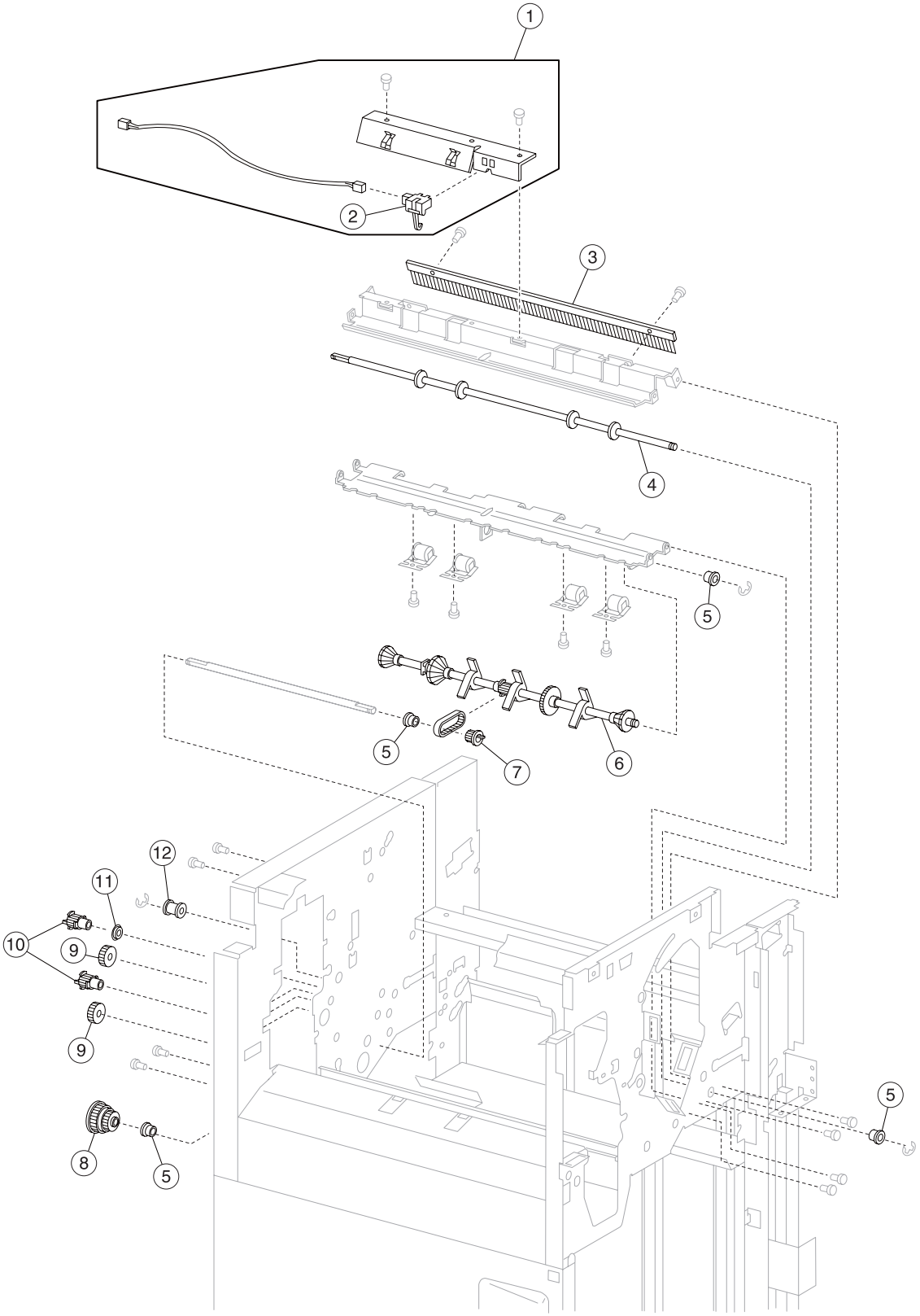


Assembly 11: Finisher—eject and compiler unit

Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X0883	1	1	Media compiler unit assembly (this comes assembled)
2	40X0850	1	1	Sensor (rear tamper HP)
3	40X0850	1	1	Sensor (front tamper HP)
4	40X0825	1	1	Sensor (compiler media in)
5	40X4150	1	1	Media eject shaft assembly
6	40X0887	3	1	Clamp paddle
7	40X0888	15	1	Bushing 6 mm
8	40X1388	4	1	Bushing 8 mm
9	40X0889	2	1	Media eject shaft gear 39T
10	40X0890	1	2	Media eject clutch kit includes: • Media eject clutch • Media eject clutch actuator
11	40X0825	1	1	Sensor (media eject shaft HP)
12	40X0891	1	1	Media eject motor assembly

Note: Assembly index items 2 and 3 are identical sensors with different functions; therefore, they are the same part number with different descriptions.

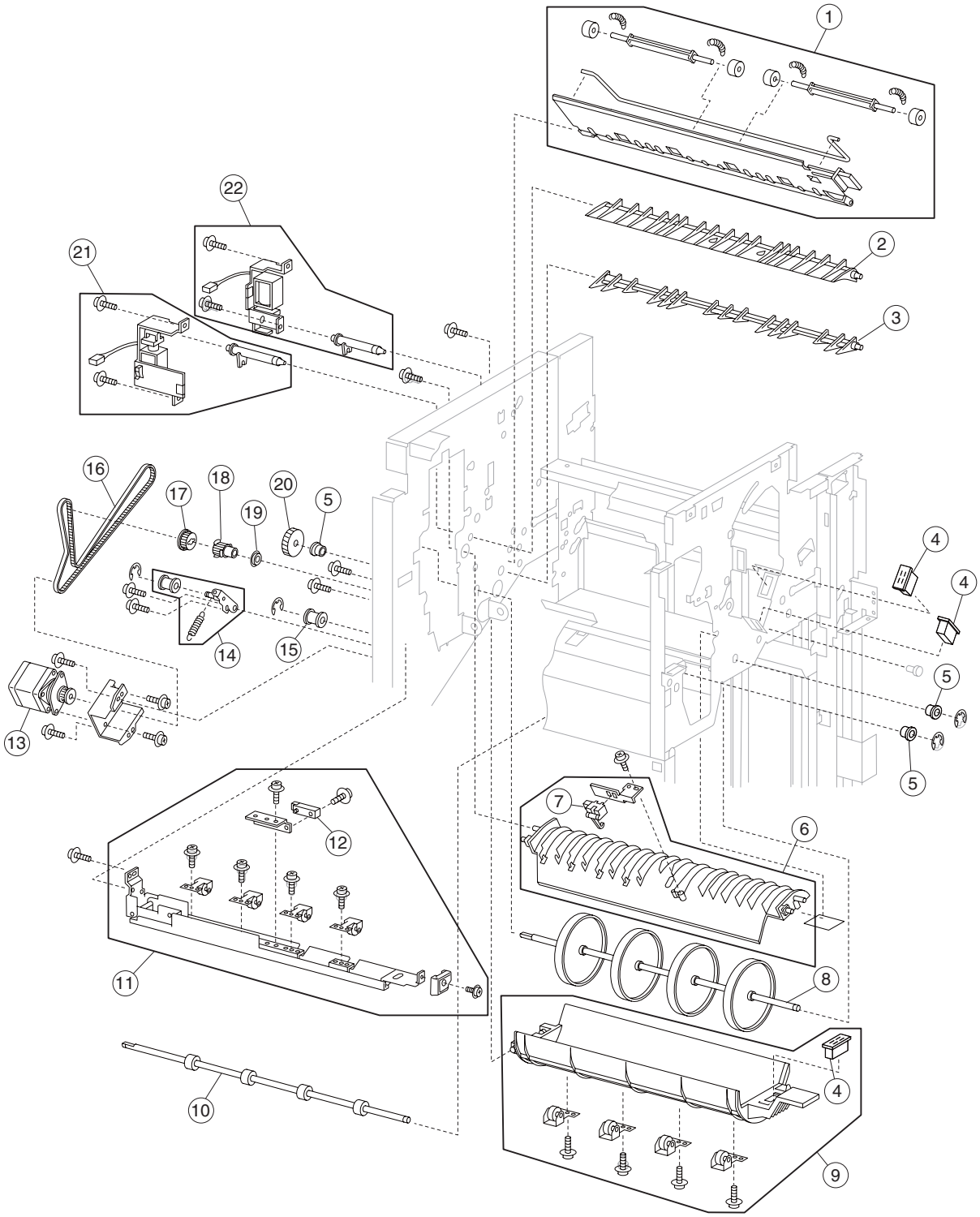
Assembly 12: Finisher—lower exit drive



Assembly 12: Finisher—lower exit drive

Asm-Index	Part number	Units/option	Units/FRU	Description
1	40X0892	1	1	Sensor (lower media exit) with bracket
2	40X0893	1	1	Sensor (lower media exit)
3	40X0894	1	1	Static eliminator brush
4	40X3951	1	1	Lower media exit roll assembly
5	40X0888	15	1	Bushing 6 mm
6	40X4105	1	1	Main paddle shaft assembly
7	40X4106	1	1	Main paddle shaft drive pulley 17T
8	40X0900	1	1	Main paddle drive pulley/gear 44/20T
9	40X0899	1	2	Main paddle idler gear kit includes: • Main paddle idler gear 23TR • Main paddle idler gear 23TL
10	40X0898	1	2	Lower exit roll drive pulley kit includes: • Lower exit roll drive pulley 20T • Idler pulley 20T
11	40X3915	4	1	Ball bearing 6 mm
12	40X4128	3	1	Belt idler pulley

