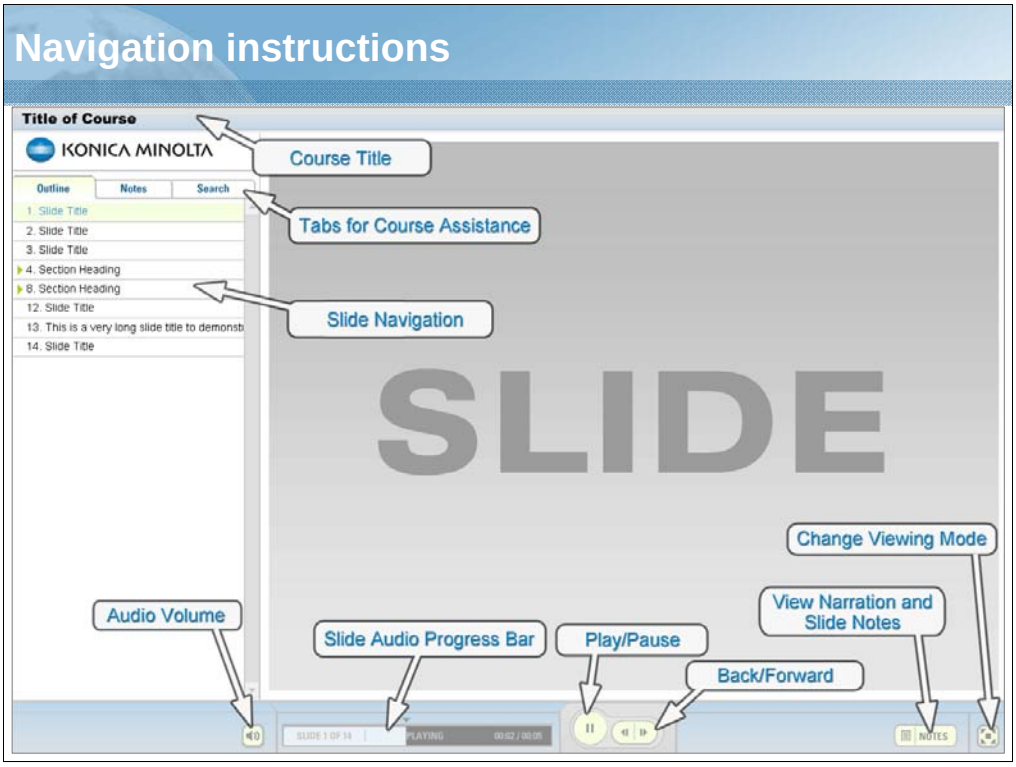
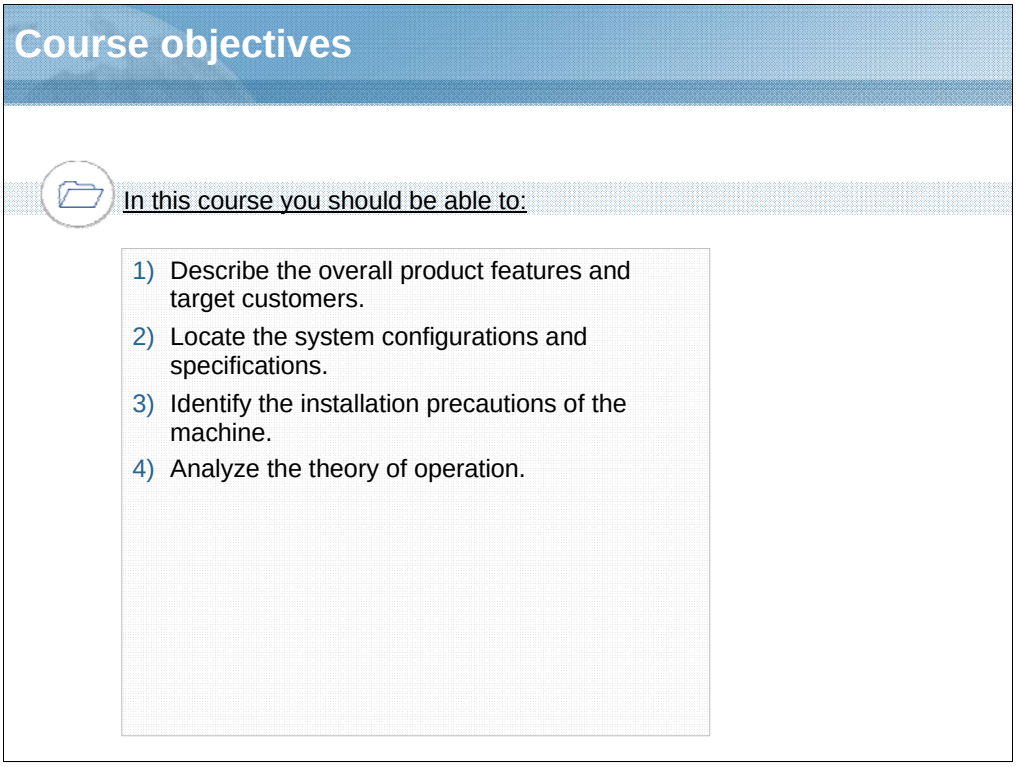
NARRATION: Welcome to the Konica Minolta bizhub C25 Introduction and Main Body/Engine Technical Training course.

