RICOH

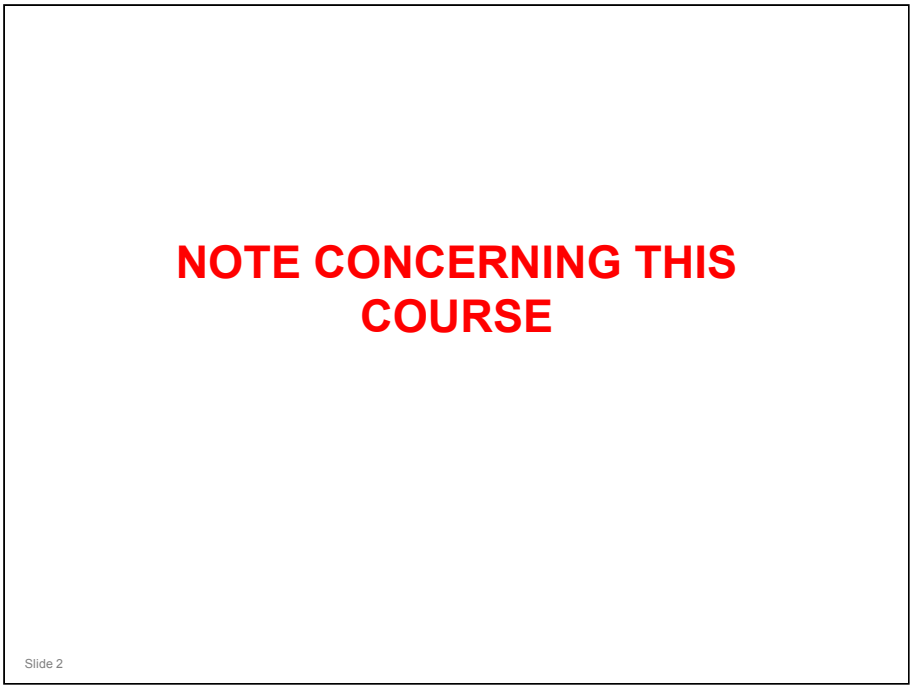
D023 SERIES TRAINING

Version 1.1

Slide 1

- This course assumes that you know the AT-C1 (B230 series) colour copiers. If you do not know this machine, you should either:
  - Take a full course on the AT-C1 before you do this course
  - Do a full course on the AT-C2.

Date of change	Version History	Description
29-08-2008	1.1	Slide 21 modified (Paper Feed Options; information added about the caster table) Slide 22 added (information added about the paper feed rollers) Slide 41 modified - Pictbridge can be used with the optional SD/USB slot Slide 42 new slide inserted (optional USB/SD slot) Slide 130 inserted (Black Spots on the Image)



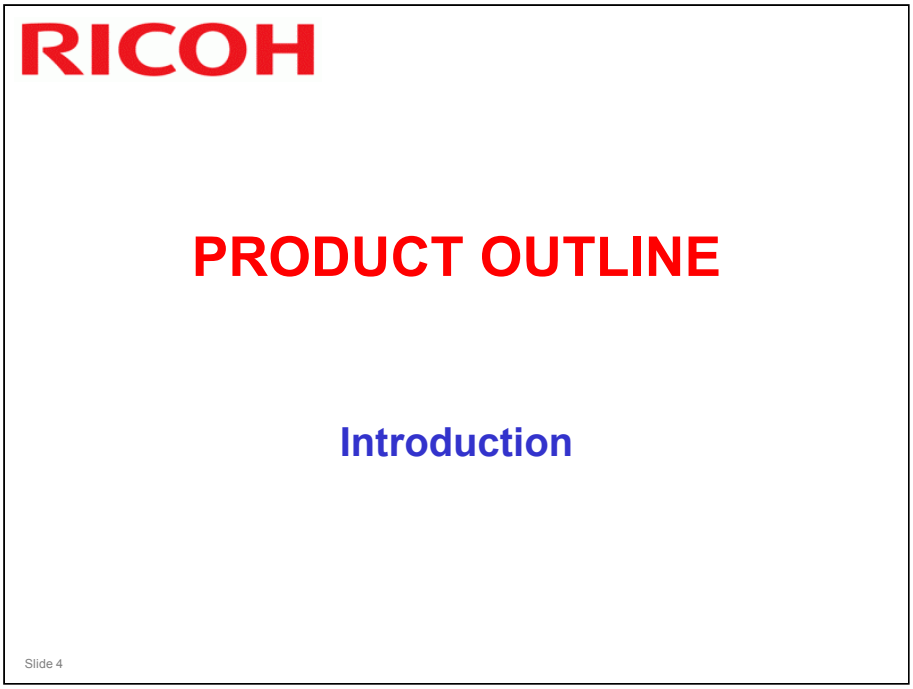
No additional notes

This Machine Contains Some Mechanisms from the AP-C1

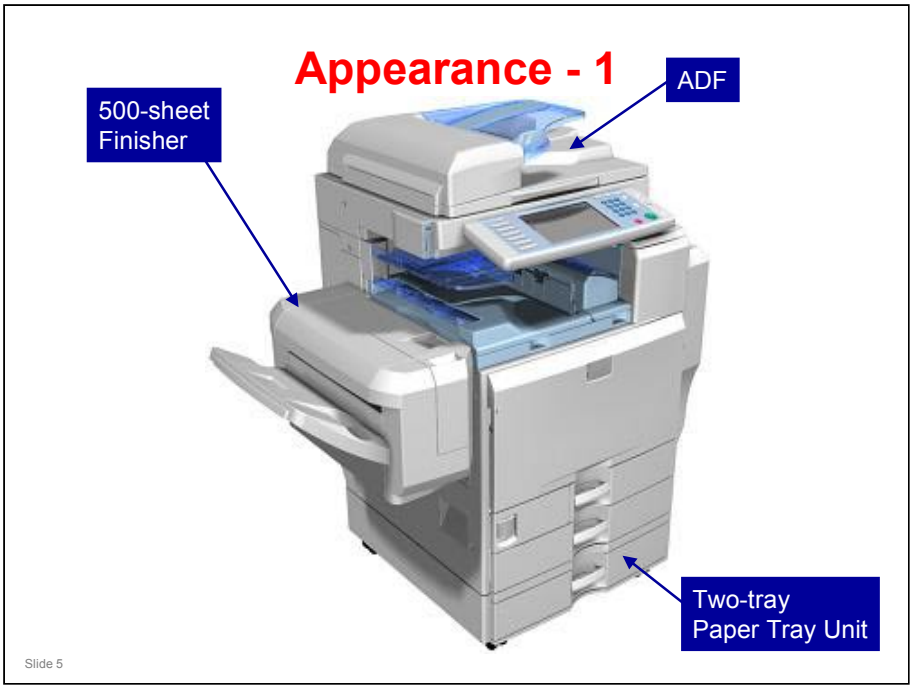
- **Some parts of the engine are based on the AP-C1 (Apollon-C1, B222 series), and not the AT-C1.**
- **If you know the AP-C1 engine, you will already be familiar with some of this material.**
  - Some additional mechanisms are also used in the AP-C2, and were not used in the AP-C1.
- **At the top of the notes page for each slide, look for this sentence:**
  - Copied from the AP-C1 instructors guide
- **If you see the above sentence, then you do not need to study this page if you know the AP-C1.**

Slide 3

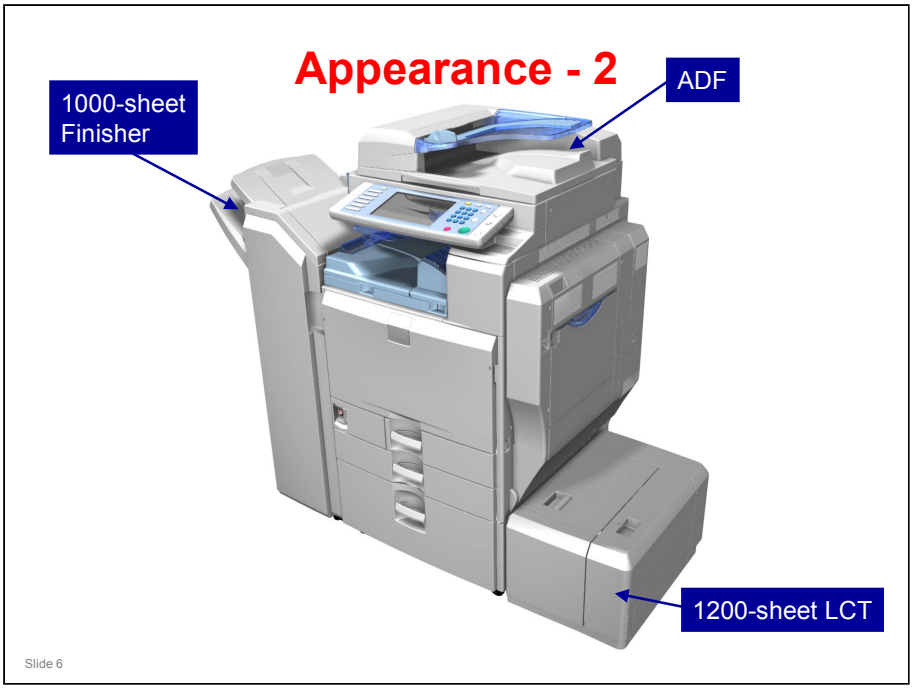
No additional notes



No additional notes



- Here is a view of the machine with three optional peripherals installed.
- There are other options, as we will see later.



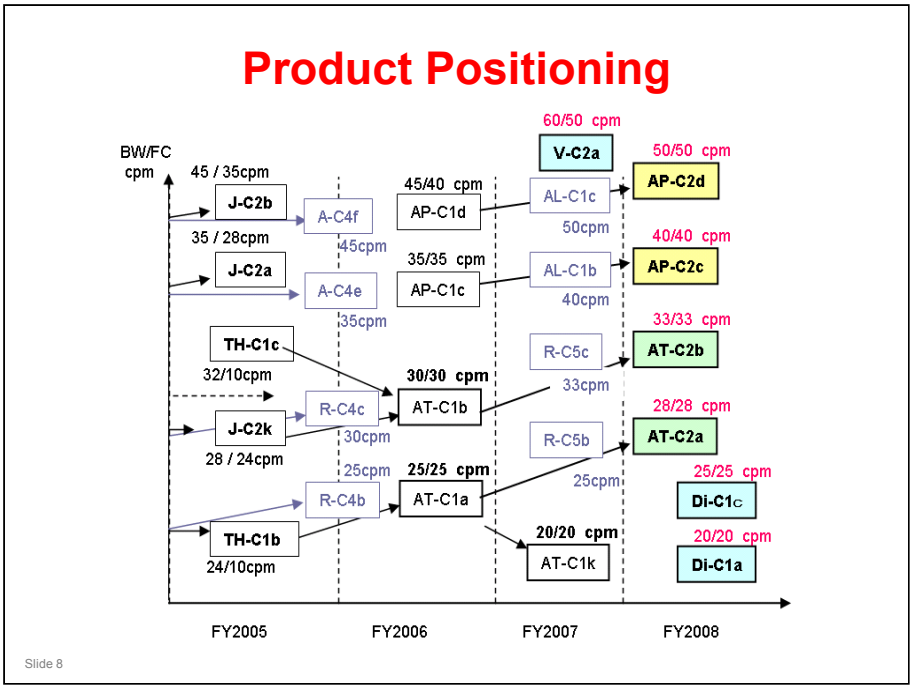
❒ Here is a view of the machine with two other optional peripherals installed.

How many models?

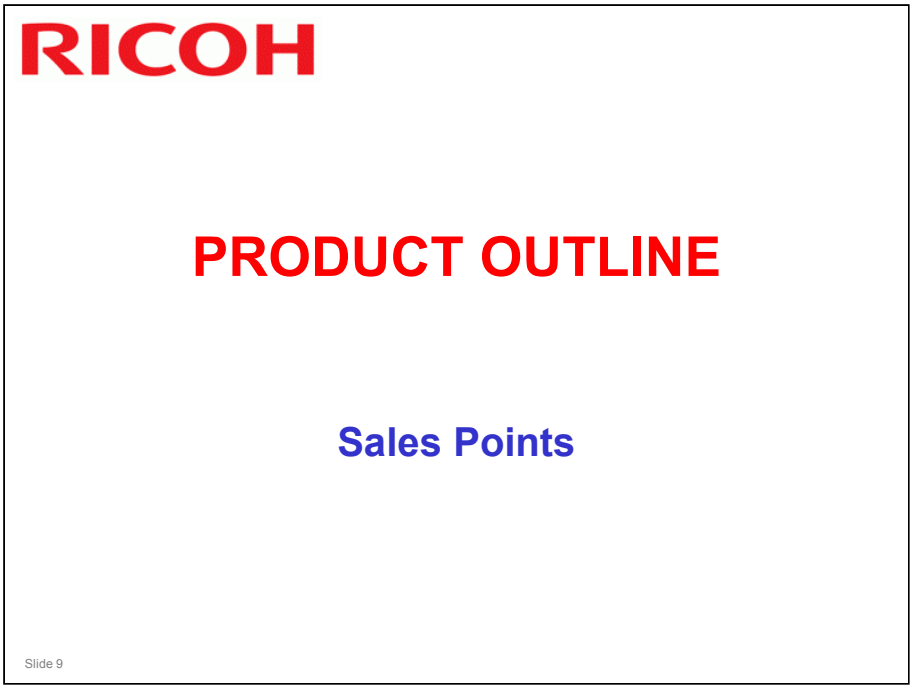
- **Two models:**
  - AT-C2a (D023): 28 cpm
  - AT-C2b (D025): 33 cpm
- **The speed is the only difference between the two models.**
- **Both models contain a printer/scanner kit as standard equipment.**

Slide 7

No additional notes



- This chart shows which machines the Athena-C2a/b could be used as alternatives or as replacements for.
- Some black-and-white copiers are shown for comparison (shaded in pale gray).



No additional notes

Sales Points - 1

- **High Performance (close to black-and-white copiers)**
  - Shorter Warm Up time than AT-C1
    - » AT-C1: 45 s
    - » AT-C2: 29 s (NA), 27 s (EU)
  - Shorter First Copy Output Time
    - » **AT-C1**
      - – FC: 9.7 seconds or less (A4/LT LEF)
      - – BW: 6.7 seconds or less (A4/LT LEF)
    - » **AT-C2**
      - – FC: 8.0 seconds or less (A4/LT LEF)
      - – BW: 5.0 seconds or less (A4/LT LEF)
- **High Productivity**
  - High speed color output (AT-C2a: 28cpm, AT-C2b: 33cpm)
  - Larger paper capacity: Max 4,400 sheets
  - Up to 256g/m^2 paper feed from front tray

Slide 10

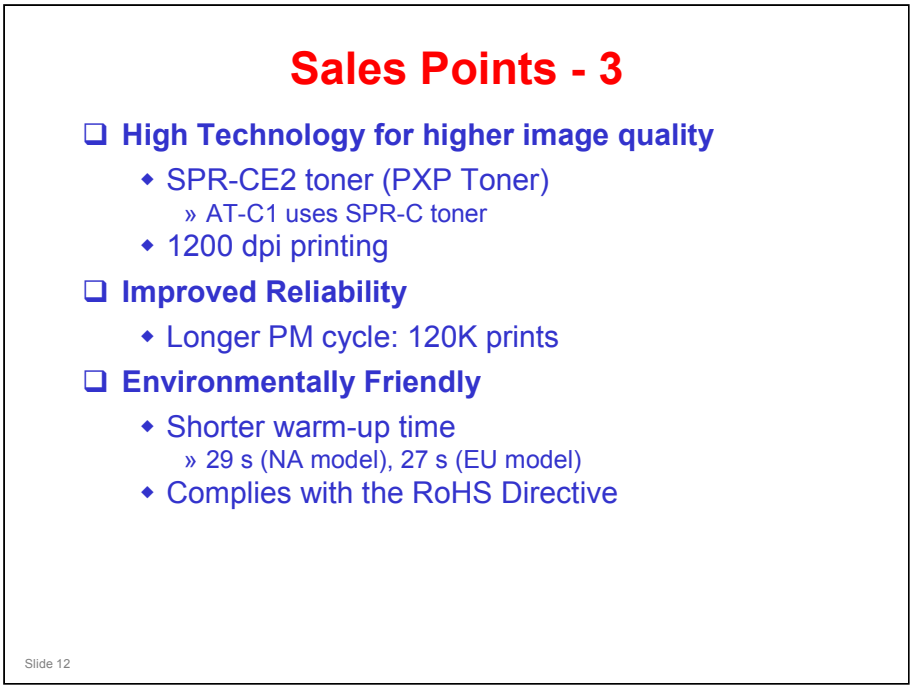
- Warm-up time for AT-C2: The NA version has slightly more powerful fusing lamps, so the warm-up time is a bit shorter.
- For more comparisons with the AT-C1, see the 'Productivity Comparison with AT-C1' slides later in this presentation.

Sales Points - 2

- **Outstanding Usability/Accessibility (For Section 508)**
  - Operation panel with full color LCD
  - Easy paper jam clearance
  - Animated user guidance on LCD
  - Easy handling paper tray
  - Simplified display
  - Easy to use for people in wheel chairs
- **Latest Document Solutions features**
  - Scan to USB/SD
  - High Compression PDF
  - Thumbnail/Preview viewing
  - Preview before transmission
  - Preview when receiving fax

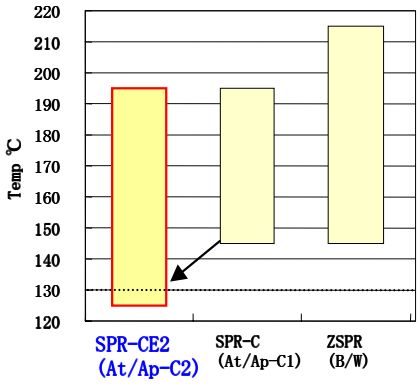
Slide 11

No additional notes



- The diameter of the toner particles has been reduced.
- The chemical composition of the toner is also different, and this has helped to reduce the warm-up time.
  - See the next slide.
- Print speed is halved when 1200 x 1200 dpi is selected.

Lower Toner Melting Point

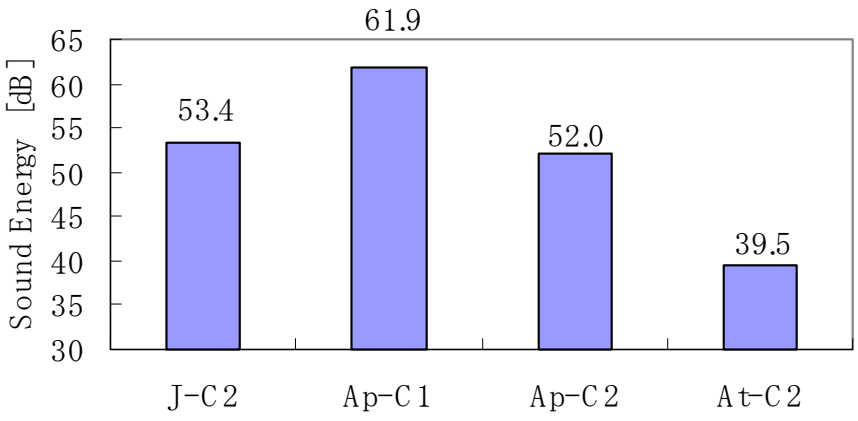


- The new type of toner melts at a lower temperature.
- This reduces the warm-up time and saves energy.

Slide 13

Noise Reduction
During Sleep Mode

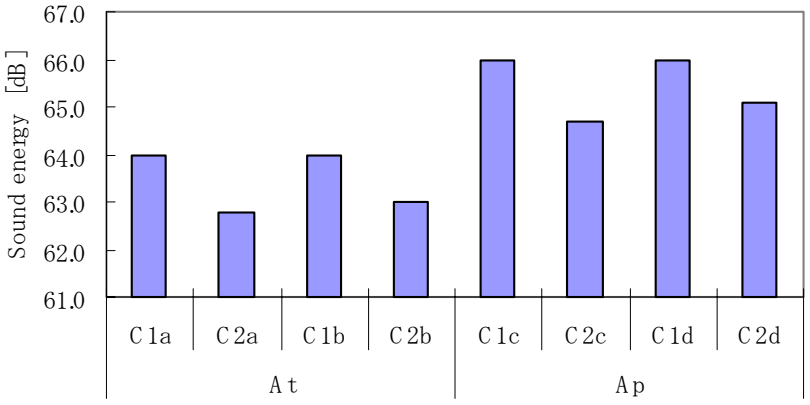
- The fans in the At/Ap-C1 are more noisy than in the J-C2.
- The At/Ap-C2 use quieter fans and the air flow is optimized.



Slide 14

Noise Reduction
During Machine Operation

- In the At/Ap-C1, paper feed is noisy.
- The paper feed path of the At/Ap-C2 is optimized, and paper feed is quieter as well as faster.



Slide 15

ADF Handle Type A

- This handle makes it easy to lift up the ARDF for the elderly, and for people in wheel chairs.
- This option is also used in the AI-C1 and R-C5 black-and-white copiers.

Slide 16

❒ This is a new feature for the At-Cx series.

No additional notes

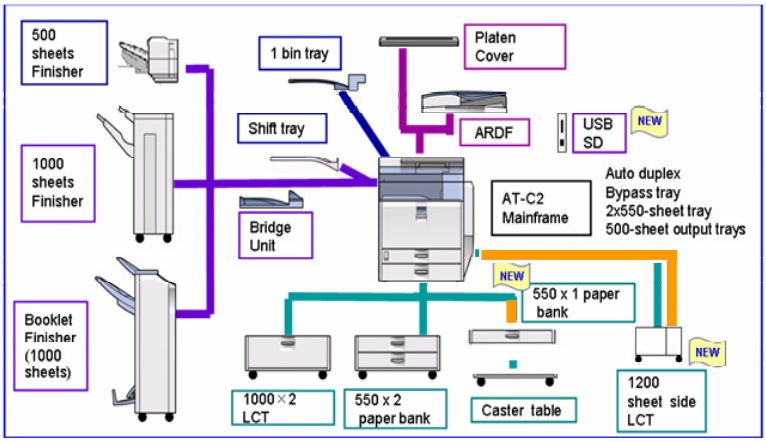
Mainframe, with No Options

- **The machine has this equipment built in.**
  - Duplex
  - Bypass tray
  - 2x550-sheet trays
  - 500-sheet output tray
  - 8.5-inch W-VGA touch panel
  - Printer/Scanner, with USB and Ethernet
  - 1024MB Memory
  - 80GB HDD
  - PCL5c/6, RPCS
  - 10/100 BaseTX
  - USB Host Interface

Slide 18

- This slide shows what you get with the base machine.
- Note that the printer/scanner is standard equipment for this model.
- USB Host interface was not a standard part of the AT-C1.
- The hard disk size has increased from 40 to 80 GB.

Paper Handling Options



Slide 19

- In the drawing, 'NEW' means that the option is new for this series. It is not a new option.
  - The only totally new device is the USB/SD card slot.
- You can install the following:
  - The platen cover or the ARDF
  - Shift tray or one of the three finishers (a finisher requires the bridge unit)

    The 1000-sheet and booklet finishers also require the 2000-sheet LCT or two-tray paper tray unit.
  - One-bin tray
  - The one-tray or two-tray paper feed unit (also called a 'paper bank') or the 2000-sheet LCT

    The one-tray paper feed unit also requires the caster option.

    If the one-tray unit is installed, the 1000-sheet finisher or booklet finisher cannot be installed.
  - 1200-sheet LCT at the side

    If this is installed, you can install the 2000-sheet LCT and two-tray paper feed unit, but not the one-tray paper feed unit.
- The punch unit can only be installed in the booklet finisher. The other two finishers do not have punch units.

Original Feed Options

- **Platen Cover Type 3800C: Also used with J-C2, AT/AP-C1, AP-C2**
- **ARDF DF3030: Also used with R-C5**
  - Similar to the AT-C1
- **ADF handle type A: Also used with R-C5, AL-C1, AP-C2**

Slide 20

No additional notes

Paper Feed Options (1)

- **1-tray Paper Tray Unit PB3080: New item**
  - Similar to the AP-P1
- **Caster table, for use with PB3080: New item**
  - Must be installed when the PB3080 is installed.
  - If no optional paper feed unit is installed, you can also install the caster unit as an option.

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No additional notes

Paper Feed Options (2)

- **2-tray Paper Tray Unit PB3040: New unit, also used with AP-C2**
  - Similar to the AT-C1, AL-C1
- **LCT (2,000 sheets) PB3050: New unit, also used with AP-C2**
  - Similar to the AT-C1, AL-C1
- **LCT (1,200 sheets) RT3000: New unit, also used with AP-C2**
  - Similar to the AL-C1
- **Note**
  - For the above three units, the only difference from the Al-C1 is the paper feed roller, which is modified to prevent black spots on the image.
  - The model name is the same but the EDP code is different. Make sure that you install the model for the AT-C2, and not the one for the Al-C1.

Slide 22

No additional notes

Finishing Options

- **1-Bin Tray BN 3070: New item**
  - Similar to the AP-C1, AL-C1
- **Shift Tray SH3040: New item**
  - Similar to the AT-C1
- **Punch for Booklet Finisher PU3000: Also used with AT-C1, R-C5**
- **Booklet Finisher (1,000 sheets) SR3000: Also used with AT-C1, R-C5**
- **1,000-sheet Finisher SR790: Also used with AL-C1, AT-C1, AT-C2, AP-C1 (and a lot of other models)**
- **500-sheet Finisher SR3010: Also used with R-C5**
- **Bridge Unit BU3030: Also used with AL-C1, AP-C2**
  - Similar to the AT-C1

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No additional notes

Notes for Finishing Options

- **The shift tray and a finisher cannot be installed in the same machine.**
  - To install a finisher, the bridge unit must be installed, and this goes in the same place as a shift tray.
- **If the 1000-sheet or booklet finisher is installed, you must also install the 2000-sheet LCT or paper feed unit.**
  - If not, the paper exit from the copier will not be at the correct height to go into the finisher.
- **If the 1200-sheet LCT is installed, you must also install the 2000-sheet LCT or two-tray paper feed unit.**
  - The 1200-sheet LCT feeds paper through the 2000-sheet LCT or two-tray paper feed unit. If one of these two units is not installed, there is no way through from the 1200-sheet LCT to the machine.

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No additional notes

Fax Options

- **Fax Option: New Item**
  - The same unit is used with the Ap-C2.
- **Optional G3 unit: New Item**
- **SAF memory (32MB): Also used with AT-C1 and AP-C1**
- **Handset: Also used with AT-C1 and AP-C1**
- **Fax Stamp Ink: Also used with AL-C1, AT-C1 and AP-C1**

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No additional notes

Printer/Scanner Options (1)

- **Printer/scanner is a standard part of the machine, not an option.**
  - USB and Ethernet are built in.
- **Wireless LAN**
  - IEEE 802.11a/g: Also used with V-C2/AL-C1/R-C5/AP-C2
  - IEEE 802.11g: Also used with V-C2/AL-C1/R-C5/AP-C2
- **Gigabit Ethernet: Also used with V-C2/AP-C2**
- **IEEE 1284: Same as AT-C1**
- **Bluetooth: Same as AT-C1**
- **IEEE 1394: Not used in this model**

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- IEEE 802.11g: For Taiwan, China, Bulgaria, Croatia, Romania, and Jordan
- Out of the following units, only one can be installed: IEEE802.11, IEEE1284, Bluetooth

Printer/Scanner Options (2)

- **PostScript3 option: New Item**
  - Required to use the PDF Direct Print Function
- **PictBridge: New (enables direct printing from a digital camera)**
- **File format converter: Same as R-C5/AI-C1/V-C2/AP-C2**

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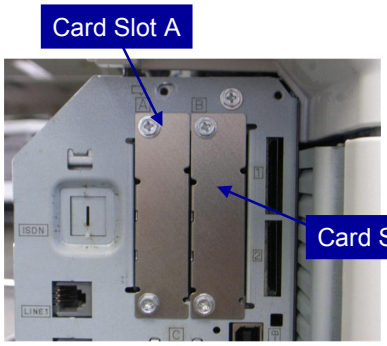
- No video link board
- USB host is a standard part of the machine.

Printer/Scanner Options (3)



- **Board Slots**
  - Slot A: IEEE1284, IEEE802.11, or Bluetooth
  - Slot B: File Format Converter

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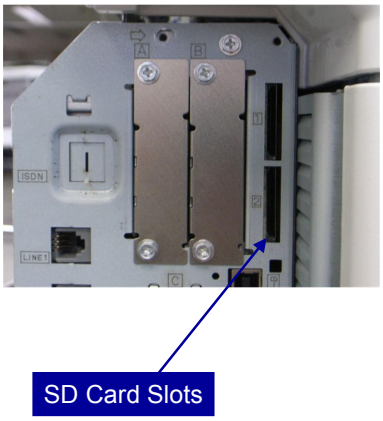
❒ Only one of the printer interface options can be installed in this model.

Printer/Scanner Options (4)



- **SD Card Slots**
  - Slot 1 (upper): PostScript 3, Data Overwrite Security Unit, PictBridge
    - » If more than one option is required, combine onto one card
    - » If the PostScript option is installed, copy other options to the PostScript card
  - Slot 2 (lower): VM Kit, Service (installing the Browser Unit, installing the HDD Encryption Unit, updating the firmware).
    - » The VM card stays in slot 2. The Browser Unit and HDD Encryption Unit cards are removed after installation.
    - » Do not copy the VM card application to another card.

