



***Lexmark 5600 Series All-In-One***

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***Machine Type 4437-001***

***Service Manual***

**Edition: August 11, 2008**

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## 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.

**Note:** This device includes a lithium battery. Dispose of this battery in compliance with all local laws and regulations.

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## Consignes de sécurité

- La sécurité de ce produit repose sur des tests et des agréments 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.

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## Norme di sicurezza

- La sicurezza del prodotto si basa sui test e sull'approvazione del progetto originale e dei componenti specifici. Il produttore non è responsabile per la sicurezza in caso di sostituzione non autorizzata delle parti.
- Le informazioni riguardanti la manutenzione di questo prodotto sono indirizzate soltanto al personale di assistenza autorizzato.
- Durante lo smontaggio e la manutenzione di questo prodotto, il rischio di subire scosse elettriche e danni alla persona è più elevato. Il personale di assistenza autorizzato deve, quindi, adottare le precauzioni necessarie.

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## 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.

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## 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.

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## Informações de Segurança

- A segurança deste produto baseia-se em testes e aprovações do modelo original e de componentes específicos. O fabricante não é responsável pela segurança, no caso de uso de peças de substituição não autorizadas.
- As informações de segurança relativas a este produto destinam-se a profissionais destes serviços e não devem ser utilizadas por outras pessoas.
- Risco de choques eléctricos e ferimentos graves durante a desmontagem e manutenção deste produto. Os profissionais destes serviços devem estar avisados deste facto e tomar os cuidados necessários.

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## 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.

## 안전 사항

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



## Preface

This manual contains maintenance procedures for service providers. 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. It includes printer specifications, special tools, and acronyms.
2. **Diagnostic information** contains an error code 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.

## 1. General information

The Lexmark™ 5600 Series All-In-One (4437-001) is a letter-quality print, copy, scan, and fax machine. It is a standalone color/mono fax and copier. The printhead uses small heater plates and nozzles to control ink flow and the formation of characters on the print media. The printhead assembly and ink supply are combined into a single-unit print cartridge available as a customer-replaceable supply item. Dual printheads provide color and true black printing without changing printheads. The number and size of inkjets or nozzles in the printhead determines the overall quality and capability of the printer. The black cartridge has a total of 640 nozzles and installs on the left. The color cartridge has a total of 480 nozzles and installs on the right. The photo cartridge has a total of 480 nozzles and installs on the left. The All-In-One is capable of printing in two directions from either cartridge.

**Note:** The color of the Lexmark™ 5600 Series All-In-One may vary.



**Print specifications**

Print speed	Quick print: 25 ppm mono / 18 ppm color
Print quality	<p><b>Host based</b></p> <p>Glossy / Photo media:</p> <ul style="list-style-type: none"> <li>• Quick print: 600 X 600 dpi</li> <li>• Normal: 1200 X 1200 dpi</li> <li>• Photo: 4800 X 1200 dpi</li> </ul> <p>All other media:</p> <ul style="list-style-type: none"> <li>• Quick print: 300 X 600 dpi</li> <li>• Normal: 600 X 600 dpi</li> <li>• Best: 1200 X 1200 dpi</li> </ul>

**Scanner specifications**

Scanner type	Flatbed CIS
Scan modes	<p><b>True color:</b></p> <ul style="list-style-type: none"> <li>• 48 bit internal</li> <li>• 24 bit external</li> </ul> <p><b>Gray mode:</b></p> <ul style="list-style-type: none"> <li>• 16 bit internal</li> <li>• 8 bit external</li> </ul> <p><b>Text/Line art:</b></p> <p>1 bit per pixel</p>
Scan method	Single pass
Lamp warm up time	None
Flatbed scan area	<ul style="list-style-type: none"> <li>• 8.5 X 11.7 inches</li> <li>• 216 X 297 mm</li> </ul>
ADF scan area	<p><b>Maximum:</b></p> <ul style="list-style-type: none"> <li>• 8.5 X 14 inches</li> <li>• 216 X 355.6 mm</li> </ul> <p><b>Minimum:</b></p> <ul style="list-style-type: none"> <li>• 8.27 X 11 inches</li> <li>• 210 X 279.4 mm</li> </ul>
Scan resolution	<p><b>Flatbed scanning:</b></p> <ul style="list-style-type: none"> <li>• Horizontal: 600 ppi</li> <li>• Vertical: 1200 ppi</li> </ul> <p><b>ADF (optical):</b></p> <ul style="list-style-type: none"> <li>• Horizontal: 600 ppi</li> <li>• Vertical: 1200 ppi</li> </ul>

## Copy specifications

Standalone copy speed	<p><b>Quick copy:</b>  First copy: 5 ppm mono, 5 ppm color  Additional copies: 17 ppm mono, 11 ppm color</p>
Standalone copy specifications	<p>The following options are available in standalone mode:</p> <p><b>Mono copy:</b></p> <ul style="list-style-type: none"> <li>• Quick: 300 X 600 dpi print, 150 X 150 ppi scan</li> <li>• Normal: 600 X 600 dpi print, 300 X 300 ppi scan</li> <li>• Photo: 1200 X 1200 dpi print, 300 X 300 ppi scan</li> </ul> <p><b>Color copy:</b></p> <ul style="list-style-type: none"> <li>• Quick: 300 X 600 dpi print, 150 X 150 ppi scan</li> <li>• Normal: 600 X 600 dpi print, 300 X 300 ppi scan</li> <li>• Photo: 1200 X 1200 dpi print, 300 X 300 ppi scan</li> <li>• Photo: Glossy / Photo paper 600 X 600 ppi scan</li> </ul>
Media type	<p>Standalone mode (selected from the operator panel):  Limited number of selected printer supported media types (Plain, Heavy weight matte, Transparency, Glossy / Photo)</p>
Host based copy modes	<p>One-touch selection from the operator panel (default set to copy mode):</p> <ul style="list-style-type: none"> <li>• Color</li> <li>• Black</li> <li>• Photo</li> </ul>
Host based copy speeds	<p>There is no concept of host based copy claim speed.</p>
Media type	<p><b>Standalone:</b></p> <ul style="list-style-type: none"> <li>• Letter</li> <li>• Legal</li> <li>• A4</li> <li>• B5</li> <li>• A5</li> <li>• A6</li> <li>• 3 X 5 in.</li> <li>• 4 X 6 in.</li> <li>• 4 X 8 in.</li> <li>• 5 X 7 in.</li> <li>• 10 X 15 cm</li> <li>• 13 X 18 cm</li> <li>• Hagaki</li> <li>• 2L</li> <li>• L</li> </ul>
Copy features	<p><b>Standalone:</b></p> <ul style="list-style-type: none"> <li>• One touch color or black copy</li> <li>• Borderless copying</li> <li>• Repeat image</li> <li>• N-up</li> <li>• Collate</li> </ul>

**Fax specifications**

Fax type	Standalone mono and color fax
Paper size	Send/receive legal, letter, and A4
Fax resolution	<p>Mono and color support initiated via operator panel:</p> <ul style="list-style-type: none"> <li>• Standard: 200 X 100 ppi</li> <li>• Fine: 200 X 200 ppi</li> <li>• Superfine: 300 X 300 ppi</li> <li>• Ultrafine: 300 X 300 ppi</li> </ul>
Fax features	<ul style="list-style-type: none"> <li>• Telephone answering device hookup</li> <li>• Speaker (no microphone)</li> <li>• 99 speed dials (89 standard, 10 group)</li> <li>• 30 fax numbers per group supported</li> <li>• 64 digit fax number support</li> <li>• Caller ID (where supported)</li> <li>• Automatic redial/busy redial</li> <li>• Call waiting disable support</li> <li>• Fax/Tel mode with distinctive ring detection</li> <li>• Confirmation, error, and activity reports</li> <li>• Up to 160 pages using standard resolution</li> <li>• Pulse/tone mode</li> <li>• Delay send</li> <li>• Broadcast send</li> <li>• Fax forwarding</li> <li>• Fax forwarding and print</li> <li>• Junk fax block (where available)</li> <li>• Auto answering</li> <li>• Print to fax function</li> <li>• Fax on demand</li> <li>• Parallel handset detection support</li> <li>• Parallel handset manual pickup support</li> <li>• Digital line detect and notify</li> <li>• Diagnostic features</li> </ul>

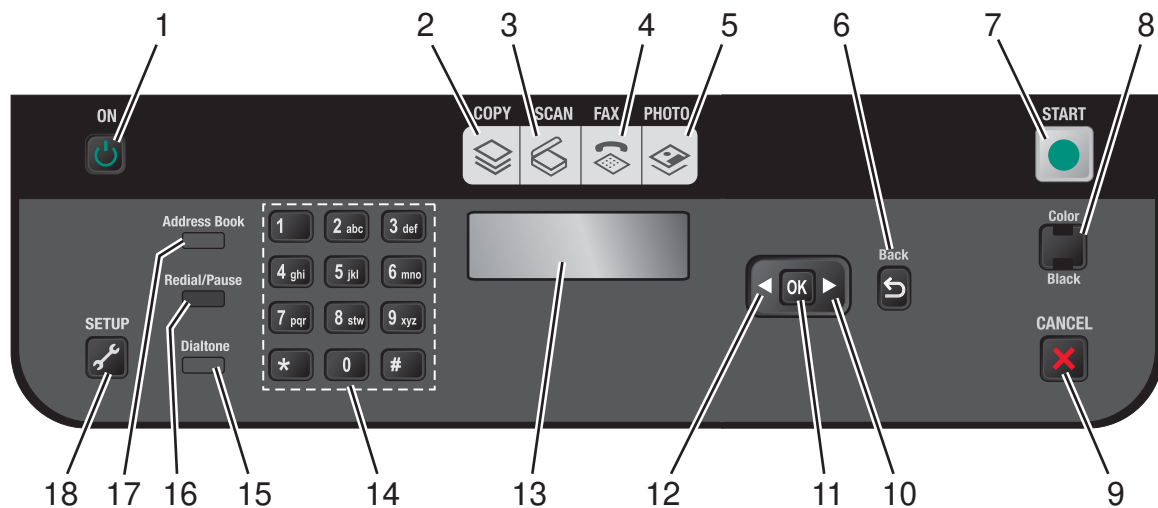
## Understanding the operator panel

### Using the operator panel












The operator panel buttons allow you to copy, scan, print, or fax documents and photos.


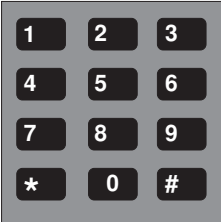




The operator panel features:

- Power on/off button
- Two-line LCD screen that displays messages, menus, and printer status
- 27 buttons



**Note:** The color of the Lexmark™ 5600 Series All-In-One operator panel may vary.

Number	Part	Button	Function
1	On button		<ul style="list-style-type: none"> <li>• Turns the printer on and off</li> <li>• Switches the printer to Power Save mode</li> </ul>
2	Copy button		Accesses the copy menu and makes copies
3	Scan button		Accesses the scan menu and scans documents
4	Fax button		Accesses the fax menu and sends faxes
5	Photo button		Accesses the photo menu and prints photos
6	Back button		<ul style="list-style-type: none"> <li>• Returns to the previous screen</li> <li>• Exits from one menu level to a higher one</li> </ul>
7	Start button		Starts a print, scan, or copy job, depending on which mode is selected
8	Color/Black button		Switches to color mode or black-and-white mode
9	Cancel button		<ul style="list-style-type: none"> <li>• Cancels a print, copy, scan, or fax job in progress</li> <li>• Exits from a menu level of the Copy, Scan, Fax, Photo, or File Print menus to the top level of a menu</li> <li>• Exits from a menu level of the Setup menu to the top level of the previous mode</li> <li>• Clears current settings or error messages, and returns to default settings</li> </ul>
10	Right arrow button		<ul style="list-style-type: none"> <li>• Increases a number</li> <li>• Moves the cursor one place to the right</li> <li>• Scrolls through menus or settings display</li> <li>• Moves the Region of Interest box to the right when in Photo mode or Scan mode</li> </ul>
11	OK button		<ul style="list-style-type: none"> <li>• Chooses a menu or submenu item that appears on the display</li> <li>• Saves settings</li> <li>• Feeds or ejects paper</li> </ul>

Number	Part	Button	Function
12	Left arrow button		<ul style="list-style-type: none"> <li>Decreases a number</li> <li>Moves the cursor one place to the left</li> <li>Scrolls through menus or settings on the display</li> <li>Moves the Region of Interest box to the left when in Photo mode or Scan mode</li> </ul>
13	LCD display		Displays printer status, messages, and menus
14	Keypad		<p>Enters the number of desired copies or prints when in Copy mode or Print mode.</p> <p>In fax mode:</p> <ul style="list-style-type: none"> <li>Enters fax numbers</li> <li>Navigates an automated answering system</li> <li>Enters letters when creating a Speed Dial list</li> <li>Enters the date and time that shows the display</li> </ul>
15	Dialtone button		Press this button to get a dialtone after the number is dialed, and before the fax is sent.
16	Redial/Pause button		<p>In fax mode:</p> <ul style="list-style-type: none"> <li>Inserts a three-second pause in the number to be dialed to wait for an outside line or to get through an automated answering system</li> <li>Displays the last five numbers dialed</li> </ul>
17	Address Book button		Accesses fax numbers from a saved list of numbers
18	Setup button		Accesses the setup menu and changes printer settings



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## Maintenance approach

The diagnostic information in this manual leads you to the correct field replaceable unit (FRU) or part. Use the error codes, symptom tables, service checks, and diagnostic aids to determine the symptom and repair the failure.

After you complete the repair, perform tests as needed to verify the repair.