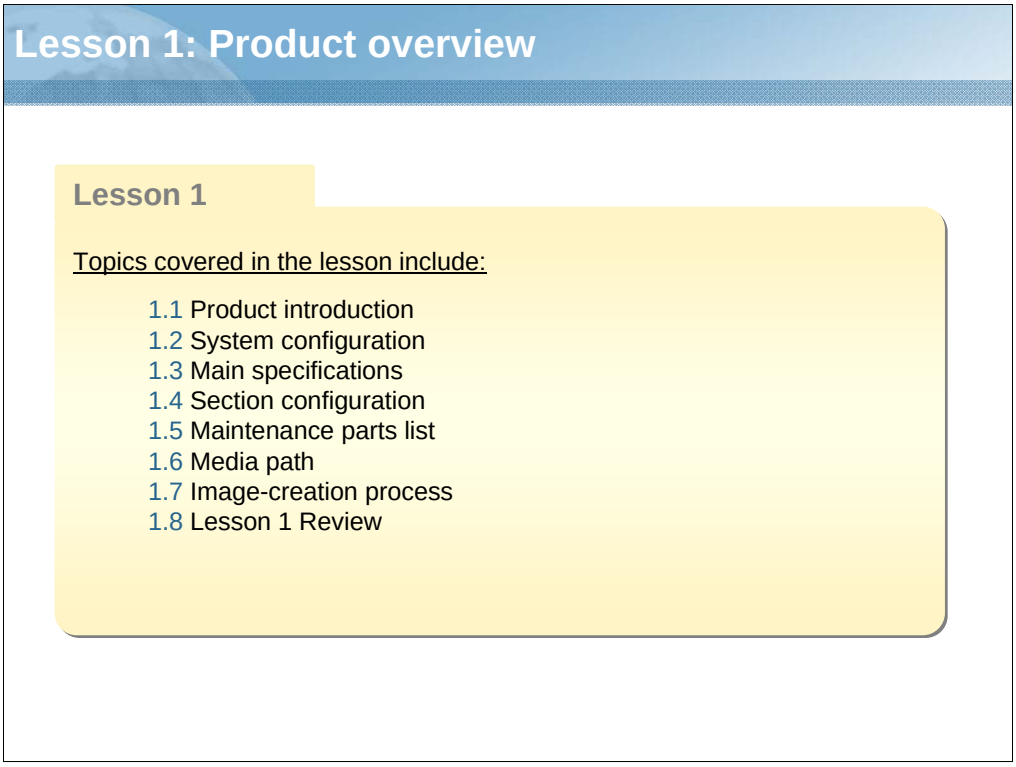
Please take the test after completing this course.



NARRATION: This screen provides an overview on how to navigate through this course.



NARRATION: In this course you should be able to:
Describe the overall product features and target customers,
Locate the system configurations and specifications,
Identify the installation precautions of the machine,
and analyze the theory of operation.



NARRATION: This lesson explains the overview of this product.