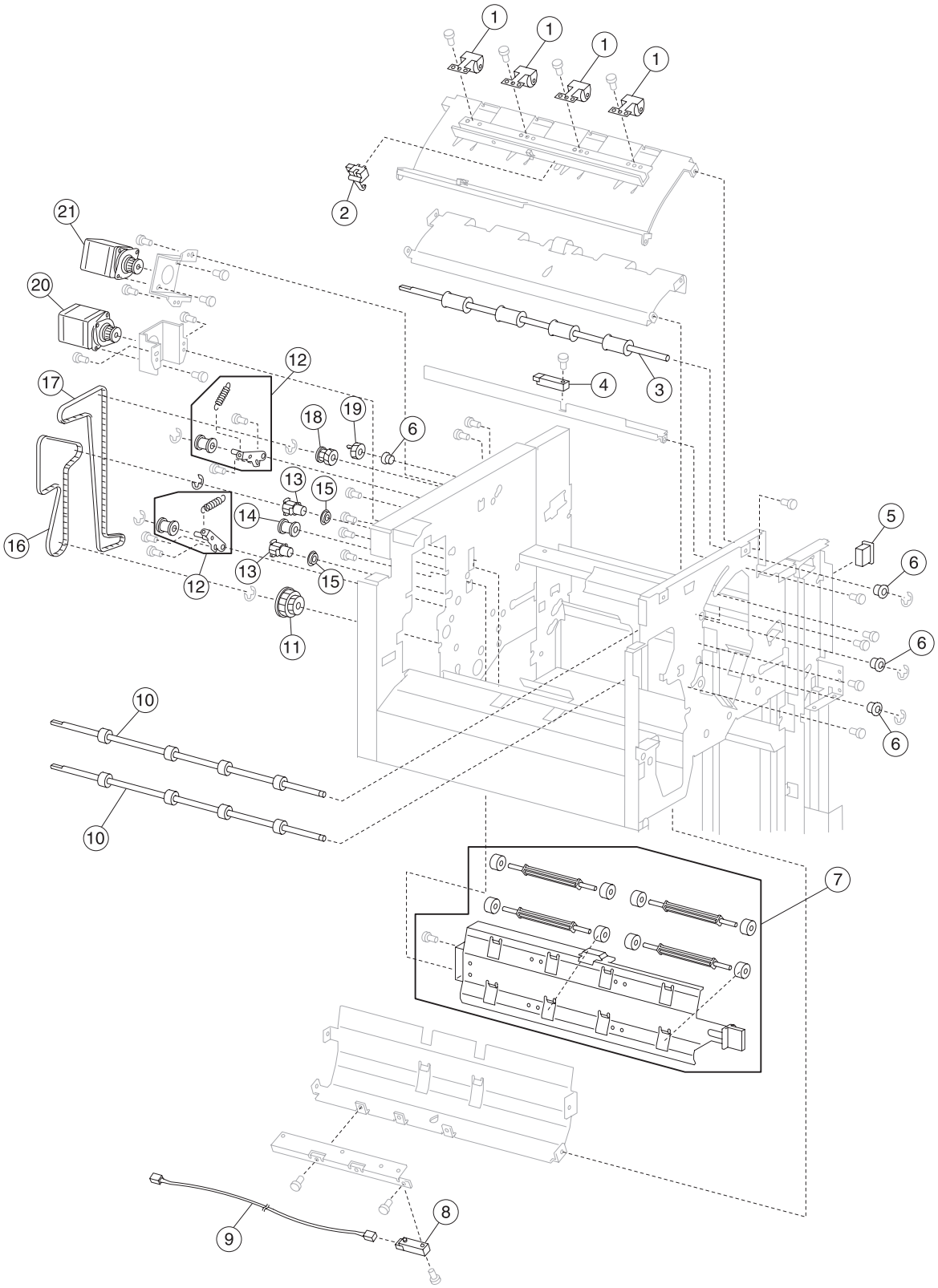
Assembly 13: Finisher—buffer and entrance drive



Assembly 13: Finisher—buffer and entrance drive

Asm-Index	Part number	Units/option	Units/FRU	Description
1	40X0901	1	1	Lower pinch guide assembly (this comes assembled)
2	40X0902	1	1	Finisher diverter gate
3	40X4149	1	1	Buffer diverter gate
4	40X0824	8	1	Magnetic catch
5	40X0888	15	1	Bushing 6 mm
6	40X0904	1	1	Buffer upper guide assembly
7	40X0893	1	1	Sensor (buffer path)
8	40X3953	1	1	Buffer roll assembly
9	40X0906	1	1	Buffer pinch guide assembly (this comes assembled)
10	40X3955	1	1	Media entrance roll assembly
11	40X3954	1	1	Media entrance pinch guide assembly (this comes assembled)
12	40X0908	1	1	Sensor (finisher media entrance)
13	40X0910	1	1	Drive motor (entrance/paddle)
14	40X0912	3	3	Belt tensioner pulley kit includes: • Belt idler pulley • Spring • Belt tensioner bracket
15	40X4128	3	1	Belt idler pulley
16	40X0911	1	1	Belt entrance/paddle, 31.6 cm
17	40X0879	2	1	Sub paddle/entrance drive gear 23T
18	40X0914	1	1	Media entrance roll drive pulley 20T
19	40X3915	4	1	Ball bearing 6 mm
20	40X0915	1	1	Buffer roll drive gear 46T
21	40X0916	1	2	Media diverter solenoid kit includes: • Media diverter solenoid • Media diverter solenoid link
22	40X0917	1	2	Buffer diverter solenoid kit includes: • Buffer diverter solenoid • Buffer diverter solenoid link

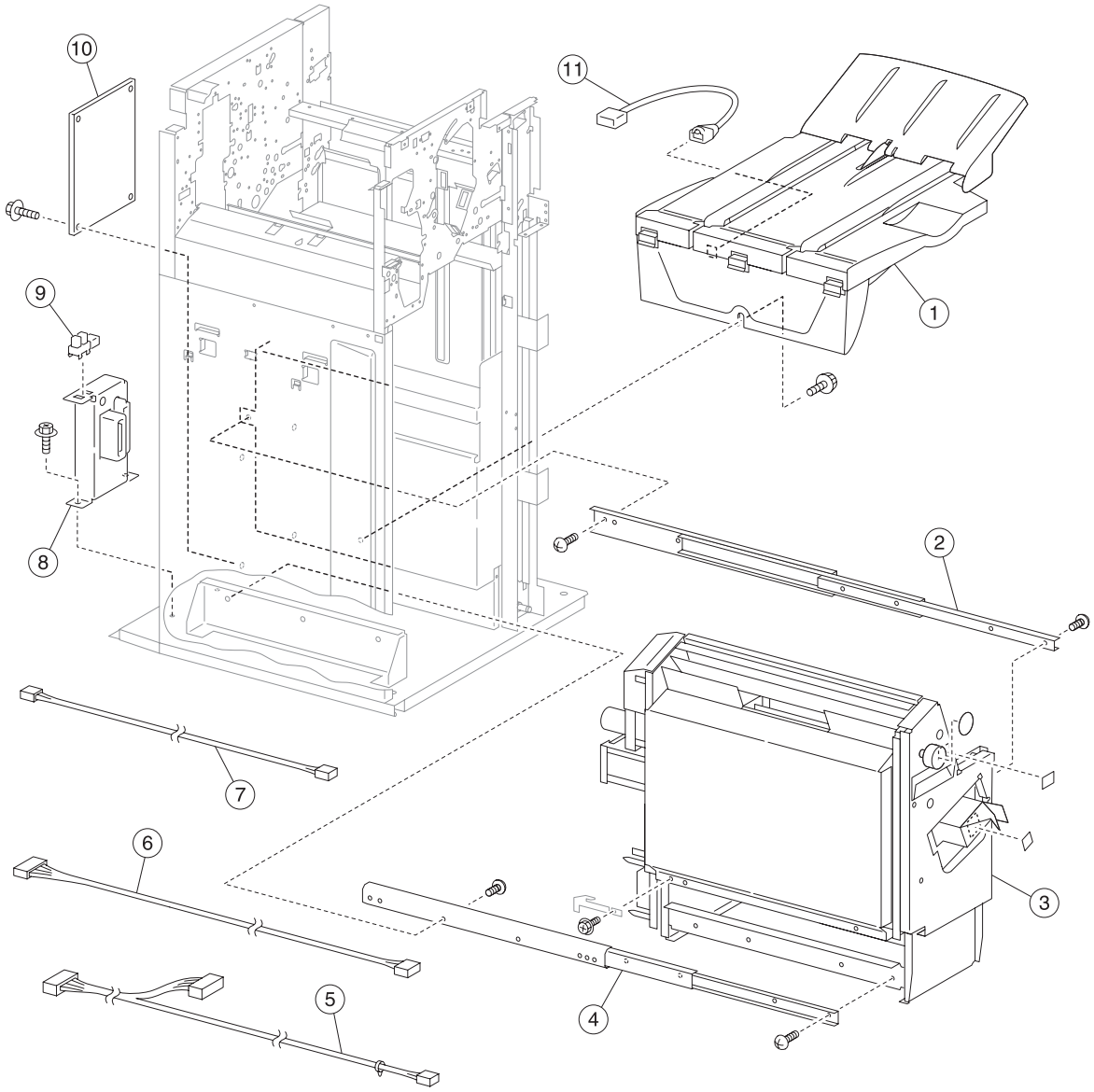
Assembly 14: Finisher—buffer, transport, and upper drive