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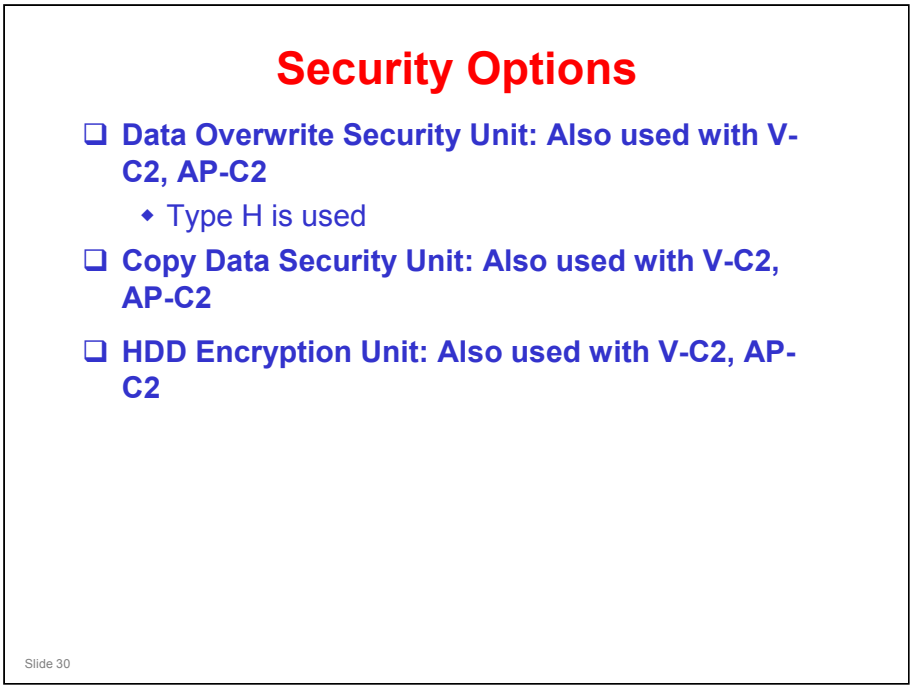
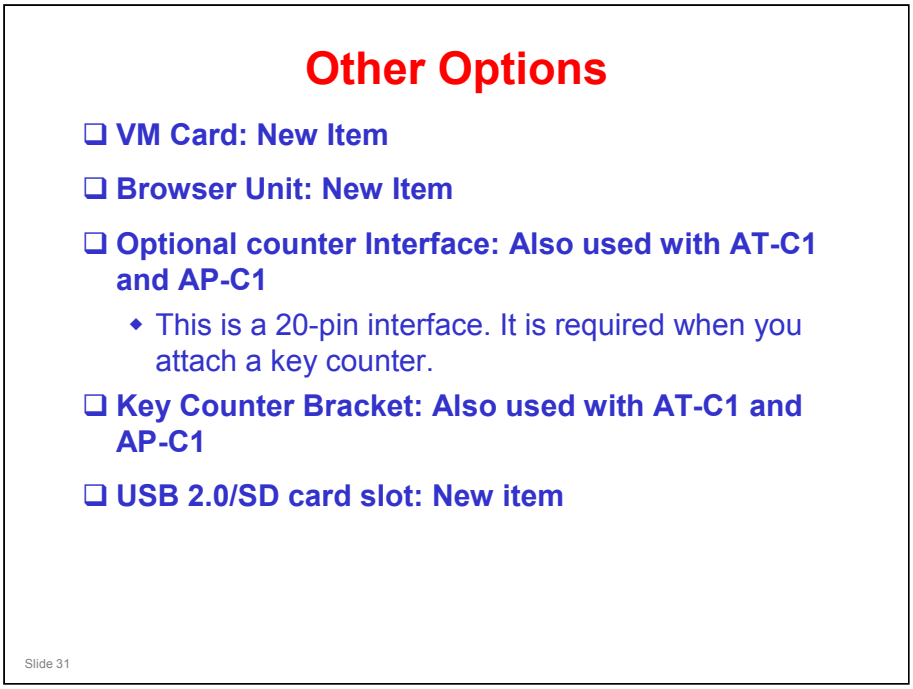
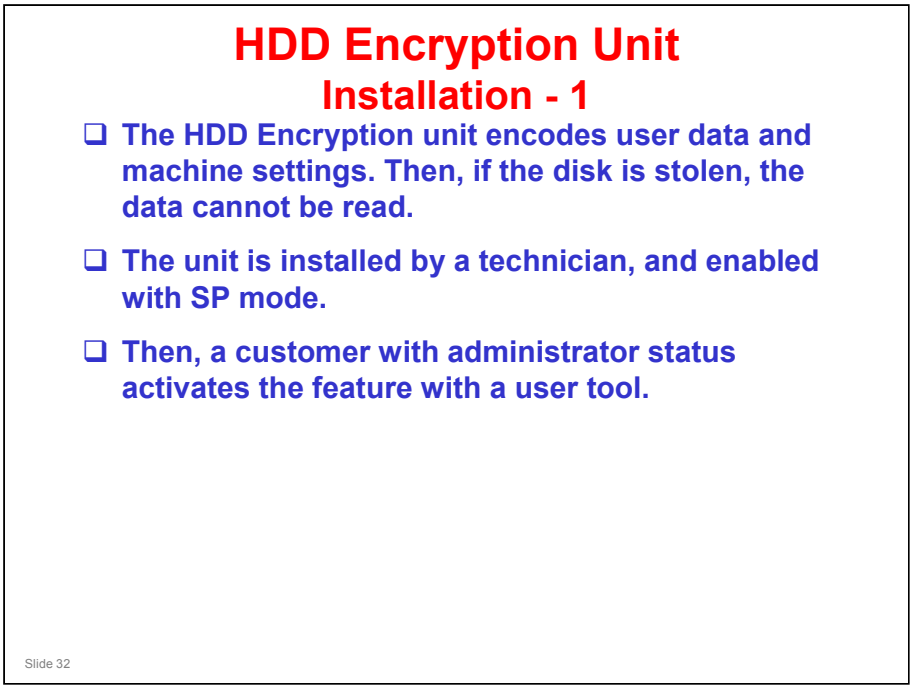
❒ The VM card and the PostScript card are protected by copyright.



No additional notes



No additional notes



- Details of procedures for customers are in the Security Reference Operation Manual, in the following section.
  - 3. Ensuring Information Security, Encrypting Data on the Hard Disk

HDD Encryption Unit
Installation - 2

- **The machine then creates an encryption key automatically. It stores this encryption key in three locations.**
  - A memory chip on the controller board (this is where the original of the encryption key is held)
  - The NVRAM on the controller board (this is a copy)
  - The hard disk, if installed (this is also a copy)
- **If the encryption key in these three locations is not the same, the encryption unit will not work.**
- **The user also prints out this encryption key, in accordance with the procedures in the operation manual.**
  - The user keeps this printout in a safe place, and does not show it to the technician.
  - This encryption key will be needed if the controller board is replaced.

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- The memory chip on the controller board is sometimes called the “USB Flash memory”.

HDD Encryption Unit
Installation - 3

- **If there is data already on the hard disk at the time that the HDD encryption unit is being installed, what happens to this data?**
- **It depends on the setting that is chosen by the user after installation, when the user enables the HDD encryption unit.**
- **There are three settings:**
  - File System Data Only: User authentication data, stored document data, and temporary data on the hard disk are all deleted. Machine settings, user tool settings, network settings, security log data and address book data already on the disk are encrypted
  - Format All Data: All data is deleted except for machine settings and network settings, and these are encrypted.
  - All Data: All existing data on the disk is encrypted. Nothing is deleted
- **After enabling the HDD encryption unit, all data is encrypted.**

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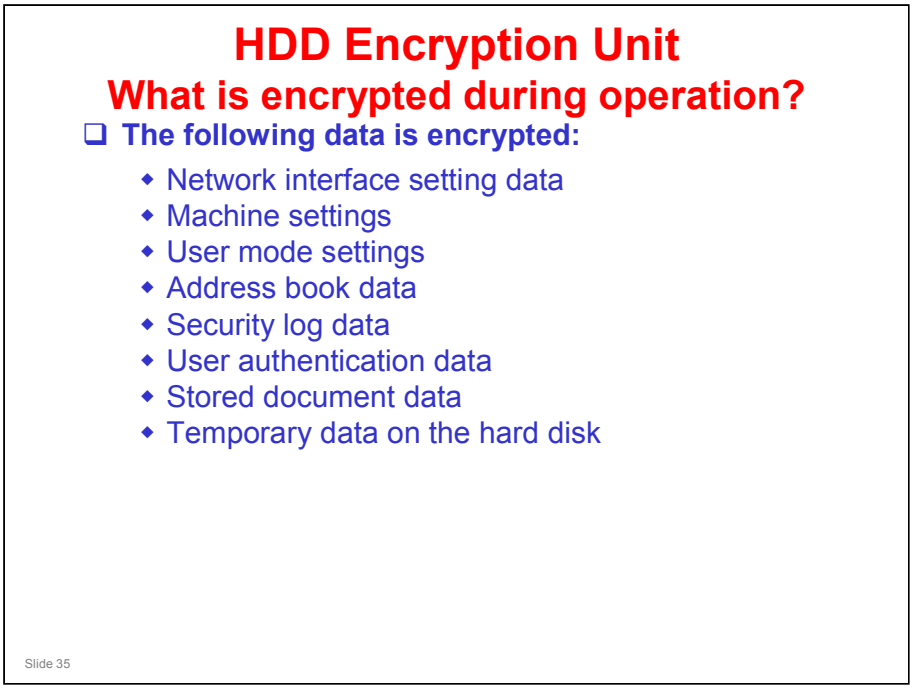
No additional notes



No additional notes

HDD Encryption Unit

After Replacing the Controller - 1

- **After the controller is replaced, one of the following must be done:**
  - The existing encryption key must be restored to the memory chip on the new controller board: This is done by the technician, with help from the customer
  - A new encryption key must be stored: This is done by the customer
- **The encryption key cannot be copied back from the two copies (NVRAM, HDD).**

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No additional notes

HDD Encryption Unit
After Replacing the Controller - 2

- **Restoring the existing encryption key:**
  - You must first store this encryption key in a text file on a blank SD card.
  - The customer must input the encryption key that was printed after installation.
- **How to store the encryption key on the SD card, and restore it to the new controller board: Service manual, Installation, HDD Encryption Unit, Recovery from a Device Problem**
- **If the user has forgotten the encryption key, the NVRAM must be cleared in addition to this: Service manual, same location as above**

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Service manual, Installation, HDD Encryption Unit, Recovery from a Device Problem

- The service manual contains two procedures for restoring the encryption key.
  - The first one assumes that the original encryption key has not been lost.
  - The second one is for use when the user has forgotten the encryption key and lost the printout that was made by the machine.
- The operation manual does not refer to these procedures. Instead, the user is instructed to 'update the encryption key', which actually means 'make a new one'.

HDD Encryption Unit
After Replacing the Controller - 3

- **Storing a new encryption key:**
  - This procedure is in the operating instructions.
    - » Security Reference, 3. Ensuring Information Security, Encrypting Data on the Hard Disk, Updating the Encryption Key

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No additional notes

HDD Encryption Unit
After Replacing the HDD or NVRAM

- **If the HDD (hard disk drive) must be replaced, a new encryption key must be stored.**
  - This procedure is for the user to do. It is not in the service manual. We studies this on the previous slide.
  - It is theoretically possible to copy the existing encryption key from the controller board, but there is no information about how to do this.
- **If the NVRAM is defective, then the HDD encryption unit cannot be recovered, even if the controller is OK.**
  - The user must obtain a new HDD encryption unit.

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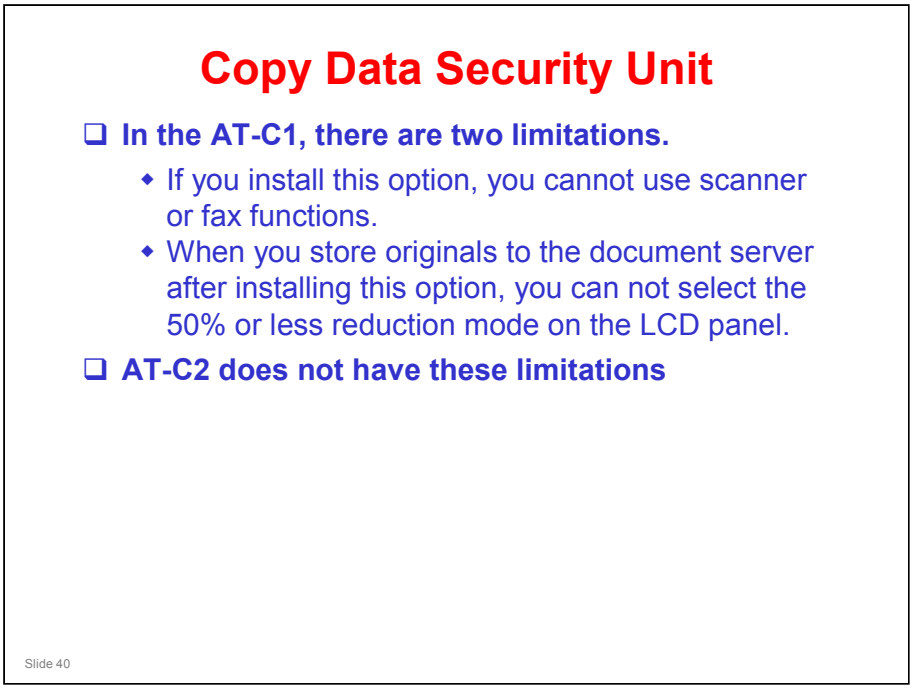
- The operation manual explains how to make a new encryption key, as explained on the previous slide.



No additional notes

Optional USB 2.0/SD card slot

- This optional unit allows use of the new Scan to USB and Scan to SD features.
- This allows users to scan documents and save them in electronic format on an SD card and/or USB memory device.
  - If the USB device or SD card is then connected to a computer, the scanned files can then be viewed, printed, or processed.
- You cannot print or send files from this SD/USB slot with the operation panel. You must connect the USB device/SD card to a computer.
- This USB slot cannot be used as a printer interface, except for PictBridge.

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- Files saved on a removable memory device will not appear in the list of stored files.
- Files saved on a removable memory device cannot be printed or sent using the machine's operation panel.To perform operations on files saved on a removable memory device, you must use an application on a client computer.
- Files saved on a removable memory device will not appear in the list of stored files.
- Files saved on a removable memory device cannot be printed or sent using the machine's operation panel.To perform operations on files saved on a removable memory device, you must use an application on a client computer.
- You cannot specify where the data is saved. Files are saved in the root directory of the removable memory device.
- Up to 2 GB of data can be saved. However,depending on the number of files already stored on the removable memory device, new files might not be saved,even if there appears to be sufficient free space.
- If the removable memory device is partitioned,files are saved on the first partition.

Optional USB 2.0/SD card slot

- **Up to 2 GB of data can be saved.**
  - However, depending on the number of files already stored on the removable memory device, new files might not be saved, even if there appears to be sufficient free space.
- **This machine supports FAT16 format USB memory devices and SD cards. Other forms of removable memory device are not compatible.**
- **Saving might fail if the USB memory device has password protection or other security features.**
- **To save files on a removable memory device, you must attach the optional USB 2.0/SD card slot to the machine.**
- **File formats that can be used:**
  - Single page TIFF/JPEG/PDF (including high compression PDF)
  - Multipage TIFF/PDF (including high compression PDF)

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No additional notes

No additional notes

Card Save (1)

- **This new feature allows you to send print data files to an SD card in the service slot (slot 2 in this machine).**
  - The data is not printed.
- **Card Save mode must be turned on with printer bit switch 1, bit 4.**
  - Card Save will remain enabled until the SD card becomes full, or until all file names have been used.
- **Files are stored on the SD card in the folder /prt/cardsave.**
  - File names are assigned sequentially from PRT00000.prn to PRT99999.prn.
  - An additional file PRT.CTL will be created. This file contains a list of all files created on the card by the card save function.
- **Card Save cannot be used with PJL Status Readback commands.**

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No additional notes

Card Save (2)

- **Previously stored files on the SD card can be overwritten or left intact.**
- **After you enable this function with the printer bit switch, the following two user tools are added to the List/Test Print tab of the Printer Features user tools menu.**
  - Card Save (Add):
    - » Appends files to the SD Card.
    - » Does not overwrite existing files.
    - » If the card becomes full or if all file names are used, an error will be displayed on the operation panel. Subsequent jobs will not be stored.
  - Card Save (New)
    - » Overwrite files in the card's /prt/cardsave directory.

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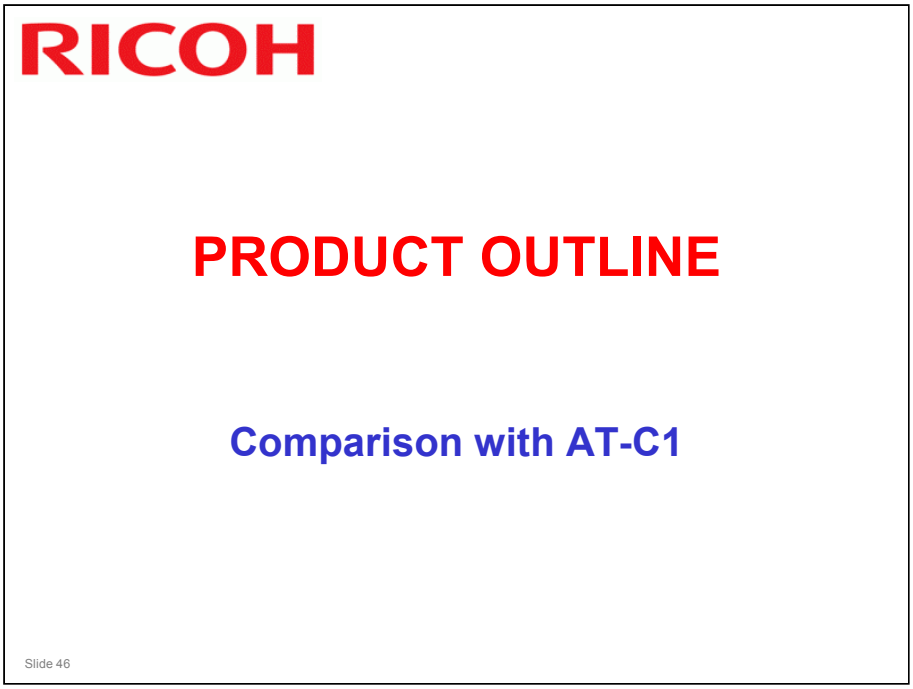
- Study the procedure in the service manual.

Service Manual - System Maintenance Reference - Card Save Function

- Note that there is no message on the screen to indicate that a file was copied to the SD card successfully. But there are some error messages that appear if things go wrong.
- If an error occurs, press “OK”. The device will discard the job and return to the ready state.



No additional notes

Productivity Comparison with AT-C1

	AT-C1a/b	AT-C2a/b
Gradation:	Scan: 8 bits/pixel Print: 4 bits/pixel, 2 bits/pixel, 1 bits/pixel	Scan: 600dpi / 10bits/pixel Print: 600dpi / 4 bits/pixel
Copy speed:	**Plain 1/2** C1a: 25 cpm (FC/BW) C1b: 30 cpm (FC/BW) **Thick 1/2/3/OHP** 16 cpm (FC/BW)	**Plain 1/2** C1a: 28 cpm (FC/BW) C1b: 33 cpm (FC/BW) **Thick 1/2/3/OHP/Glossy (1200 dpi)** 16 cpm (FC/BW)
	ADF 1 to 1, LT/A4 LEF Thick 1 (169 g/m^2 or less) Thick 2 (220 g/m^2 or less) Thick 3 (256 g/m^2 or less)	
Warm-up Time	45 s	29 s (NA), 27 s (EU)
Resolution	Scan: 600 dpi Copy: 600 dpi Print: 600 dpi	Scan: 600 dpi Copy: 600 dpi Print: 1200 dpi
First Copy (Normal mode)	**C1a/b** FC: 9.7 seconds or less BW: 6.7 seconds or less	**C2a/b** FC: 8.0 seconds or less BW: 5.0 seconds or less
	First copy times stated above are for A4/LT LEF	

Slide 47

- Improvements are shown in blue.
- Warm-up time for AT-C2: The NA version has slightly more powerful fusing lamps, so the warm-up time is a bit shorter.

Productivity Comparison with AT-C1

	AT-C1a/b	AT-C2a/b
Max. Paper Capacity	3200 sheets: Mainframe (550 x 2) + By-pass (100 sheets) + 2000-sheet LCT (Option)	4400 sheets: Mainframe (550 x 2) + By-pass (100 sheets) + 2000-sheet LCT (Option) + 1200-sheet LCT (Option)
Printing Paper Weight:	**Standard tray:** 60 to 216 g/m^2 (16 to 57 lb.) **Optional paper tray:** 60 to 216 g/m^2 (16 to 57 lb.) **By-pass tray:** 52 to 253 g/m^2 (14 to 67 lb.) **Duplex unit:** 60 to 169 g/m^2 (16 to 45 lb.)	**Standard tray:** 60 to 256 g/m^2 (16 to 68 lb.) **Optional paper tray:** 60 to 256 g/m^2 (16 to 68 lb.) **By-pass tray:** 60 to 256 g/m^2 (16 to 68 lb.) **Duplex unit:** 60 to 169 g/m^2 (16 to 45 lb.)
Output Paper Capacity:	Shift Tray not available	Shift Tray: 250 sheets (80 g/m^2)

Slide 48

- Improvements are shown in blue.

Printer Controller Specs

	AT-C1a/b	AT-C2a/b
Controller Board Type	Embedded	Embedded
Printing module	Built in standard	Built in standard
Controller CPU	RM7035C-600MHz	**Intel Celeron-M 600MHz**
Print speed (A4/LT LEF)	C1a: FC 25ppm/ BW 25ppm C1b: FC 30ppm/ BW 30ppm	**C2a: FC 28ppm/ BW 28ppm** **C2b: FC 33ppm/ BW 33ppm**
Memory capacity	1024MB (Standard and Max)	1024MB (Standard and Max)
HDD	Standard : 40GB	**Standard : 80GB**
Supported Printer language	Standard : RPCS, PCL5c, PCL6 Option : Adobe PostScript3	Standard : RPCS, PCL5c, PCL6 Option : Adobe PostScript3
PCL resident fonts	PCL: 45 fonts (Truetype: 10 fonts, Intelli: 35 fonts) + Bitmapped: 6 fonts + International fonts: 13 Intellifonts *1	PCL: 45 fonts (Truetype: 10 fonts, Intelli: 35 fonts) + Bitmapped: 6 fonts + International fonts: 13 Intellifonts

Slide 49

- Improvements are shown in blue.
- IEEE802.11g is compatible with IEEE802.11b.
- Print speed is one-half of the above specification when 1200 x 1200 dpi is selected.

No additional notes

Reliability Targets

	AT-C1a (25/25cpm)	AT-C1b (30/30cpm)	**AT-C2a (28/28cpm)**	**AT-C2b (33/33cpm)**
ACV	5K/month	8K/month	**5K/month**	**8K/month**
Max CV	20K/month	20K/month	**20K/month**	**20K/month**
PM cycle	80K	80K	**120K**	**120K**
MCBC	37.7K	42.1K	**47.3K**	**50.7K**
Life	5 years, or 1200K output	5 years, or 1200K output	**5 years, or 1200K output**	**5 years, or 1200K output**

- **The PM cycle is longer, and the engine is more reliable (MCBC is longer)**

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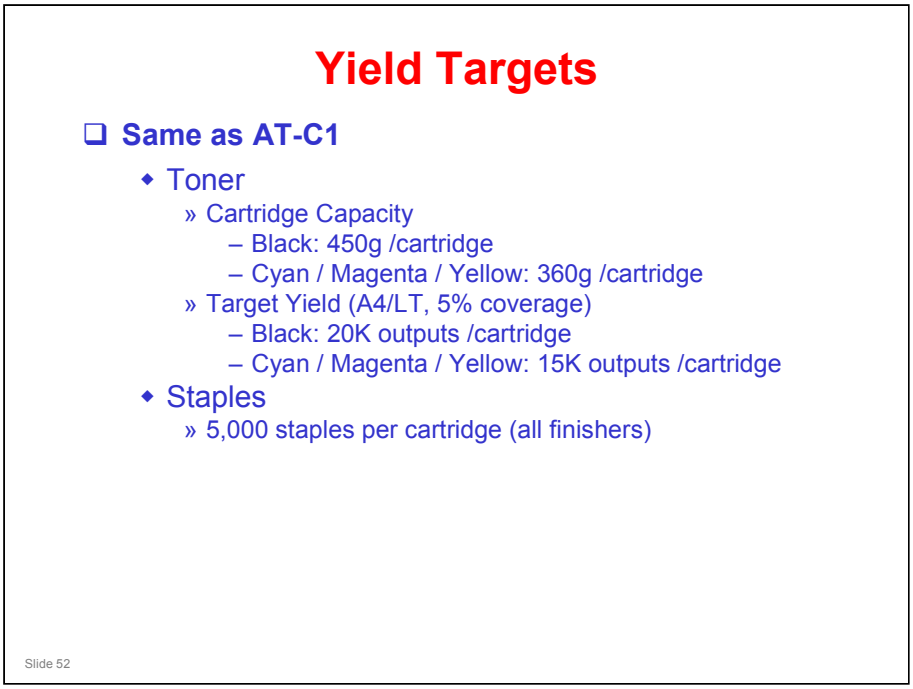
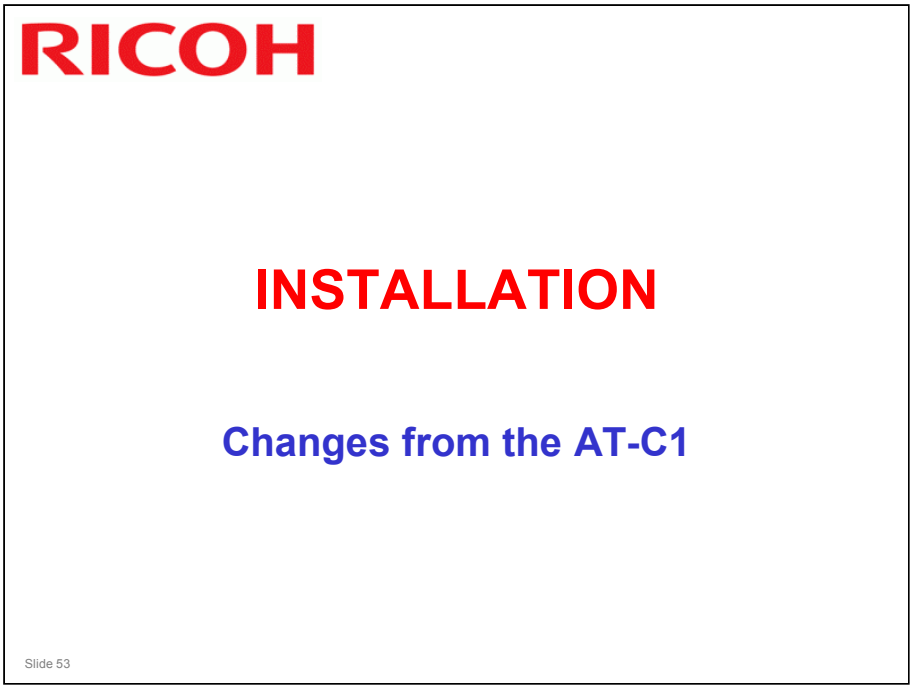
- MCBC: Mean copies between calls



- The toner bottles are not compatible with other products.
  - The toner is a new type, as mentioned earlier.
- The staple refill cartridges are compatible with those used in the AT-C1.
- The set staple cartridges are also compatible for the above models, except for the booklet finisher. The cartridge for that finisher is not compatible.



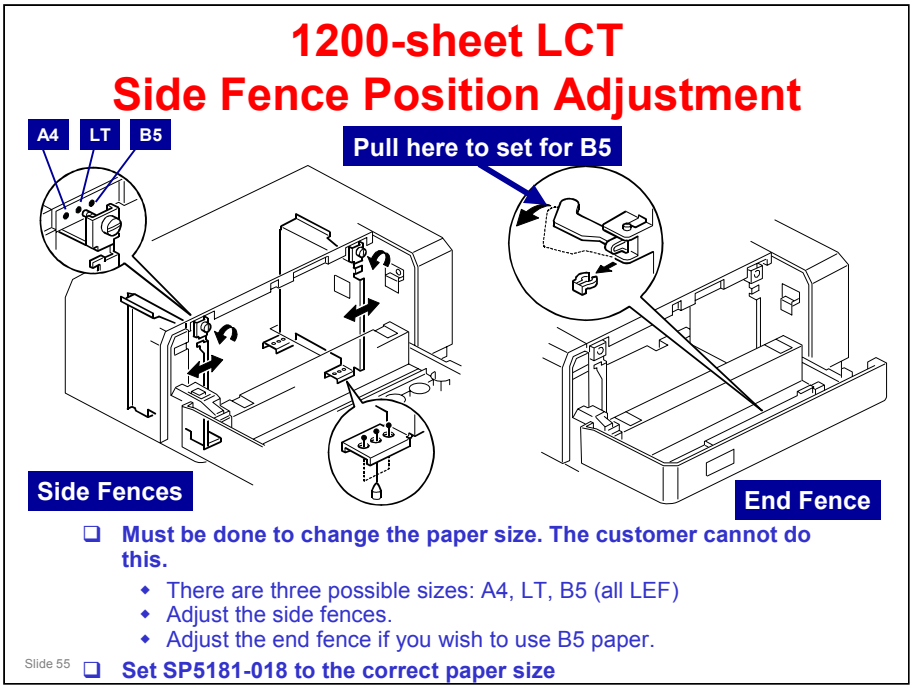
No additional notes

List of Changes

- **New procedures**
  - One-tray paper feed unit: Similar to the procedure for the two-tray unit
  - 1200-sheet LCT: Same as the AL-C1
  - USB/SD Slot: This is a new device. Read this procedure
  - Controller Options:
    - » IEEE802.11: Different from AT-C1
    - » HDD encryption unit: Same as the AL-C1
    - » VM card: Same as V-C2
- **Small changes to existing procedures:**
  - Shift tray
  - Bridge unit
  - Punch unit
  - Copy data security unit
  - Controller options: Slot numbers are different
  - Firmware update: Use slot 2
  - LCT, paper tray units

Slide 54

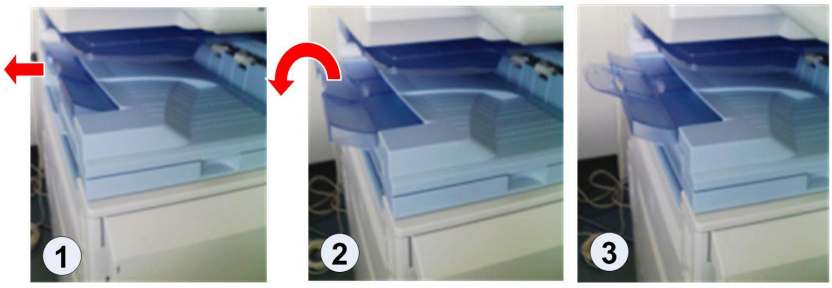
❒ Small changes: These are very small changes.