1.1 Product introduction

❖ Product Concept

An A4 color MFP that helps to achieve the taking of total print volume for the entire office when linked with A3 black & white MFPs.

❖ Product Positioning

As the successor to the bizhub C20, the bizhub C25 is the lowest priced bizhub MFP which will strengthen KONICA MINOLTA's MFP line-up in the MFP channel.

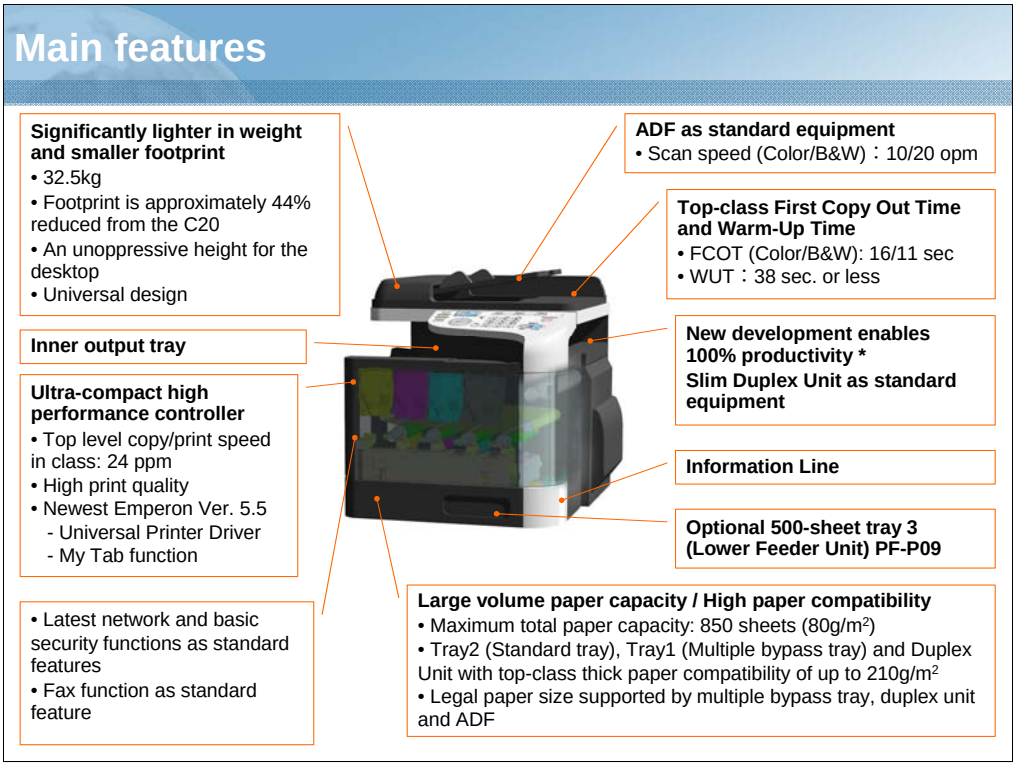
❖ Target Market

• Users: Work teams and satellite offices of major accounts.
(The higher-end C35 is for workgroups with large print volumes.)

• Instalment purpose: Replacement for A4 B&W machines and A3 segment 1b users, and new instalments.

• Usage pattern: Minimum necessary all-in-one features / Use A3 MFP-linked functions.

NARRATION: This is the concept and target market of this product.



NARRATION: These are some of the main features of the MFP.

NOTE:

* Printing both sides only

* Excludes originals containing both color and B&W areas.

* Speed of continuous printing of up to 100 sides. PPM control is applied when exceeding 100 sides.