Assembly 14: Finisher—transport and upper drive

Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X0918	4	1	Upper media exit pinch roll assembly
2	40X0893	1	1	Sensor (upper media exit)
3	40X3965	1	1	Upper media exit roll assembly
4	40X0908	1	1	Sensor (upper media bin full)
5	40X0824	8	1	Magnetic catch
6	40X0888	15	1	Bushing 6 mm
7	40X3966	1	1	Upper pinch guide assembly (this comes assembled)
8	40X0921	1	1	Sensor (diverter gate)
9	40X4076	1	1	Diverter gate sensor upper cable assembly
10	40X3968	2	1	Upper media transport roll assembly
11	40X0924	1	1	Buffer roll drive pulley/gear 53/23T
12	40X0912	3	3	Belt tensioner bracket kit includes: • Belt idler pulley • Spring • Belt tensioner bracket
13	40X0925	2	1	Upper media transport roll drive pulley 20T
14	40X0897	3	1	Belt idler pulley
15	40X3915	4	1	Ball bearing 6 mm
16	40X0928	1	1	Belt (buffer transport) 19.8 cm
17	40X0929	1	1	Belt (exit) 27.7 cm
18	40X0926	1	1	Upper media exit roll drive pulley/gear, 20T/20T
19	40X0927	1	1	Upper media exit roll drive gear 20T
20	40X0910	1	1	Drive motor (buffer/transport)
21	40X0910	1	1	Drive motor (exit)