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## Tools required for service

- Flat-blade screwdriver
- #1 Phillips screwdriver
- #2 Phillips screwdriver
- Spring hook
- Analog or digital multimeter

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## Acronyms

ADC	Analog to Digital Converter
ASF	Automatic Sheet Feeder
ASIC	Application Specific Integrated Circuit
DMA	Direct Memory Access
dpi	Dots per inch
DSA	NPA Device Status Alert
EEPROM	Electrically Erasable Programmable ROM
EOF	End of Form
Flash	Fast EEPROM
GPIO	General Purpose Input/Output
HBP	Hose Based Printing
IEEE	Institute of Electrical and Electronics Engineers
ips	inches per second
LED	Light-Emitting Diode
NPA	Network Printing Alliance
NVRAM	Nonvolatile Random Access Memory
OEM	Original Equipment Manufacturer
POR	Power-On Reset
POST	Power-On Self Test
ppi	Pixels per inch
RAM	Random Access Memory
ROM	Read Only Memory
TSR	Temperature Sense Resistor
PWM	Pulse Width Modulate
UART	Universal Asynchronous Receiver/Transmitter
USB	Universal Serial Bus

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## 2. Diagnostic information

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### Power-On Self Test (POST) sequence

Plug the All-In-One into an electrical outlet, and press the **Power** button.

The All-In-One does a Power-On Self Test (POST) sequence.

1. The Power button light comes on.
2. The paper feed and transport carrier motors run and then stop.
3. The Power button light stays on.
4. The following will be displayed:  
**Lexmark**  
**5600**
5. The **Copy** screen will be displayed.

If any of these fail to occur, remove and reinstall the print cartridge, and then repeat the POST. If the POST remains incomplete, see **“Service checks” on page 2-10**. Find the symptom, and take corrective action.

---

### Troubleshooting tables

The All-In-One will have the capability to report internal errors. This is accomplished by displaying the error code on the operator panel LCD. Also, some errors are reported to host through Extended NPA Device Status Alert (DSA). See Consumer Printer Division Host-Printer Communications Specification for more detail on NPA and DSA.

There are four classes of All-In-One errors:

- POST errors
- Catastrophic unrecoverable errors
- Paper handling errors
- Printhead errors

**Note:** Each error will have a unique, 4-digit code.

**Error Code Table**

<b>Error Code</b>	<b>Name</b>	<b>Description</b>	<b>Action</b>
0302	NVRAM R/W	An error was detected in reading or writing NVRAM.	<b>Technical Support Center:</b> Replace the All-In-One.
			<b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b>
0303	Memory Failure	Unable to initialize memory.	<b>Technical Support Center:</b> Replace the All-In-One.
			<b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b>
0304	Hardware Failure	General hardware failure (unable to localize failure to a specific system).	<b>Technical Support Center:</b> Replace the All-In-One.
			<b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b>
0305	ROM_Checksum_Failure	Corrupted ROM.	<b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in and turn the power on.
			<b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b>
0306	Paper System Failure	The DC paper feed system fails to initialize or calibrate.	<b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in and turn the power on.
			<b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b>
1100	Paper Jam	There is paper jammed in the All-In-One.	<b>Technical Support Center:</b> Clear the paper jam, and resend the print job.
			<b>Service:</b> Clear the paper jam, and resend the print job.

Error Code	Name	Description	Action
1101	Paper Out	The All-In-One is out of paper.	<b>Technical Support Center:</b> Load paper.
			<b>Service:</b> Load paper. If the problem remains, then check the paper sensor.
1102	Incorrect Printhead	Printhead ID is not valid.	<b>Technical Support Center:</b> Replace the print cartridge with the correct cartridge.
			<b>Service:</b> Replace the print cartridge with the correct cartridge.
1103	Missing Printhead	Printhead is missing.	<b>Technical Support Center:</b> Install a print cartridge.
			<b>Service:</b> Install a print cartridge.
1104	Printhead Order	Unsupported order of printheads.	<b>Technical Support Center:</b> Install the correct print cartridge.
			<b>Service:</b> Install the correct print cartridge.
1105	Scan Back Alignment Failure	Automatic alignment has failed.	<b>Technical Support Center:</b> Follow the instructions on the computer screen to recover and align the print cartridges.
			<b>Service:</b> Follow the instructions on the computer screen to recover and align the print cartridges.
1201	Print Incomplete	The print carrier stopped before all of the data was used.	<b>Technical Support Center:</b> Clear any carrier jams. Unplug the All-In-One from the wall outlet, wait a few seconds, then plug the All-In-One back in and turn the power on. Resend the print job.
			<b>Service:</b> Clear any carrier jams. Unplug the All-In-One from the wall outlet, wait a few seconds, then plug the All-In-One back in and turn the power on. Resend the print job.

Error Code	Name	Description	Action
1202	Data Error	Incorrect data has been sent from the host computer to the All-In-One.	<b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in and turn the power on. If the problem remains, then replace the USB cable.
			<b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b>
1203	Printhead Short	The short test detected a short circuit in the printhead.	<b>Technical Support Center:</b> Remove the print cartridges. Clean and reinstall the print cartridges.
			<b>Service:</b> Lift the scanner assembly, and replace the printhead.
1204	Printhead Programming	Firmware is unable to program pseudo-random printhead ID.	<b>Technical Support Center:</b> Replace the print cartridge.
			<b>Service:</b> Replace the print cartridge.
1205	Mono TSR Error	There is a problem in the color TSR circuit; cannot determine printhead temperature.	<b>Technical Support Center:</b> Replace the print cartridge.
			<b>Service:</b> Replace the print cartridge.
1206	Color TSR Error	There is a problem in the color TSR circuit; cannot determine printhead temperature.	<b>Technical Support Center:</b> Replace the print cartridge.
			<b>Service:</b> Replace the print cartridge.
1207	Paper System Error	A paper system error control failure was detected.	<b>Technical Support Center:</b> Clear the paper path. Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in and turn the power on. If the remains, then replace the All-In-One.
			<b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b>

Error Code	Name	Description	Action
1208	Cartridge Memory Error	Firmware is unable to read the printhead's memory.	<b>Technical Support Center:</b> Replace the print cartridge. If the problem remains, then replace the All-In-One.
			<b>Service:</b> Replace the print cartridge. If the problem remains, then replace the system board. See <b>“System board removal” on page 4-29.</b>
1209	FLASH Programming Error	Could not program FLASH.	<b>Technical Support Center:</b> The printer will auto reset. If the problem remains, then replace the All-In-One.
			<b>Service:</b> Replace the print cartridge.
1210	Mode Select	An invalid print mode was selected in the print command.	<b>Technical Support Center:</b> Resend the print job. If the problem remains, then reinstall the printer driver.
			<b>Service:</b> Resend the print job. If the problem remains, then reinstall the print driver.
1211	USB Error	An error was detected in USB hardware, or invalid results occurred in USB code.	<b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in and turn the power on. If the problem remains, then replace the USB cable.
			<b>Service:</b> Replace the USB cable. If the problem remains, then replace the system board. See <b>“System board removal” on page 4-29.</b>
1212	Watchdog Error	Indicates printer system was reset by Watchdog timer; Subsystem stall failure.	<b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in and turn the power on. If the problem remains, then replace the USB cable.
			<b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b>

Error Code	Name	Description	Action
1213	Data Abort Error	Firmware attempted to load or store to an invalid address.	<p><b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in and turn the power on. If the problem remains, then replace the USB cable.</p> <p><b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b></p>
1214	Invalid Processor Mode Error	Indicates the ARM processor was in an incorrect mode to perform the requested operation.	<p><b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in and turn the power on. If the problem remains, then replace the USB cable.</p> <p><b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b></p>
1215	Math Error	There is a problem doing math, such as dividing by zero.	<p><b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in and turn the power on. If the problem remains, then replace the USB cable.</p> <p><b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b></p>
1216	Mailbox Error	Problem with the internal mailbox messaging system.	<p><b>Technical Support Center:</b> The printer will auto reset.</p> <p><b>Service:</b> The printer will auto reset.</p>
1217	Temperature Error	There is a problem determining temperature.	<p><b>Technical Support Center:</b> Replace the print cartridge.</p> <p><b>Service:</b> Replace the print cartridge.</p>

Error Code	Name	Description	Action
1218	Serial Flash Error	Invalid parameters have been passed to ReadFlashPage.	<b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in and turn the power on. If the problem remains, then replace the All-In-One.
			<b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b>
1219	Undefined Signal Error	Microprocessor has encountered a bad signal (other than an abort, illegal instruction, or arithmetic exception).	<b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in and turn the power on. If the problem remains, then replace the USB cable.
			<b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b>
2100	Unlock Scanner	The scanner mechanism is locked in place or unable to move due to other failure.	<b>Technical Support Center:</b> Not supported
			<b>Service:</b> Not supported
2200	Scan Carrier Stall	The scan carrier has stalled.	<b>Technical Support Center:</b> Not supported
			<b>Service:</b> Not supported
3100	Fax Error	General error receiving or sending fax.	<b>Technical Support Center:</b> Not supported
			<b>Service:</b> Not supported
4100	Invalid Card Media	The inserted card media is is not valid for the slot.	<b>Technical Support Center:</b> Not supported
			<b>Service:</b> Not supported
4101	Card R/W Error	Problem reading or writing the media card.	<b>Technical Support Center:</b> Not supported
			<b>Service:</b> Not supported



Error Code	Name	Description	Action
120A	Undefined Error	The microprocessor has encountered an abort or undefined instruction.	<p><b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in, and turn the power on. If the problem remains, then replace the All-In-One.</p> <p><b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b></p>
120B	Address Error	Firmware attempted to access invalid address space.	<p><b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in, and turn the power on.</p> <p><b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b></p>
120C	NVRAM Error	An error was detected in reading or writing NVRAM.	<p><b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in, and turn the power on. If the problem remains, then replace the All-In-One.</p> <p><b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b></p>
120D	Never Error	Stack over and under flow error; Code error.	<p><b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in, and turn the power on. If the problem remains, then replace the All-In-One.</p> <p><b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b></p>

Error Code	Name	Description	Action
120E	Software Detected Error	An error condition was detected in the software control code.	<p><b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in, and turn the power on. If the problem remains, then replace the All-In-One.</p>
			<p><b>Service:</b> Reinstall the print driver. If the problem remains, then replace the system board. See <b>“System board removal” on page 4-29.</b></p>
121A	Loop Timeout Error	Error detected that a while loop or similar loop timed out before the event it was waiting on finished.	<p><b>Technical Support Center:</b> Unplug the All-In-One from the wall outlet; wait a few seconds, then plug the All-In-One back in, and turn the power on.</p>
			<p><b>Service:</b> Replace the system board. See <b>“System board removal” on page 4-29.</b></p>
121B	NVRAM Control Section Corrupted	Indicates that the control section of NVRAM is corrupted.	<p><b>Technical Support Center:</b> The printer will auto reset.</p>
			<p><b>Service:</b> The printer will auto reset.</p>

## Service checks

### System board service checks

Symptom	Action
Dead machine	Check the power supply connector J25 pin 1 for approximately 30 V dc. If voltage is incorrect, then replace the power supply. If voltage is correct, then check all other connectors on the system board. If connectors are okay, then replace the system board. Go to <b>“System board removal” on page 4-29.</b>
<ul style="list-style-type: none"> <li>• Carrier transport motor does not operate.</li> <li>• Paper feed motor does not operate.</li> <li>• Control panel buttons do not work.</li> <li>• Power LED does not come on.</li> <li>• Cartridge access and end-of-forms sensors do not work.</li> </ul>	<ul style="list-style-type: none"> <li>• Check the carrier transport motor connector J24 on the system board. If it is connected, then check for approximately 30 V dc on pins 1 and 2 or at the wire connections located on the rear of the carrier transport motor. If voltage is incorrect, then replace the system board. Go to <b>“System board removal” on page 4-29.</b> If voltage is correct, then replace the All-In-One.</li> <li>• Check the paper feed motor connector J23 on the system board. If it is connected, then check for approximately 30 V dc on pins 1 and 2. If the voltage is incorrect, then replace the system board. Go to <b>“System board removal” on page 4-29.</b> Although the paper feeds turns in one direction, the paper feed motor turns in two directions. If the paper feed motor turns in one direction only, then replace the system board. Go to <b>“System board removal” on page 4-29.</b></li> <li>• If the control panel buttons do not work or the power LED does not come on, then replace the All-In-One.</li> <li>• If the cartridge access or end-of-forms sensors do not work, then replace the All-In-One.</li> </ul>

**Carrier service checks**

Symptom	Action
<ul style="list-style-type: none"> <li>The carrier slams against the side frame.</li> <li>There is no carrier movement.</li> </ul>	<ul style="list-style-type: none"> <li>Check the encoder strip for proper installation.</li> <li>Check the carrier cable connectors J4, J5, and J6 on the system board. If connectors are okay, then replace the carrier assembly with belt and cables. Go to <b>“Carrier assembly with belt and cables removal” on page 4-22</b>. If problem remains, then replace the system board. Go to <b>“System board removal” on page 4-29</b>.</li> <li>Check the carrier transport motor connector J24 on the system board. If it is connected, then check for approximately 30 V dc on pins 1 and 2 or at the wire connections located on the rear of the carrier transport motor. If voltage is incorrect, then replace the system board. Go to <b>“System board removal” on page 4-29</b>. If voltage is correct, then replace the All-In-One.</li> </ul>
<p>Poor print quality</p>	<p>Be sure that the All-In-One contains good print cartridges.</p> <p>Be sure the print cartridge nozzle plate is clean. Clean with a soft cloth.</p> <p>Ink smudging and smearing can be caused by paper problems or problems in the paper feed area. Check for:</p> <ul style="list-style-type: none"> <li>Correct type of paper</li> <li>Curled or wrinkled paper</li> <li>Paper path obstructions</li> <li>Feed roller wear or looseness</li> <li>Worn gears or binds</li> </ul> <p>If the paper feed roller or gears are defective, replace the All-In-One.</p> <p>Blurred print and voids can be caused by problems in the carrier transport area. Check the following:</p> <ul style="list-style-type: none"> <li>Carrier transport belt for wear</li> <li>Idler pulley parts for wear, damage, or looseness</li> <li>Carrier guide rod for wear or dirt. If the rod is dirty, clean and lubricate it.</li> <li>The carrier to carrier frame engagement should be lubricated with grease.</li> </ul> <p>If the carrier transport belt is worn, replace the carrier assembly with belt and cables. Go to <b>“Carrier assembly with belt and cables removal” on page 4-22</b>.</p> <p>If the idler pulley parts are defective, replace the All-In-One.</p>

**CIS module assembly service checks**

Symptom	Action
<ul style="list-style-type: none"> <li>The CIS assembly does not move.</li> <li>The CIS lamp does not come on.</li> </ul>	<ul style="list-style-type: none"> <li>If the CIS module assembly does not move, ensure that the belt is installed properly. If the CIS module assembly still does not move, replace the system board. Go to <b>“Carrier assembly with belt and cables removal” on page 4-22</b>.</li> <li>If the CIS lamp does not come on as the scanner assembly is scanning, check connector J7 on the system board. If the connection is okay and the problem remains, replace the scanner assembly. Go to <b>“Scanner assembly removal” on page 4-3</b>.</li> </ul>



## 3. Diagnostic aids

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### Test Mode

#### *Test Page*

This test prints the test page.