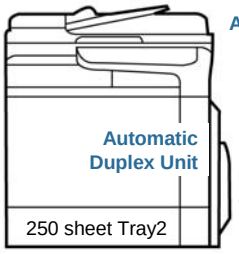
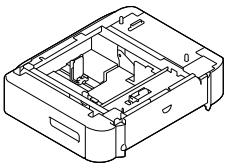
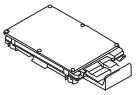
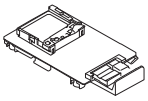
Lightweight and Compact Design

An all-in-one MFP with the ultra-compact body and small footprint like a printer

Compared to previous bizhub C20: **44% reduction**

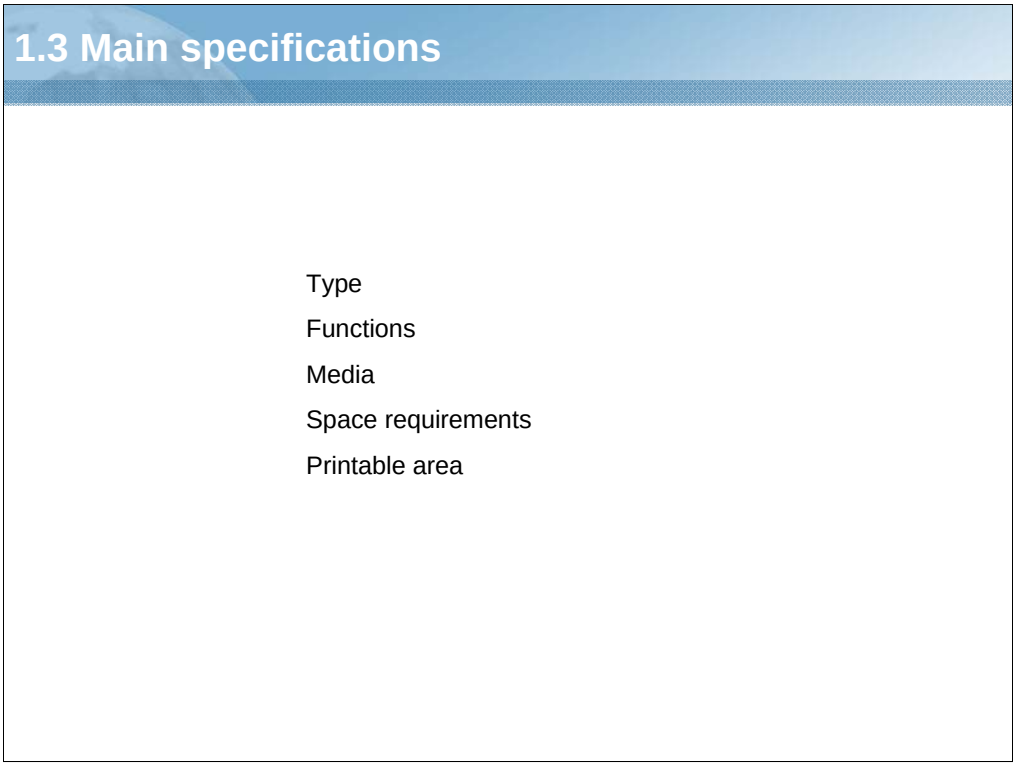
NARRATION: This is an explanation of the lightweight and compact design.

1.2 System configuration

Standard	 ADF Automatic Duplex Unit Multiple Bypass Tray (100 sheet Tray1) 250 sheet Tray2
Options	 PF-P09 (Lower Feeder Unit) 500 sheet Tray3  HD-P03 (Hard disk kit)  MK-725 (Compact Flash Adapter)

* HD-P03 and MK-725 cannot be installed together.

NARRATION: One pager feed unit, PF-P09, can be added as an option for the bizhub C25. Hard disk kit HD-P03 and Compact Flash Adopter MK-725 are also options.



NARRATION: These product specifications will be covered.

Differences

	bizhub C25 	bizhub C35 
Footprint	Minimum	Small
Continuous copying speed (A4)	24 ppm	30 ppm
Optional paper trays	500-sheet x 1	500-sheet x 2
Control panel	LCD panel 	4.3-inch touch panel 
bEST	Not supported	Supported
IC card authentication	Not supported	Supported
1-to-1 copying speed (A4)	Colour: 20 cpm (300 x 300 dpi) 10 cpm (600 x 300 dpi) B/W: 20 cpm (600 x 300 dpi)	Colour/B&W: 30 cpm (600 x 300 dpi)
Scanner reading method	CIS	CCD
ADF	Manual duplex	Auto duplex
HDD	Optional (40GB)	Standard (120GB)
Authentication function	Not supported	Supported
Multi-access	Not supported	Supported
PageScope Enterprise Suite	Not supported	Supported
Emperon	Supported	Supported
CSRC	Supported	Supported

NARRATION: Here are the differences between the bizhub C25 and bizhub C35.