Side Fence Position Adjustment

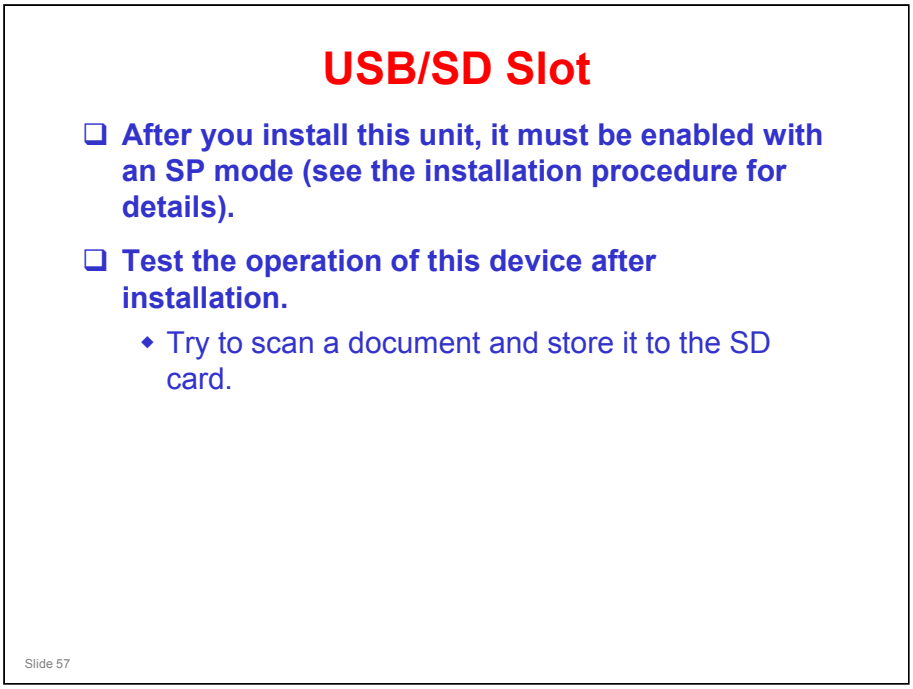
❒ This is needed if the user wishes to change the paper size from A4 to Letter or the other way around.

Bridge Unit



- Pull the extension tray out if the 1000-sheet finisher (B408) or the 500-sheet finisher (D372) will be installed.

Slide 56



Procedure for storing a file on an SD card/USB device

- 1.Insert an SD card or USB memory device in the slot.
  - You can connect only one removable memory device at a time.
- 2.Close the media slot cover.
  - If you leave the cover open,static electricity conducted through an inserted SD card could cause the machine to malfunction.
- 3.Make sure that no previous settings remain.
  - If a previous setting remains,press the [Clear Modes] key.
- 4.Place originals.
- 5.Press [Store File].
- 6.Press [Store to Memory Device].
- 7.Press [OK].
- 8.Press the [Start] key.
  - When writing is complete,a confirmation message appears.
- 9.Press [Exit].
- 10.Remove the memory device from the media slot.
  - Do not remove the memory device while writing is in process.

Data Overwrite Security Unit

- **Must be type H**
  - Make sure that you have a type H unit.
- **Before you can install this unit, the customer must store some names and passwords related to authentication.**
- **Check the envelope to make sure that the VOID marks are not visible on the packing tape.**
- **Enable the unit with SP 5878 001.**
  - If you have installed the wrong type by mistake, you will see 'Failed' on the display when you do this SP. Do the installation procedure again with the correct type of DOS unit.
  - It is not necessary to replace the NVRAM if you install the wrong version.
- **Follow the procedure in the service manual carefully, or the installation will fail.**

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No additional notes

HDD Encryption Unit

- Before you can install this unit, the customer must store some names and passwords related to authentication.
- Check the envelope to make sure that the VOID marks are not visible on the packing tape.
- Enable the unit with SP 5878 002.
- Remove the SD card from slot 2 after installation.

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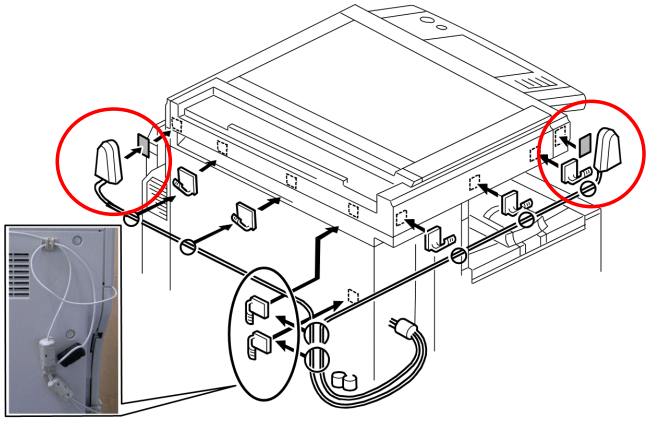
No additional notes

IEEE802.11a/g, g Interface (1)



- Make sure to install the antennas correctly, as described in the manual.

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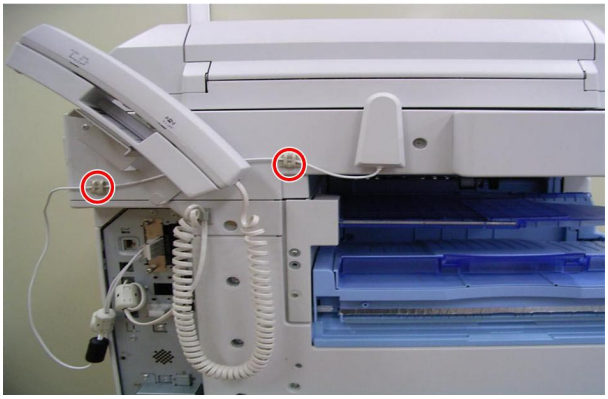
No additional notes

IEEE802.11a/g, g Interface (2)



- Refer to the above picture when installing the handset and the USB2.0/SD slot.

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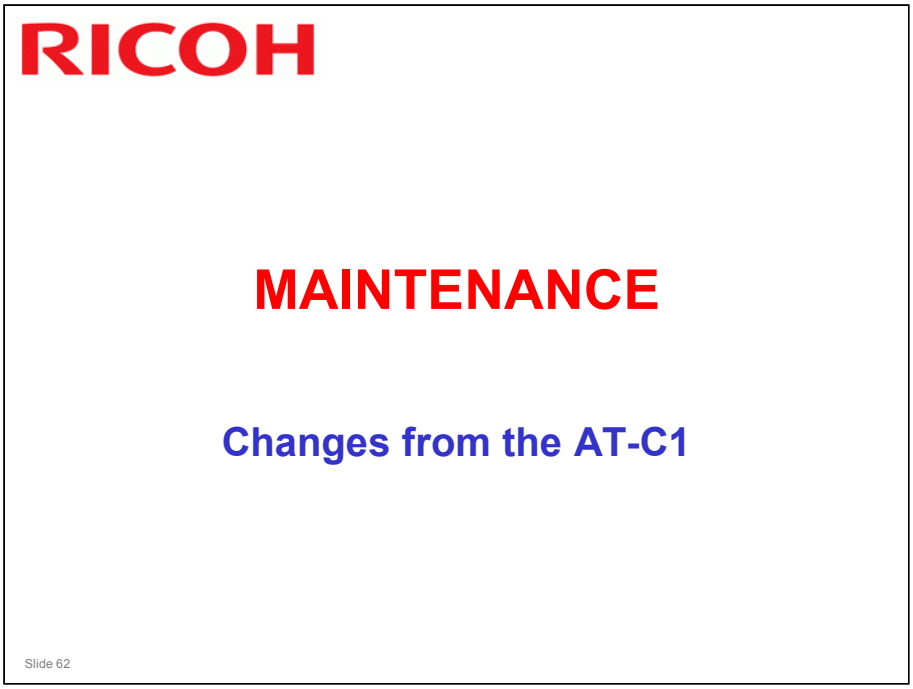
No additional notes



No additional notes

Changes from the AT-C1

- **Basic PM interval: 120 k (AT-C1 was 80k)**
  - All PM intervals are changed as a result of this.
  - For example, change K developer every 240k (AT-C1 was 160 k)
- **The fusing unit is modified, so the PM items are different; see the PM table for details.**
- **ID sensor cleaning: Clean every visit, with a blower brush (AT-C1 was 320K)**
  - How to clean: Service manual, Replacement and Adjustment, Paper Transfer, ID Sensor Board
- **New options: Clean the EM parts listed in the PM table every time you work on the machine**

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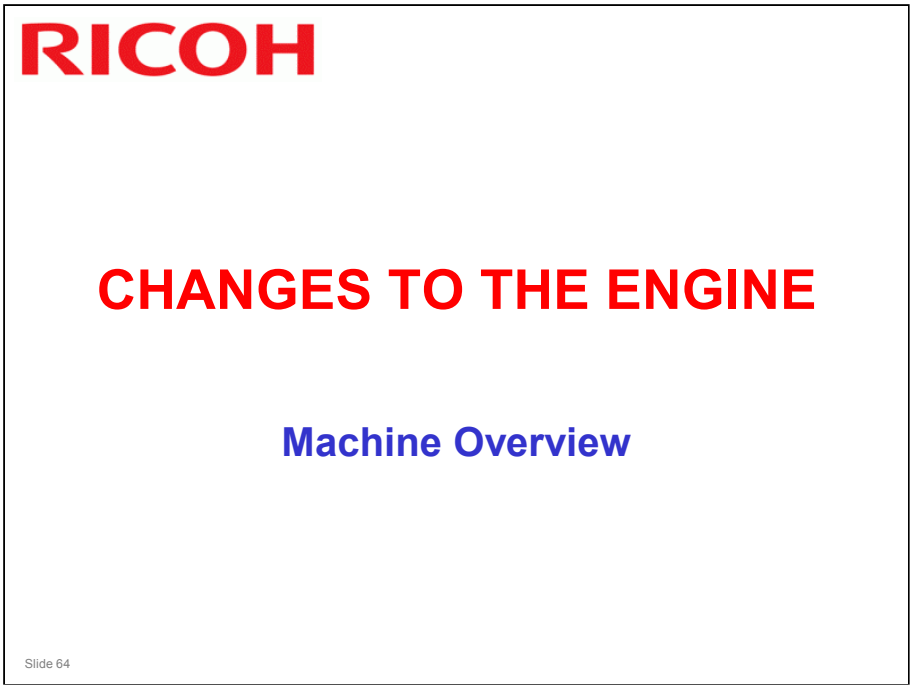
For full details of the PM schedule for this model, see the PM table in the service manual.



No additional notes

Process Speeds

Mode	Resolution (dpi)	Process speed (mm/s)	Copy speed (cpm)
Plain, M-Thick (B/W, FC)	All except 1200x1200	154	C2a: 28 C2b: 33
	1200 x 1200	77	C2a: 16 C2b: 16
Thick 1 (B/W, FC)	All	77	16
Thick 2/3 (B/W, FC)	All	77	16

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- The process speed is the feed speed from registration roller to the fusing unit.
- The process speed affects various machine parameters, as can be seen if you take a quick look through the SP tables.
- What is ‘middle thick paper’? See the next slide.

Paper Weights

- Thin paper: 60 g/m^2 (16 lb)
- Normal plain paper: 60 – 90 g/m^2 (16 – 24 lb.)
- Middle Thick: 90 – 105 g/m^2 (24 – 28 lb.)
- Thick 1: 105 – 169 g/m^2 (28 – 45 lb.)
- Thick 2: 169 – 220 g/m^2 (45 – 58 lb.)
- Thick 3: 220 – 256 g/m^2 (58 – 67 lb.)

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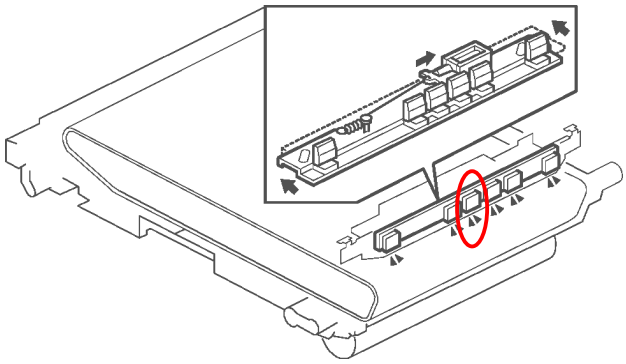
- This machine does not support thin paper.
- 'Thin paper' is an additional paper weight setting that the user can select at the operation panel if the 'plain paper' setting causes problems.
- The maximum paper weight has changed to 256 g/m2.

ID Sensors



- **Six ID sensors, on the ID sensor board:**
  - Three are used for line position adjustment: Left end, middle (red circle), right end
  - Four are used for process control: One for each color
  - The sensor indicated by the red circle does two jobs: process control for black and line position adjustment for the center.

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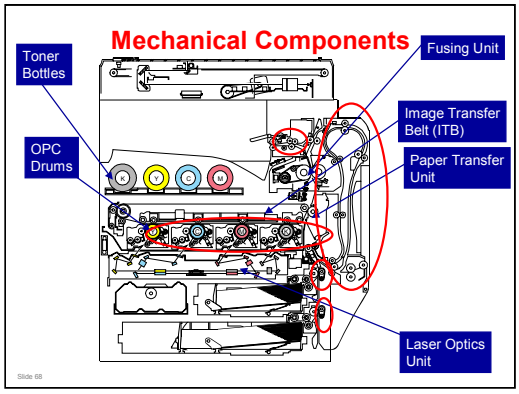
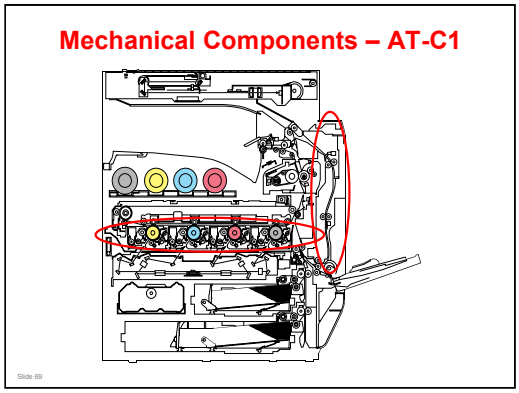
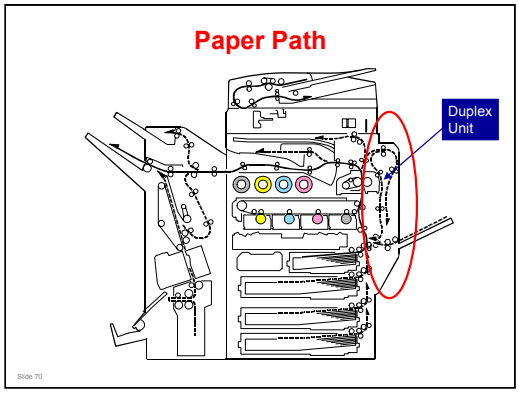
- The AT-C1 series had a total of seven sensors. In the AT-C2, the sensor in the red circle does two jobs, so one sensor was eliminated from the design.
- When the sensors are not used, the solenoid moves the shutter to cover the sensors. This prevents dust on the sensors.



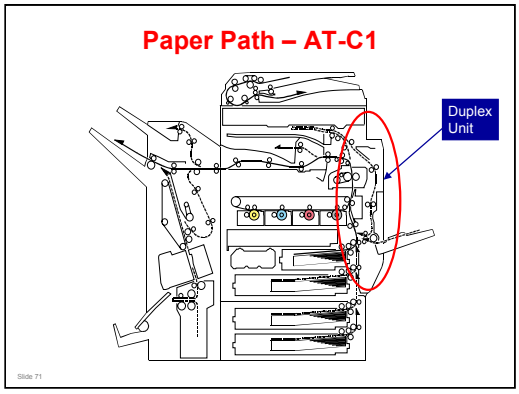
- This is a view of the internal structure of the machine.
- Major differences from the AT-C1 are indicated with a red circle.
  - The PCUs are the same as the AP-C2, not the AT-C1
  - Belts are added to the vertical transport rollers, to help feed thick paper.
  - The duplex mechanism is different (it is like the AP-C1 duplex mechanism).
  - Decurler rollers are added to the paper exit.



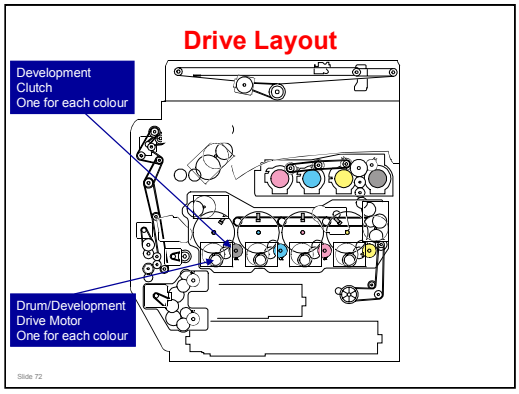
❒ Differences are indicated with a red circle.



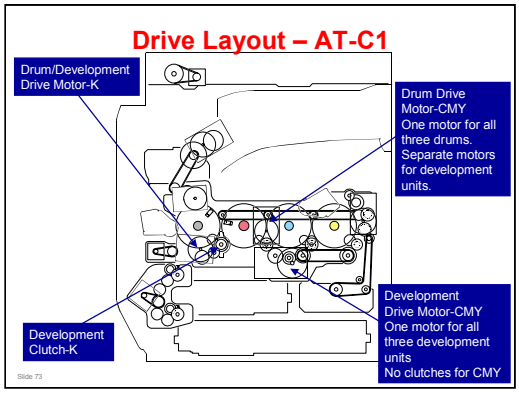
❒ The duplex mechanism is different.



❒ This slide shows the duplex mechanism of the AT-C1 for comparison.



- The following is different from the AT-C1
  - There is a development clutch for each colour, because, for each colour the same motor controls the PCU and the development unit.
  - This motor is the drum/development drive motor. There is one of these motors for each colour.



- This slide shows the AT-C1 for comparison.
  - The PCU for K has one motor to drive the drum and development unit. Because of this, there is a clutch to start/stop the development unit for K.
  - For CMY, the drum drive motor CMY drives the three drums, and the development drive motor CMY drives the three development units. There are no development clutches for the three colours.

Comparing the AP-C2 and the AT-C2

- **In both models, the following mechanisms are the same, and based on the Ap-C1/C2 series:**
  - Mainframe
  - Drive
  - Bypass
  - Duplex
  - Junction gate/paper exit
  - Development/toner supply
  - Drum
  - Transfer

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No additional notes

Comparing the AP-C2 and the AT-C2

- **The following mechanisms are different:**
  - Scanner mechanism:
    - » AP-C2: AP-type, AT-C2: AT-type
  - Laser diodes
    - » AP-C2: AP-type, 2 beams
    - » AT-C2: AT-type, 1 beam
  - Paper feed
    - » AP-C2: AP-type
    - » AT-C2: AT-type, with no paper feed sensor
  - Fusing unit
    - » AP-C2: AP-type, IH inverter, no fusing belt
    - » AT-C2: AT-type, with fusing belt

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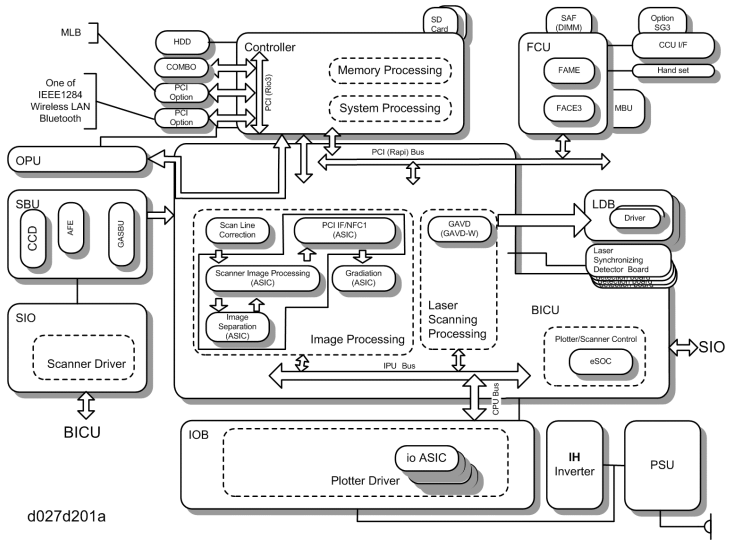
- The AP-C2 feeds paper at a higher speed than the AT-C2, and there is a very short gap between sheets. Design tests have shown that to improve paper feed under these severe timing conditions, the pick-up solenoid and paper feed sensor are necessary.

Board Structure



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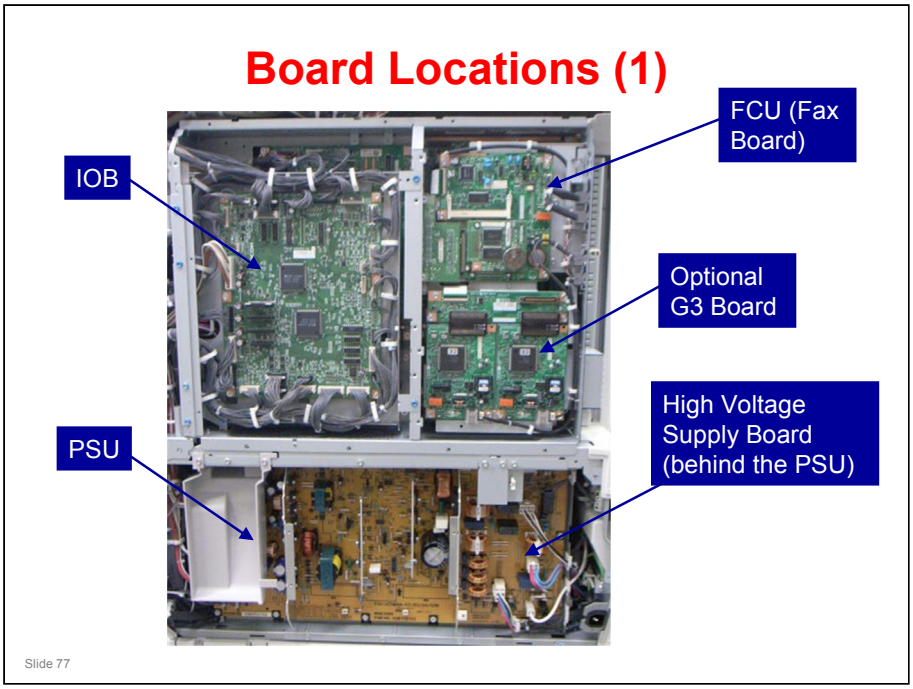
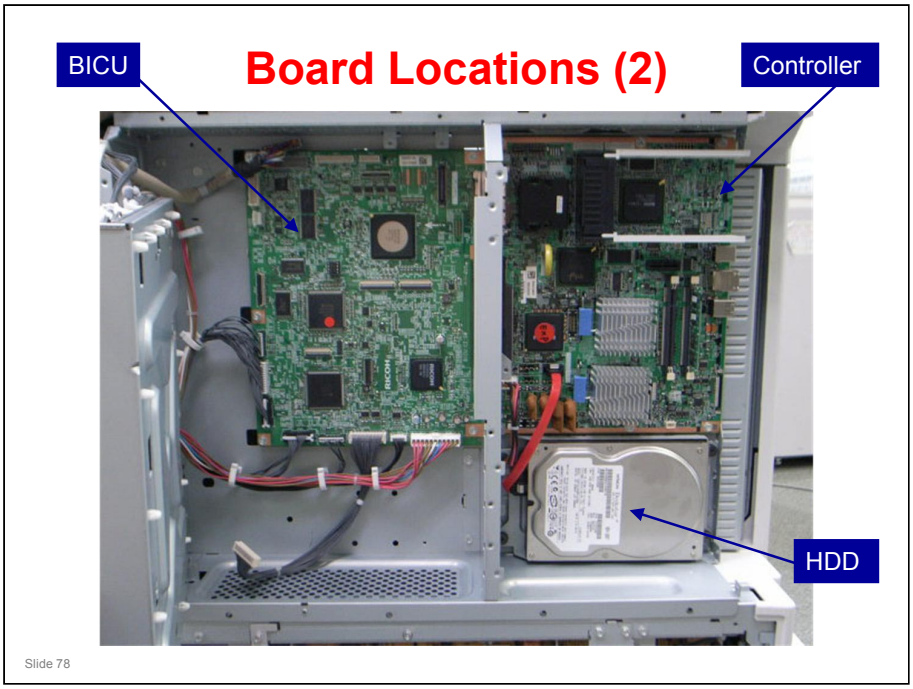
No additional notes

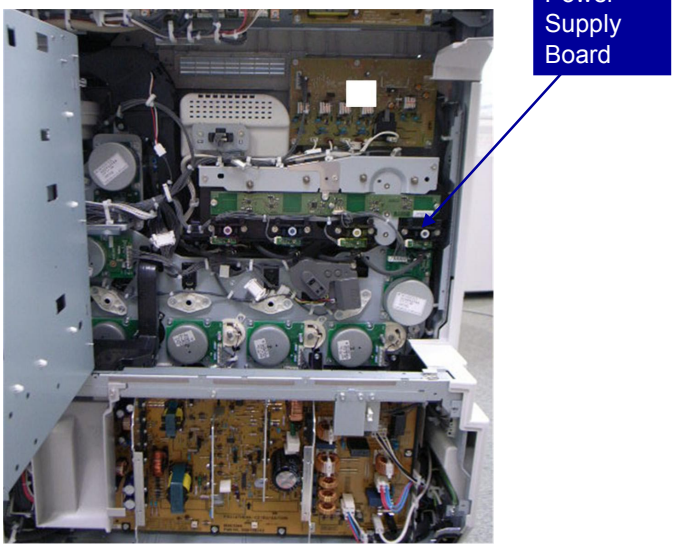


❒ This is what you see when the controller box is closed.



❒ This is a view of what is behind the IOB, FCU and G3 interface unit

Board Locations (3)



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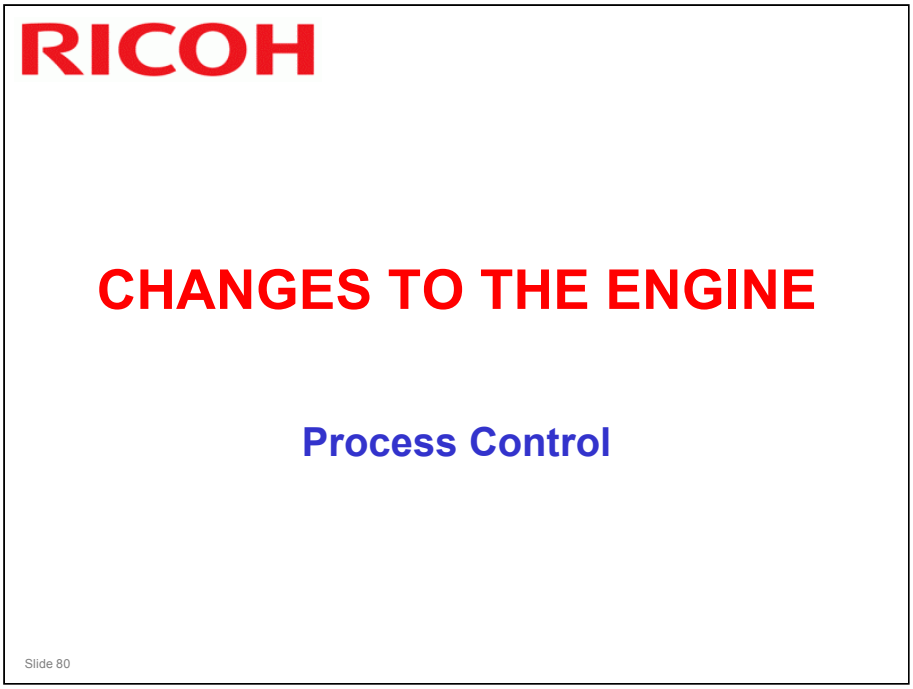
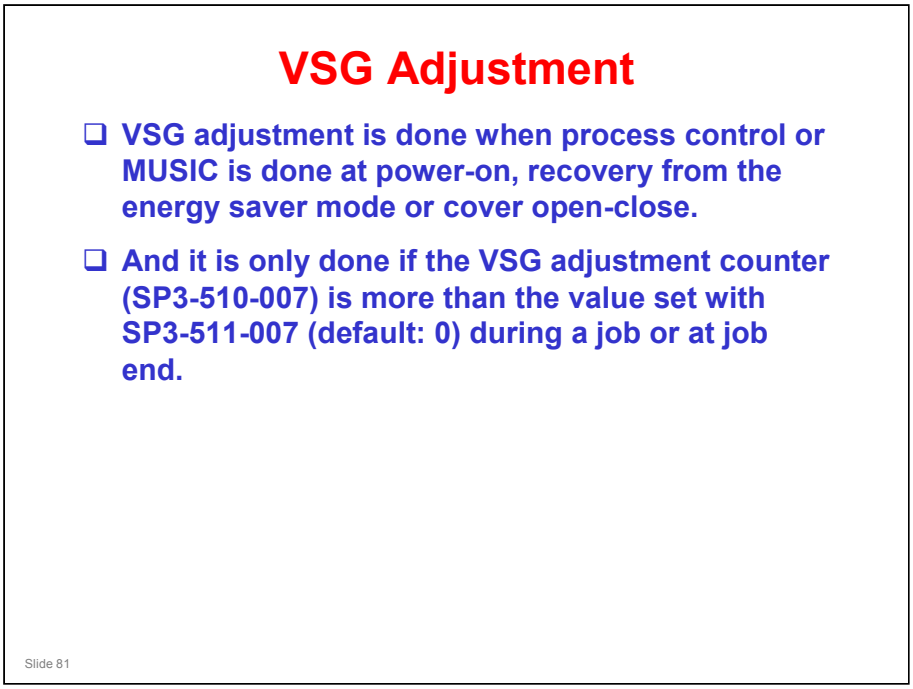
❒ This is what you see when the controller box is open



No additional notes



AT-C1

- VSG adjustment is always done during initial process control.
- But, at other times, it is only done if the VSG adjustment counter (SP3-510-007) is more than the value set with SP3-511-007 (default: 0) during a job or at job end.