To run a complete test page of black and color patterns, be sure the printhead cartridges are in good condition.

To enter the test:

1. Turn on the All-In-One.
2. Lift the scanner unit.
3. Install a good black print cartridge in the left side of the carrier and a good color cartridge in the right.
4. Close the scanner unit.
5. Load paper in the paper tray.
6. Press **Setup**.
7. Press  until **Tools** appears on the LCD.
8. Press , and **Maintenance** appears on the LCD.
9. Press .
10. Press  until **Print Test Page** appears on the LCD.
11. Press  to print the test page.

The test page consists of the following information:

- Build Date
- Code Level
- Page Count
- ASIC Version
- Temps
- USB Product
- USB Manufacturer
- USB Serial Number
- MFG
- CMD
- Model
- Class
- DES
- USB Vendor ID

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## Uninstall/reinstall instructions for Windows users

If you already have the **Lexmark 5600 Series** printer driver installed and are experiencing any problems, follow these instructions to uninstall and reinstall your original driver.

### *For Windows 2000, Windows XP, and Vista*

1. Unplug the USB cable from the **Lexmark 5600 Series** All-In-One.
2. From your desktop, click **Start > Programs > Lexmark 5600 Series > Tools > Uninstall Lexmark 5600 Series**.
3. This message appears: "This program will uninstall the **Lexmark 5600 Series** from your system. Do you wish to continue?" Click **Yes**.
4. Wait several minutes while the uninstall program uninstalls your **Lexmark 5600 Series** All-In-One.
5. When prompted to restart the computer, click **Continue with the reboot of the computer now**.
6. Insert the **Lexmark 5600 Series** CD.
7. From the Install Software screen, click **Install** and follow the instructions on the screen.

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## Adding the replacement unit to the Printer List dialog (for Mac users)

1. Make sure your computer is on.
2. Unplug the defective All-In-One's power supply cable from the wall outlet, and then remove the USB cable and the power supply cable from the rear of the All-In-One.
3. Connect the USB cable and the power supply cable to the replacement unit (first connect the power supply cable to the replacement unit, and then to the electrical outlet).
4. Turn on the printer.
5. Install the print cartridges.
6. Load a clean sheet of Letter-size paper.
7. From the **Finder**, choose **Go > Applications > Utilities**, and then double-click the **Print Center** icon. (For Mac OS X 10.5, choose **Go > Applications > System Preferences**, and then double-click the **Print & Fax** icon.) The Printer List dialog appears.
8. From the Printer List dialog, click the defective All-In-One.
9. Click **Delete**. (For Mac OS X 10.5, click - to delete the driver.)
10. Add **Lexmark 5600 Series** to the Printer List:

### **For Mac OS X 10.5**

- a. Click **+** to add the printer. The Printer Browser dialog appears.
- b. From the Printer Name list, choose **5600 Series**.
- c. From the **Printer Using** pop-up menu, choose **Select a driver to use**.
- d. From the Model list that appears, choose **5600 Series**.
- e. Click **Add**.

### **For Mac OS X 10.4 or later**

- a. Click **Add**. The Printer Browser dialog appears.
- b. From the Printer Name list, choose **5600 Series**.
- c. From the "Printer Using" pop-up menu, choose **Lexmark**.
- d. From the Model list that appears, choose **5600 Series**.
- e. Click **Add**.

**For Mac OS X 10.3.x or later**

- a. Click **Add**. A new Printer List dialog appears.
  - b. From the pop-up menu on the new Printer Dialog, choose **USB**.
  - c. From the Printer List, choose **5600 Series**.
  - d. Click **Add**.
11. Align the print cartridges.

**For Mac OS X 10.5**

- a. Load plain paper.
- b. Make sure **Finder** is active.
- c. Click **Go > Utilities > System Preferences**.
- d. In **System Preferences**, select **Print & Fax**.
- e. In **Print & Fax**, select the printer from the **Printers** list.
- f. Click **Open Print Queue** to open the printer proxy.
- g. Click the **Utility** icon to launch the **Lexmark Printer Utility**.
- h. Click **Print Alignment Page**.
- i. Click **Continue**.

**For Mac OS X 10.3.x or later and 10.4 or later**

- a. Load plain paper.
- b. Make sure **Finder** is active.
- c. Click **Go > Utilities > Print Center**. The **Printer List** will open.
- d. Select the printer from the list.
- e. Click the **Utility** icon to launch the **Lexmark Printer Utility**.
- f. Click **Print Alignment Page**.
- g. Click **Continue**.

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## Uninstall/reinstall instructions for Mac users

If you already have the **Lexmark 5600 Series** printer driver installed and are experiencing any problems, follow these instructions to uninstall and reinstall your original driver.

1. Close all open software applications.
2. From your Finder desktop, double-click the **Lexmark 5600 Series** folder.
3. Double-click the **Uninstaller** icon.
4. Follow the instructions on the computer screen to uninstall your **Lexmark 5600 Series** driver.
5. Restart the computer before reinstalling the **Lexmark 5600 Series** driver.
6. Insert the **Lexmark 5600 Series** CD.
7. Click **Install** to launch the installer.
8. Follow the instructions on the computer screen to reinstall the driver.





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## 4. Repair information

This chapter explains how to make adjustments to the All-In-One and how to remove defective parts.

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

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### 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, follow the instructions below:

- 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 as few movements as possible 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.

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### Adjustments

The user is directed in the Dell Solution Center to perform the printhead alignment adjustments after replacing a print cartridge.

## Removal procedures

**Note:** The color of the Lexmark™ 5600 Series All-In-One may vary.



The following procedures are arranged according to the name of the All-In-One part discussed.

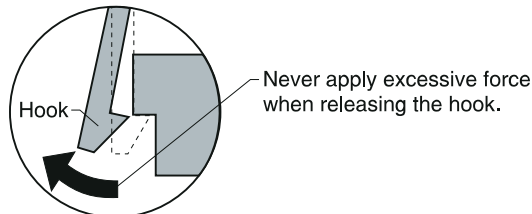


**CAUTION:**

Unplug the power cord before removing any parts.

### ***Releasing plastic latches***

Many of the parts are held in place with plastic latches. The latches break easily; release them carefully. To remove such parts, press the hook end of the latch away from the part to which it is latched.



### ***General precautions***

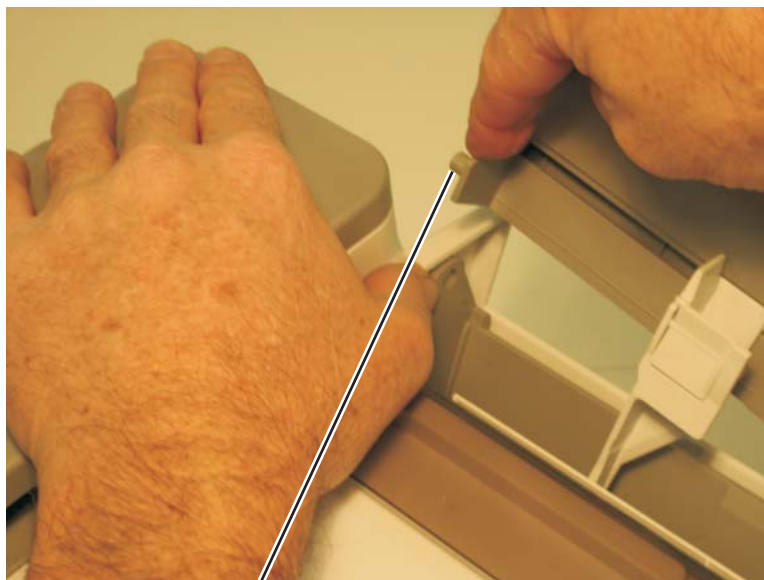
Use caution when disassembling and reassembling components. The close proximity of cables to moving parts makes proper routing a must. When components are removed or replaced, any cables disturbed must be replaced as closely as possible to their original positions. Before removing any component from the machine, be sure you note the cable routing.

When servicing the machine:

- Verify that documents are not stored in memory.
- Move the print cartridge to the far right to cap the nozzles.
- Unplug the power cord.
- Use a flat and clean surface.
- Use only authorized replacement parts.
- Do not force plastic parts.

## Scanner assembly removal

1. Disconnect the paper support tray from the top of the printer.



A

2. Remove the paper support tray.



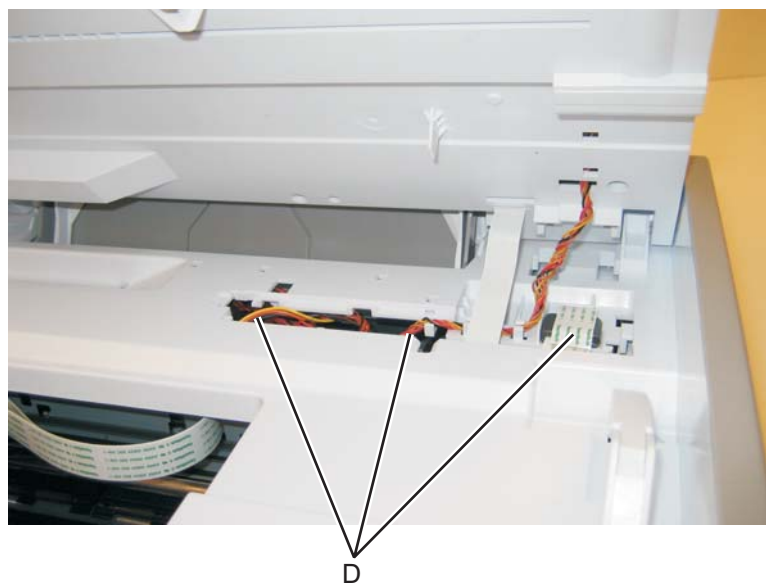
3. Disconnect the kickstands (B) from both sides of the scanner assembly.



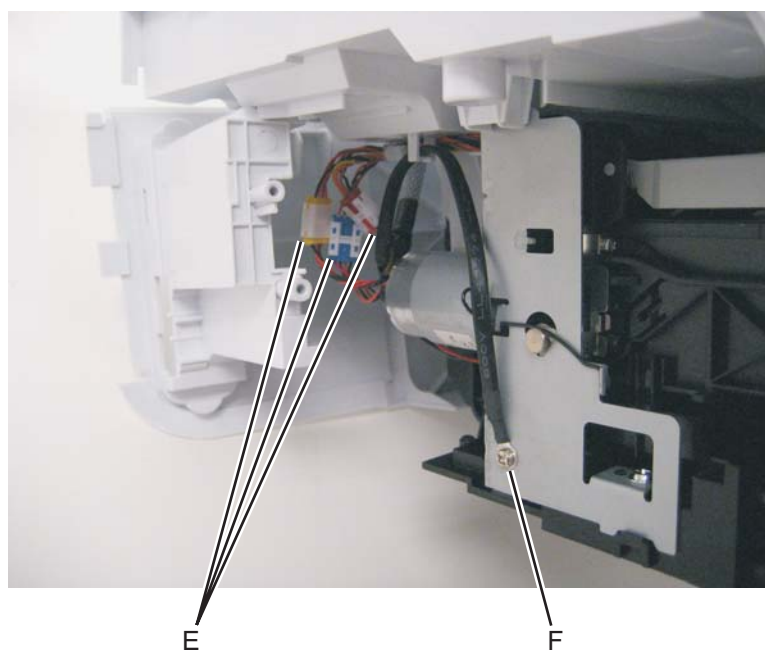
4. Press the clip (C) to remove the cable access cover.



5. Disconnect the three cables (D) from the system board.



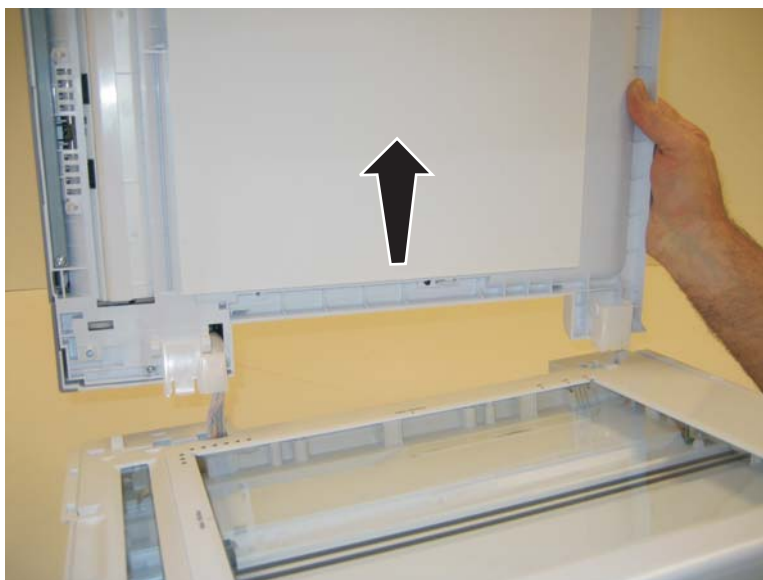
6. Disconnect the three cables (E), and remove the screw (F) from the left side of the printer.