Type

	bizhub C25	
Type	Desktop tandem full-color A4 laser beam printer	
Printing system	Semiconductor laser and electrostatic image transfer to plain paper	
Exposure system	4 laser diodes and 1 polygon mirror	
PC drum type	OPC (organic photo conductor)	
Photoconductor cleaning	Blade cleaning system	
Resolution	Copying	600 x 600 dpi
	Scanning	600 x 600 dpi, 600 x 300 dpi (when using ADF)
	Printing	600 x 600 dpi x 3 bit
Original scanning	Flatbed CIS scanning system	
Developing system	Single-element developing system	
Charging system	Charge roller system	
Image transfer system	Intermediate transfer belt system	
Media separating system	Curvature separation + Charge-neutralizing system	
Fusing system	Belt fusing system	

NARRATION: This is the list of the product specifications.

Functions

	bizhubC25	
Warm-up time	Time until machine is ready to begin printing after being turned on (at room temperature (23°C/73.4°F) Avg. 38 seconds	
First print time	Black and white/color: 16.0 seconds for A4/Letter (plain paper)	
First copy	Black and white	11.0 seconds for A4/Letter (plain paper) (600 x 300 dpi, fastest speed)
	Color	16.0 seconds for A4/Letter (plain paper) (600 x 300 dpi, fastest speed)
Print speed	Monochrome/Full Color: 24/24 pages per minute for A4 (plain paper)	
Copy speed	Monochrome/Full Color: 24/24* pages per minute for A4 (plain paper) * When using ADF: 20 pages per minute (Monochrome, 600 x 300 dpi) 20 pages per minute (Full color, 300 x 300 dpi) 10 pages per minute (Full color, 600 x 300dpi)	
Standard memory	Printer (MFP board/2): 256 MB, Copier (MFP board/1): 128 MB	
Hard Disk Drive (Option)	40GB (User's usage area)	
Interfaces	USB 2.0 (High-Speed) compliant, 10Base-T/100Base-TX/1000Base-T (IEEE 802.3) Ethernet, Host USB (PictBridge1.0, USB Device Printing), RJ-45 connector	
Process speed	144 mm/sec: Plain paper (60-90g/m^2) 72 mm/sec: Thick stock 91-210g/m^2, postcard, envelope, label	
Machine life	400,000 prints or 5 years, whichever comes first	

NARRATION: This is a continuation of the product specifications.

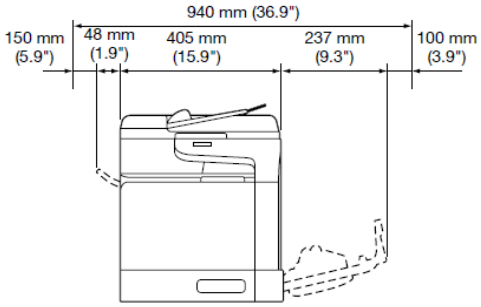
Media

		bizhubC25
Media sizes	Tray 1 (Manual feed tray) / Tray 2 (Standard tray)	Paper width: 92 to 216 mm (3.6" to 8.5") Paper length (Tray 1): 148 to 356 mm (5.8" to 14.0") Paper length (Tray 2): 148 to 297 mm (5.8" to 11.7") * Envelopes with a width of 220 mm can be printed from Tray 1 (manual feed tray).
	Tray 3 (Optional tray)	A4, B5, Executive, Letter, G-Legal, Legal
Media type/ Input capacity	Tray1 (Manual feed tray)	Plain/Recycled paper: 100 sheets Envelope: 10 envelopes Label/Postcard/Thick 1/Thick 2/Glossy1/Glossy2/Letterhead /Postcard: 20 sheets
	Tray 2 (Standard tray)	Plain/Recycled paper: 250 sheets Label/Postcard/Thick 1/Thick2/Glossy1/Glossy2/Letterhead /Postcard:20 sheets
	Tray 3 (Optional tray)	Plain/Recycled paper: 500 sheets
Output capacity		Output tray: 150 sheets (plain paper) / 10 sheets (special paper)