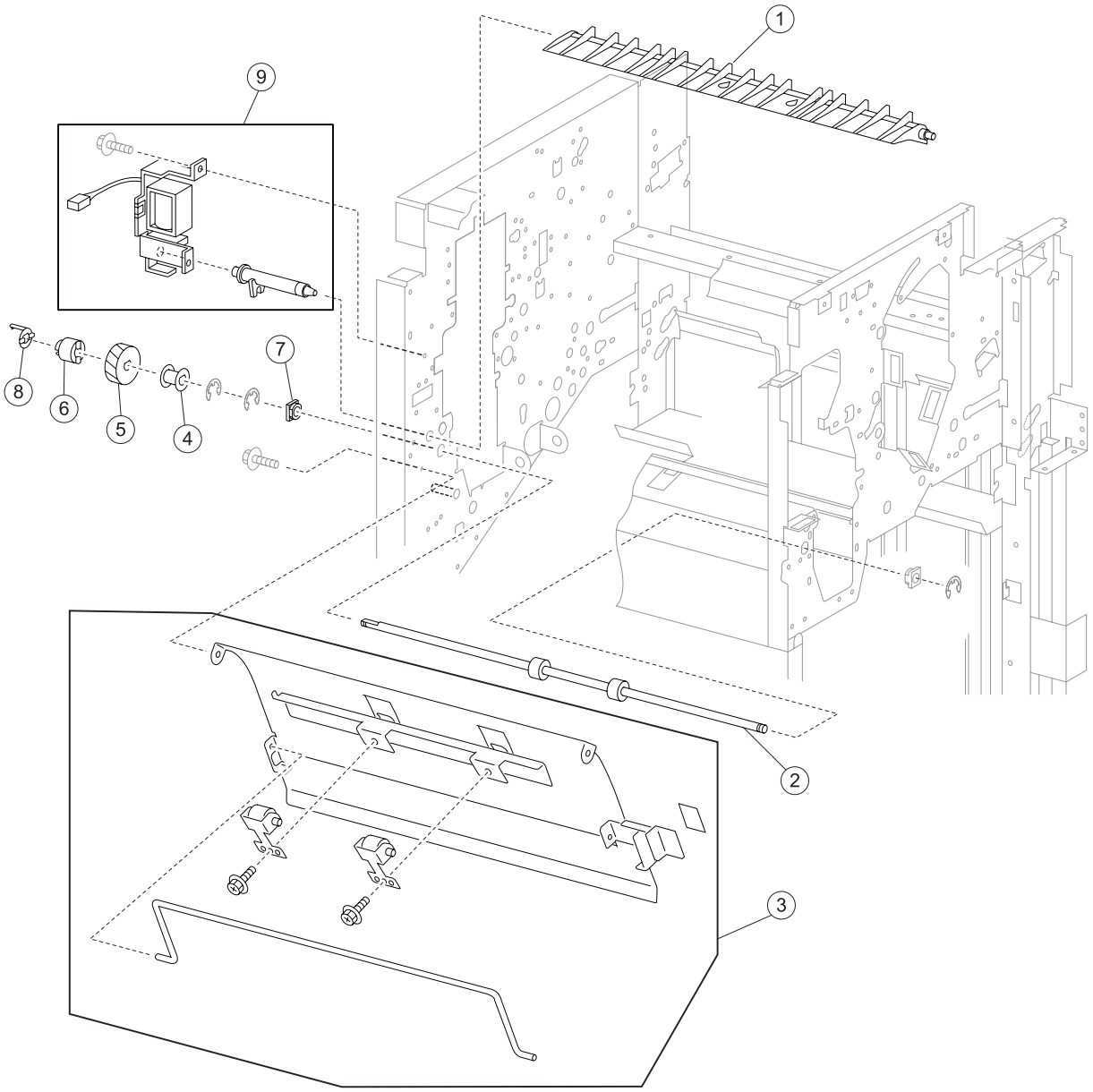
Assembly 15: Booklet maker 1



Assembly 15: Booklet maker 1

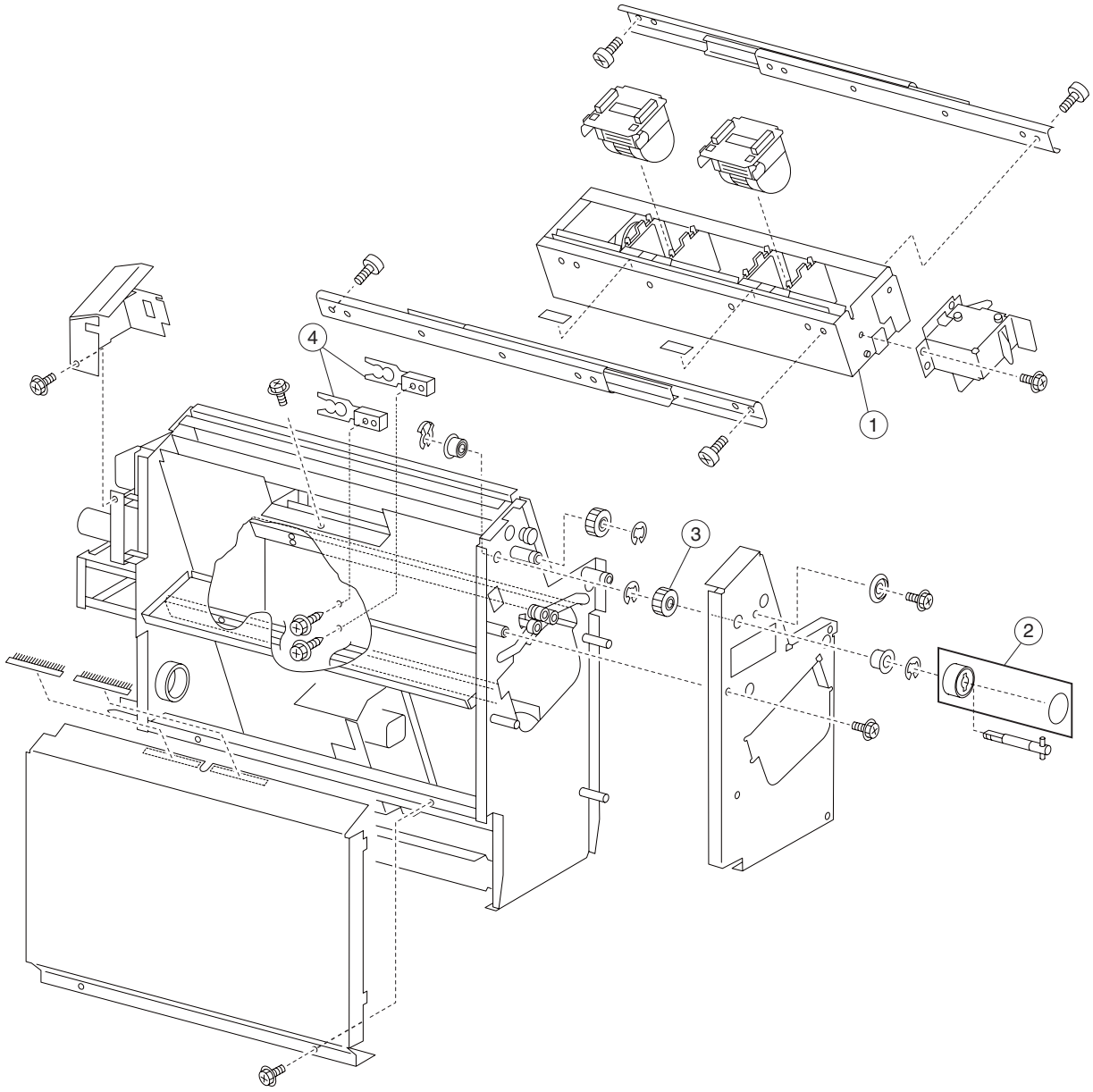
Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X3981	1	1	Booklet bin assembly
2	40X3979	1	1	Booklet unit right glide assembly
3	40X3986	1	1	Booklet unit assembly (this comes assembled)
4	40X3980	1	1	Booklet unit left glide assembly
5	40X3984	1	1	Booklet unit cable assembly
6	40X3983	1	1	Booklet bin/diverter cable assembly
7	40X3982	1	1	Booklet controller card power cable assembly
8	40X3985	1	1	Booklet unit interface connector assembly
9	40X0850	12	1	Sensor (booklet unit interlock)
10	40X3978	1	1	Booklet controller card assembly
11	40X3987	1	1	Booklet bin hookup cable assembly

Assembly 16: Booklet maker 2



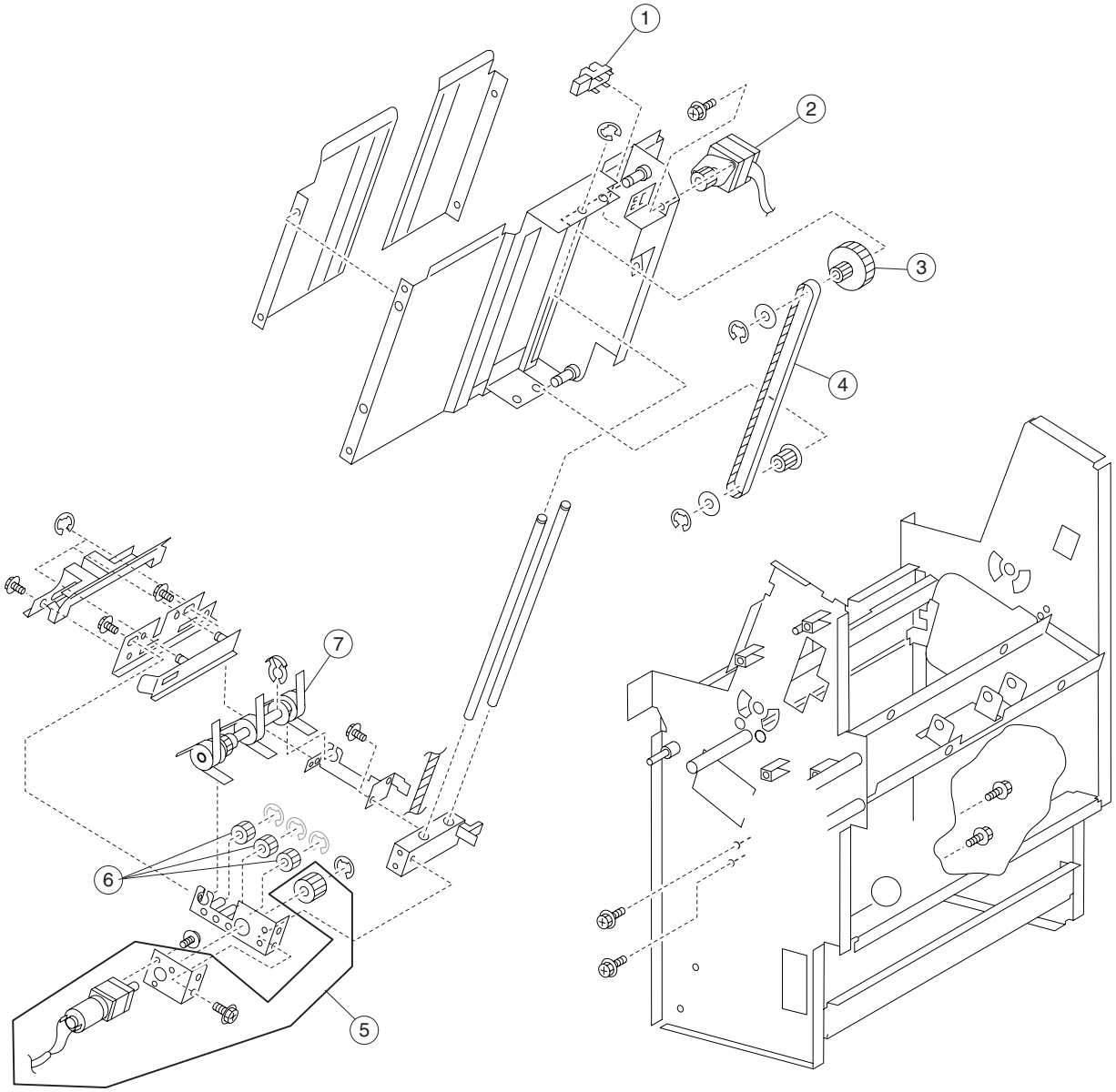
Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X3961	1	1	Booklet diverter gate
2	40X4118	1	1	Booklet path media transport roll assembly
3	40X3958	1	1	Booklet pinch guide assembly
4	40X4128	1	1	Belt idler pulley
5	40X0899	1	1	Booklet media transport roll drive gear 23T
6	40X3962	1	1	Booklet media transport roll torque limiter
7	40X0880	1	1	Bushing 6 mm
8	40X3963	1	1	Booklet media path roll retainer
9	40X0917	1	1	Booklet diverter gate solenoid kit • Booklet diverter gate solenoid • Link