**Note:** Be sure to pay attention to the routing of all cables.

## Lexmark 5600 Series

7. Lift up to remove the scanner lid.



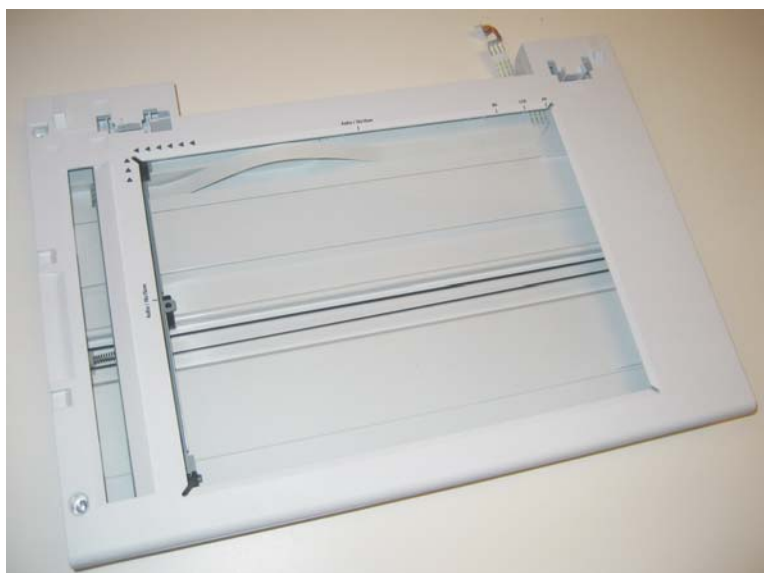
8. Remove the scanner lid.



9. Lift up to remove the scanner assembly.



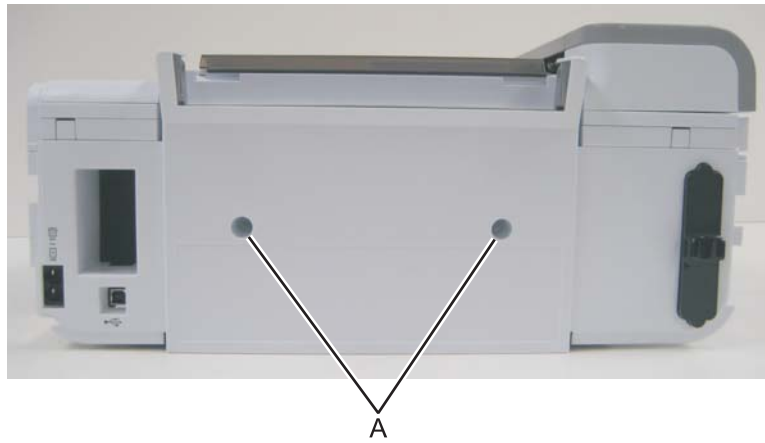
10. Remove the scanner assembly.



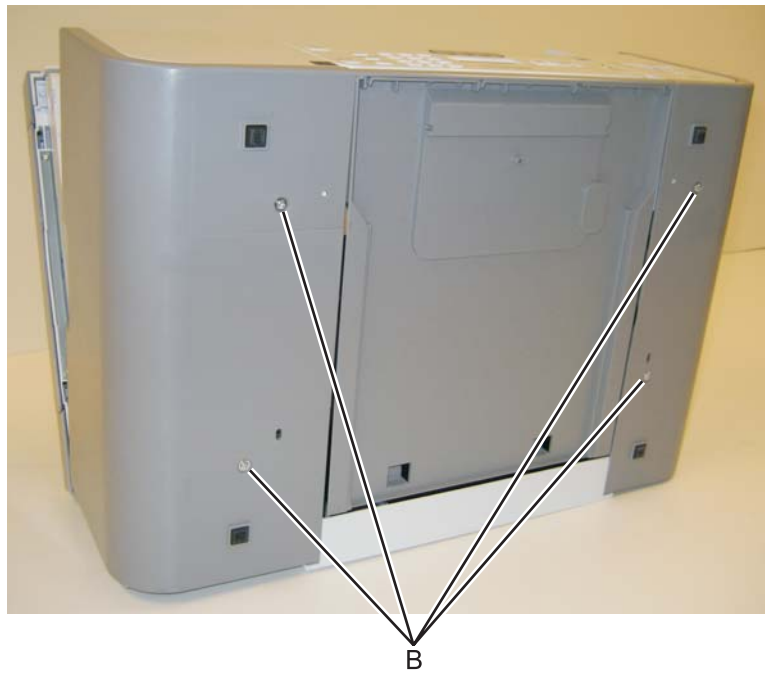


### ***Midframe cover removal***

1. Remove the two screws (A) from the rear of the printer.



2. Remove the four screws (B) from the bottom of the printer.



3. Disconnect the left side cover from the printer.

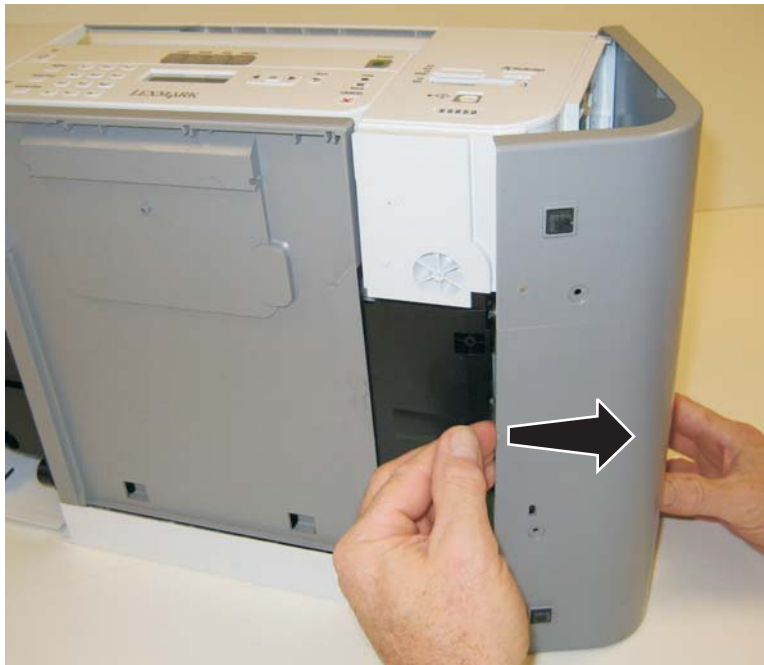


4. Remove the left side cover.

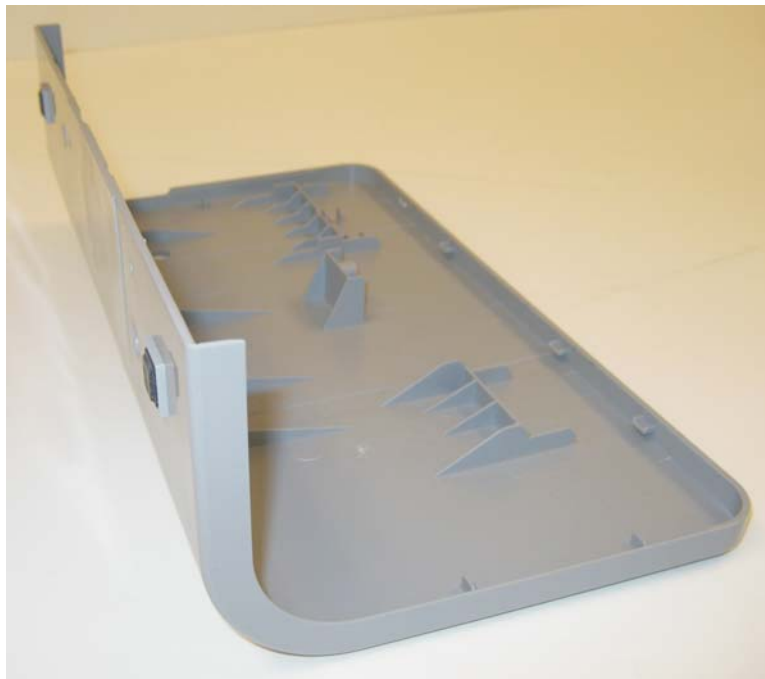


**Lexmark 5600 Series**

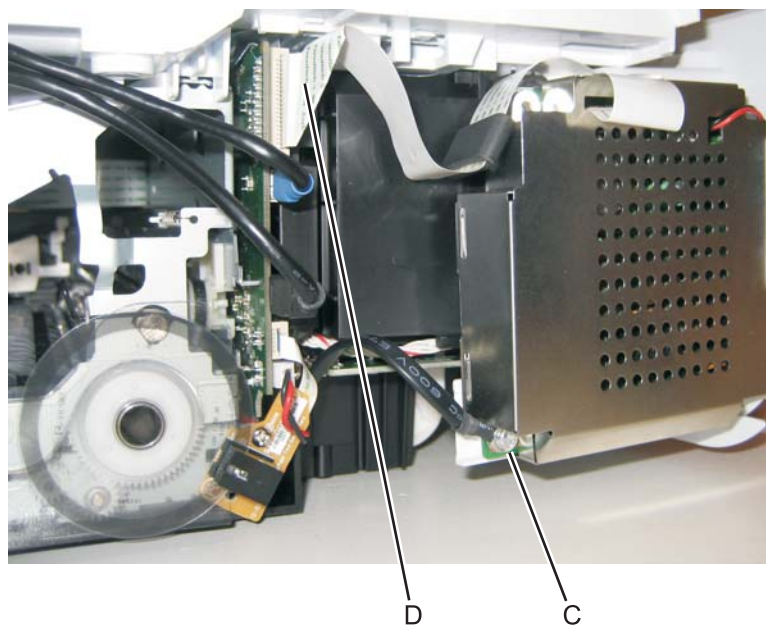
5. Disconnect the right side cover from the printer.



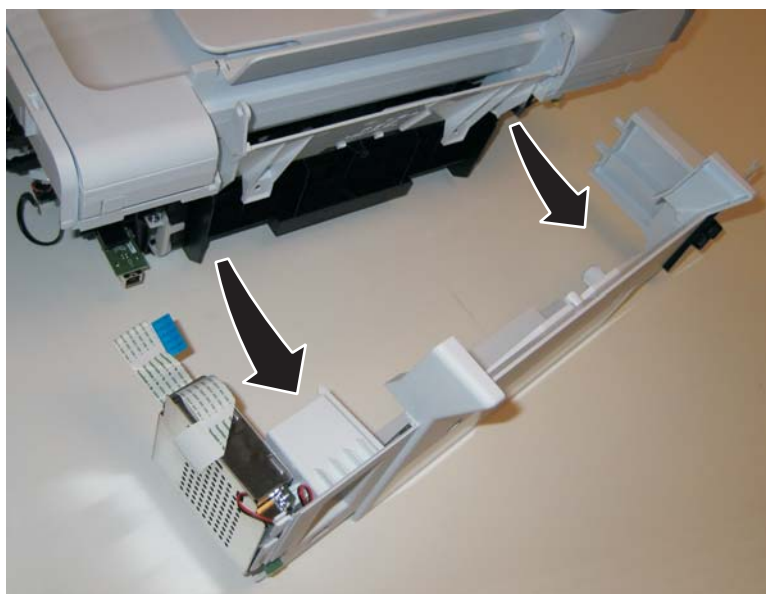
6. Remove the right side cover.



7. Remove the screw (C), and disconnect the cable (D).

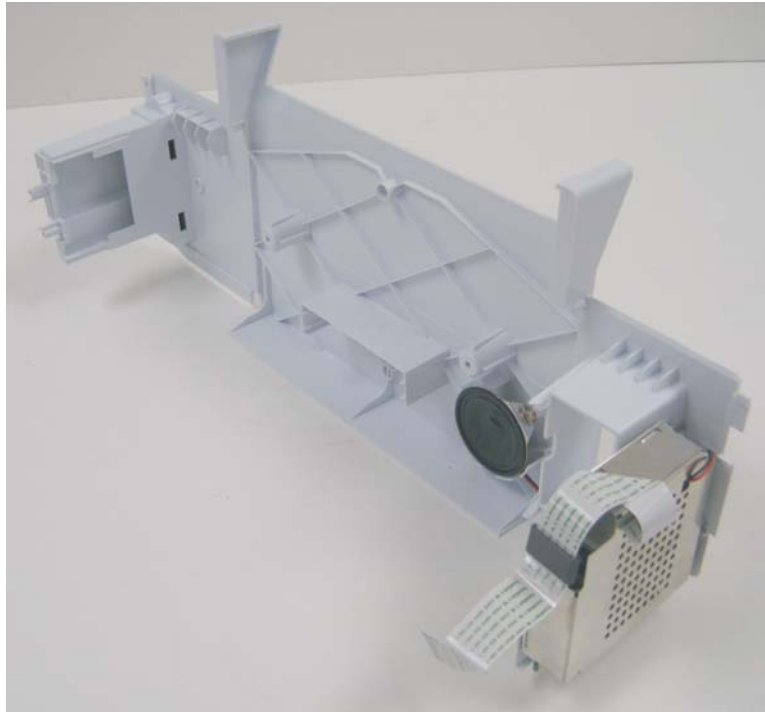


8. Pull the rear cover away from the printer.

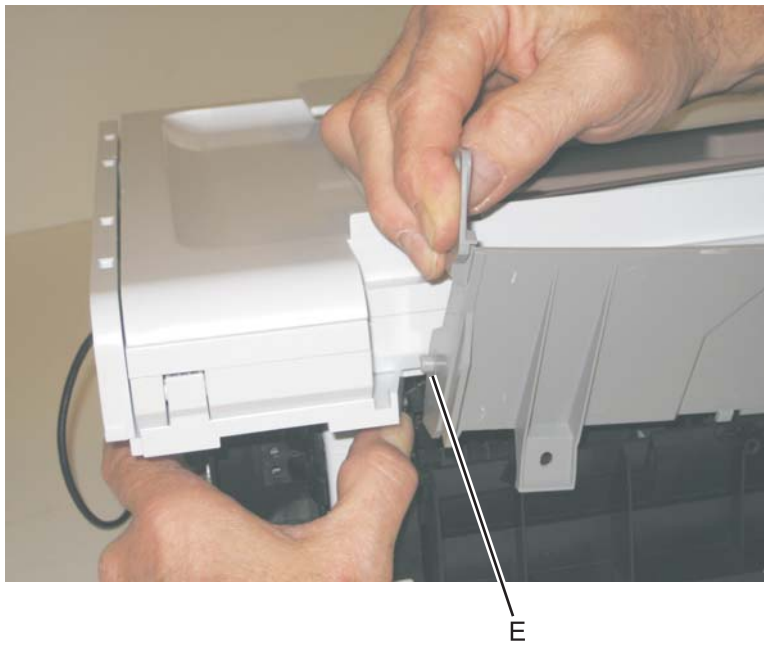


**Lexmark 5600 Series**

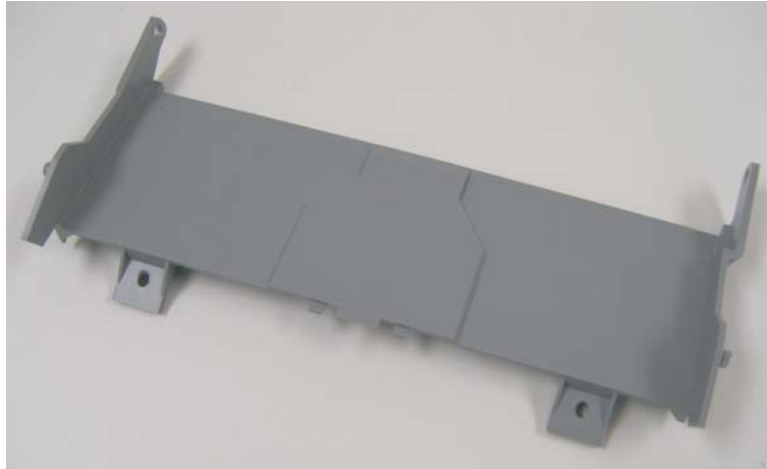
9. Remove the rear cover.