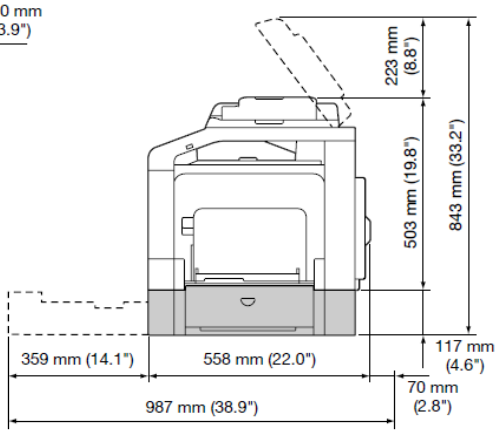
NARRATION: Here are the media specifications.

Note:* The machine does not support OHP film. Therefore, OHP film cannot be used on the machine.

Space requirements



<Front View>

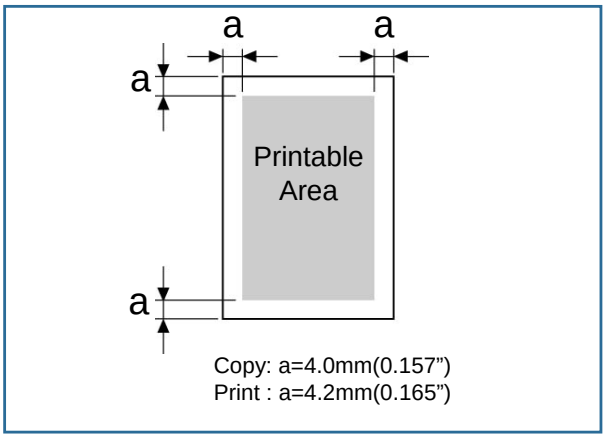


<Side View with Options>

NARRATION: These diagrams illustrate the space requirements for the bizhub C25.

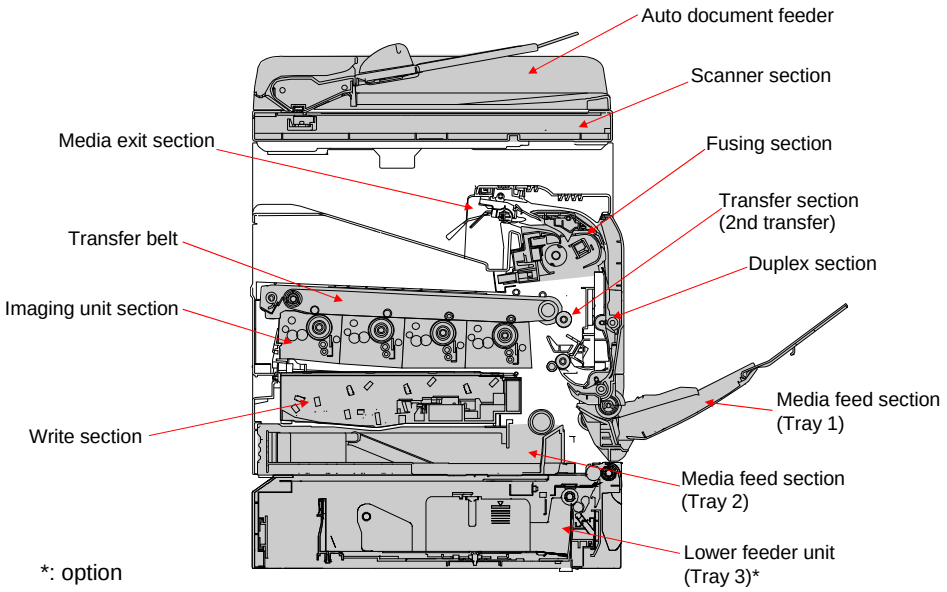
Printable area

Each media size has a specific printable area, the maximum area on which the printer can print clearly and without distortion.



NARRATION: The shaded area represents the printable area. The non-shaded area shows the area that cannot be printed on.