Assembly 17: Booklet maker 3



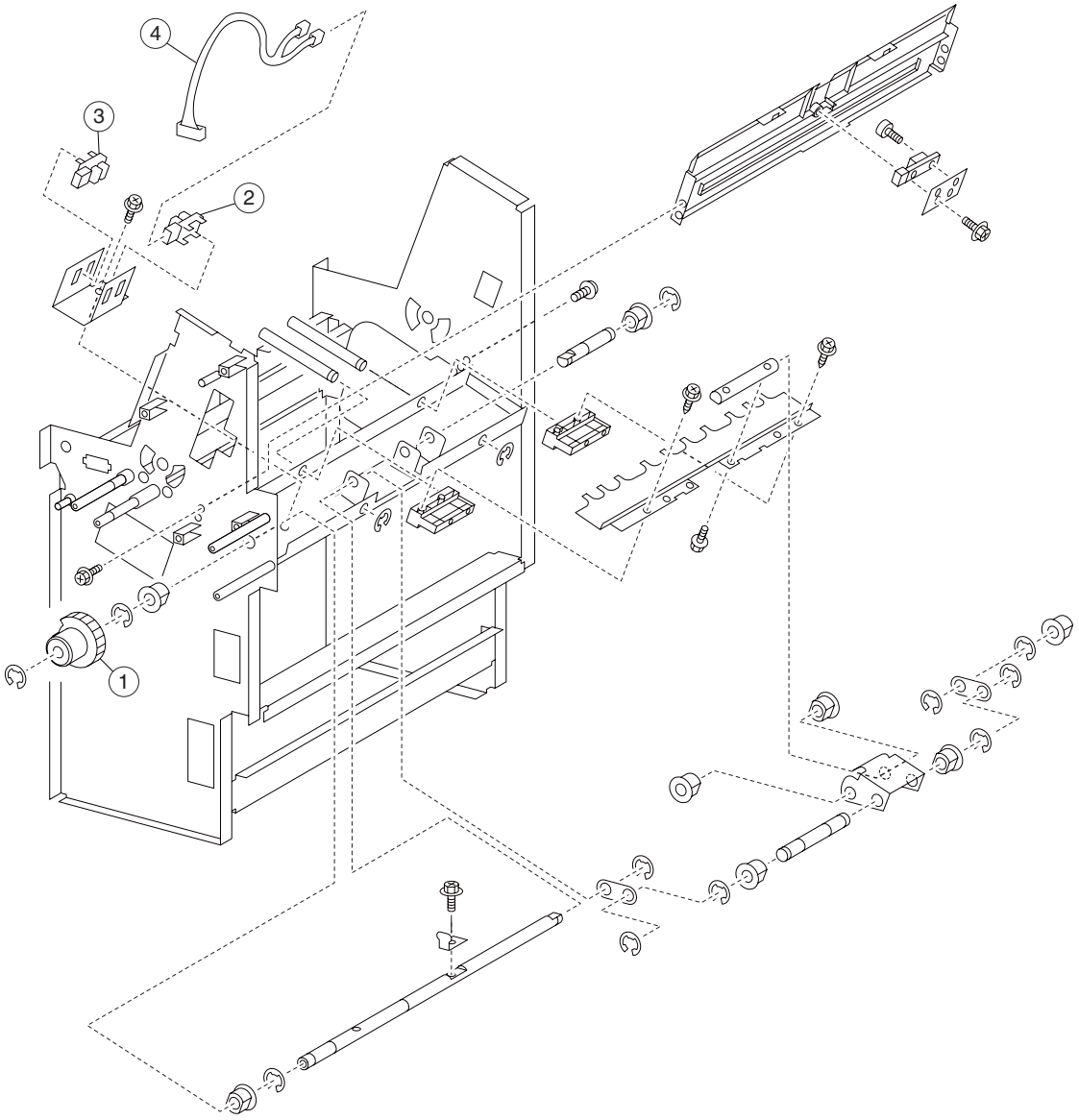
Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X3991	1	1	Booklet stapler unit assembly
2	40X3990	1	1	Booklet manual feed knob
3	40X3989	1	1	Booklet manual feed drive gear 31T
4	40X3988	1	1	Booklet unit catch

Assembly 18: Booklet maker 4



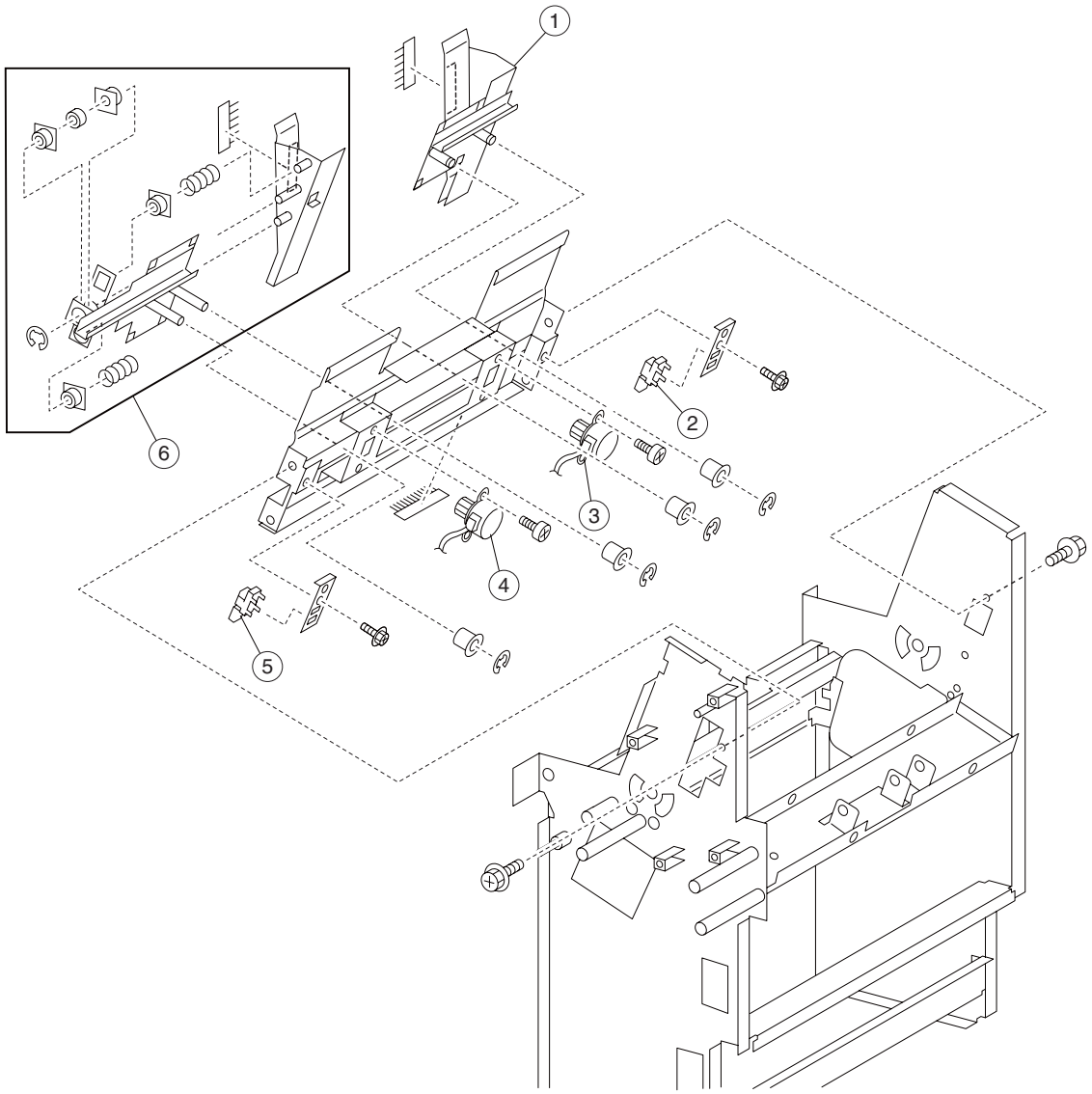
Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X0825	10	1	Sensor (booklet end guide HP)
2	40X3992	1	1	Booklet media entrance drive motor
3	40X3993	1	1	Gear pulley 40/20T
4	40X3994	1	1	Booklet end guide drive belt
5	40X3996	1	1	Booklet paddle drive motor assembly
6	40X3995	3	1	Booklet paddle idler gear 14T
7	40X3997	1	1	Booklet paddle shaft assembly