No additional notes

MUSIC Adjustment Conditions

- **Initial:**
  - Immediately after the power is turned on, or when the machine recovers from the energy saver mode.
  - Done either once or twice (or not done), depending on:
    - » Time since the previous job
    - » Temperature change since the previous job
  - The machine checks the above conditions at power on/recovery. Then, line position adjustment is done if one of the conditions occurs.

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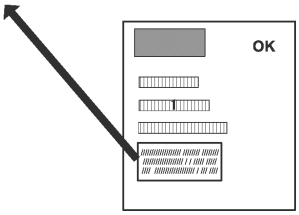
❒ The text in red shows the changes since the previous model.

Laser Optics Housing Unit Replacement

Input data for SP modes

Main Scan Length Detection Disp. Bk	SP 2-185-001:	247975
Color Registration Correction Bk	SP 2-101-001:	-031
Prt Mag Adj Bk	SP 2-102-013:	-002
Prt Mag Adj M	SP 2-102-014:	+002
Prt Mag Adj C	SP 2-102-015:	+002
Prt Mag Adj Y	SP 2-102-016:	+000



- The decal has changed – there are more SP numbers to input.
- Full details are in the service manual.

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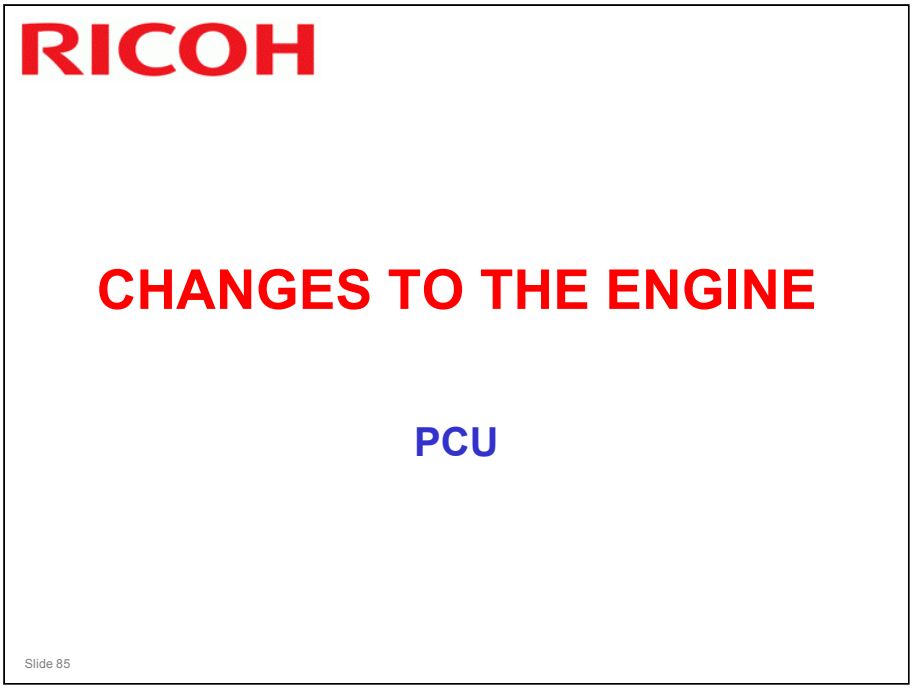
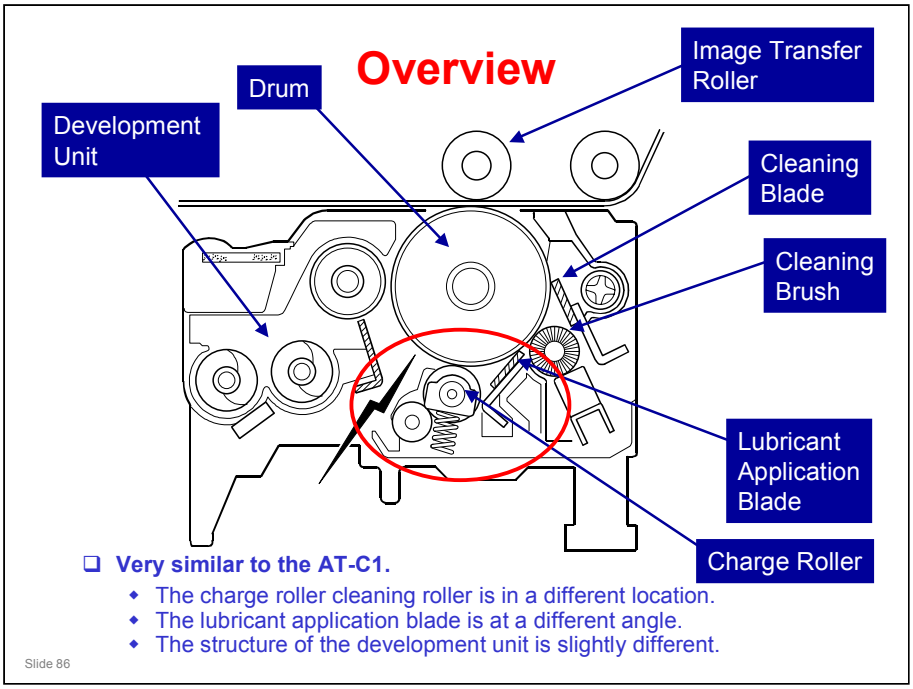
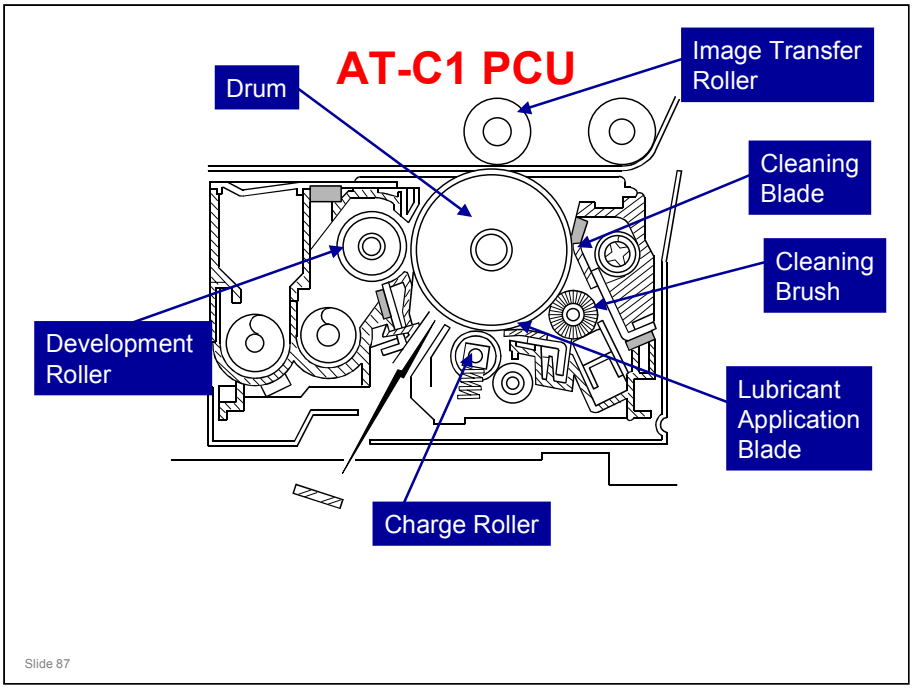
No additional notes



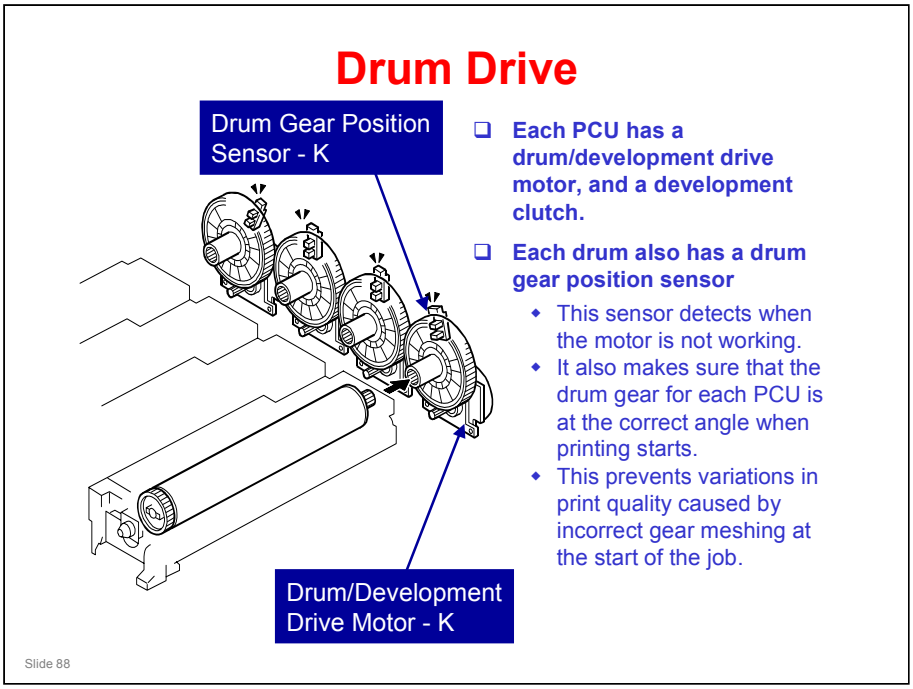
- ❒ The PCU is different from the AT-C1.
- ❒ It is the same as the AT-C2.



- The PCU is the same as the AP-C2.
- The red circle shows the significant changes in PCU structure since the AT-C1.
- In the AT-C1, the cleaning roller is to the lower right of the charge roller, and the development unit is deeper.
- Lubricant application blade: The new position allows the blade to apply the lubricant coat more evenly. This reduces the occurrence of dirty stripes (in the AT-C1, this was caused by temporary insufficient cleaning ability after a large amount of prints, which is a product limitation of At/Ap-C1.)



❒ This slide allows you to compare the two PCUs.



Copied from the AP-C1 instructors guide

- The slide shows the example of the K drum.
- The drum units are not interchangeable. We do not recommend that you install a C drum in the location for M, for example.
- SC380, 381, 382, or 383 occurs if the sensors detect that the drums are not turning (the SC code depends on the color – K, C, M, or Y).
- In the AT-C1 series (Athena-C1), the three color PCUs are all driven by the same motor. This is also a good method for preventing color registration errors, and it is better for reduced energy consumption. However, with one motor for each colour, the adjustment can be more precise.

When are the Drum Gear Positions Checked?

- The machine automatically checks the drum gear position during the automatic line position adjustment.
- Can also be done manually with SP 1902.
  - Must be done after you take out and put back the drive unit.

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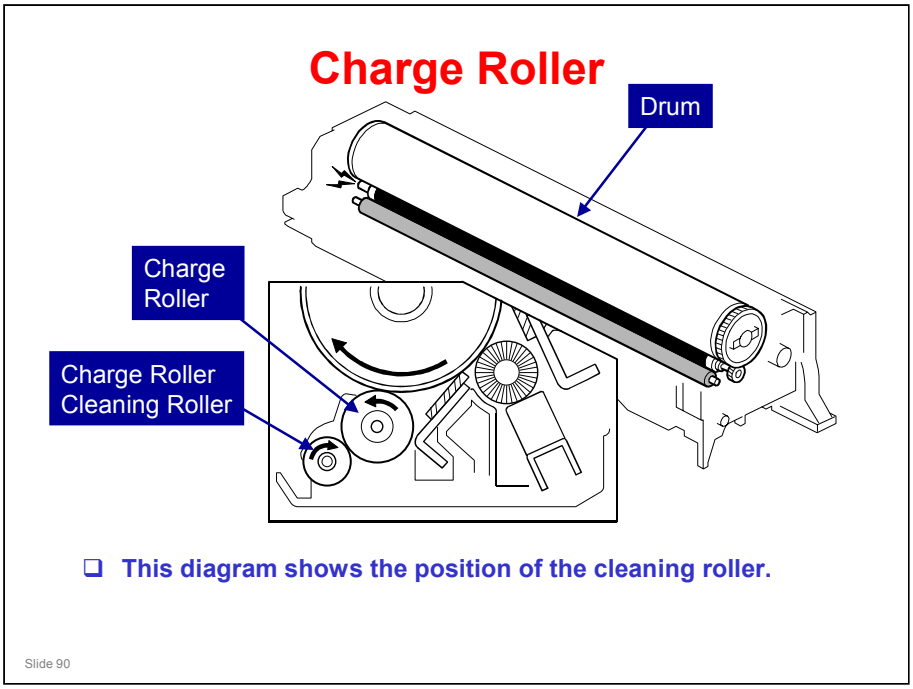
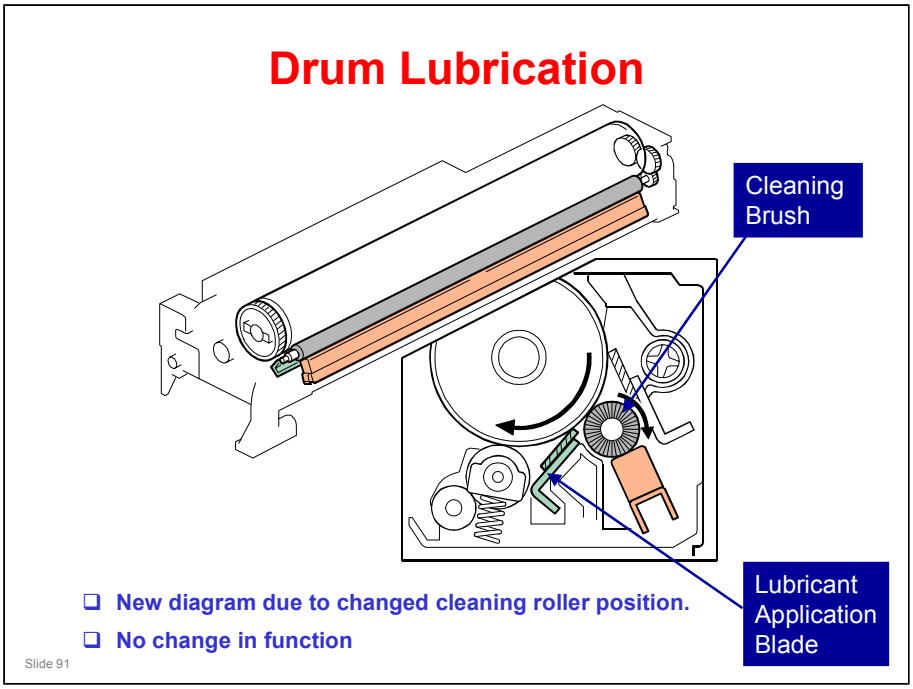
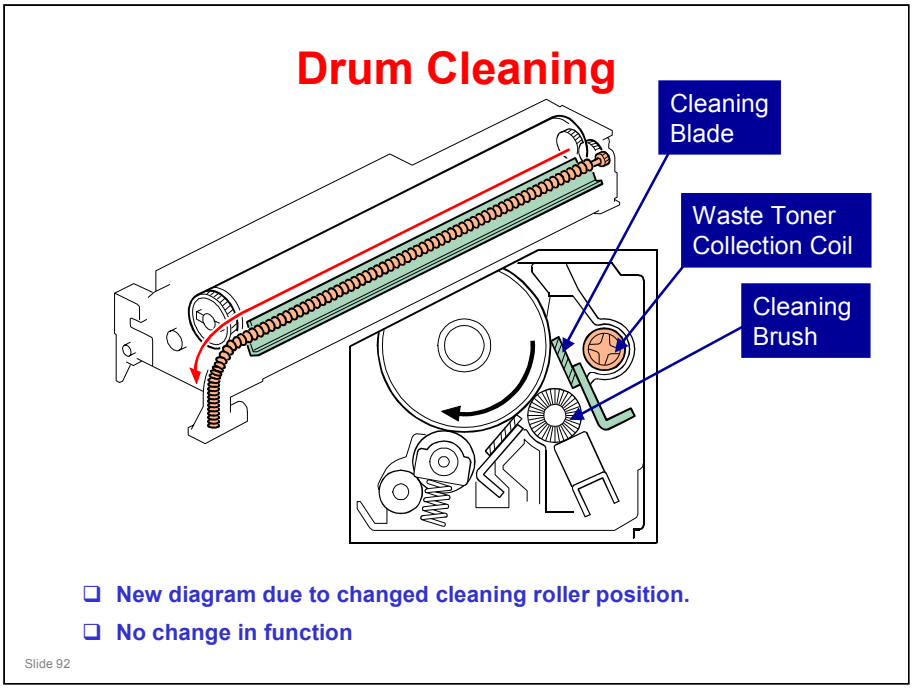
No additional notes



No additional notes



No additional notes



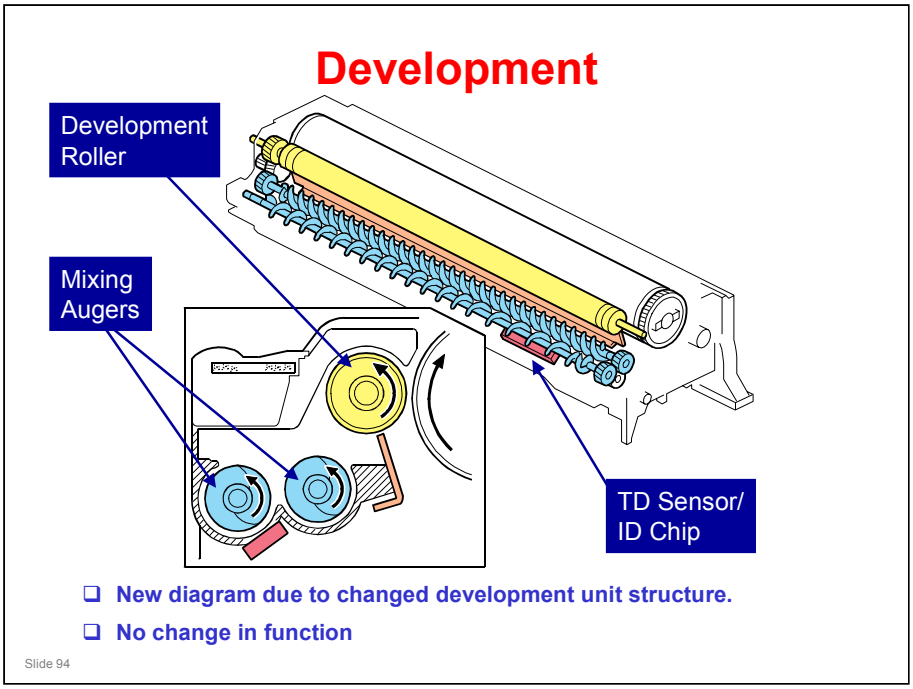
No additional notes

Reverse Rotation

- **The drum rotates for 30 ms at 0.5 seconds after the end of the job.**
  - In the AT-C1, this was done for 40 ms

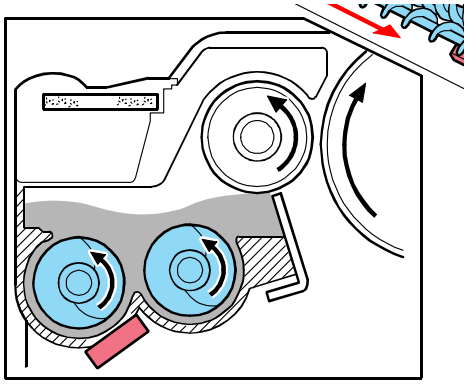
Slide 93

No additional notes



No additional notes

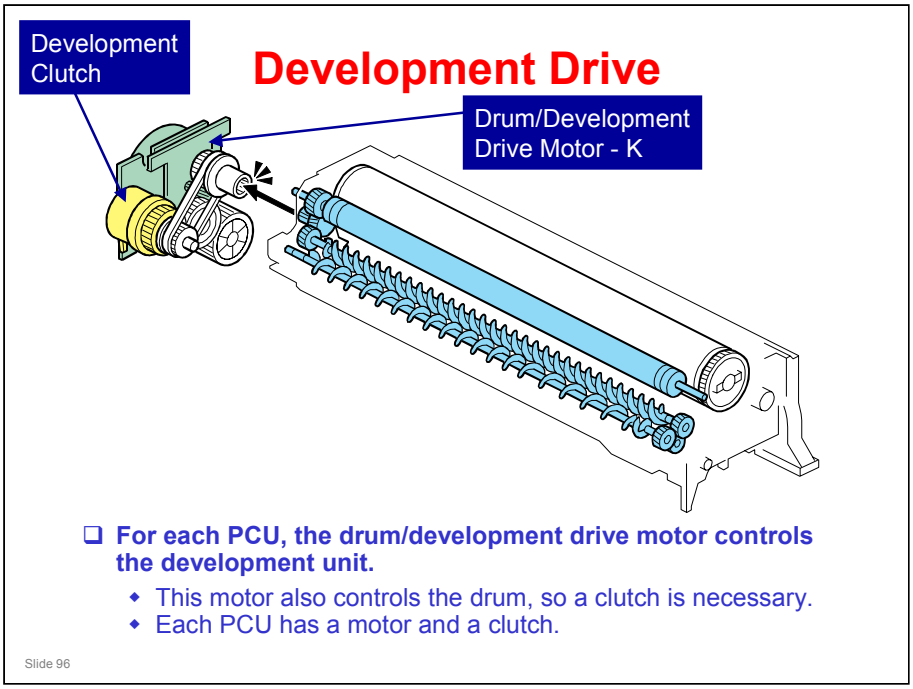
Developer Shipping



- **AP-C1: Developer is above the heat seal during shipping.**
- **AP-C2: Developer is below the heat seal during shipping (as shown above), in the same compartment as the augers.**
  - This method makes it less likely for developer to form blocks during shipping.

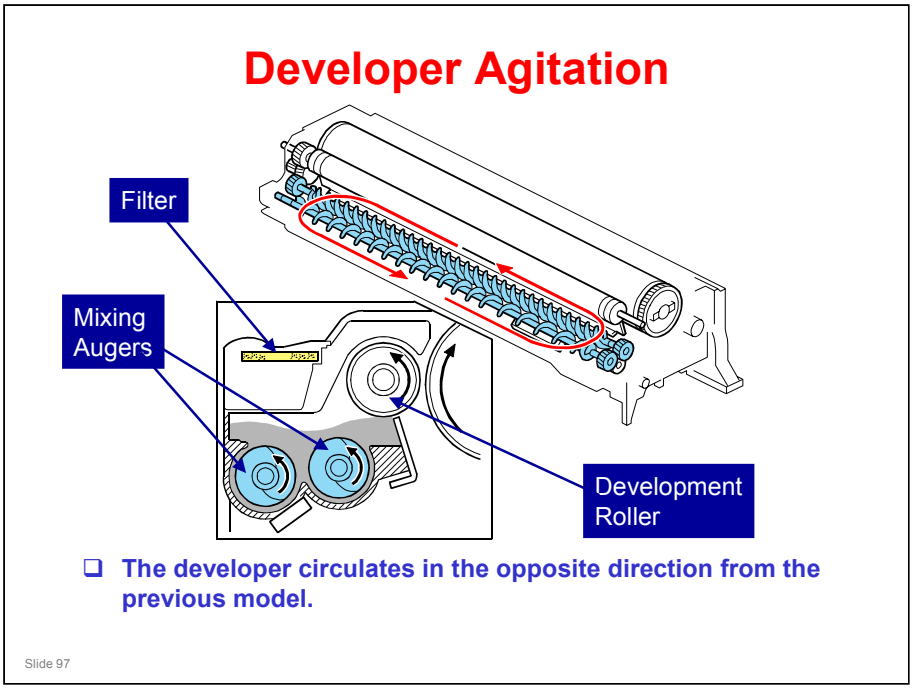
Slide 95

No additional notes



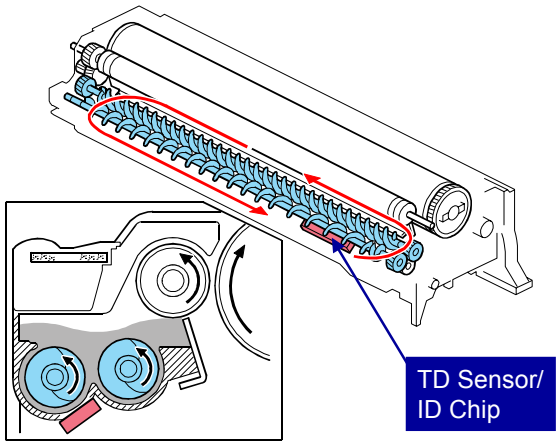
Text copied from the AP-C1 instructors guide, diagram copied from the AP-C2 TTP

- The mechanism for black is shown as an example.



- This diagram shows how the augers move the toner around inside the development unit.
- The developer circulates as shown by the red arrow, which is in the opposite direction from the previous model.
  - The diagram in the documentation for the previous model was incorrect.
- With this method, the TD sensor works better.
  - There is less turbulence in the area immediately above the sensor, which means there is less air, and a more accurate reading of toner density.

New Unit Detection



- New diagram due to changed development unit structure.
- No change in function

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No additional notes

Drum Unit Replacement

- **New steps were added to the replacement procedure for the drum unit.**
  - After you separate the drum unit from the development unit, turn the development roller five or six times in a counterclockwise direction.
    - » This step removes developer that has stuck to the development roller, which would cause color unevenness.
  - After you install the new drum, do SP 1902-001 two times.
    - » This rotates the drum for 2 minutes.

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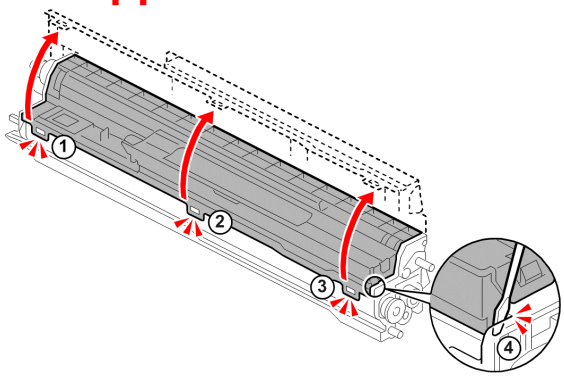
No additional notes

Hopper Cover Removal



- **Release the three hooks first in the correct order (from 1 to 3).**
- **Put the head of a screwdriver in the gap as shown, and then release the hook (4).**
  - Be careful, because this hook breaks easily.

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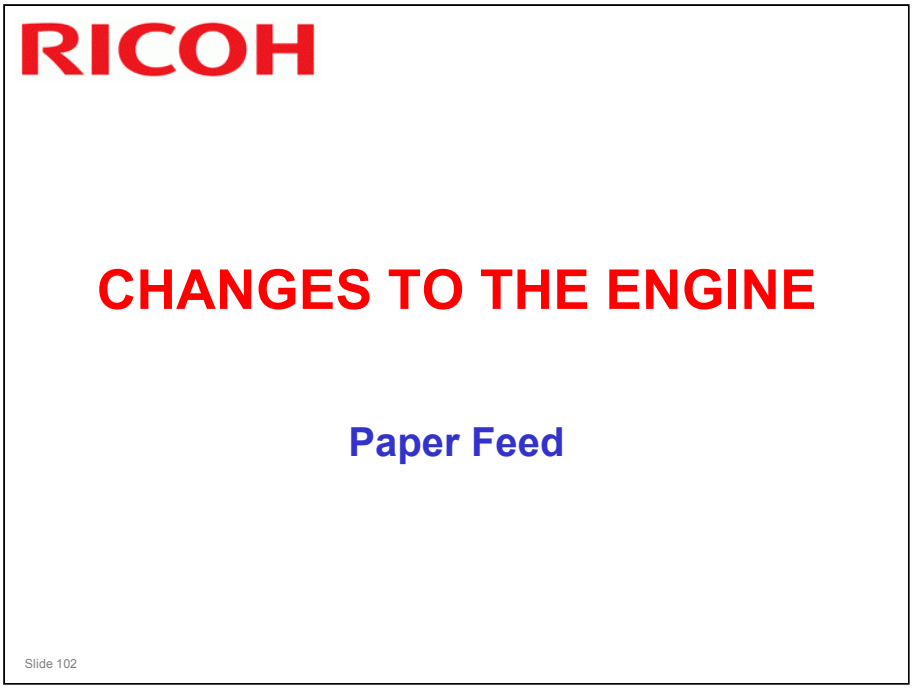
❒ This shows the correct way to remove the hopper cover when you add fresh developer.