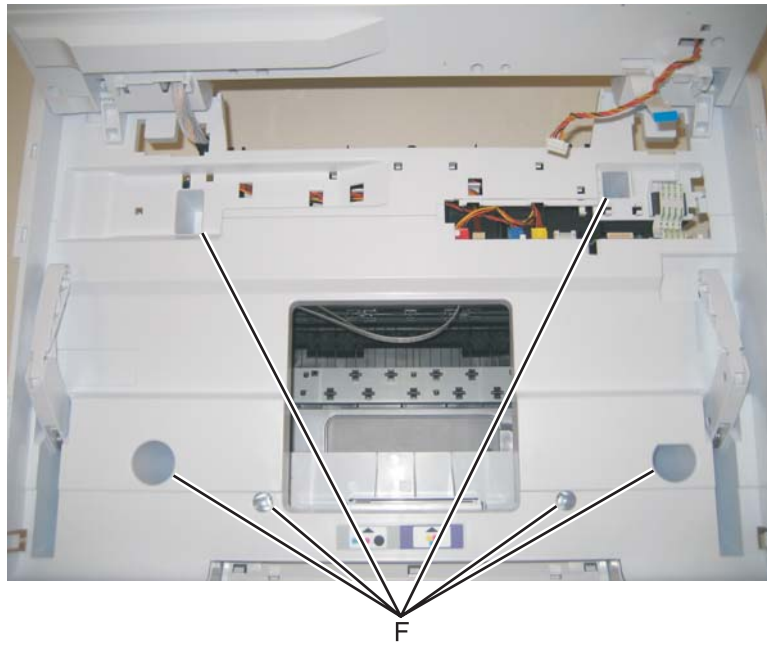
10. Pull the notch (E) away from the rear of the printer.



11. Remove the paper guide.



12. Remove the six screws (F) from the midframe.



## Lexmark 5600 Series

13. Disconnect the cable (G).



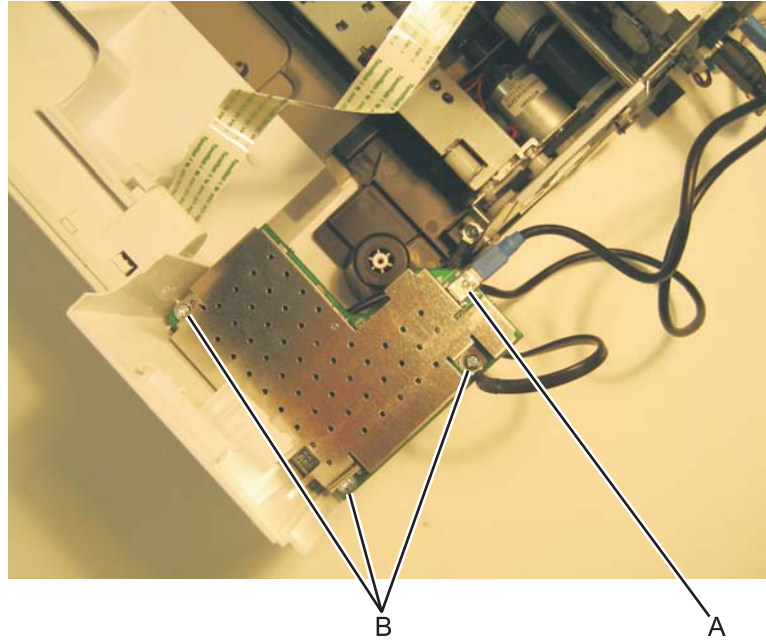
G

14. Remove the scanner assembly. See **“Scanner assembly removal”** on page 4-3.
15. Remove the midframe cover.

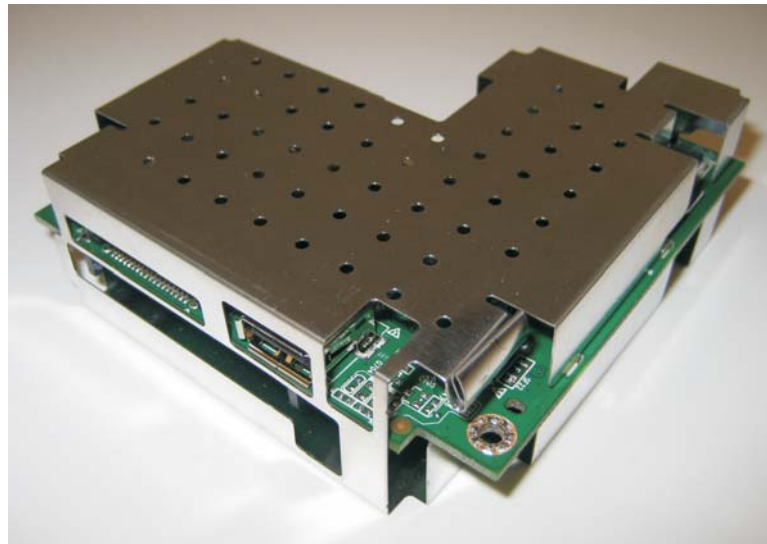


### Cardreader/PictBridge removal

1. Remove the scanner assembly. **“Scanner assembly removal” on page 4-3.**
2. Remove the midframe cover. See **“Midframe cover removal” on page 4-8.**
3. Disconnect the cable (A), and remove the three screws (B).



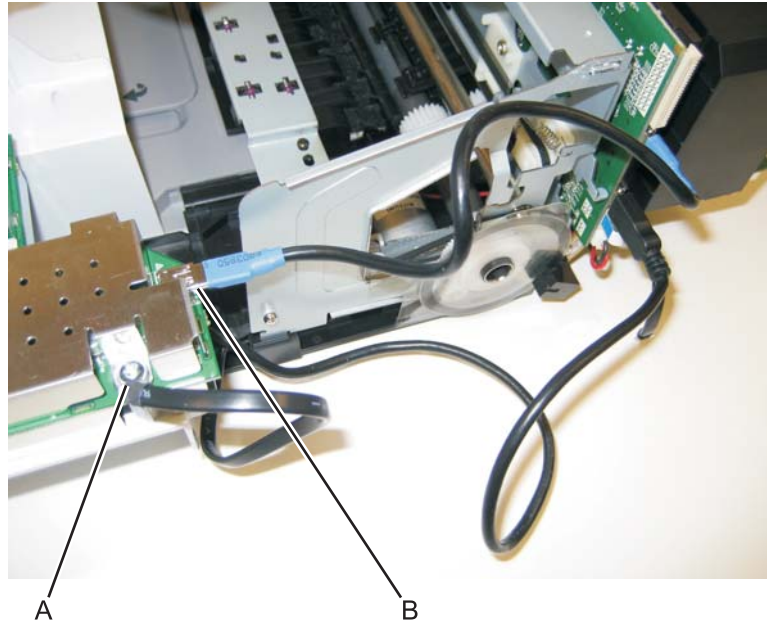
4. Remove the cardreader/PictBridge.



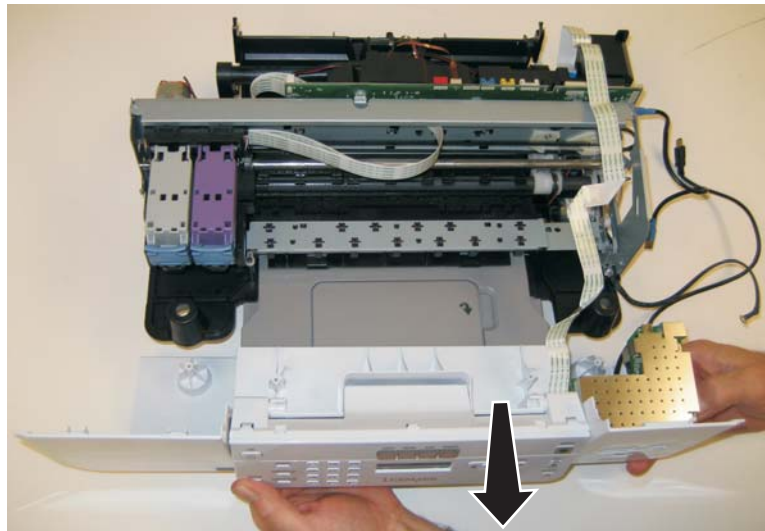


### ***Front cover removal***

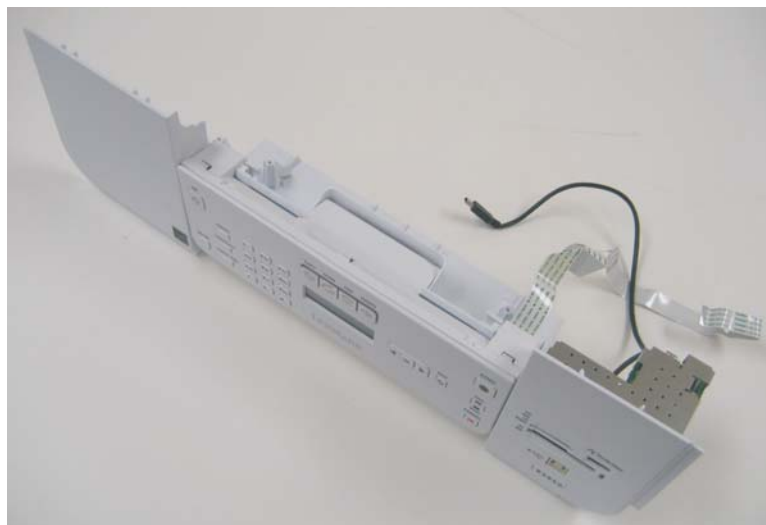
1. Remove the scanner assembly. See **“Scanner assembly removal”** on page 4-3.
2. Remove the midframe cover. See **“Midframe cover removal”** on page 4-8.
3. Remove the screw (A) to disconnect the ground cable, and disconnect the cable (B).



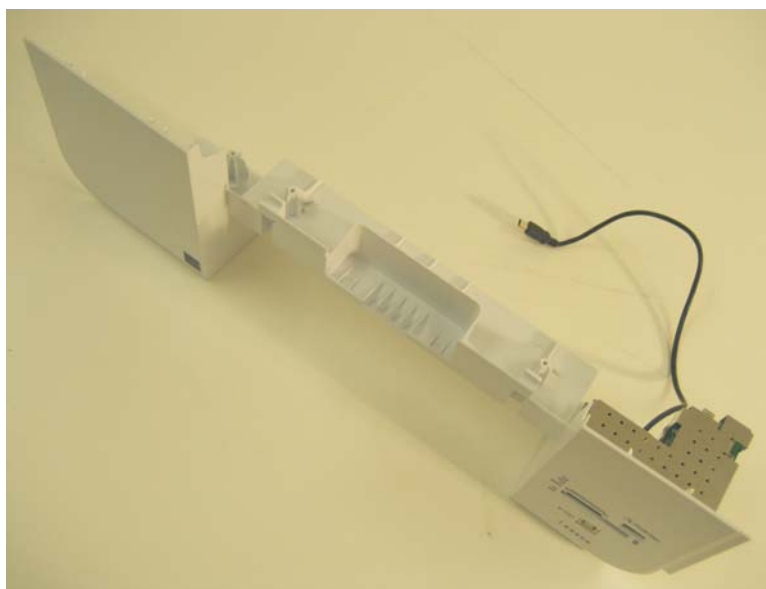
4. Pop the front cover loose from the front of the printer.