Assembly 19: Booklet maker 5



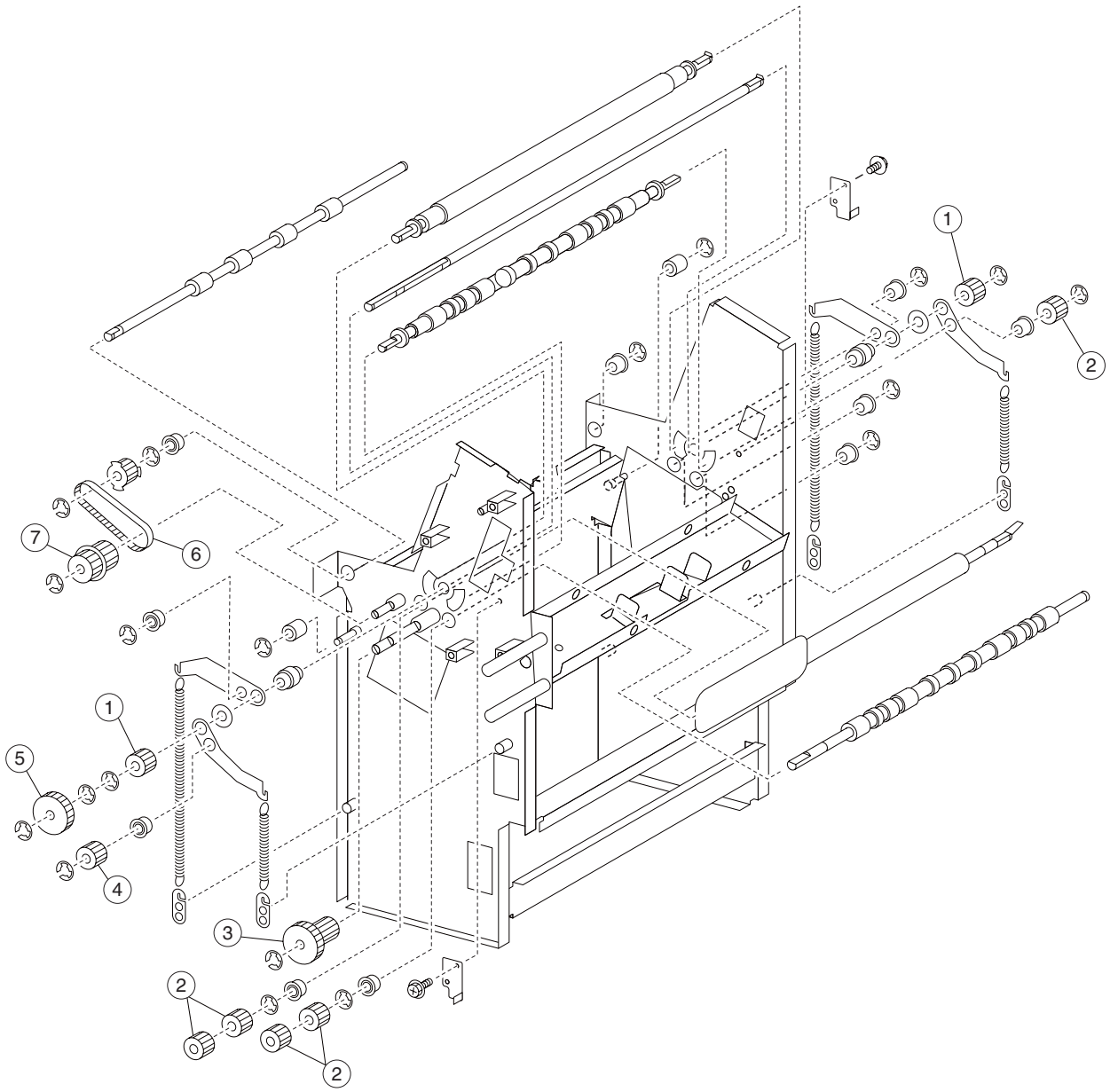
Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X3999	1	1	Booklet knife sector drive gear 42T
2	40X0825	10	1	Sensor (booklet knife HP)
3	40X0825	10	1	Sensor (booklet knife folding)
4	40X3998	1	1	Booklet knife HP sensor cable assembly

Assembly 20: Booklet maker 6



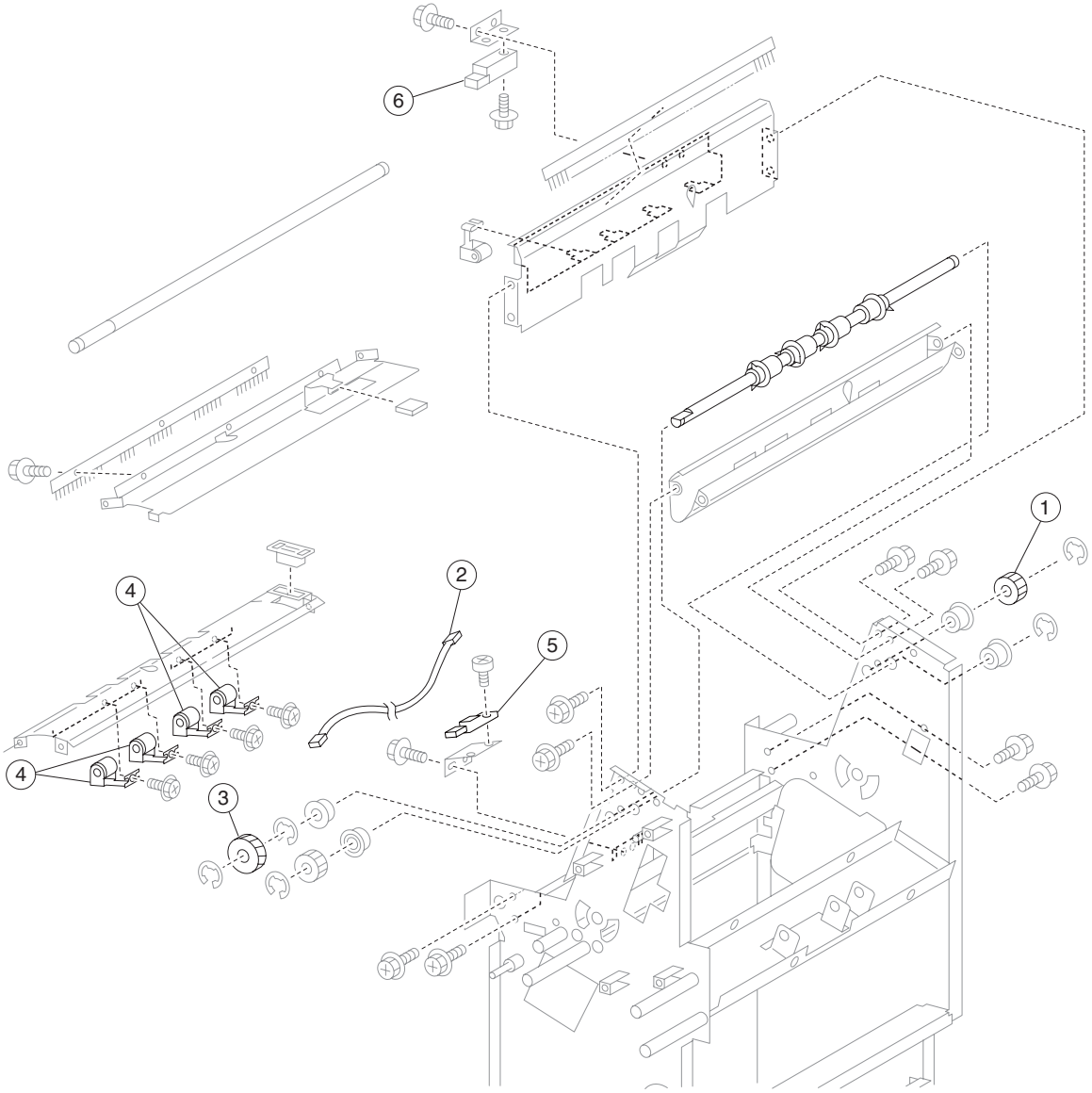
Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X4001	1	1	Booklet front tamper
2	40X0825	10	1	Sensor (booklet front tamper HP)
3	40X4002	1	1	Booklet front tamper motor
4	40X4002	1	1	Booklet rear tamper motor
5	40X0825	10	1	Sensor (booklet rear tamper HP)
6	40X4003	1	1	Booklet rear tamper assembly