Replacement and Adjustment

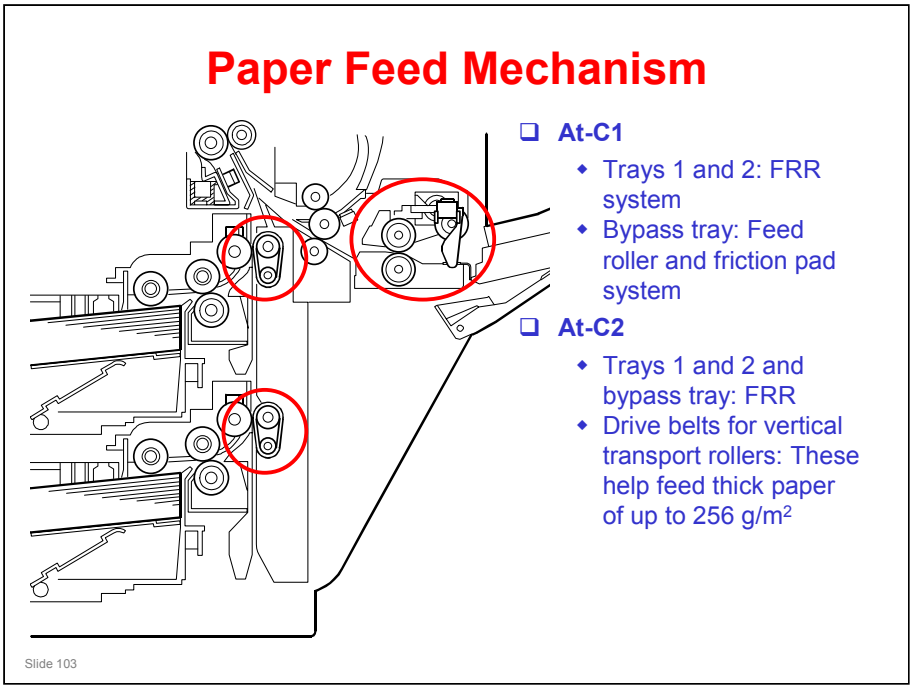
- **The following is a new procedure for this series.**
  - Service Manual, Removal and Adjustment, Drive Unit
    - » Gear unit: Do the 'Amplitude Control' adjustment with SP 1902 after you put the drive unit back in the machine.
      - – Do it every time you put the gear unit back, not only when you install a new one. The machine must check that the unit is installed correctly.

Slide 101

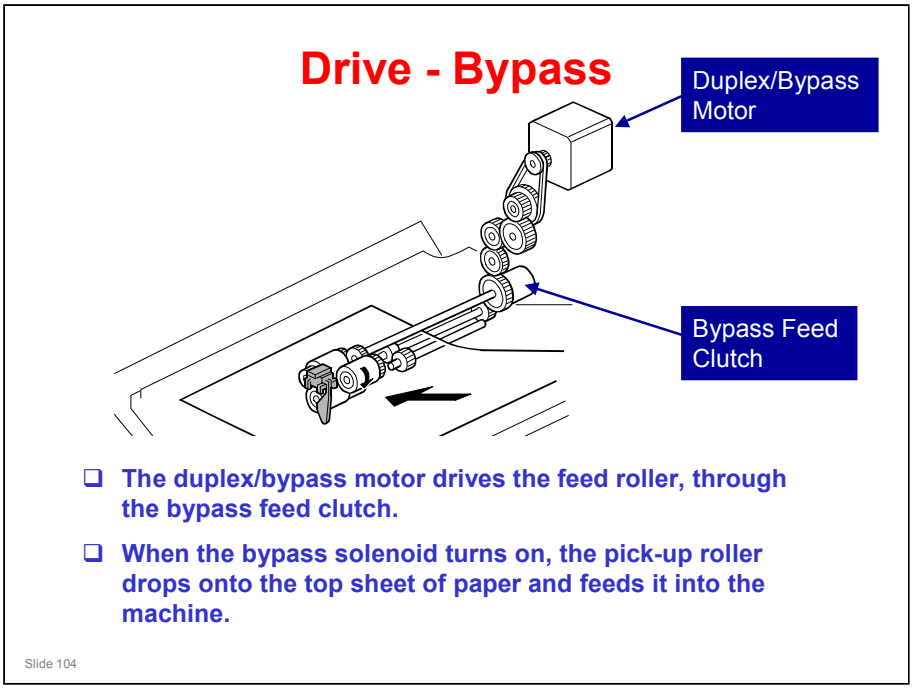
Copied from the AP-C1 instructors guide



No additional notes

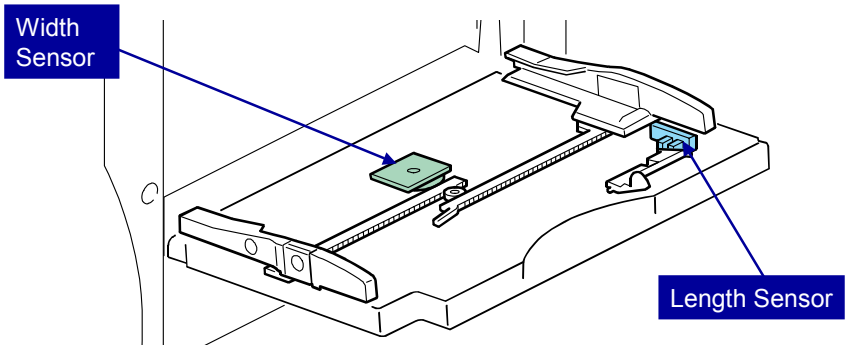


- Modified areas are circled in red.
  - By pass tray
  - Drive belts for vertical transport rollers



Copied from the AP-C1 instructors guide

By-Pass Paper Size Detection



- **A length sensor is added.**
- **This helps the machine to distinguish between these pairs of paper sizes, which have the same width**
  - A4 SEF and A5 LEF
  - A3 SEF and A4 LEF
- **The sensor cannot distinguish between LT and LG SEF.**
  - This must be pre-set with SP 1007-1

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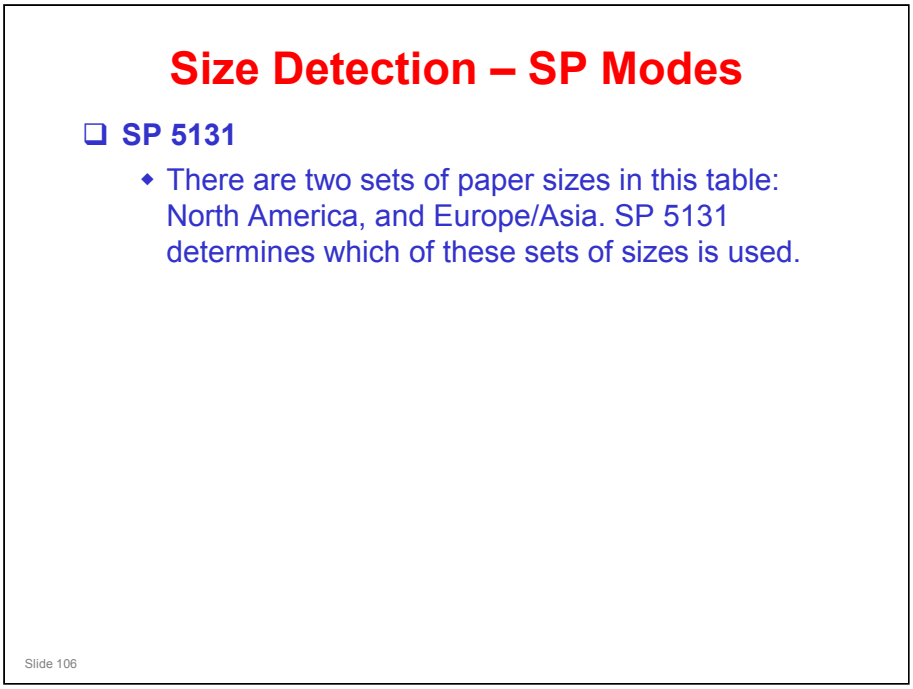
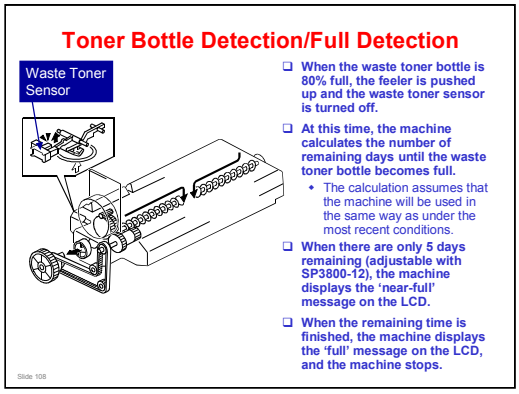
No additional notes



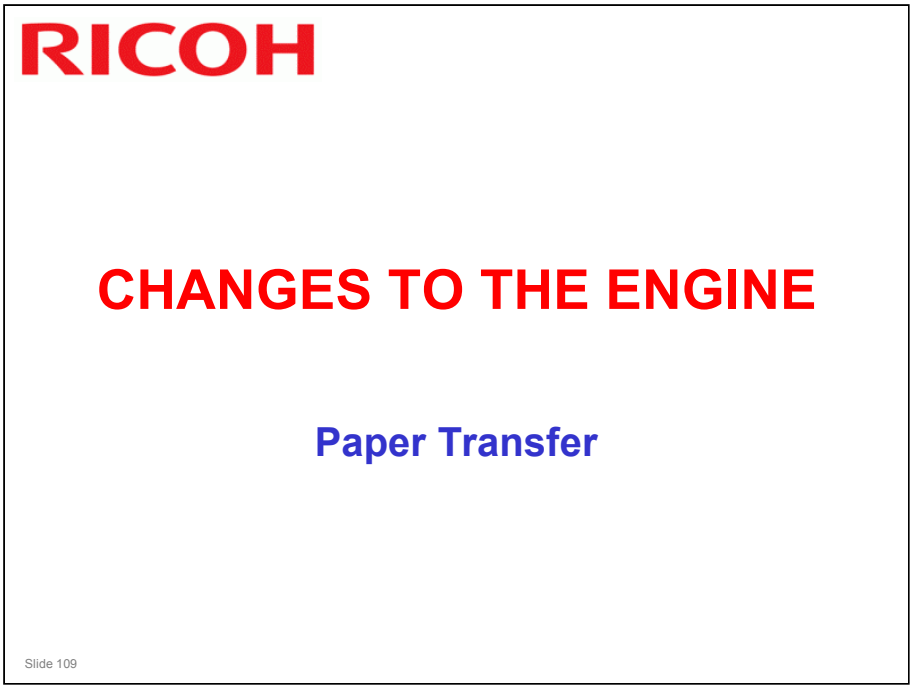
Copied from the AP-C1 instructors guide

- This is an additional SP mode, not used in the AT-C1.

No additional notes

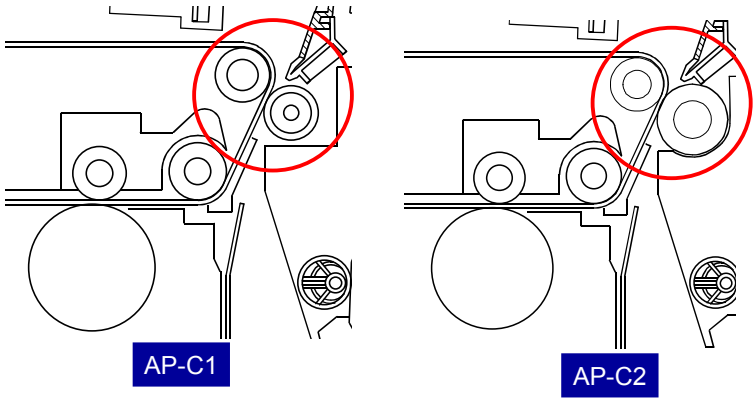


❒ AT-C1: When the waste toner sensor detects the actuator, the 'near-full' condition occurs. At this time, the machine can make 500 more copies. Then the 'full' condition occurs and the machine stops.



No additional notes

Changes to the Paper Transfer Roller



- There is a wider contact between the paper transfer roller and ITB. This improves paper handling.

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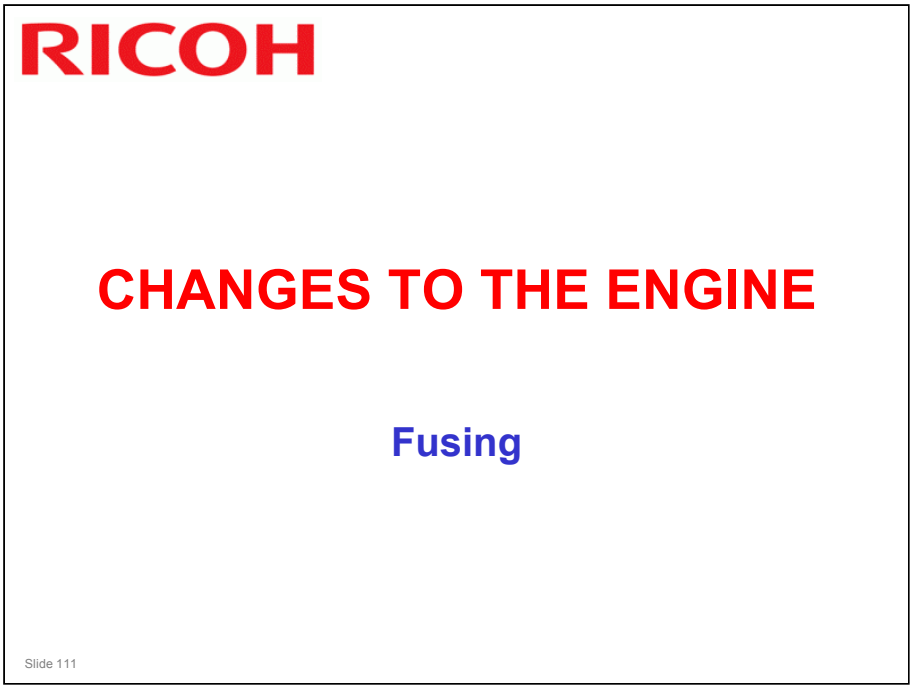
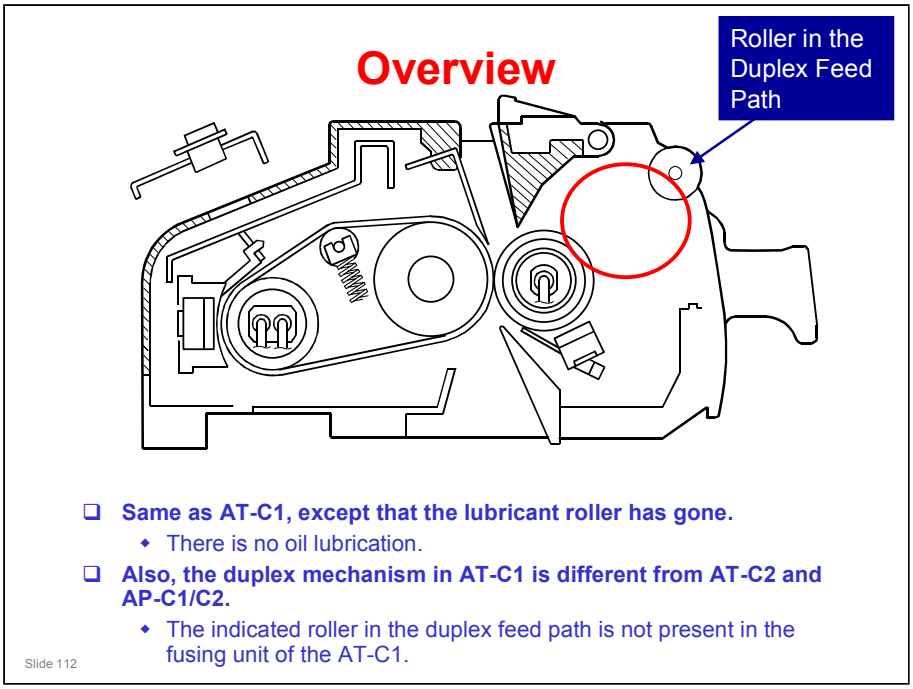
No additional notes



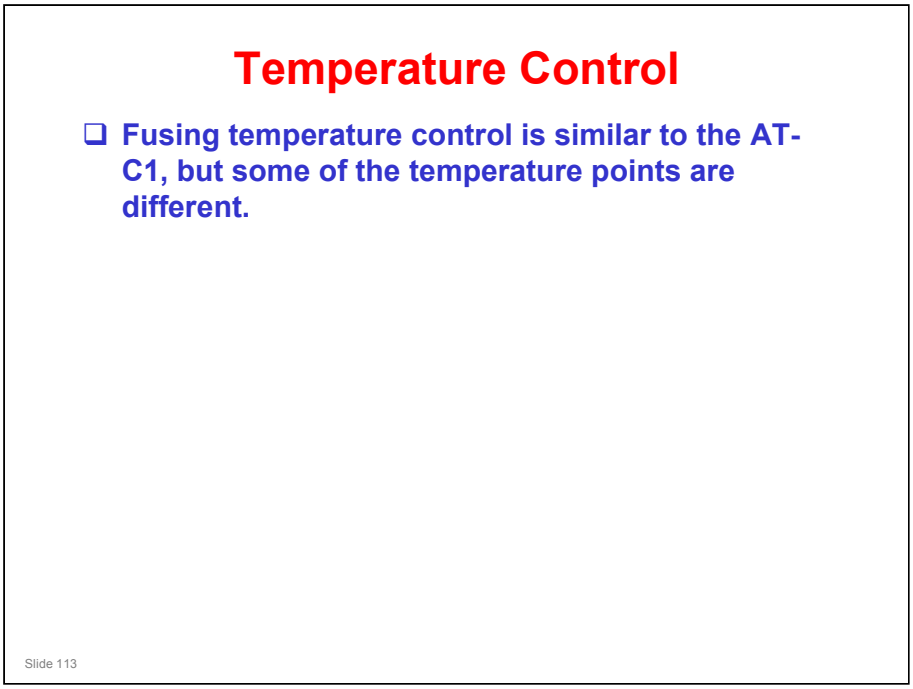
No additional notes



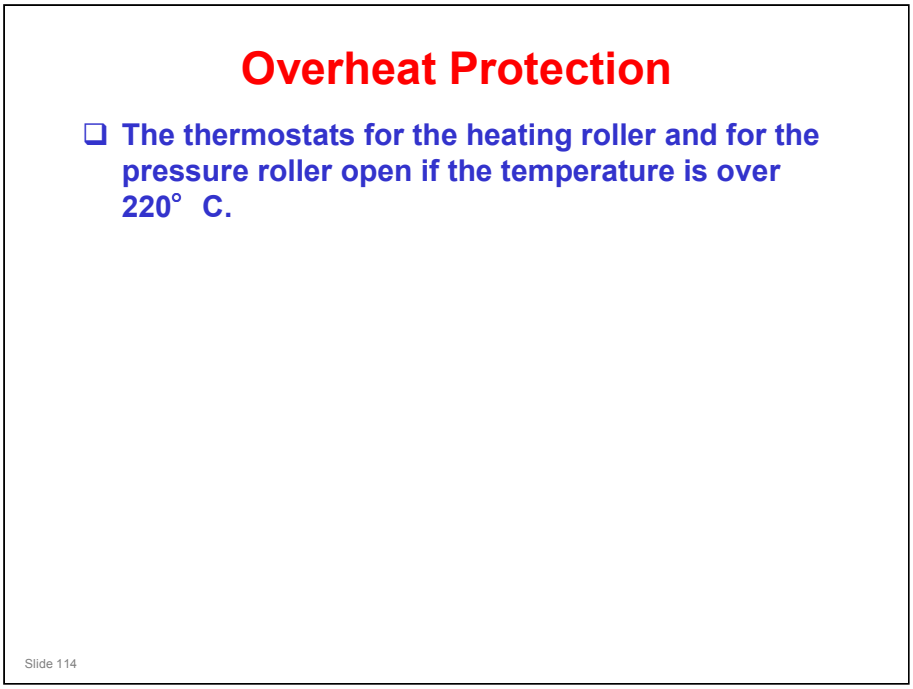
- AT-C2 is basically the same as AT-C1, but the lubricant roller has gone
- In the AT-C1, the lubricant roller was in the area shown by the red circle.

Why is there no lubrication in the fusing unit?

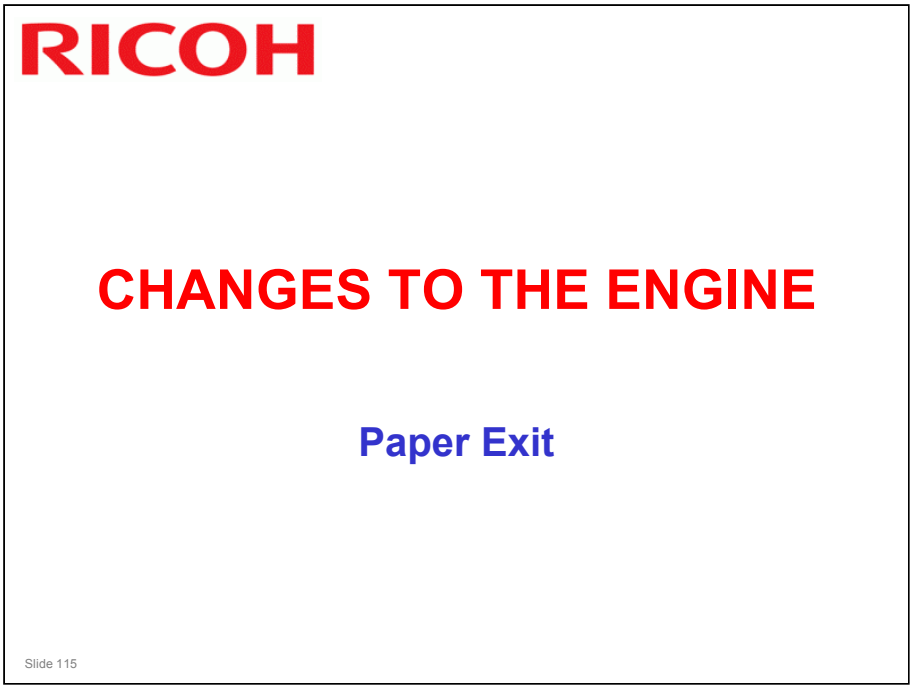
- The toner has been changed. This new type of toner is easily removed from the heating roller. So an oil lubrication system is not necessary.



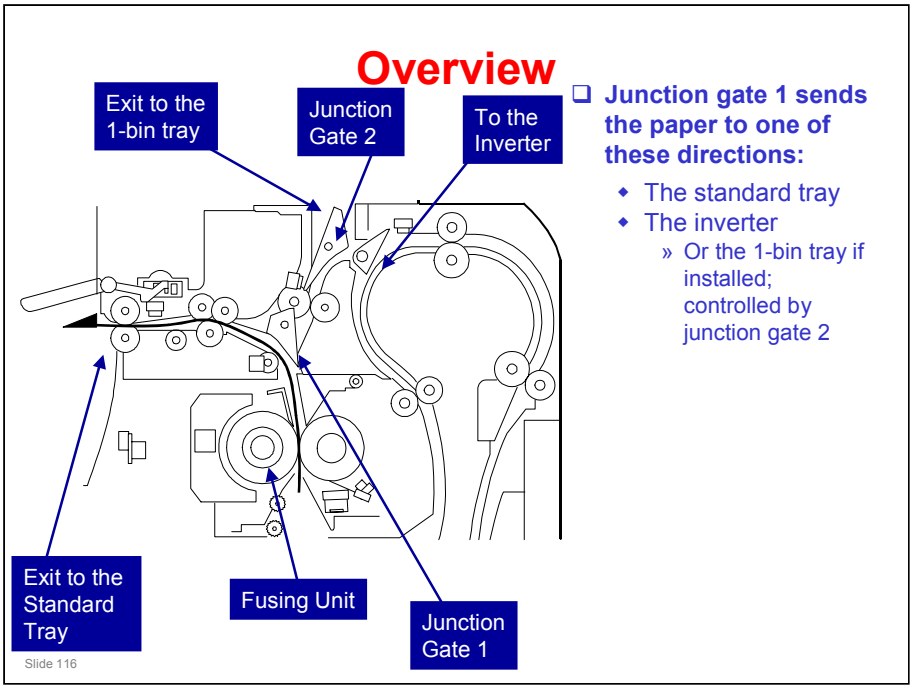
No additional notes



❒ Other details are the same as the AT-C1.

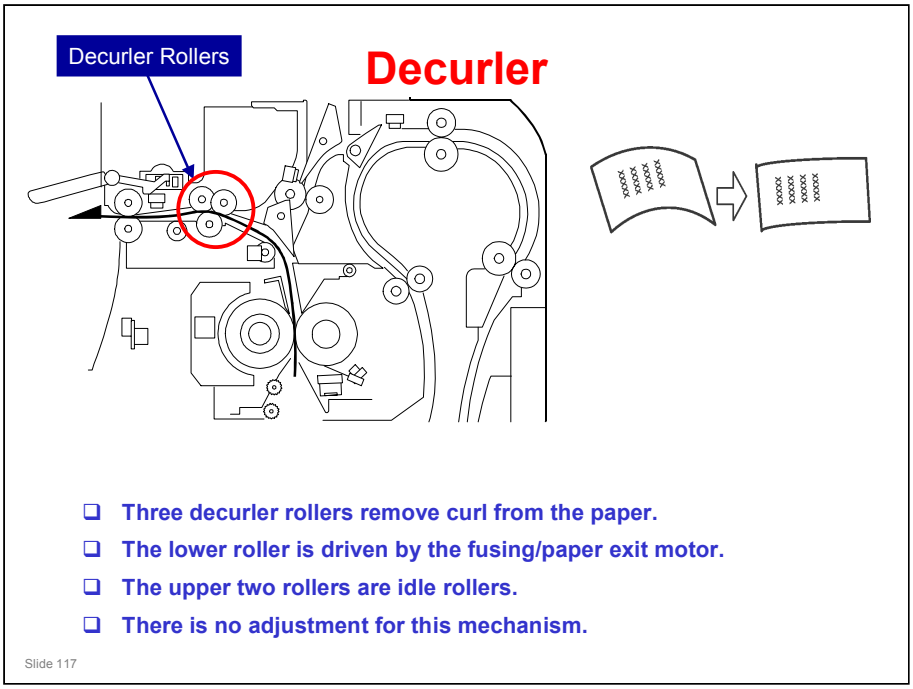


No additional notes

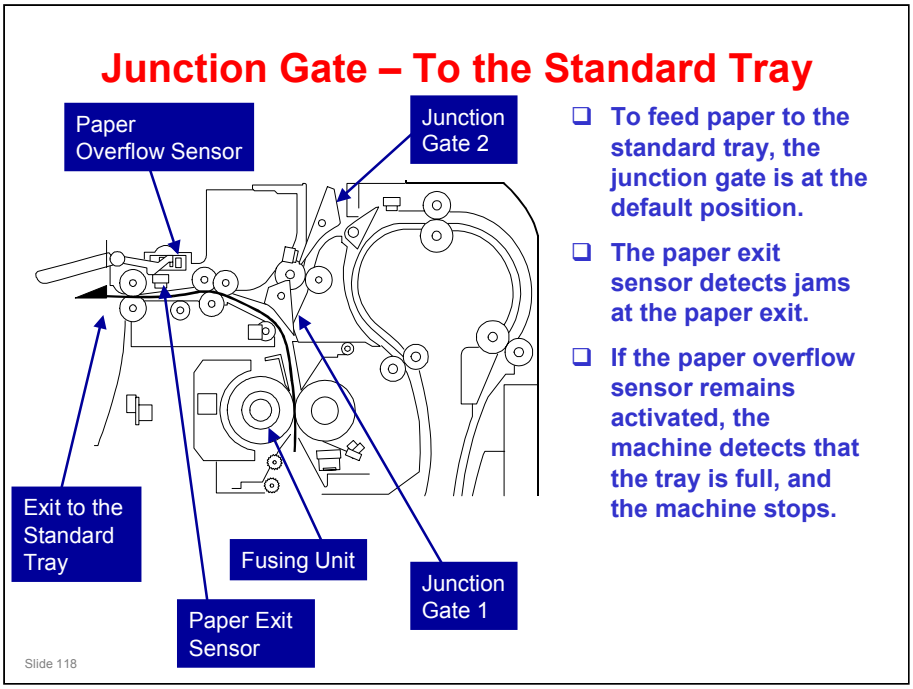


Text modified from the AP-C1 instructors guide, diagram copied from the AP-C2 TTP

- We will discuss the inverter in the Duplex section of the course.
- Junction gate 1 is controlled by the junction gate 1 solenoid
  - Home position: To the standard tray
  - The junction gate plate is normally closed by a spring
  - This spring tension is low, so the force from the leading edge of the paper can open the gate.
- Junction gate 2 is controlled by a solenoid in the optional one-bin tray. It does not operate if the one-bin tray is not installed, and the path to the one-bin tray remains closed.