5. Remove the front cover with the control panel.

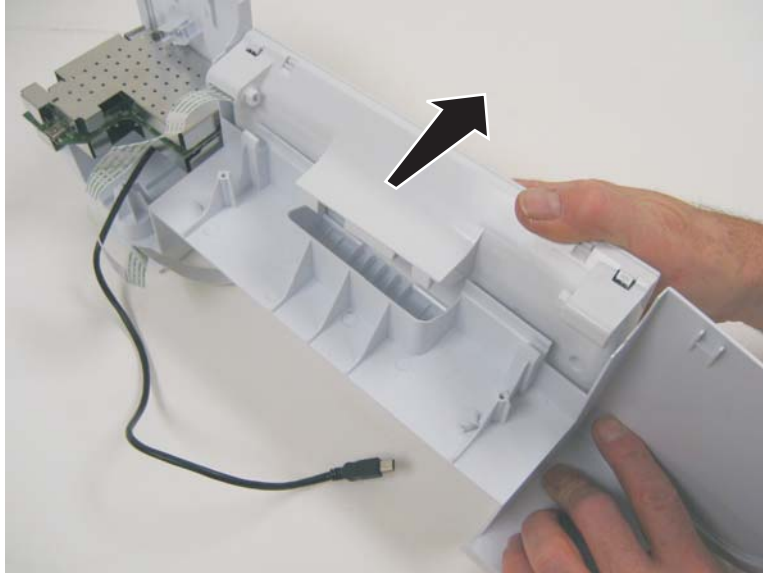


6. Remove the control panel. See **“Control panel removal”** on page 4-18.  
The front cover remains.



## Control panel removal

1. Remove the scanner assembly. See **“Scanner assembly removal”** on page 4-3.
2. Remove the midframe cover. See **“Midframe cover removal”** on page 4-8.
3. Remove the front cover. See **“Front cover removal”** on page 4-16.
4. Disconnect the control panel from the front cover.

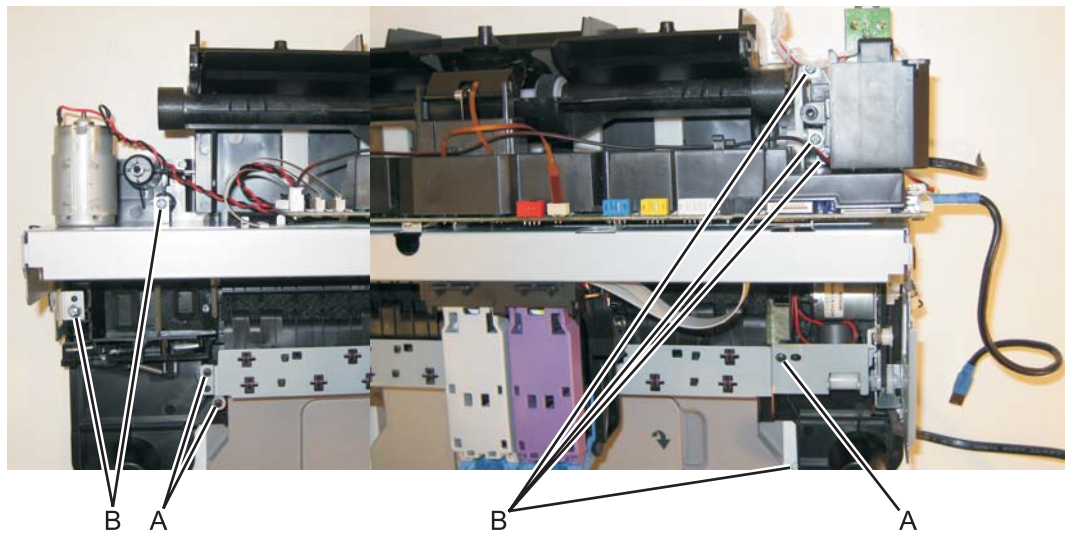


5. Remove the control panel.

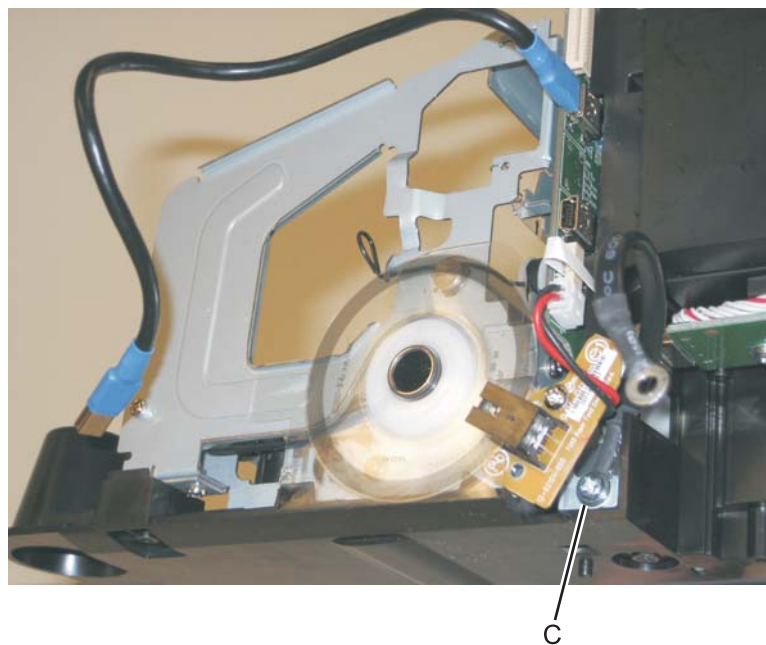


## Print engine removal

1. Remove the scanner assembly. See **“Scanner assembly removal”** on page 4-3.
2. Remove the midframe cover. See **“Midframe cover removal”** on page 4-8.
3. Remove the front cover. See **“Front cover removal”** on page 4-16.
4. Move the carrier to the center of the print engine.
5. Remove the three small screws (A), and the six screws (B).

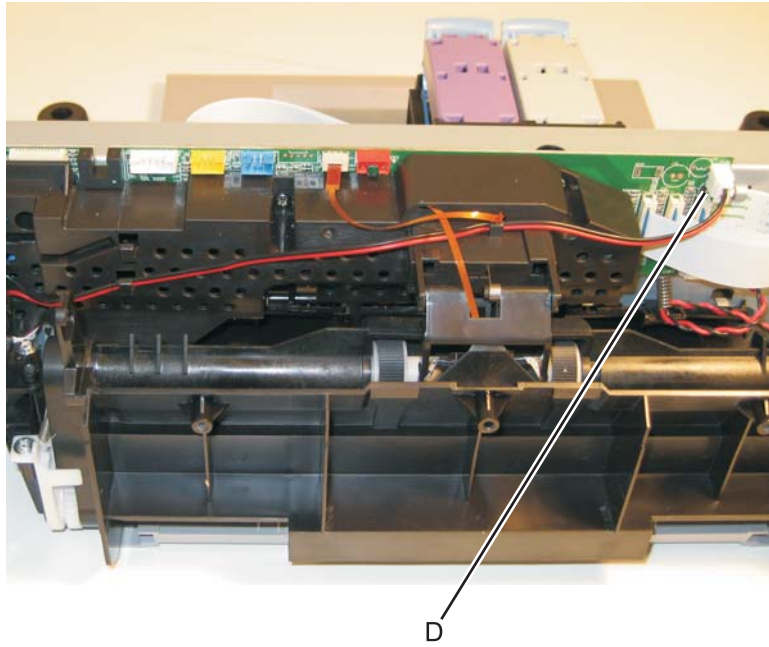


6. Remove the screw (C) from the right side of the printer.



**Lexmark 5600 Series**

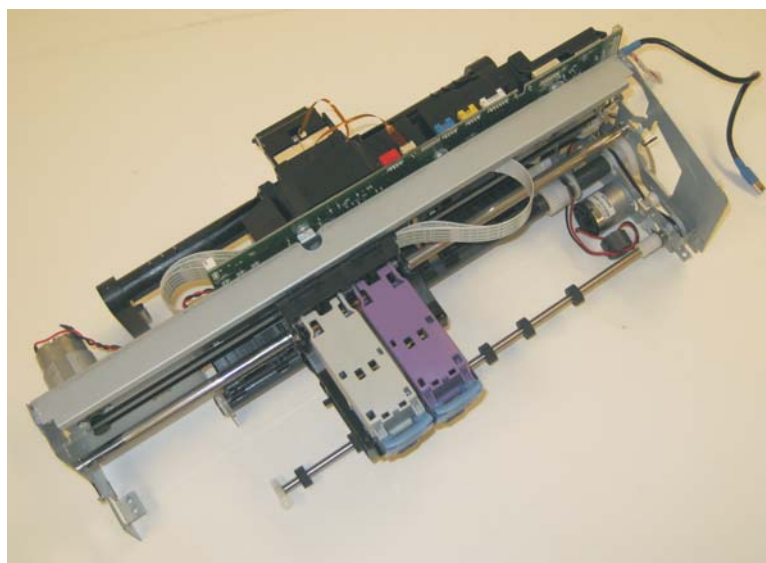
7. Disconnect the power supply guide cable (D) from the controller board.



8. Remove the power supply guide.

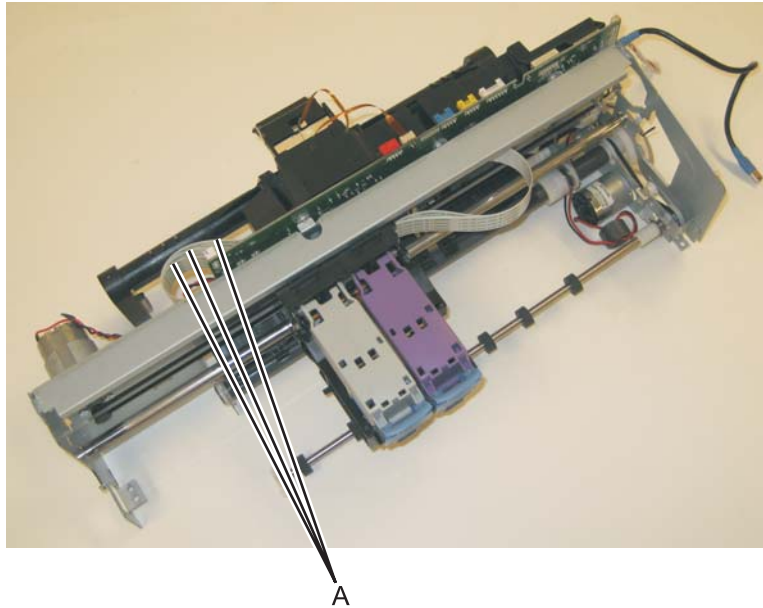


9. Lift, and remove the print engine.

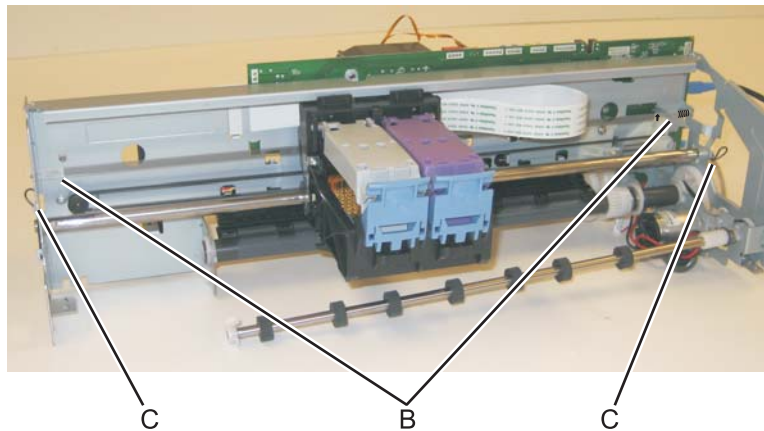


### ***Carrier assembly with belt and cables removal***

1. Remove the scanner assembly. See **“Scanner assembly removal”** on page 4-3.
2. Remove the midframe cover. See **“Midframe cover removal”** on page 4-8.
3. Remove the front cover. See **“Front cover removal”** on page 4-16.
4. Remove the print engine. See **“Print engine removal”** on page 4-19.
5. Disconnect the three flat printhead cables (A).

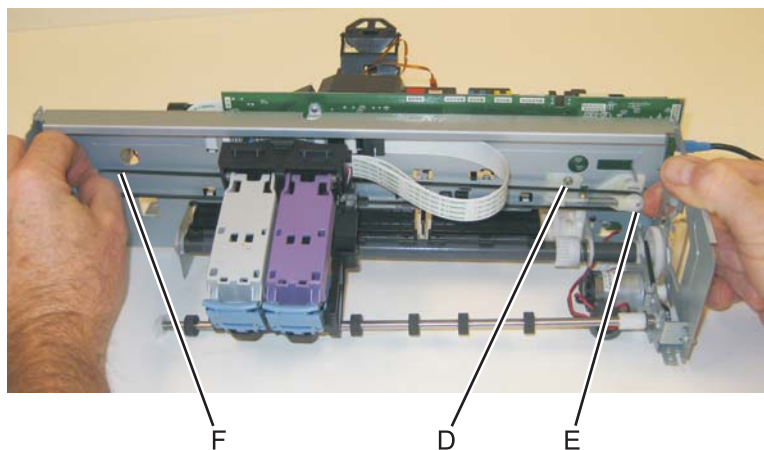


6. Disconnect both ends (B) of the encoder strip.
7. Remove the encoder strip.
8. Make sure the arrow on the right side is pointing up when installing an encoder strip.
9. Remove the two carrier shaft retainer clips (C).