Assembly 21: Booklet maker 7



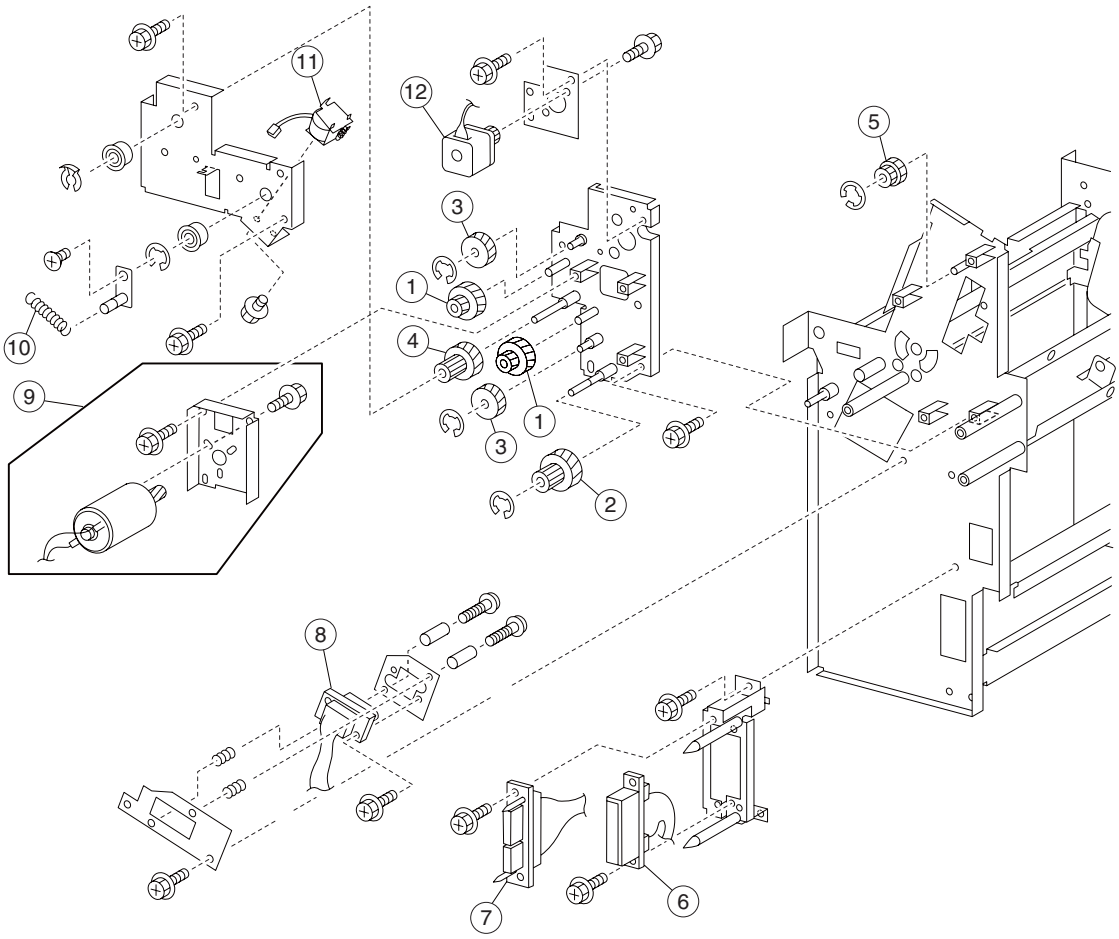
Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X4008	2	1	Booklet roll drive gear 18T
2	40X4006	5	1	Booklet roll drive gear 16T
3	40X4007	1	1	Booklet idler gear 38/18T
4	40X4009	1	1	Booklet drive gear 16T
5	40X4010	1	1	Folding drive gear 38T
6	40X4005	1	1	Exit roll drive belt
7	40X4004	1	1	Exit roll idler gear 20/25T

Assembly 22: Booklet maker 8



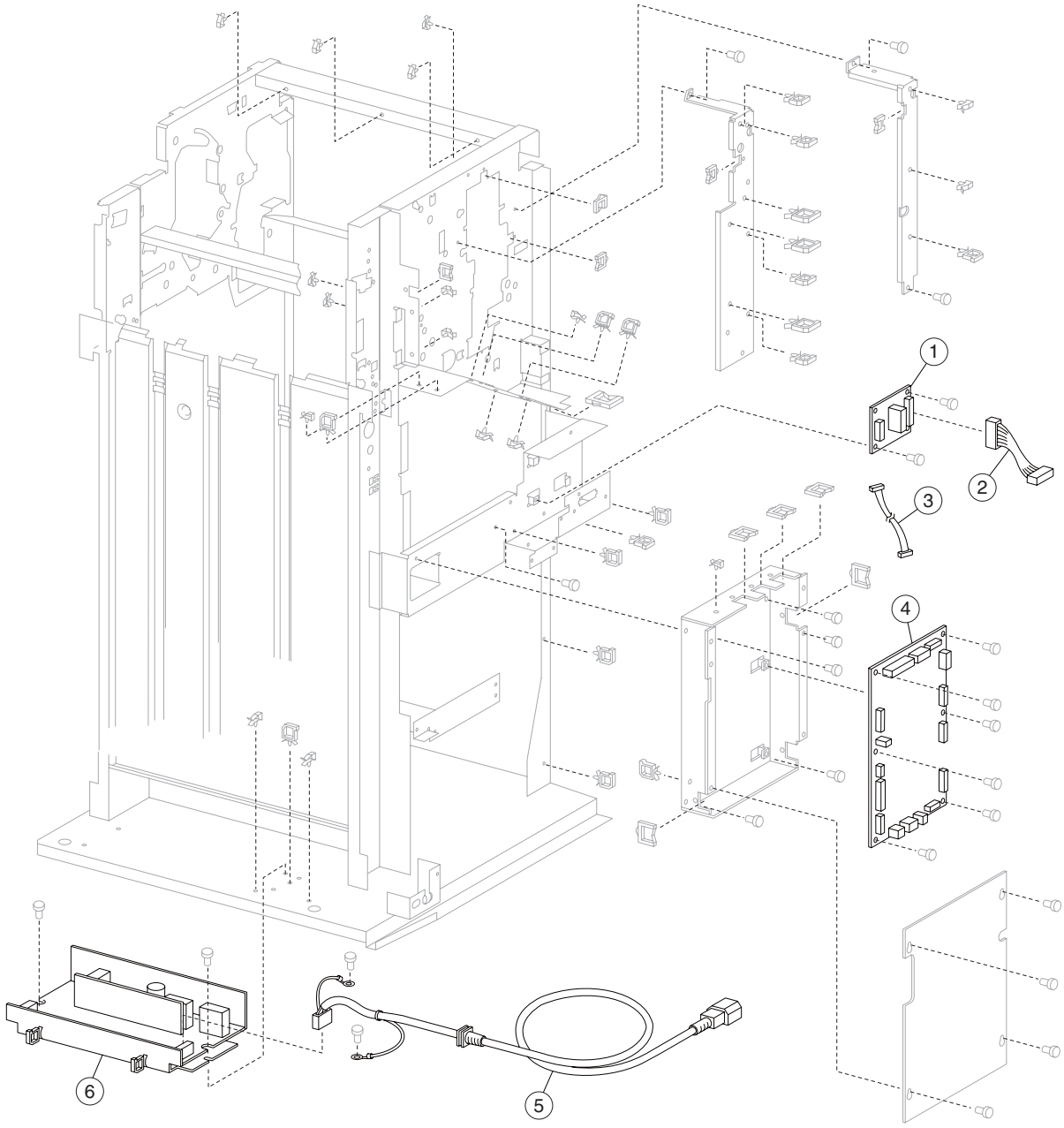
Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X4012	1	1	Manual feed drive gear 28T
2	40X4014	1	1	Media exit sensor cable assembly
3	40X4013	1	1	Manual feed drive gear 17T
4	40X4011	4	1	Booklet media pinch roll assembly
5	40X0921	2	1	Sensor (booklet unit media exit)
6	40X0908	1	1	Sensor (finisher media entrance)

Assembly 23: Booklet maker 9



Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X4016	2	1	Booklet gear 43/14T
2	40X4024	1	1	Booklet gear 39/18T
3	40X4015	1	1	Booklet gear 45T
4	40X4017	1	1	Booklet gear 44/16T
5	40X4019	1	1	Booklet gear 27/34T
6	40X4023	1	1	Booklet sensor interface cable assembly
7	40X4022	1	1	Booklet motor interface cable assembly
8	40X4021	1	1	Booklet stapler interface cable assembly
9	40X4025	1	1	Booklet folding/exit drive motor assembly
10	40X4020	1	1	Spring
11	40X4018	1	1	Booklet knife solenoid
12	40X3992	1	1	Booklet media entrance drive motor assembly