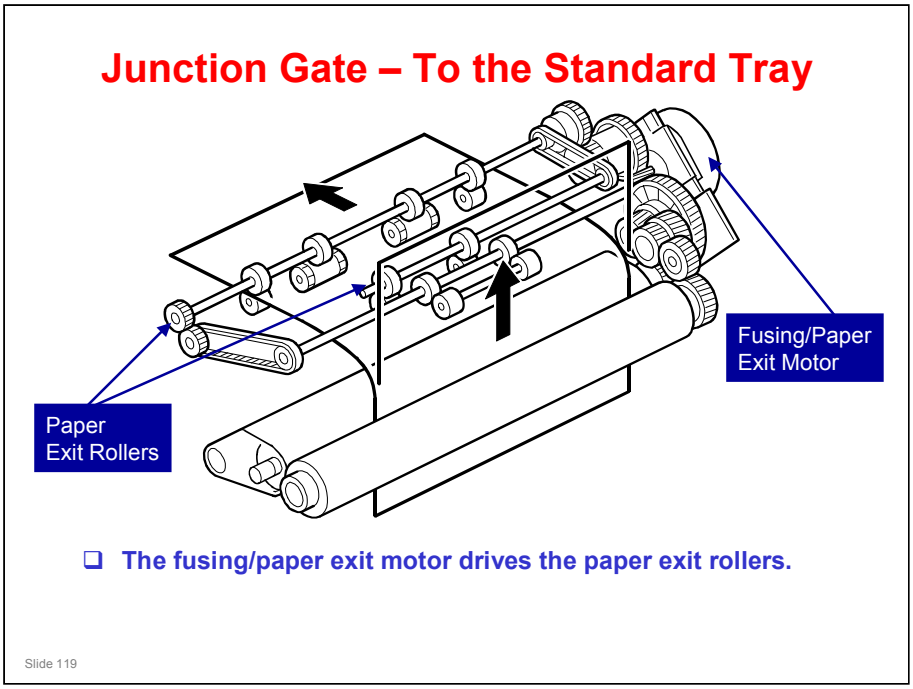


No additional notes



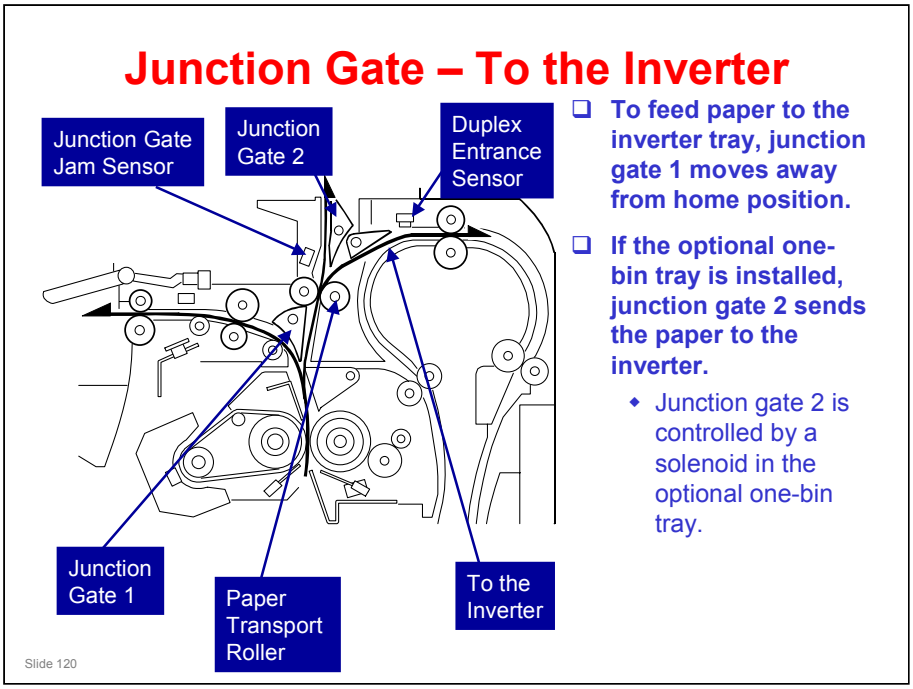
Text copied from the AP-C1 instructors guide (the diagram is new)

- This diagram shows the junction gate configuration when paper goes to the standard tray.



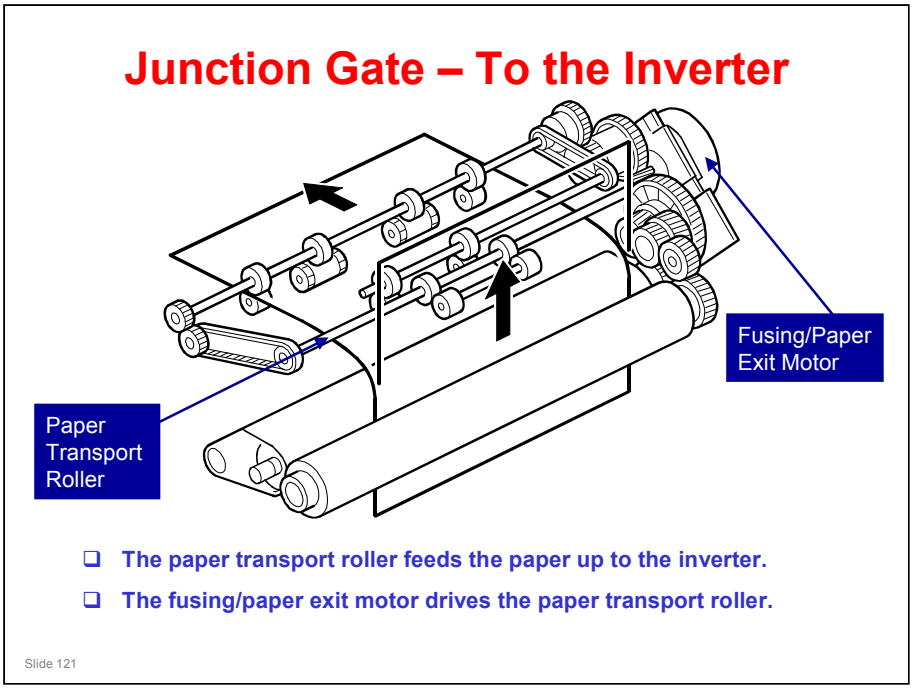
Copied from the AP-C1 instructors guide

- Here is a three-dimensional view of the mechanism.



Copied from the AP-C1 instructors guide

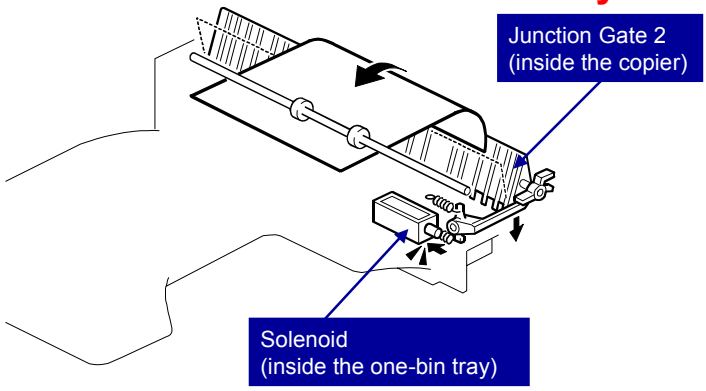
- Duplex entrance sensor: Detects jams in the inverter path
- Junction gate jam sensor: Detects jams in the exit to the one-bin tray



Copied from the AP-C1 instructors guide

- Here is a three-dimensional view of the mechanism.

Junction Gate – To the One-bin Tray



- The junction gate solenoid in the one-bin tray unit operates junction gate 2 in the main copier to send paper to the one-bin tray.

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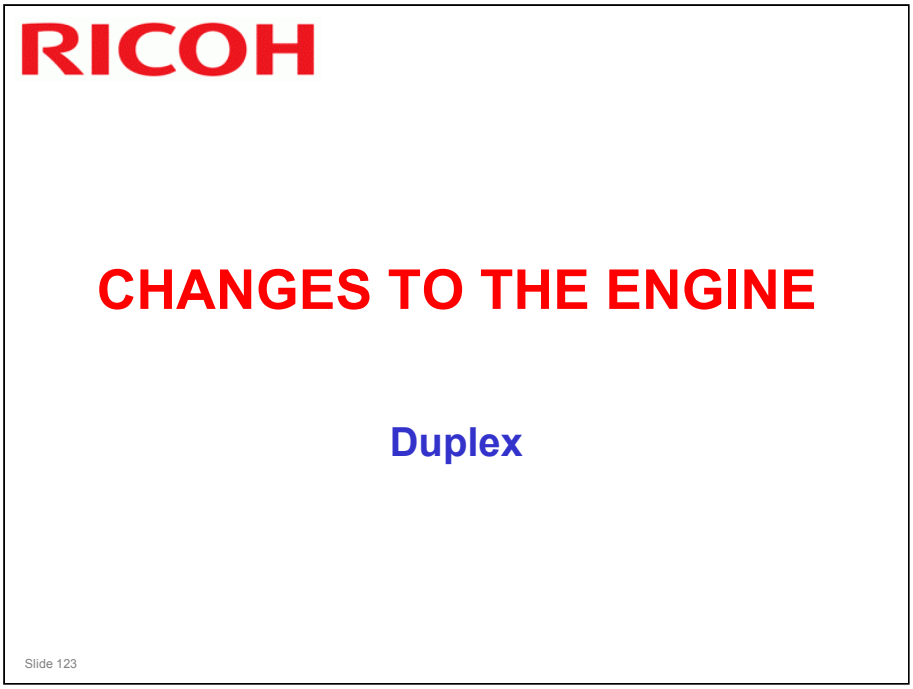
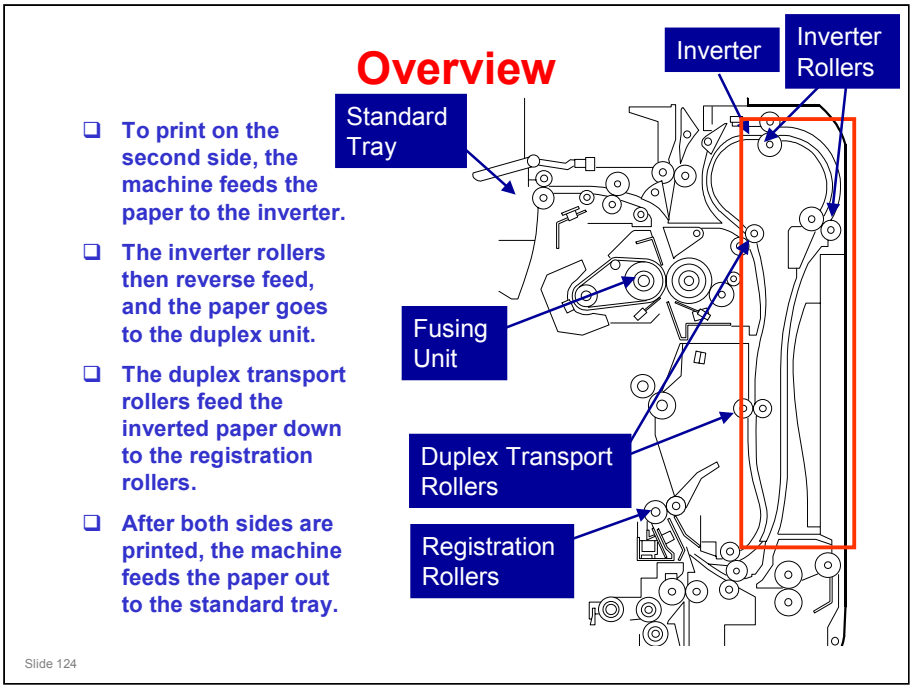
Copied from the AP-C1 instructors guide

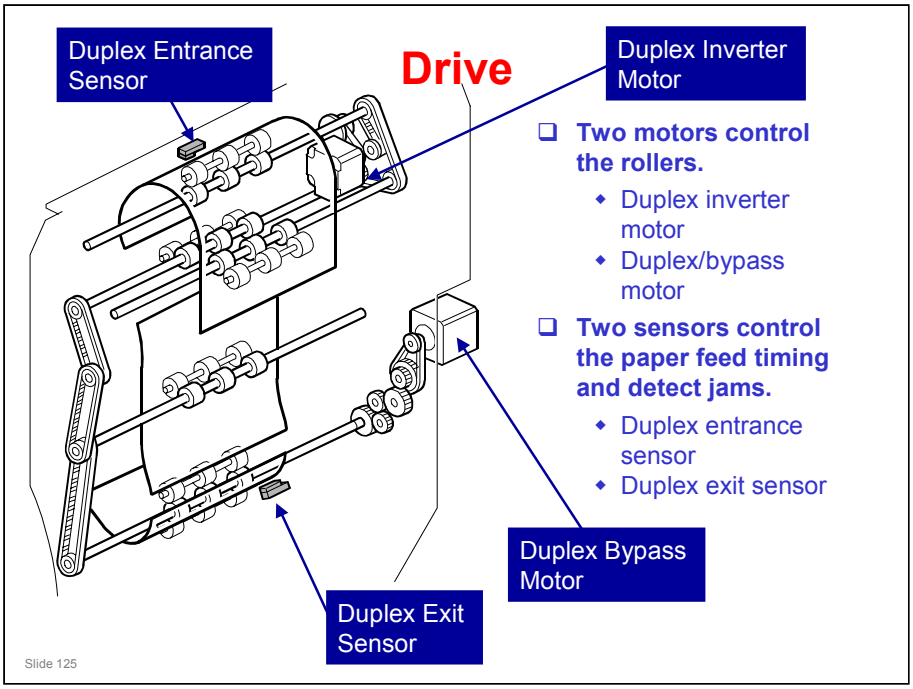


No additional notes



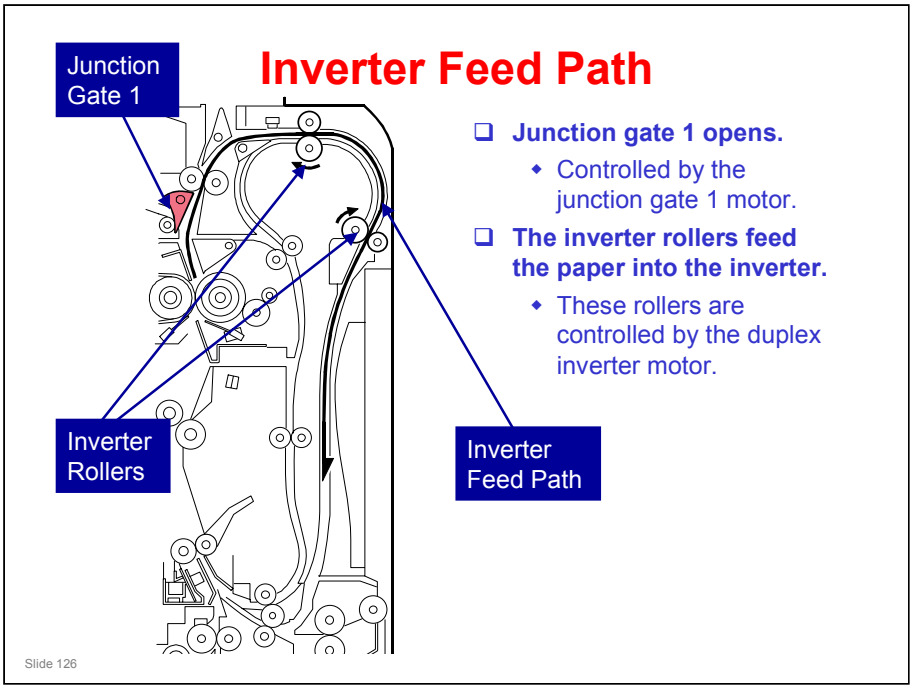
Copied from the AP-C1 instructors guide

- The duplex unit is shown in a red box in the above diagram.

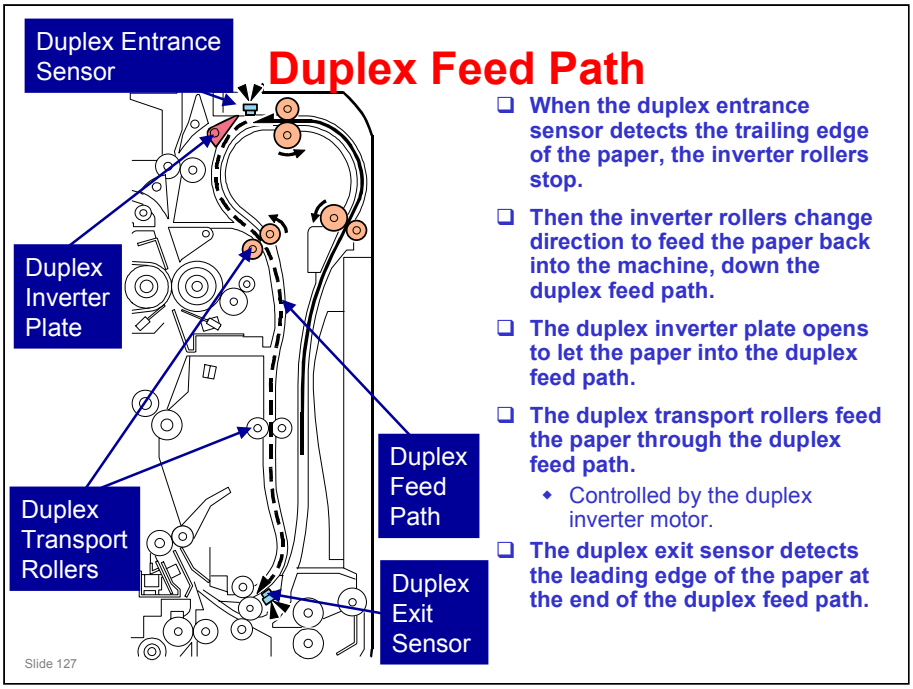


Copied from the AP-C1 instructors guide

- Similar to the AT-C1
- With interleaving, there can be three sheets of paper in the machine at the same time.

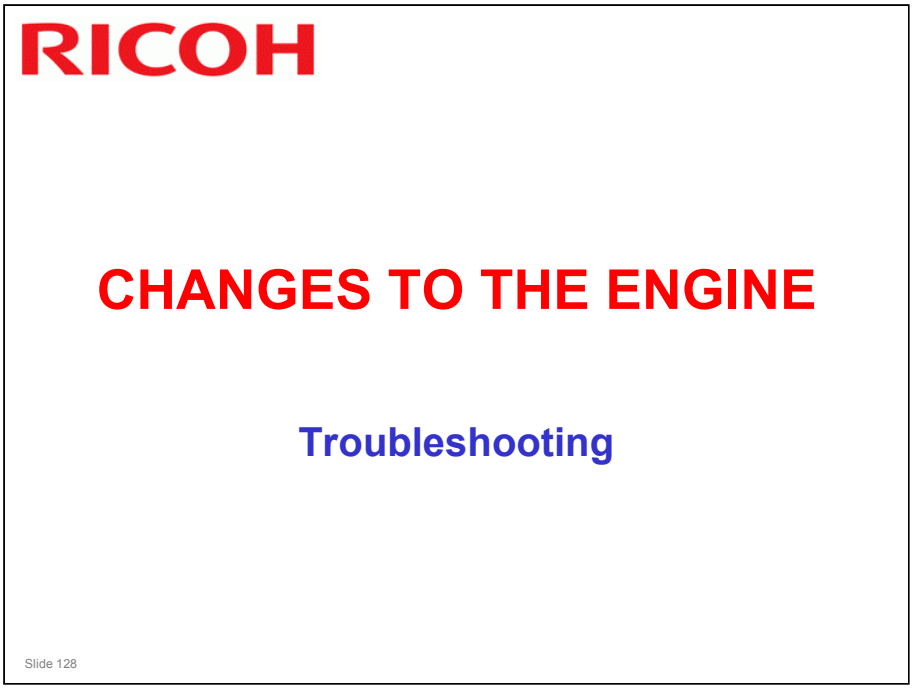


Copied from the AP-C1 instructors guide



Copied from the AP-C1 instructors guide

- Modification: The duplex inverter plate is normally closed by a spring, but this spring tension is low, so the force from the leading edge of the paper can open the duplex inverter plate.
  - In the AP-C1 series, a solenoid was used to open the plate.



No additional notes

SP Mode Changes

- SBU test changed from SP 4907 to SP 4807
- Bypass size sensor test changed from SP 5803-071 to SP 5803 011
  - This must be tested if you replace the sensor.

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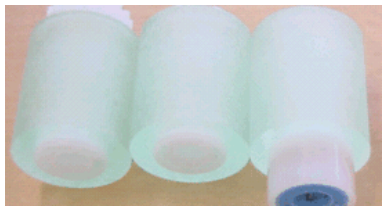
No additional notes

Black Spots on the Image

- **If you see black spots on the image, this could mean that the wrong type of paper feed unit or LCT was installed.**
- **Make sure that you install the unit for the AT-C2, and not the unit for the AL-C1.**
  - The rollers in the units for the AL-C1 use blue rubber, and the rollers in the units for the AT-C2 use orange rubber.

AT-C2 Rollers



AL-C1 Rollers

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- Spots composed of a mixture of paper dust and toner fuse to the pressure roller. These transfer to the printout, and cause black spots.
- This occurs when the customer uses paper type which causes a lot of paper dust, and in the following conditions:
  - Low coverage
  - Low P/J
  - High color ratio
  - Many one-sided prints
- The dust mainly occurs on the paper feed roller and vertical drive roller, and is attached to the fusing pressure roller, possibly with toner.

❒ This is the same as the one that is used in the D009 series copiers

Overview

- This is a small LCT attached to the side of the machine.

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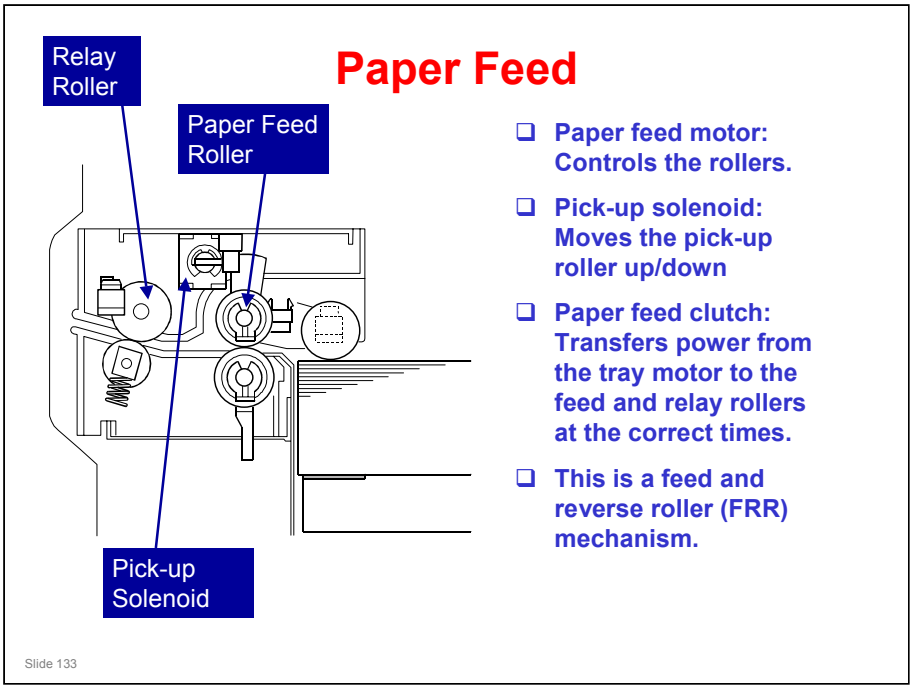
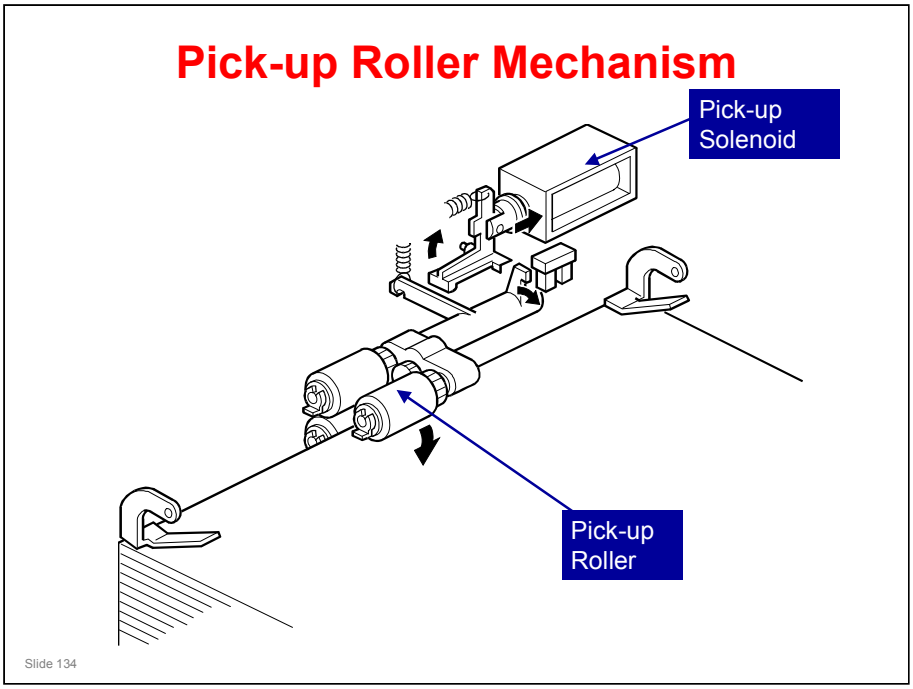
No additional notes

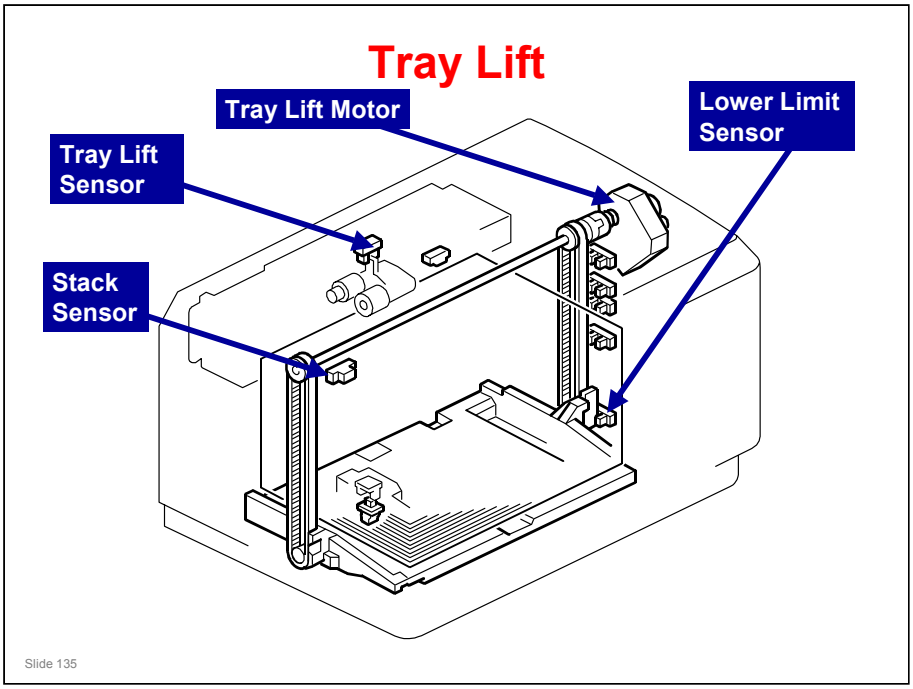


D353 Service Manual, Detailed Section Descriptions, Paper Feed Mechanism

No additional notes

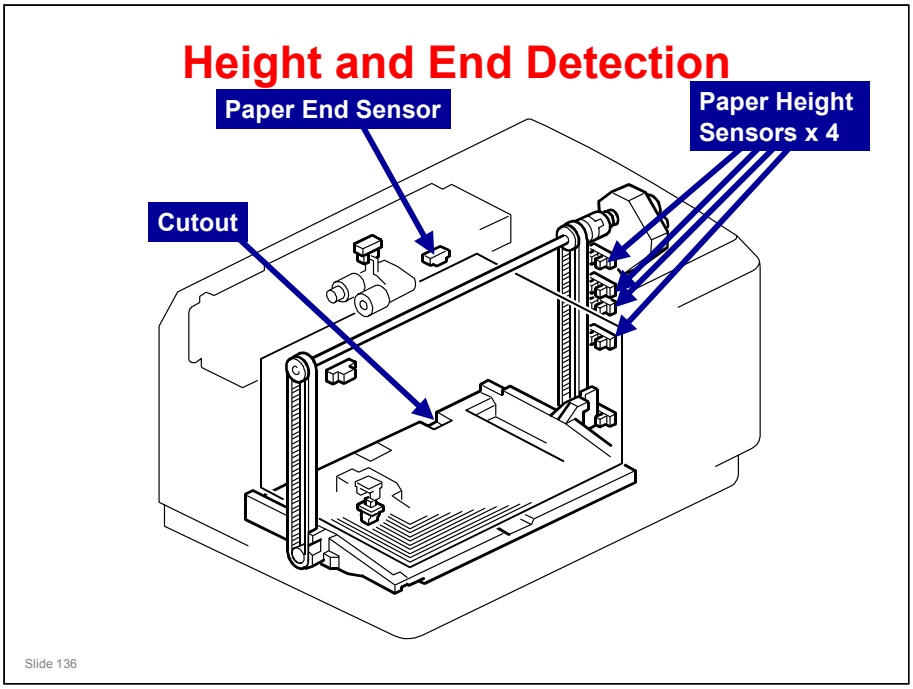


❒ This is a drawing of a similar model. Some details may be different.



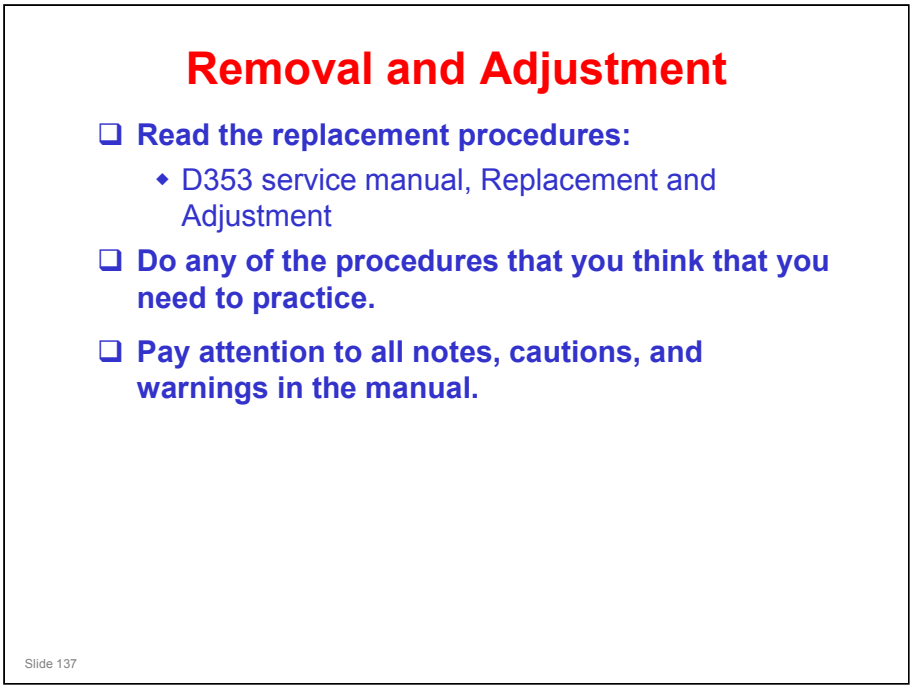
D353 Service Manual, Detailed Section Descriptions, Tray Lift Mechanism

- ❒ Study the tray lift mechanism.
- ❒ The sensors shown above control tray lifting and lowering.