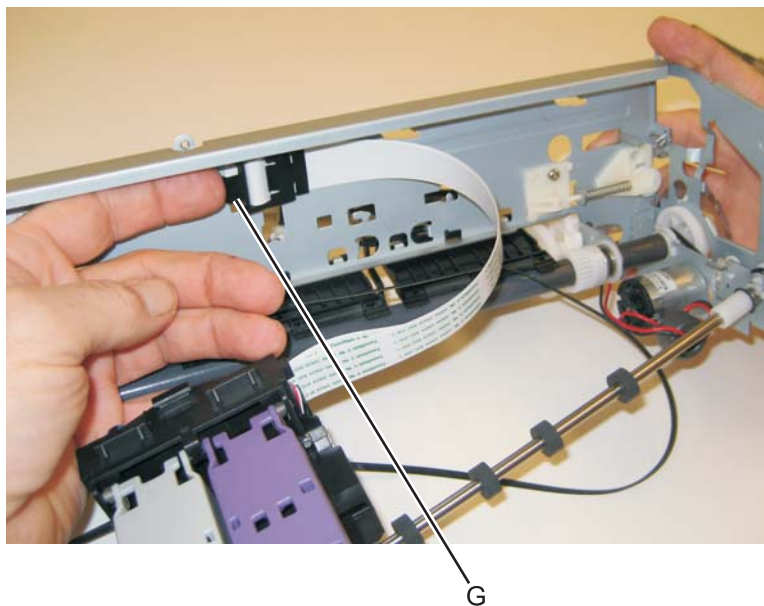


10. Slide the carrier shaft to the left.

11. Loosen the screw (D), press the tensioner (E), and remove the belt (F) from the carrier transport motor pulley.

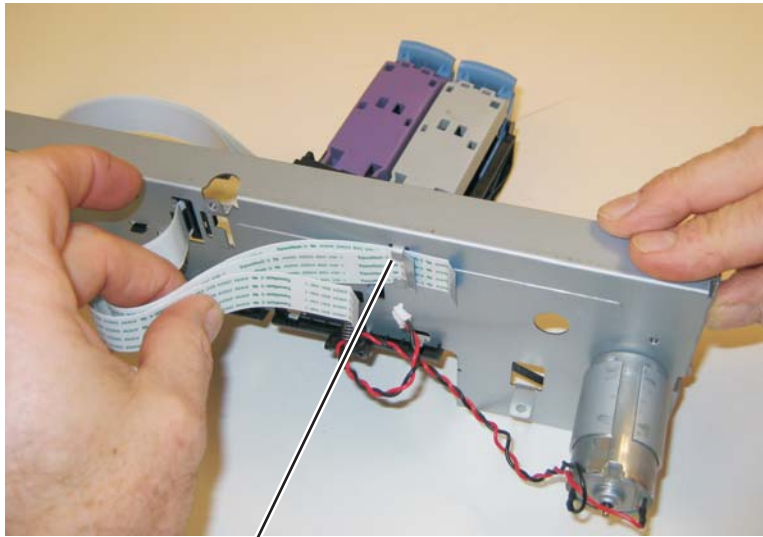


12. Press on the clip (G).



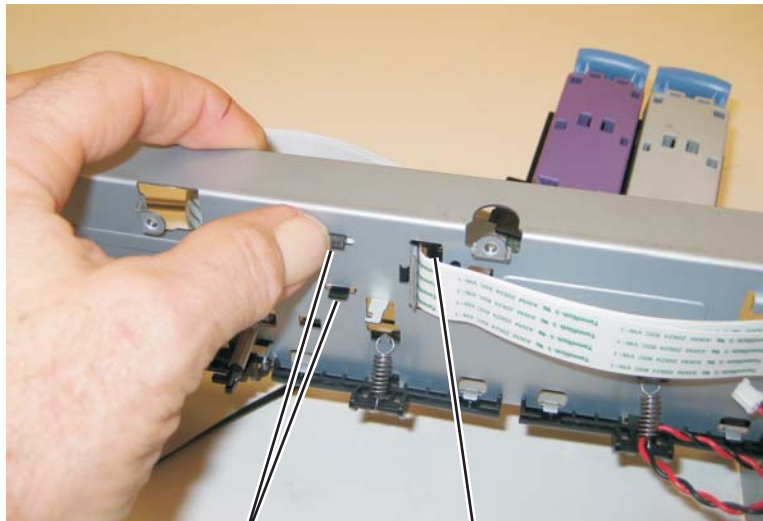


13. Remove the cables from the cable holder (H).



H

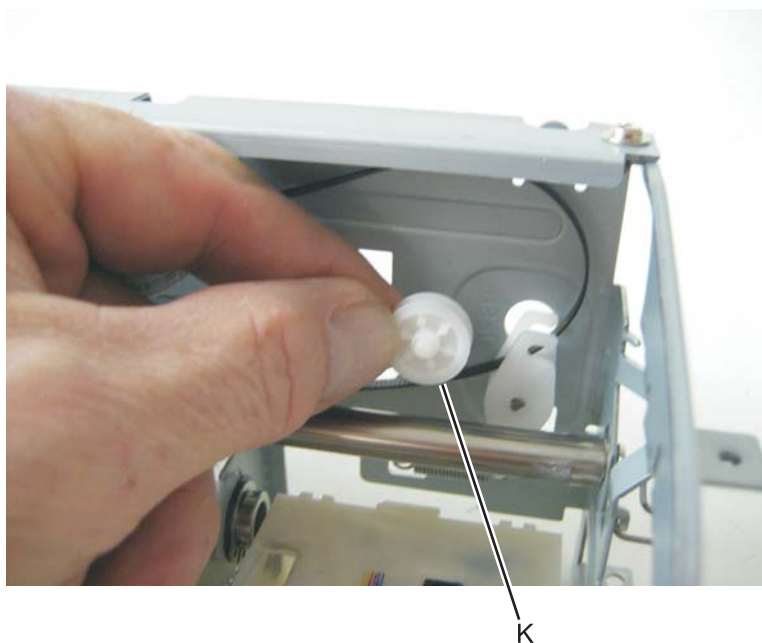
14. Press the clips (I), and remove the cables through the slot (J).



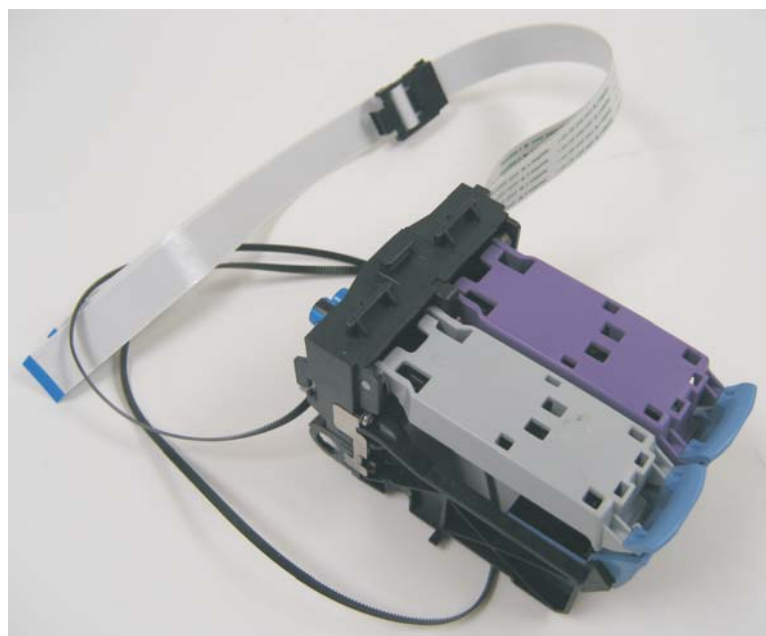
I

J

15. Remove the tensioner pulley (K).



16. Remove the carrier assembly with belt and cables.



**Note:**

- Be sure to pay attention to the routing of all cables and the encoder strip.
- If the maintenance station is damaged, then replace the print engine.

### ***Fax card removal***

**Note:** This device includes a lithium battery. Dispose of this battery in compliance with all local laws and regulations.

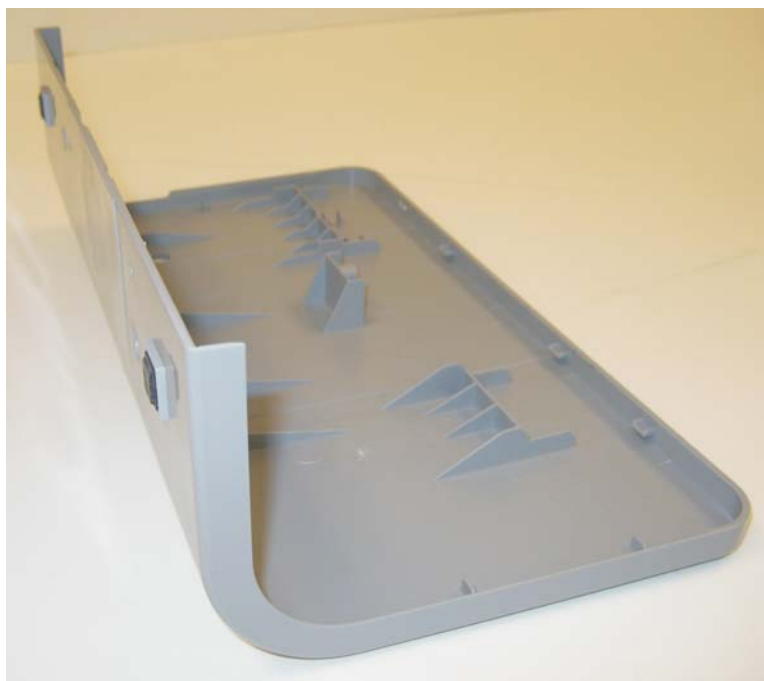
1. Remove the two screws (A) from the right side cover.



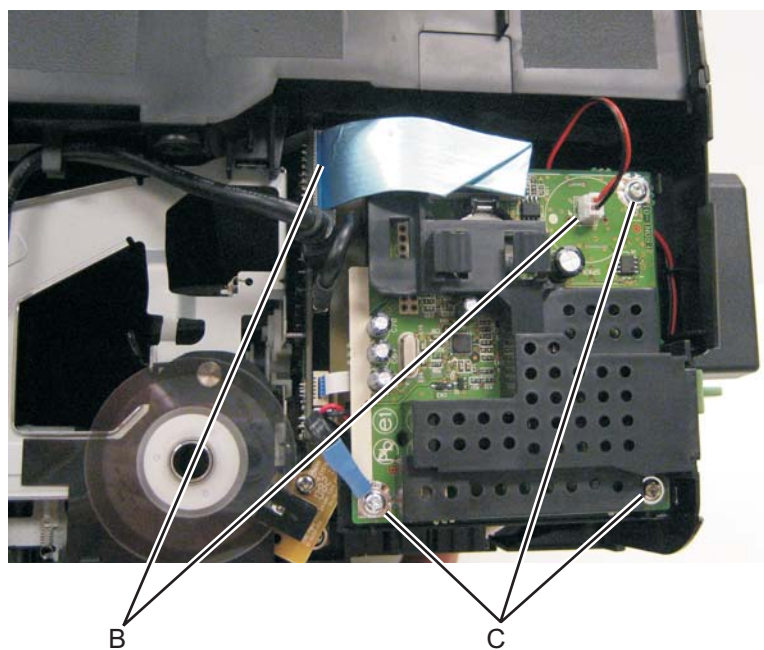
2. Disconnect the right side cover from the printer.



3. Remove the right side cover.

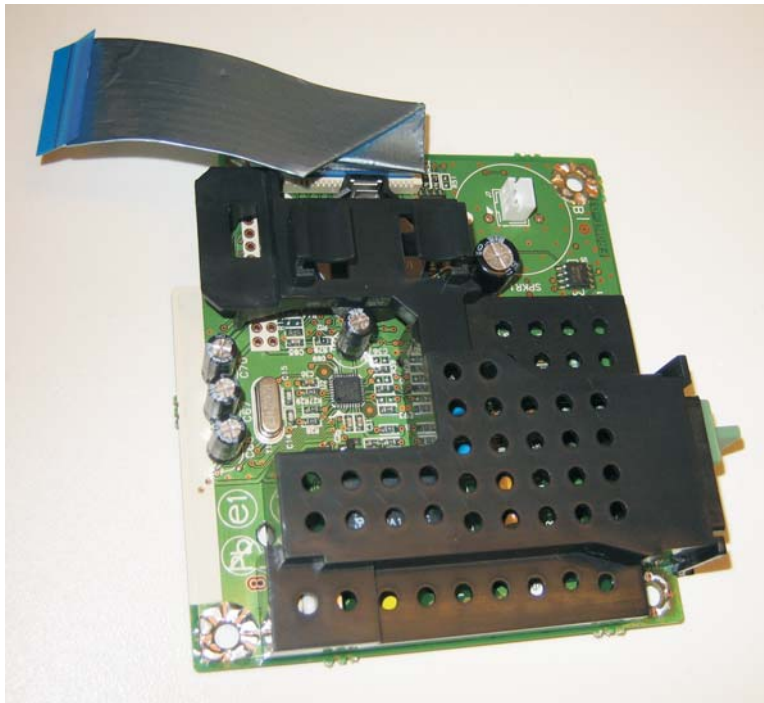


4. Disconnect the two cables (B), and remove the three screws (C).

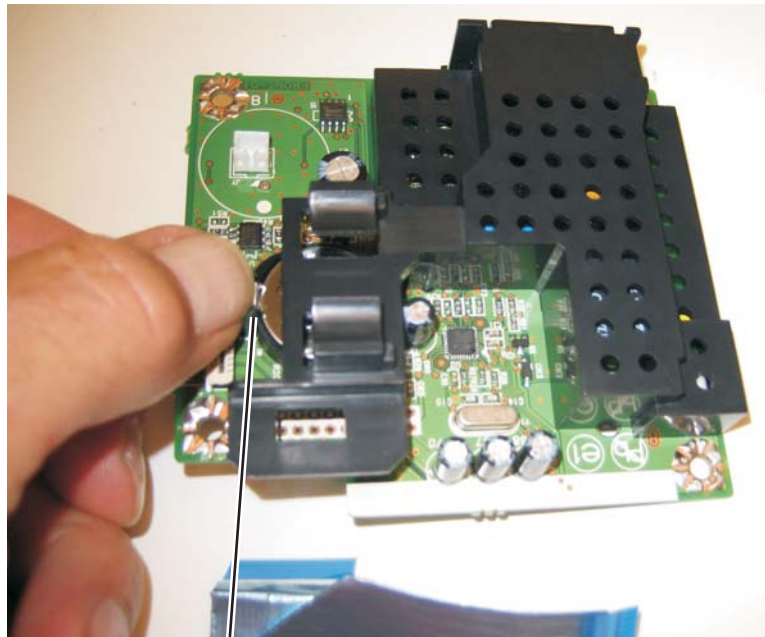


**Lexmark 5600 Series**

5. Remove the fax card.



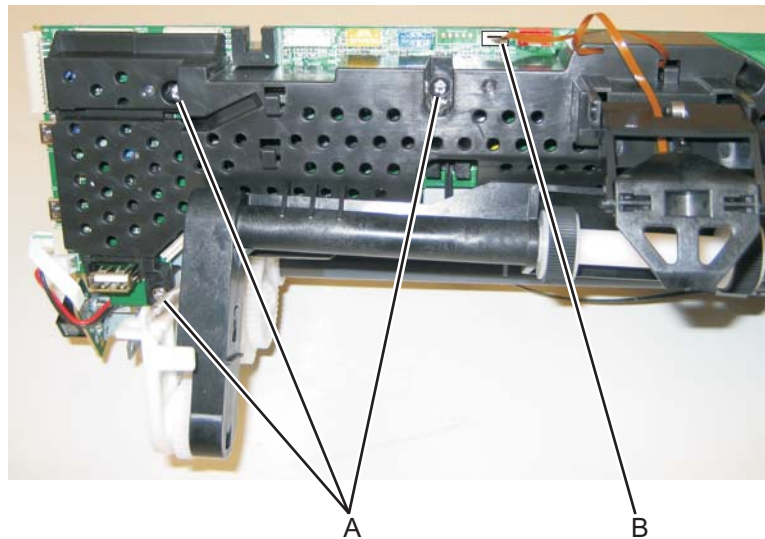
6. Press on the clip (D) to remove the battery.