1.4 Section configuration



NARRATION: This slide shows the configuration of the various sections.

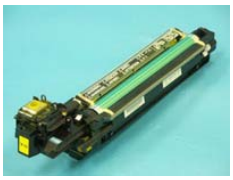
1.5 Maintenance parts list (1/3)

❖ **Parts to be replaced by customer**

Part		Life expectancy
Toner cartridge (Y/M/C/K)	Shipped with printer	2,000 pages * (2P/J)
	For replacement	Y, M, C: 4,500 pages * (2P/J) K: 5,000 pages * (2P/J)
Imaging unit (Y/M/C/K)		30,000 pages (continuous) 20,000 pages (2P/J)
Fuser unit		100,000 pages (2P/J)
Waste toner bottle	monochrome	26,000 pages (2P/J)
	full color	6,500 pages (2P/J)
Transfer roller		100,000 pages (2P/J)
Transfer belt unit		100,000 pages (2P/J)

* Declared yield value in accordance with 5% pattern.

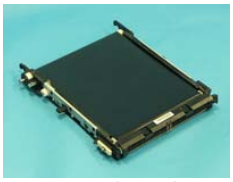

Toner cartridge


Imaging cartridge


Waste toner box


Fuser unit


Transfer Roller


Transfer Belt

NARRATION: These are the parts to be replaced by the customer. These consumable supply items include the toner cartridge and the imaging cartridge.

Their actual life may differ (be shorter) depending on the printing conditions (coverage, paper size, etc.), differences in the printing method, such as continuous printing or intermittent printing (when print jobs of one page are often printed), or the type of paper used, for example, thick paper. In addition, the life will be affected by the temperature and humidity of the operating environment.

The Toner cartridge for replacement has a CSIC, but the one that is shipped with the printer does not.

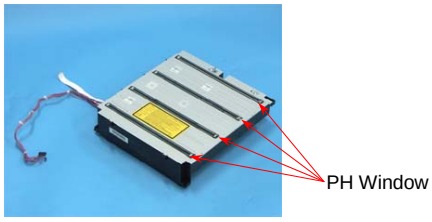
Maintenance parts list (2/3)

Cleaning

❖ Parts to be cleaned by the customer

Parts	Maintenance
Media feeder roller	Clean in case of media feeding trouble
PH Window	Clean in case of imaging trouble

Media feeder roller



NARRATION: These are the parts to be cleaned by the customer.

They should clean the media feed roller if they experience troubles with the feeding of media.

Also, if they experience imaging problems, such as lines on the prints due to toner leakage, they should clean the print head (PH) window.

For cleaning, the customer should use the lens cleaning tool that comes with the main body.

Insert the lens cleaning tool from the port at the front of the main body, and move it to the front and rear to clean the window.

The laser lens cleaning tool should be attached to the inside of Tray 2.

For full details, click on the link.

Maintenance parts list (3/3)

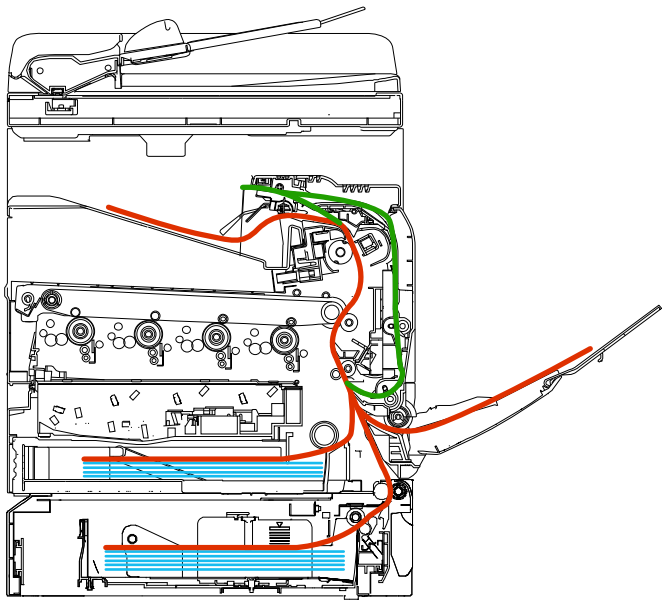
❖ **Parts to be replaced by the service technician**

Parts		Life expectancy
Media feeder roller	Tray 1	300,000 pages
	Tray 2	
	Tray 3 (Option)	

Media feeder roller

NARRATION: The feeder roller is replaced by the service technician. The roller for Tray 1 (manual) and Tray 2 (first cassette) is shared.