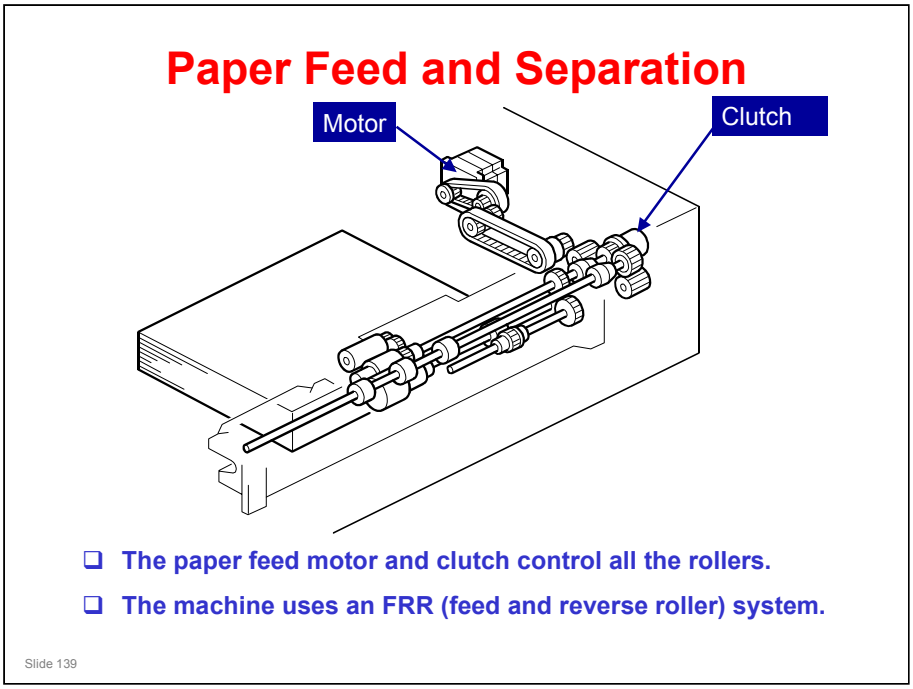
D353 Service Manual, Detailed Section Descriptions, Height and End Detection

- The height sensors detect the amount of paper in the tray, and control the indicator on the operation panel.
- The paper end sensor detects when the final sheet of paper is used, because light is no longer reflected back to the sensor.



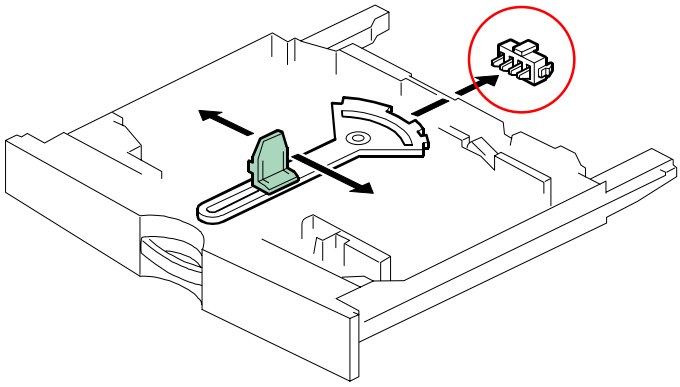
No additional notes

- This is the same as the one that is used in the AP-P1.
- The mechanisms are similar to those in the At-C1 engine.



- The paper feed motor controls all the rollers.
- The clutch transfers power to the paper feed rollers at the correct times.

Paper Size Detection



- **Both the trays are universal trays.**
- **Paper size switches: Detect the paper length**
  - The position of the sensor actuator is controlled by the position of the end fence

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- Only the length is detected directly.
- The actuator has patterns of studs on the rear.
- These studs turn the paper size switches on/off.
  - This also tells the cpu that the tray is in the machine.
  - If a paper size is used that cannot be detected by the sensors, the operator must select that size with a user tool.
- If the fence is moved, a different set of studs moves to the switches, and the machine detects a different paper size.

Size Detection – SP Modes

- **SP 5181**
  - Some paper sizes are almost the same and cannot be distinguished by the sensors.
  - To select which size is detected, use SP 5181.
    - » Tray 3: SP 5181 006 to 009
    - » Tray 4: SP 5181 010 to 013
- **SP 5131**
  - There are two sets of paper sizes in this table: North America, and Europe/Asia. SP 5131 determines which of these sets of sizes is used.

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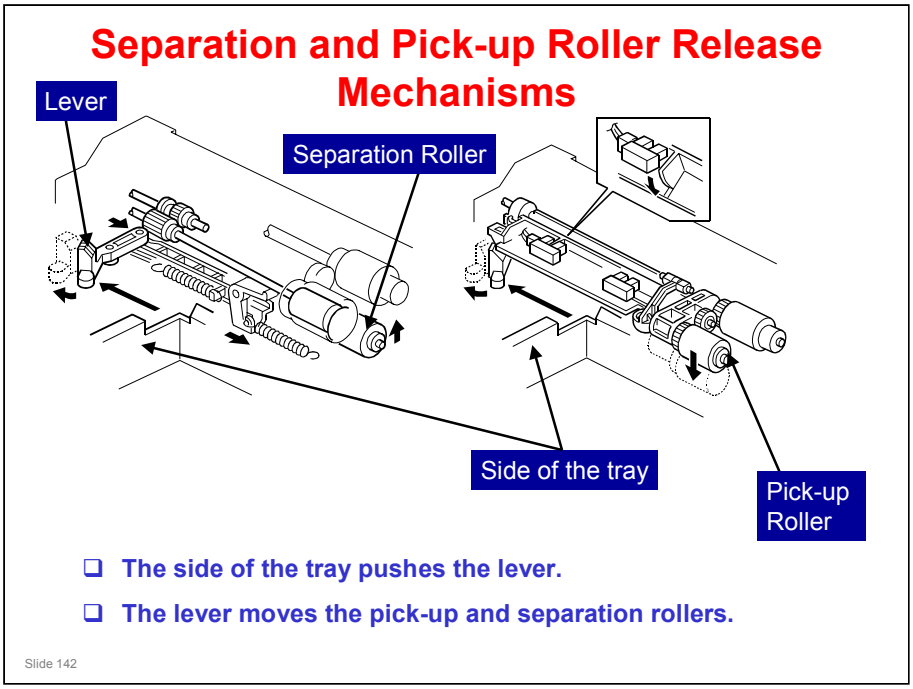
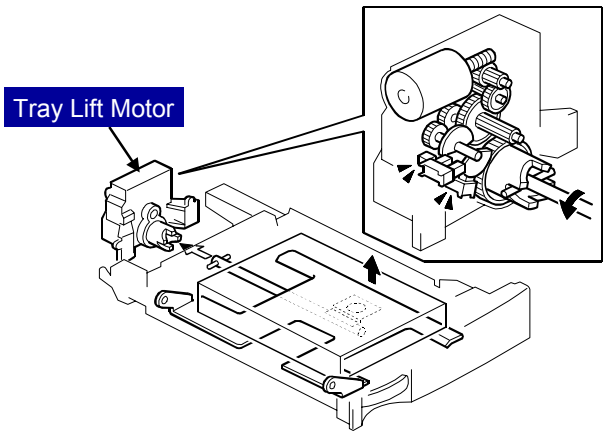
No additional notes



- When the paper tray is removed, the separation roller moves away from the paper feed roller, and the pick-up roller moves up.
  - These mechanisms prevent damage to paper that is between the pick-up and separation rollers when the tray is pulled out.
- When the tray is put in the machine, the tray pushes a lever. This moves the separation roller into contact with the feed roller, and moves the pick-up roller down onto the stack of paper.

Tray Lift

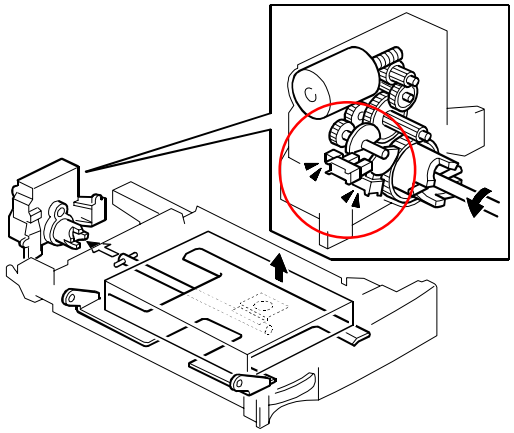


- **After the tray is detected:**
  - Tray lift motor: Lifts the tray until the lift sensor detects the top of the stack at the feed position

Slide 143

- The main points are shown above.
  - Lift sensor: see the electrical component layout.

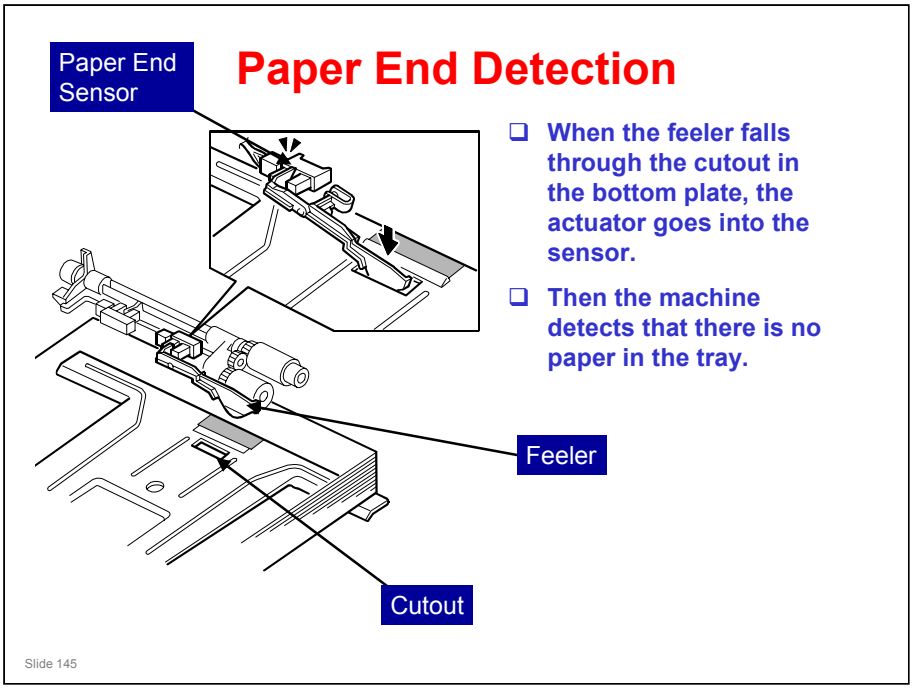
Paper Height Detection



- Two paper height sensors: Detect the quantity of paper in the tray

Slide 144

- After paper is used, the tray moves up, and the actuator on the shaft turns anti-clockwise (as seen on the diagram).
- The semi-circular actuators move in and out of the sensors. The machine detects the outputs from the sensors, and displays the remaining paper amount on the operation panel.



No additional notes

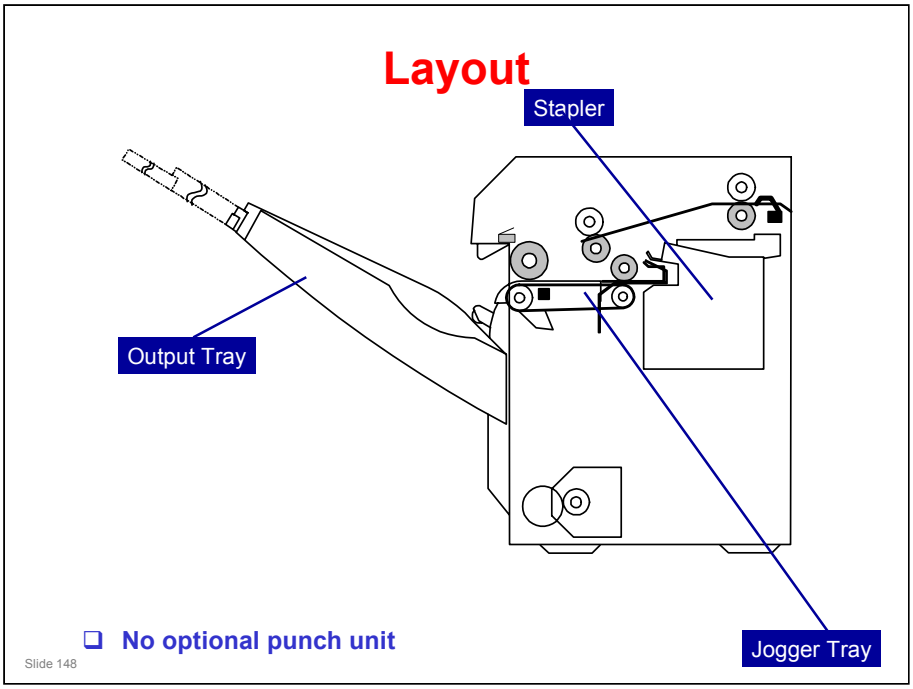
Replacement

- **Read the following procedures**
  - B800 Service Manual, Replacement and Adjustment
- **Do any of the procedures that you think that you need to practice.**
- **Pay attention to all notes, cautions, and warnings in the manual.**

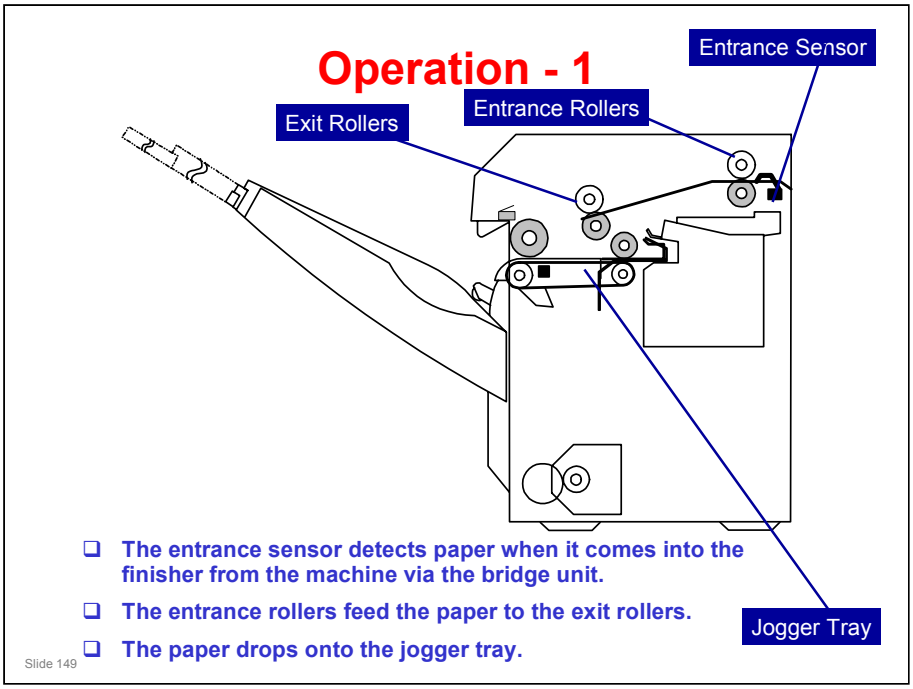
Slide 146

No additional notes

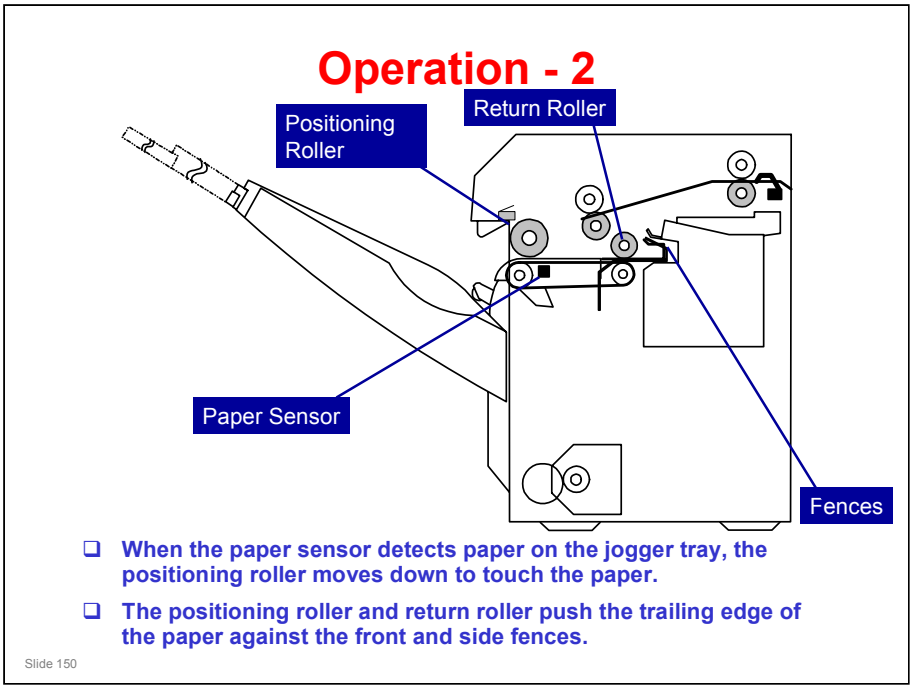
❒ This is the same as the one that is used in the D017 series copiers



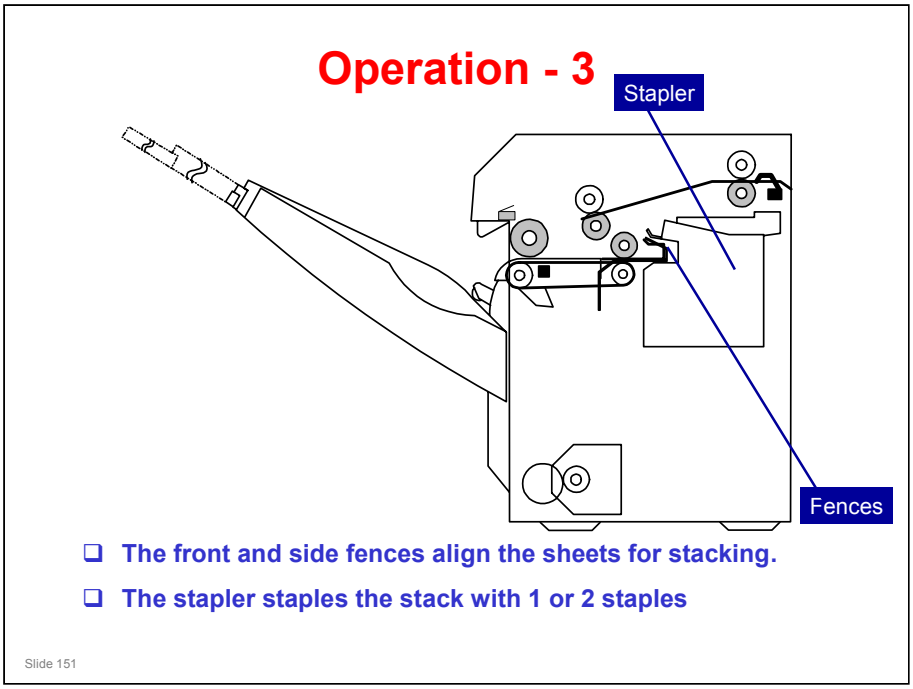
- This shows the most important parts of the machine.
- The next few slides will explain briefly how the machine works, and then there will be a more detailed explanation.



No additional notes

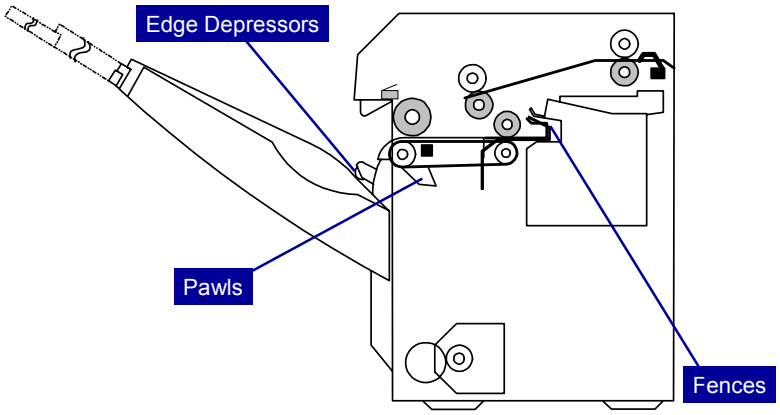


❒ The fences will be explained in more detail later.



No additional notes

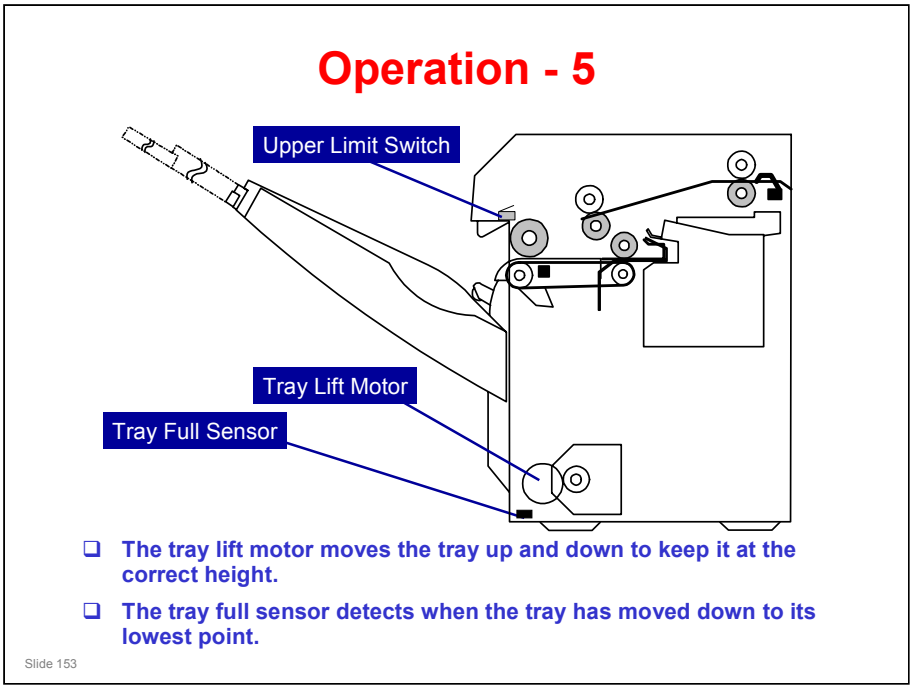
Operation - 4



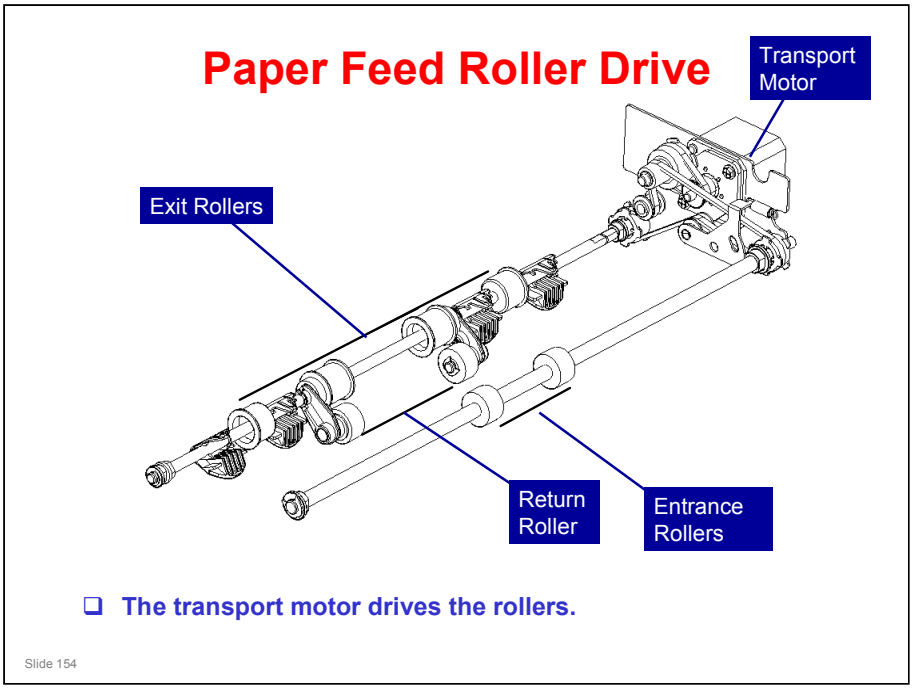
- The fences move the stack out of the stapler.
- Then the pawls on the feed-out belt push the stack out of the finisher.
- The edge depressors touch the top of the stack, to check if it is necessary to move the tray up or down.

Slide 152

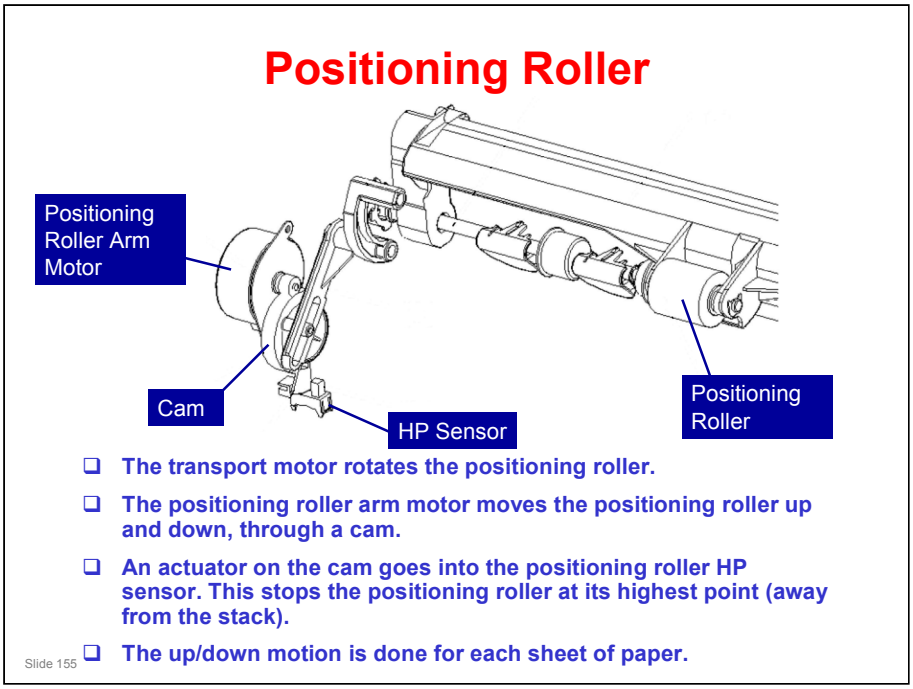
No additional notes



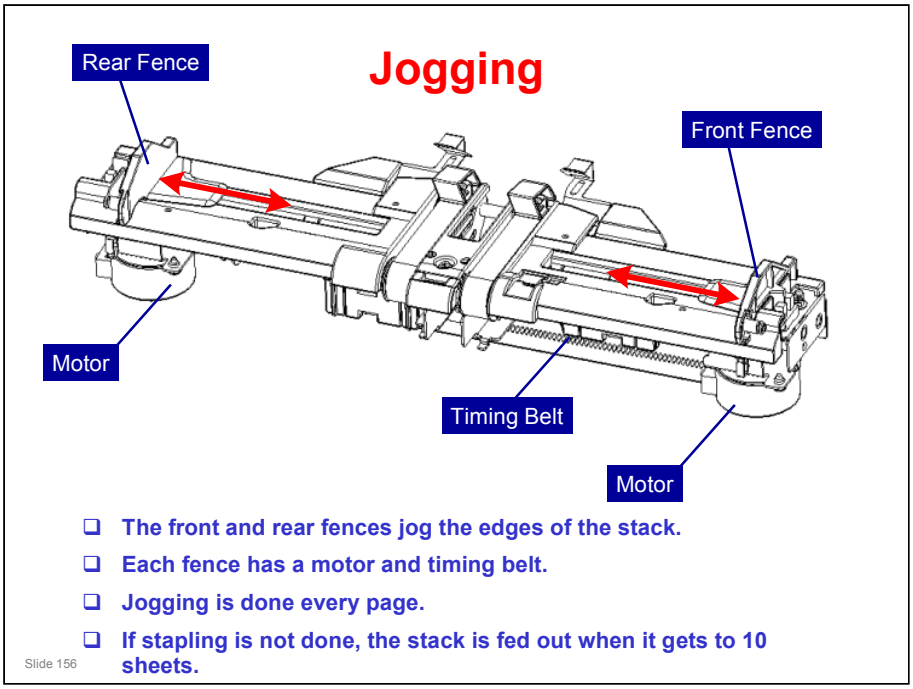
- The tray upper limit switch cuts power to the lift motor if the top of the stack touches the switch. This is a safety measure in case the tray full sensor is not working.
- There is also a paper height sensor attached to the edge depressors. We will see this later.