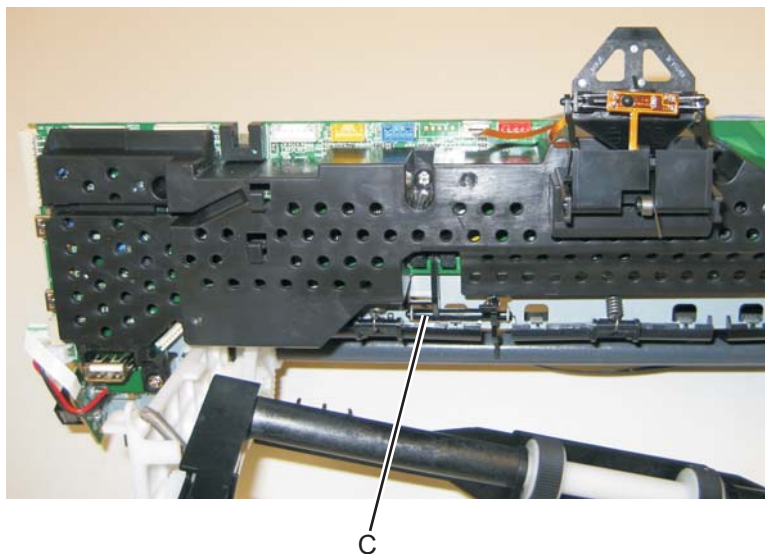
D

## System board removal

1. Remove the scanner assembly. See **“Scanner assembly removal”** on page 4-3.
2. Remove the midframe cover. See **“Midframe cover removal”** on page 4-8.
3. Remove the front cover. See **“Front cover removal”** on page 4-16.
4. Remove the print engine. See **“Print engine removal”** on page 4-19.
5. Remove the carrier assembly with belt and cables. See **“Carrier assembly with belt and cables removal”** on page 4-22.
6. Remove the fax card. See **“The printer base is what remains.”** on page 4-31.
7. Disconnect all cables from the system board.
8. Remove the three screws (A), and disconnect the cable (B) from the system board.

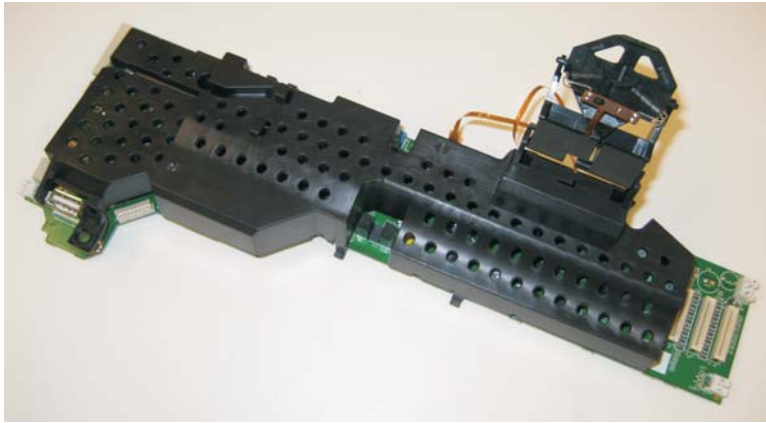


**Note:** When removing the system board, be careful not to damage the end-of-forms flag (C).

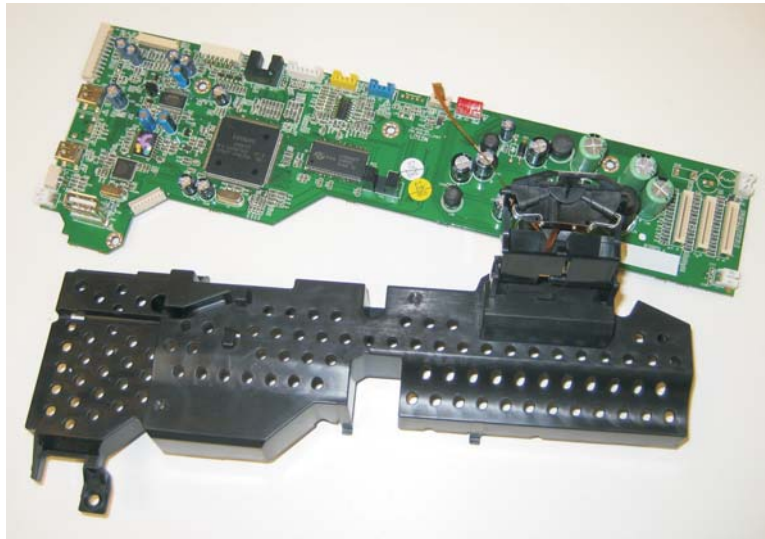


## Lexmark 5600 Series

9. Remove the system board.



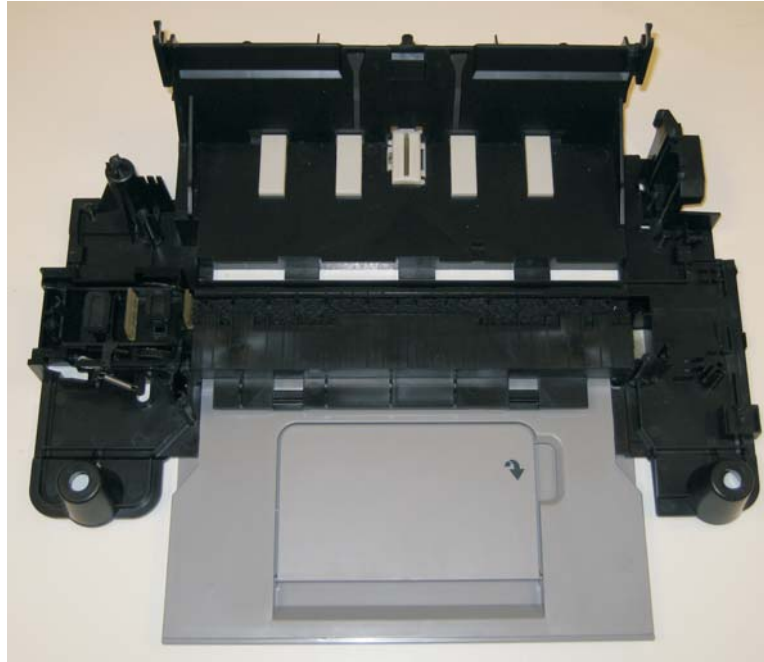
10. Lift and remove the system board shield.



### ***Printer base removal***

1. Remove the scanner assembly. See **“Scanner assembly removal” on page 4-3.**
2. Remove the midframe cover. See **“Midframe cover removal” on page 4-8.**
3. Remove the front cover. See **“Front cover removal” on page 4-16.**
4. Remove the print engine. See **“Print engine removal” on page 4-19.**
5. Remove the carrier assembly with belt and cables. See **“Carrier assembly with belt and cables removal” on page 4-22.**
6. Remove the system board. See **“System board removal” on page 4-29.**

The printer base is what remains.



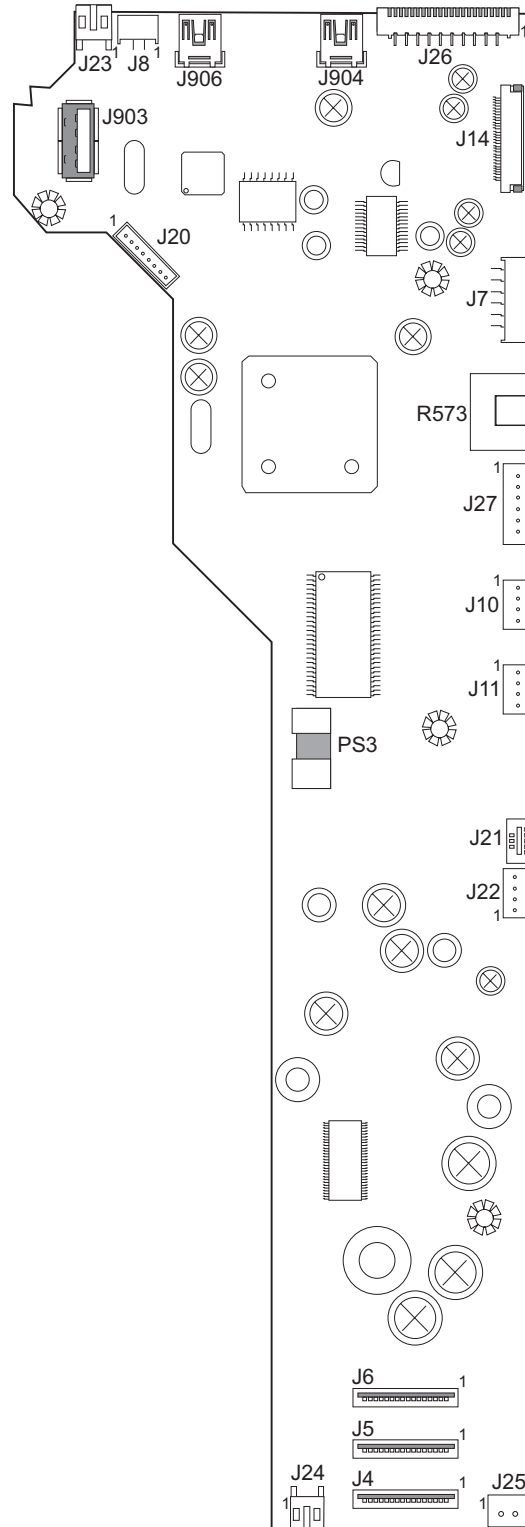




## 5. Locations and connectors

### Locations

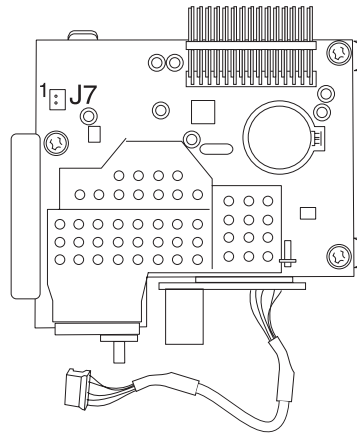
#### System board



**Lexmark 5600 Series**

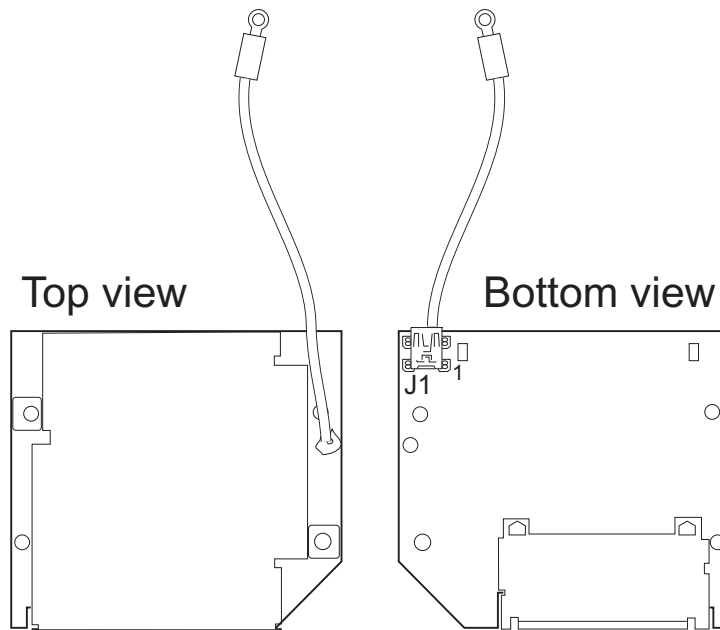
Connector or location	Description	Pin #	Approximate voltage
J4	Carrier		
J5	Carrier		
J6	Carrier		
J7	CIS lamp		
J8	Encoder dial		
J14	Control panell		
J20	Not used		
J21	Media sensor		
J22	ADF motor/EOF sensor		
J23	Paperfeed motor	1 & 2	30 V
J24	Transport carrier motor	1 & 2	30 V
J25	Power supply	1	30 V
J26	Fax card		
J27	Scanner motor	1 & 2	30 V
		4, 5 & 6	3 V
J903	USB		
J904	Cardreader/PictBridge		
PS3	EOF		
R573	Cartridge access sensor		

**Fax card**



Connector	Description	Pin number	Value
J7	Speaker	2	

**Cardreader/PictBridge**



Connector	Description	Pin number	Value
J1	N/A		



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## 6. Preventive maintenance

This chapter describes procedures for printer preventive maintenance. Follow these recommendations to help prevent problems and maintain optimum performance.

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### Lubrication specifications

Lubricate only when parts are replaced or as needed, not on a scheduled basis. Use grease to lubricate the following:

- All gear mounting studs
- The left and right ends of the large feed roller at the side frames
- The carrier to carrier frame engagement
- The carrier guide rod, and carrier guide rod bearings

**Warning:** Keep grease from coming into contact with any electrical components, as this may cause printer damage or failure. Do not lubricate the scanner rod or bearing after replacing.



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