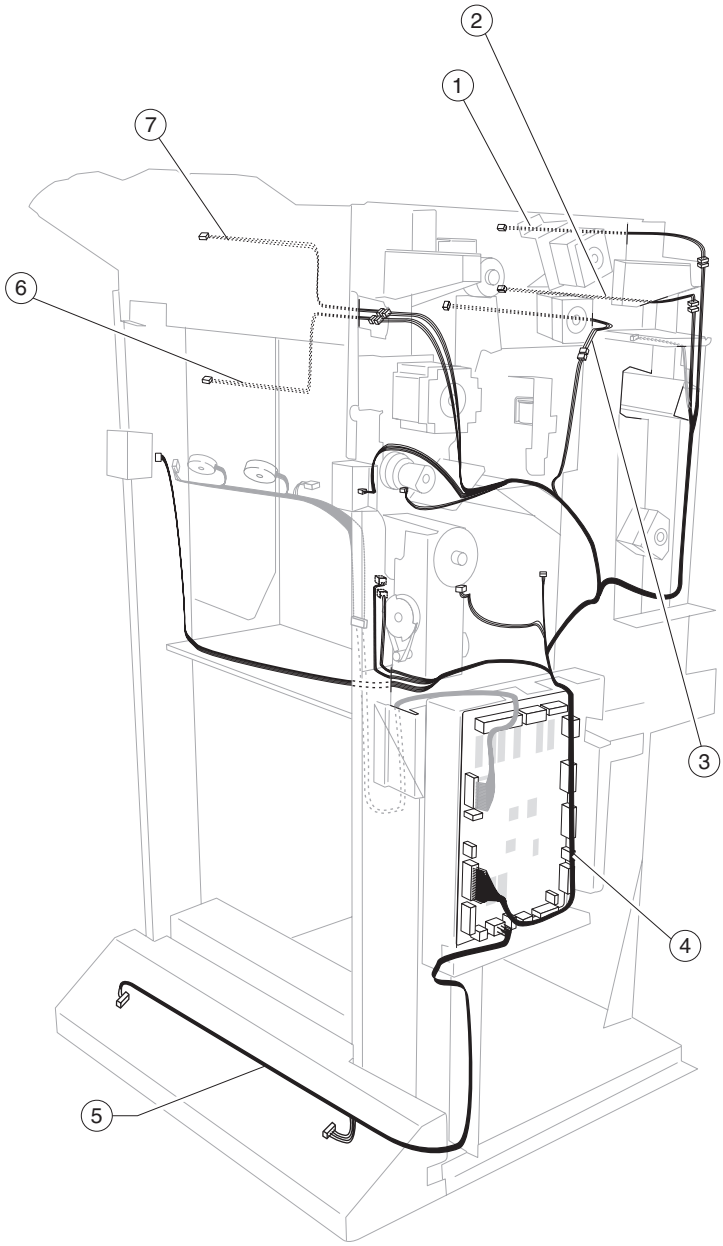
Assembly 24: Finisher—electronics



Assembly 24: Finisher—electronics

Asm-Index	Part number	Units/option	Units/FRU	Description
1	40X3969	1	1	Bridge unit interface card assembly
2	40X3970	1	1	Bridge unit connect cable assembly
3	40X0933	1	1	Bridge unit interface card cable assembly
4	40X3971	1	1	Finisher controller card assembly
5	40X3972	1	1	AC power cord assembly
6	40X0936	1	1	Finisher LVPS card assembly

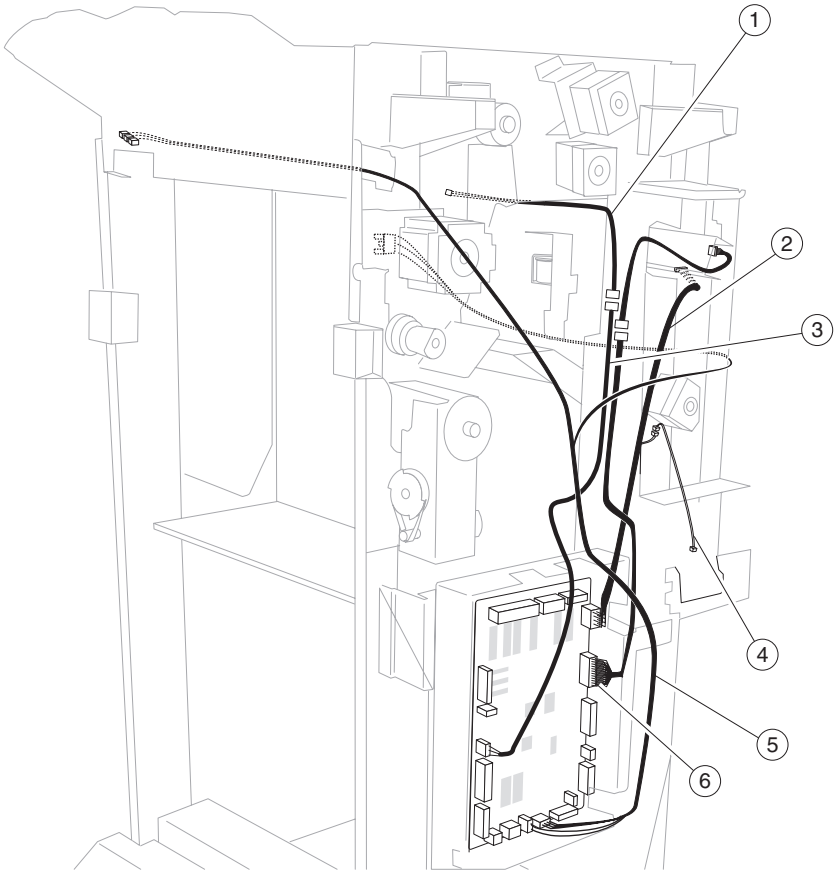
Assembly 25: Finisher—cables 1



Assembly 25: Finisher—cables 1

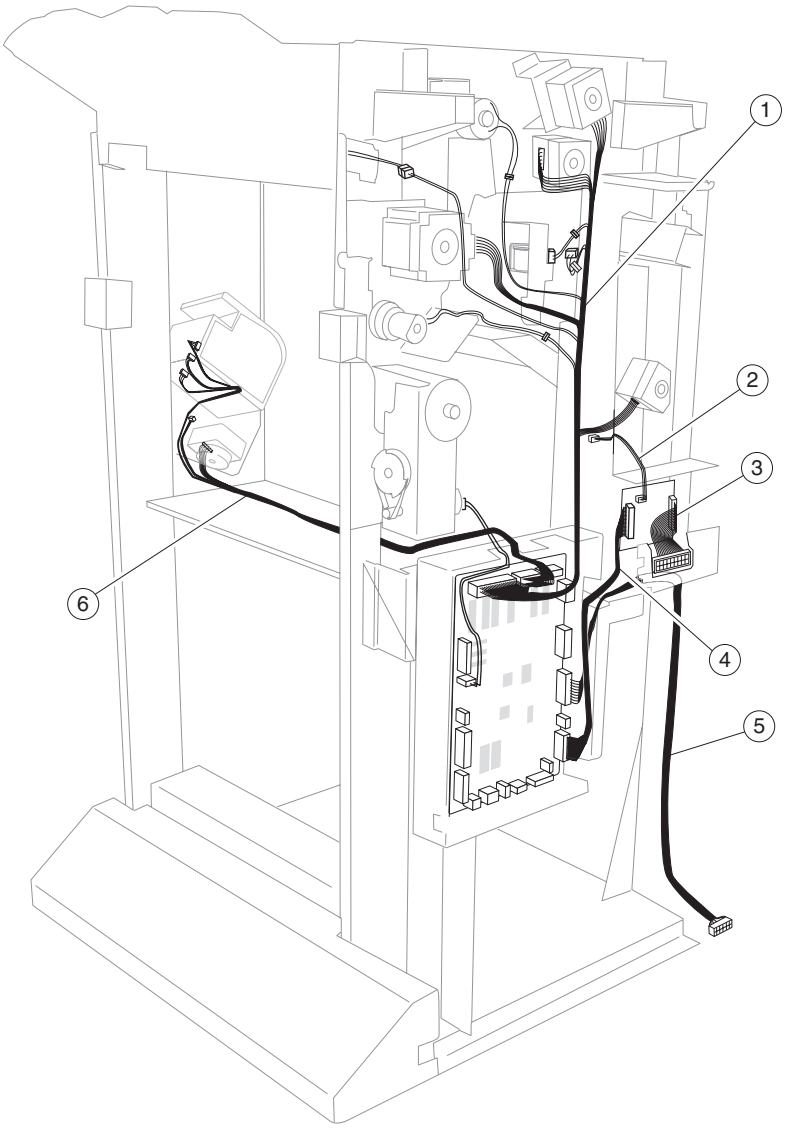
Asm-Index	Part number	Units/option	Units/FRU	Description
1	40X3975	1	1	Upper media exit sensor cable assembly
2	40X3974	1	1	Finisher media entrance sensor cable assembly
3	40X0941	1	1	Buffer path sensor cable assembly
4	40X0937	1	1	Main sensor cable assembly
5	40X0946	1	1	Finisher LVPS cable assembly
6	40X0892	1	3	Sensor (lower media exit) assembly • Sensor (lower media exit) • Lower media exit sensor cable assembly • Bracket
7	40X3976	1	1	Upper media bin full sensor cable assembly

Assembly 26: Finisher—cables 2



Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X0922	1	1	Diverter gate sensor upper cable assembly
2	40X0944	1	1	Punch main drive cable assembly
3	40X0950	1	1	Diverter gate sensor lower cable assembly
4	40X0865	1	1	Punch waste box set cable assembly
5	40X4107	1	1	Interlock switch cable assembly
6	40X0945	1	1	Punch main sensor cable assembly

Assembly 27: Finisher—cables 3



Asm-Index	Part number	Units/ option	Units/ FRU	Description
1	40X0938	1	1	Main drive cable assembly
2	40X0930	1	1	Punch waste box full cable assembly
3	40X0932	1	1	Bridge unit connect cable assembly
4	40X0931	1	1	Bridge unit interface card assembly
5	40X3973	1	1	Finisher interface cable assembly
6	40X0870	1	1	Stapler unit cable assembly

Index

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Part number index

5057 AND 7510 Finisher