No additional notes

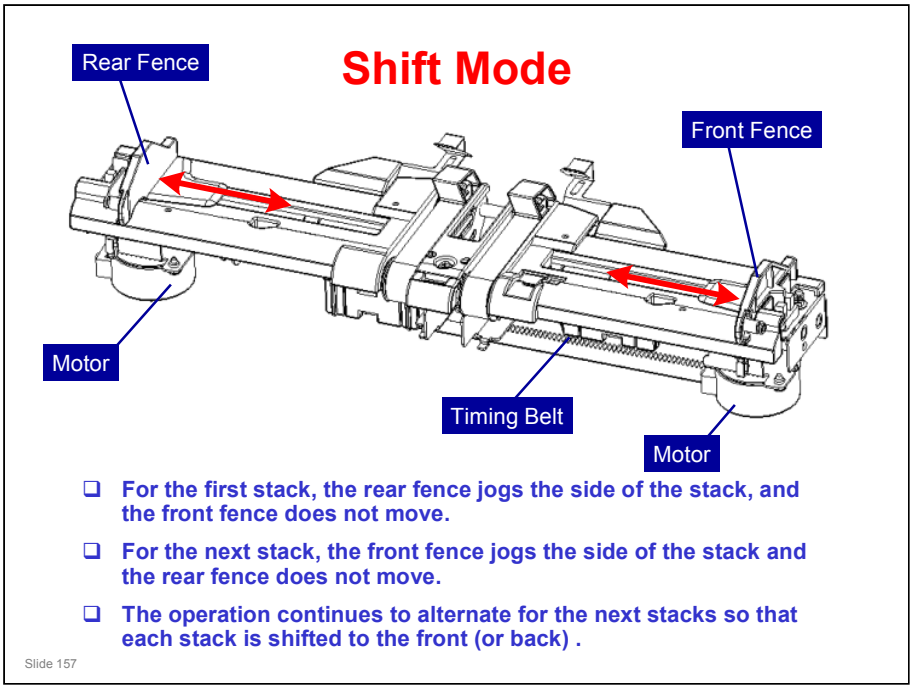


- When the positioning roller is lowered:
  - The transport motor slows down to match the speed of the main machine's exit roller.
  - At the same time,the positioning roller motor accelerates briefly, lowers the positioning roller arm and then stops.
- When the positioning roller touches the paper:
  - The positioning roller (driven by the transport roller)continues to rotate.
  - The positioning roller (and the smaller two sponge rollers),rotating against the direction of paper feed, touch the paper and send it back against the bottom fences.
  - The number of sheets that stack on the staple tray while the positioning roller motor is stopped is different for each job.
  - To meet the requirement for the increasing number of sheets,the length of prescribed time that the positioning roller is in contact with each sheet of paper is very short, regardless of the size of the stack.
  - The positioning roller arm motor remains off just long enough for the positioning roller to send the sheet against the bottom fences.
- When the positioning roller is raised:
  - The motor switches on again,raises the positioning roller arm,slows down slightly, and then the arm stops at the home position.
  - The motor slows down slightly before reaching the home position to reduce the impact and noise of the arm returning to the home position.
  - This cycle of lowering the positioning roller, touching the paper with the positioning roller and return rollers, and then lifting them again and stopping at the home position, is done for each sheet of paper.

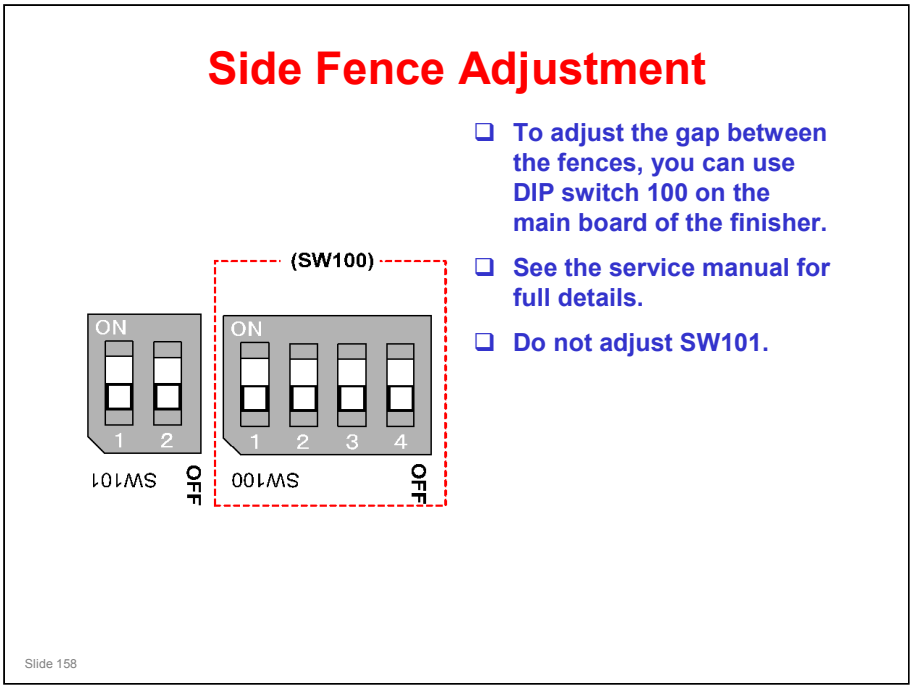


D372 service manual, Detailed Section Descriptions, Jogging, Overview

- The timing belt for the rear fence is not shown in the diagram.
- The service manual gives full details of the operation of the jogger fences.

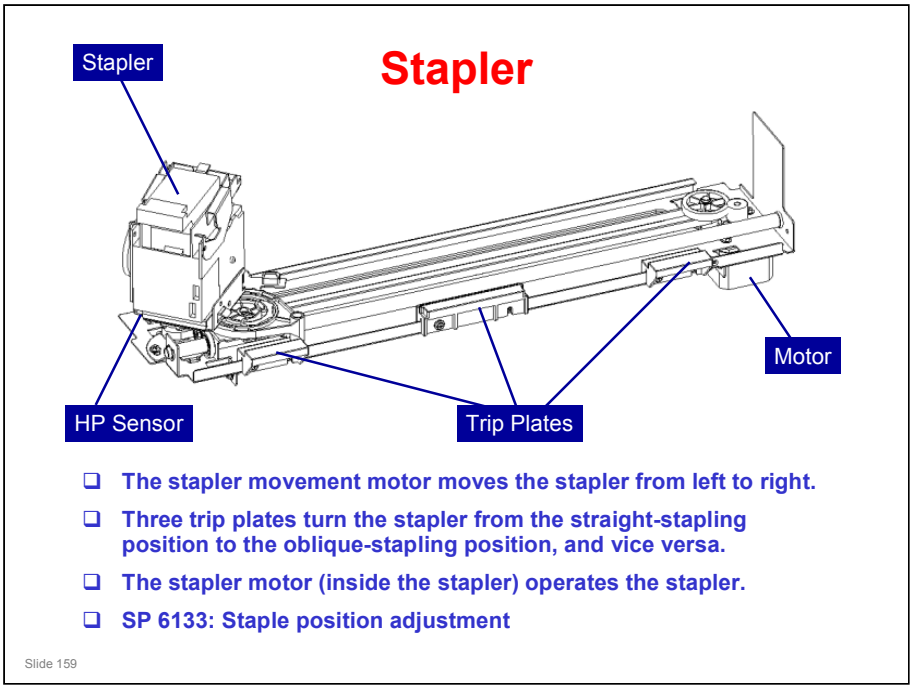


No additional notes



D372 service manual, Detailed Section Descriptions, Jogging, Side Fence Adjustment

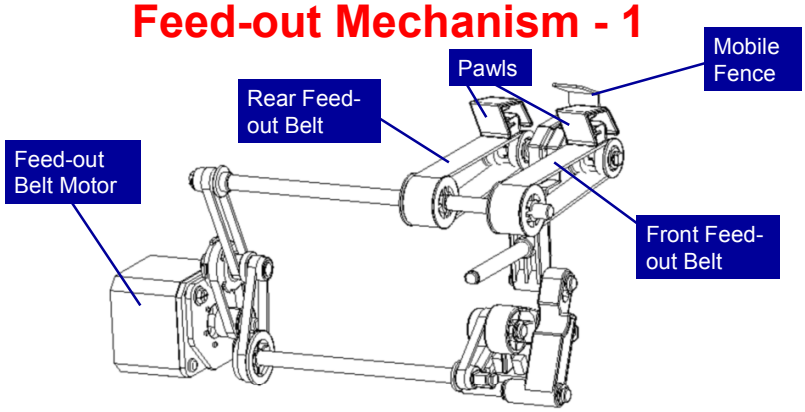
No additional notes



D372 service manual, Detailed Section Descriptions, Stapling, Overview

- The service manual shows how the trip plates rotate the stapler between the straight position and the oblique position.
- The service manual also gives full details of the components of the stapler.

Feed-out Mechanism - 1

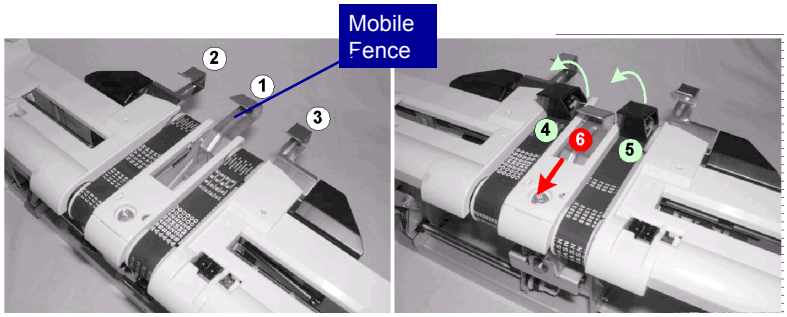


- **There are three belts: front and rear feed-out belts, and the mobile fence.**
  - The front and rear feed-out belts each have a pawl.
- **The feed-out belt motor drives this mechanism.**

Slide 160

No additional notes

Feed-out Mechanism - 2



- The mobile fence is one of three fences.
- The positioning roller feeds the trailing edge of the paper against these three fences.
- The mobile fence pushes the stack out of the machine. The other two fences do not move.

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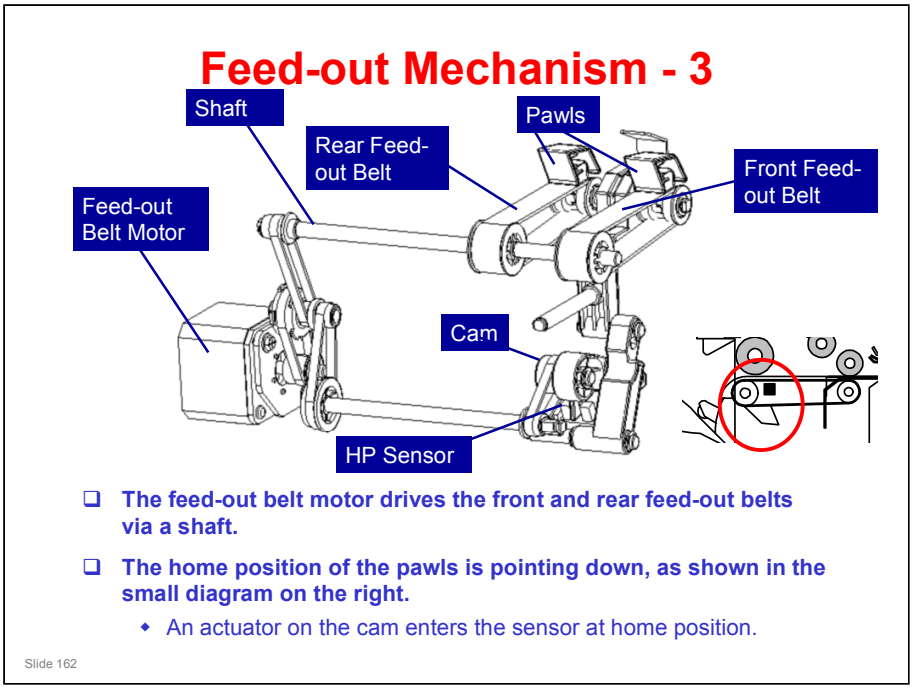
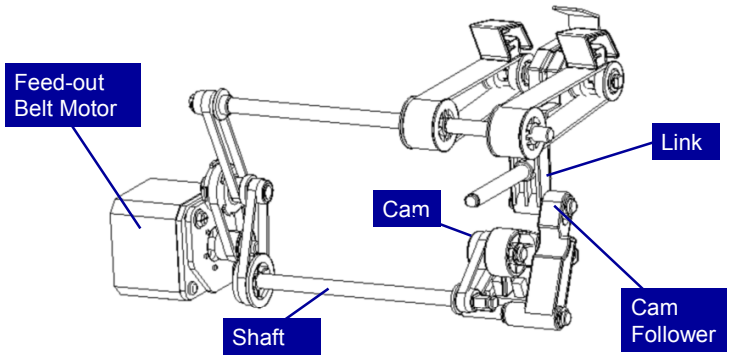
❒ The photo on the right shows the mobile fence just after it starts to move.



❒ The cam is used for the mobile fence mechanism, as shown on the next slide.

Feed-out Mechanism - 4

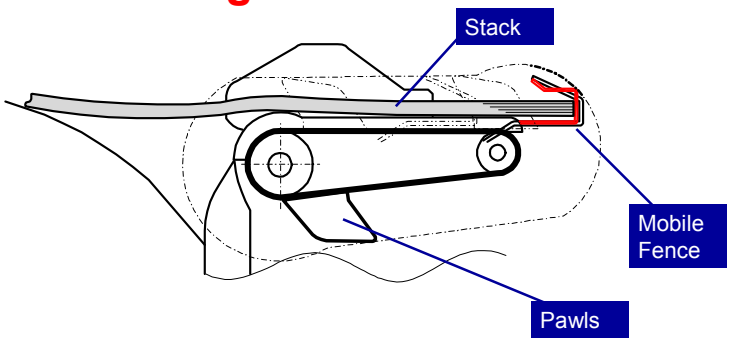


- **The feed-out belt motor drives the mobile fence via a shaft, a cam, and a link.**
  - The mobile fence returns to its home position by a spring.

Slide 163

No additional notes

Feeding Out the Stack - 1

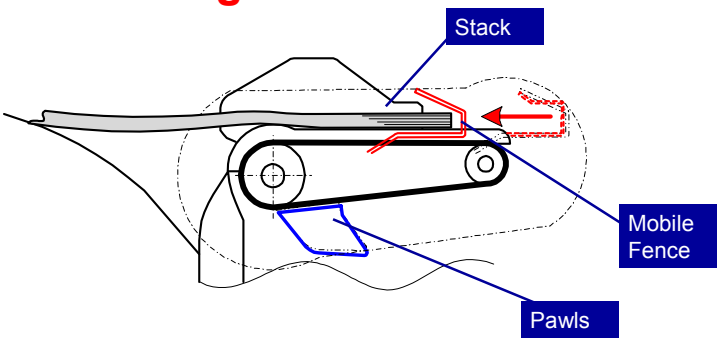


- The stack is ready to be fed out.
- The pawls on the feed-out belts are at home position.
- The mobile fence is at home position.

Slide 164

No additional notes

Feeding Out the Stack - 2

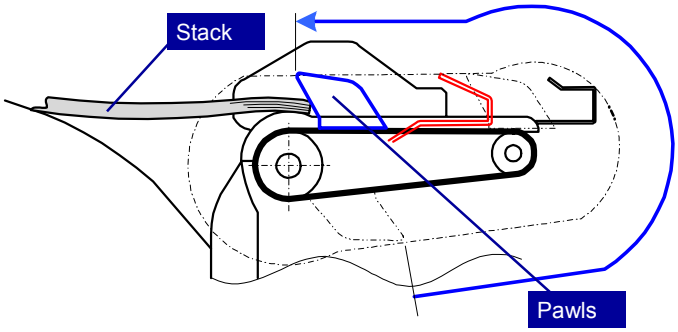


- The mobile stack pushes the stack as far as it can, then it stops.
- The pawls have not started to move yet.

Slide 165

No additional notes

Feeding Out the Stack - 3

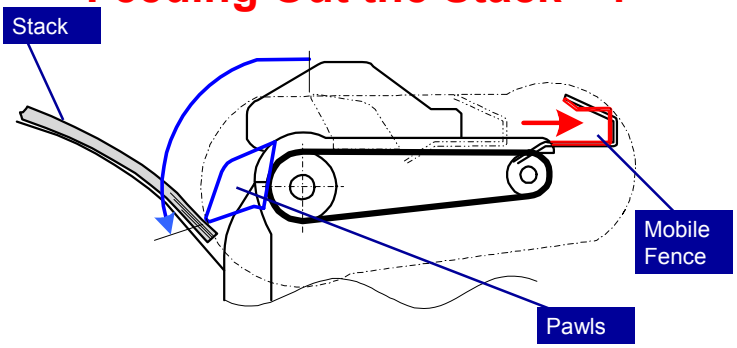


- The pawls move around quickly and push the stack towards the output tray.
- The mobile fence cannot push any more.

Slide 166

No additional notes

Feeding Out the Stack - 4

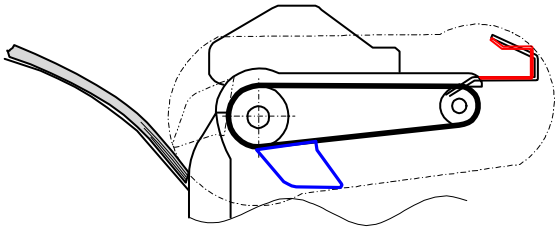


- The pawls push the stack all the way out, and continue to move towards their home position.
- A spring pulls the mobile fence back to its home position.

Slide 167

No additional notes

Feeding Out the Stack - 5



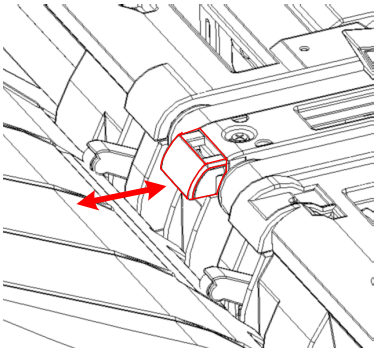
- The stack has now been fed out and all components are back at their home positions.

Slide 168

No additional notes

Using the Feed-out Extension

- Pull this out if the trailing edges of the stacks are catching on the end fence and not falling straight down onto the tray.



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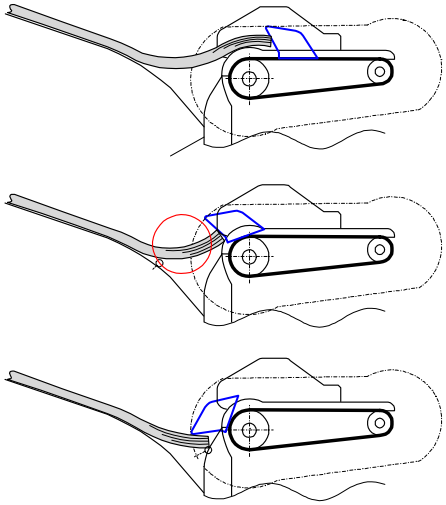
No additional notes

Without Feed-out Extension

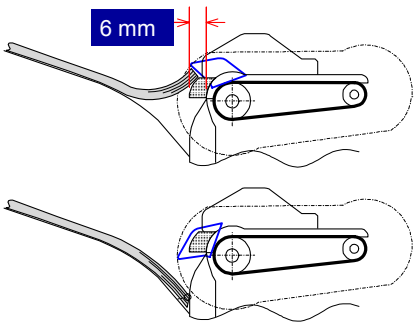


- The trailing edge of the stack bends.
- This can cause the trailing edge to catch on the end fence when it falls into the tray.

Slide 170

No additional notes

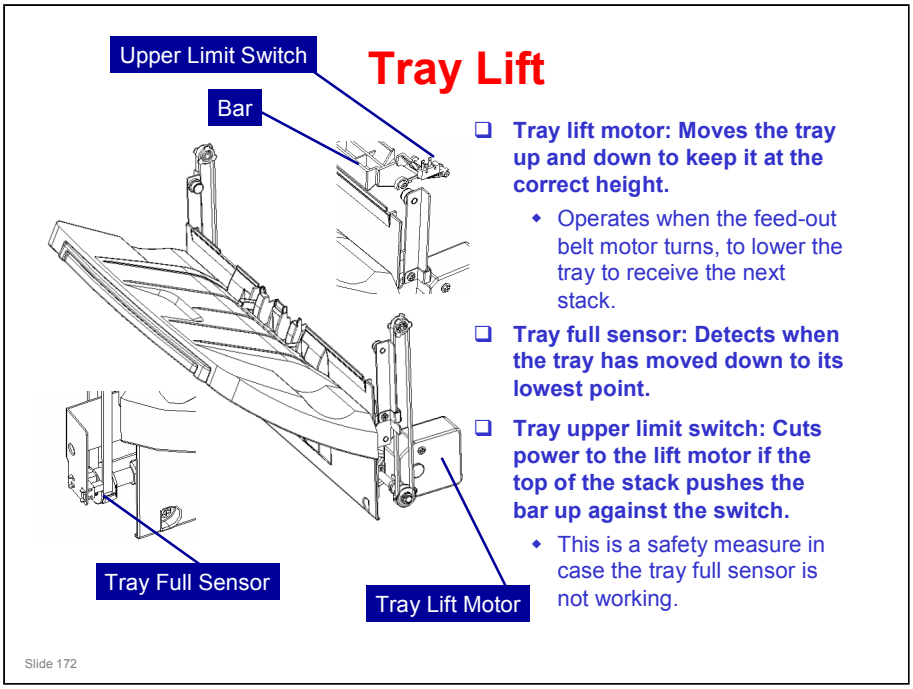
With Feed-out Extension



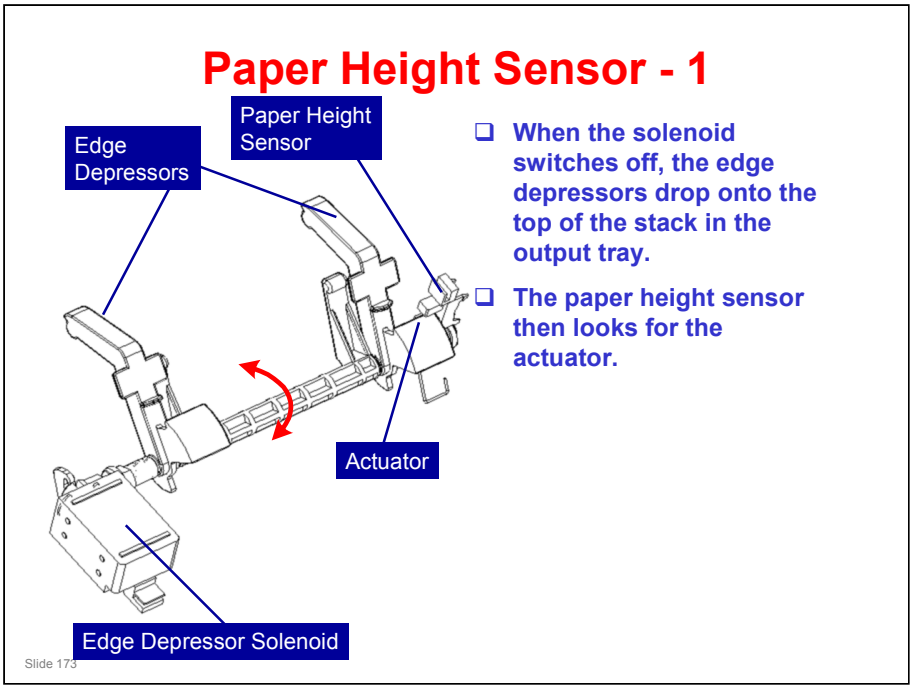
- The extension pulls out 6mm.
- The trailing edge of the stack bends more and falls into the tray with more force.
- This means it is not likely to catch on the end fence.

Slide 171

No additional notes

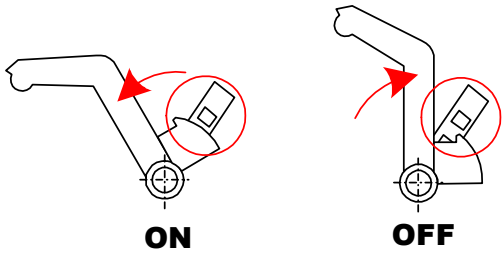


- The tray lift motor operates for 300 ms in shift mode and 500 ms in stapling mode.
  - In shift mode, the stack thickness is always 10 sheets maximum, but the stapled stack can be thicker.
- The tray full sensor is at the bottom of the machine.
- The tray upper limit switch is at the top of the machine.
- The machine detects the tray's status with the output of these two sensors, in combination with the paper height sensor (see the next slide for details on the paper height sensor).



❒ See the next slide.

Paper Height Sensor - 2



- If the actuator is in the sensor, the tray lift motor lifts the tray until the sensor goes off. This is the start position to receive the output.
- If the actuator is not in the sensor, the tray lift motor lowers the tray until the sensor turns on. Then the tray lift motor lifts the tray until the sensor goes off. This is the start position to receive the output.

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No additional notes

Removal and Adjustment

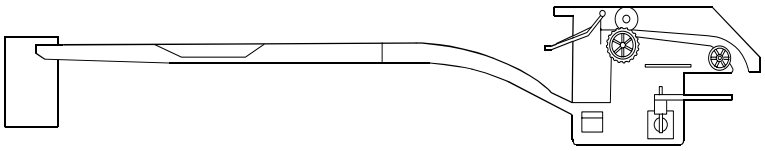
- **Read the replacement procedures:**
  - D372 service manual, Replacement and Adjustment
- **Do any of the procedures that you think that you need to practice.**
- **Pay attention to all notes, cautions, and warnings in the manual.**

Slide 175

No additional notes

❒ This is the same as the one that is used in the B222 (AP-C1) series copiers

Overview



- This unit adds an output tray. It does not replace the tray that is supplied with the machine.
- It is not a sorter, because the tray and/or the rollers do not move from side to side.
- With more than one output tray, the user can (for example) send copy-mode outputs to the standard output tray, and fax-mode outputs to the 1-bin tray.

Slide 177

- To send output to a different output tray for each mode, the user adjusts this user tool: User Tools - System Settings - General Features - Output: Copier, Output: Facsimile, etc
  - The one-bin tray is called 'Internal Tray 2'.
  - Internal tray 1 is the standard output tray, or if the bridge unit is installed, it is the tray on top of the bridge unit.

Components

- The main motor in the copier operates the tray. There is no motor in the tray.
- The junction gate solenoid in the one-bin tray unit operates a junction gate in the main copier to send paper to the one-bin tray.
- The paper sensor in the one-bin tray checks if there is paper in the tray. Then, if there is paper, the LED on the side of the tray lights.

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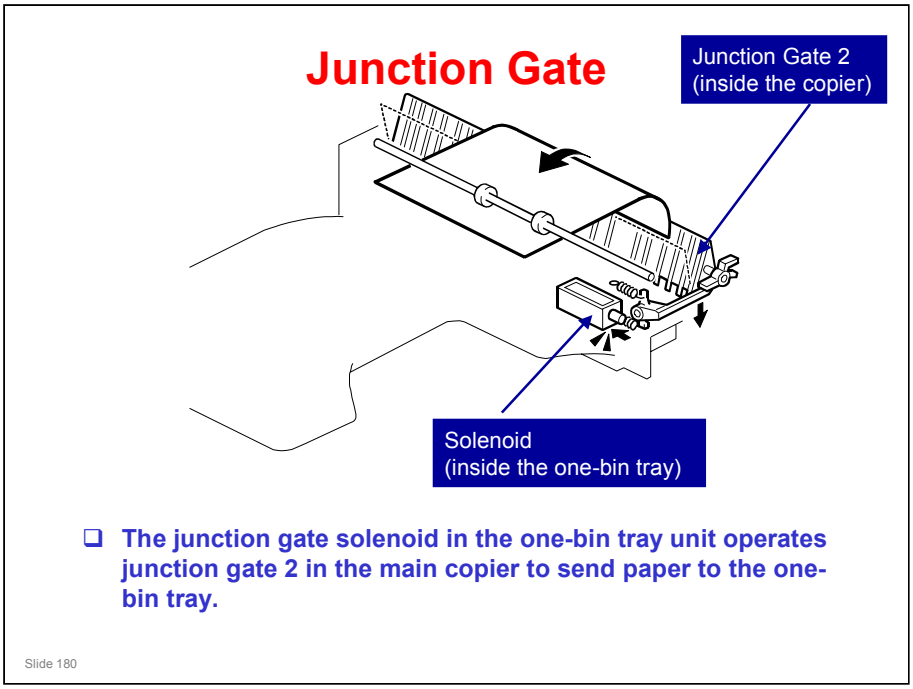
No additional notes

LED on the One-bin Tray

- **This LED lights when an output arrives on the one-bin tray.**
  - The one-bin tray is an optional device.
- **If the one-bin tray is set up to receive fax messages, then the LED tells the customer when a fax message has been printed.**

Slide 179

No additional notes



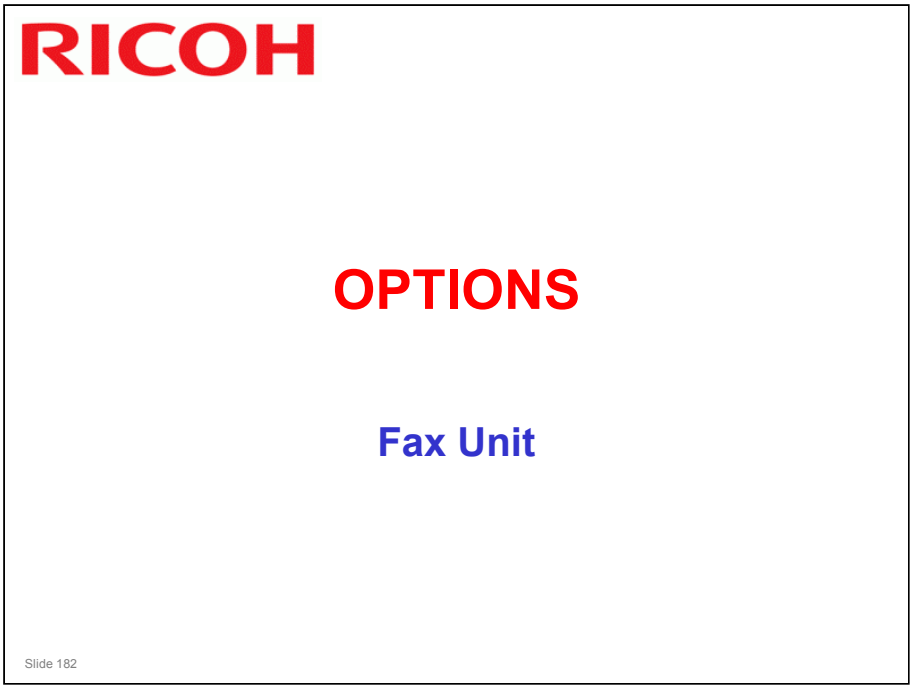
No additional notes

Replacement

- Study the following procedures
  - B803 Service Manual, Replacement and Adjustment
- Do any of the procedures that you think that you need to practice.
- Pay attention to all notes, cautions, and warnings in the manual.

Slide 181

No additional notes



No additional notes

Installation

- **In this machine, the mother board is not part of the installation procedure. It is not part of the fax unit.**
- **The fax unit is installed in the controller box.**
  - In the previous model, it is installed at the rear of the machine.

Slide 183

No additional notes