1.6 Media Path



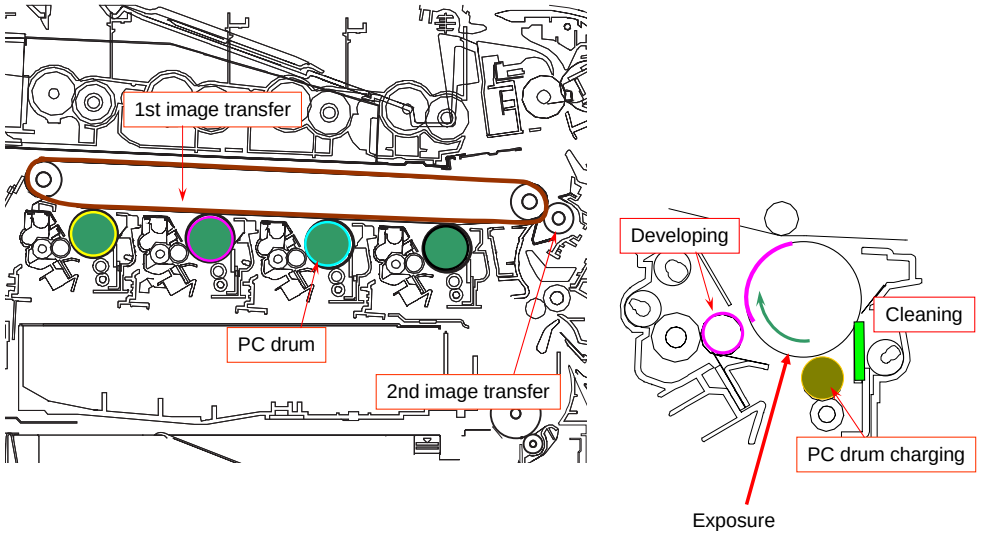
NARRATION: The media that is taken up from the tray is conveyed upward through the vertical transport section. After passing through the image transfer and fusing process, the media is fed out face down into the exit tray.

In the 2-sided mode, data is first printed on the backside of the media.

After the fusing process, the media is fed to the switchback area, reversed, and fed into the duplex section.

It is then re-fed from the duplex section and goes through the print process for the front side.

1.7 Image-creation Process



NARRATION: The following explains the image processes performed by the printer. The image creation mechanism is a tandem engine system that consists of four photo conductors placed in tandem. The Y, M, C, or K toner on each photo conductor is placed one on top of another on the surface of the transfer belt, and the four colors of toner are transferred onto the media at one time.

Refer to the NOTES for further details.

NOTES:

[CCD (Photoelectric conversion)]

Light reflected off the surface of the original is converted to a corresponding electric signal by the CCD, and the resultant electric signal is sent to the image processing board.

[Image processing board] The intensity of the laser light is controlled based on the image signal transmitted to this board.

[LD exposure]

The surface of the PC drum is irradiated with laser light, and an electrostatic latent image is thereby formed.

[PC drum]

The image of the original projected onto the surface of the PC drum is changed to a corresponding electrostatic latent image.

[PC drum charging]

Applies DC (-) charge to the photo conductor.

[Developing]

The toner, agitated and negatively charged in the toner chamber, is attracted onto the electrostatic latent image formed on the surface of the PC drum. It is thereby changed to a visible, developed image.

[1st image transfer]

A DC positive voltage is applied to the backside of the transfer belt, thereby allowing the visible, developed image on the surface of each of the PC drums (Y, M, C and K) to be transferred onto the transfer belt.

[2nd image transfer]

A DC positive voltage is applied to the backside of the media, thereby allowing the visible, developed image on the surface of the transfer belt to be transferred onto the media.

[Media separation]

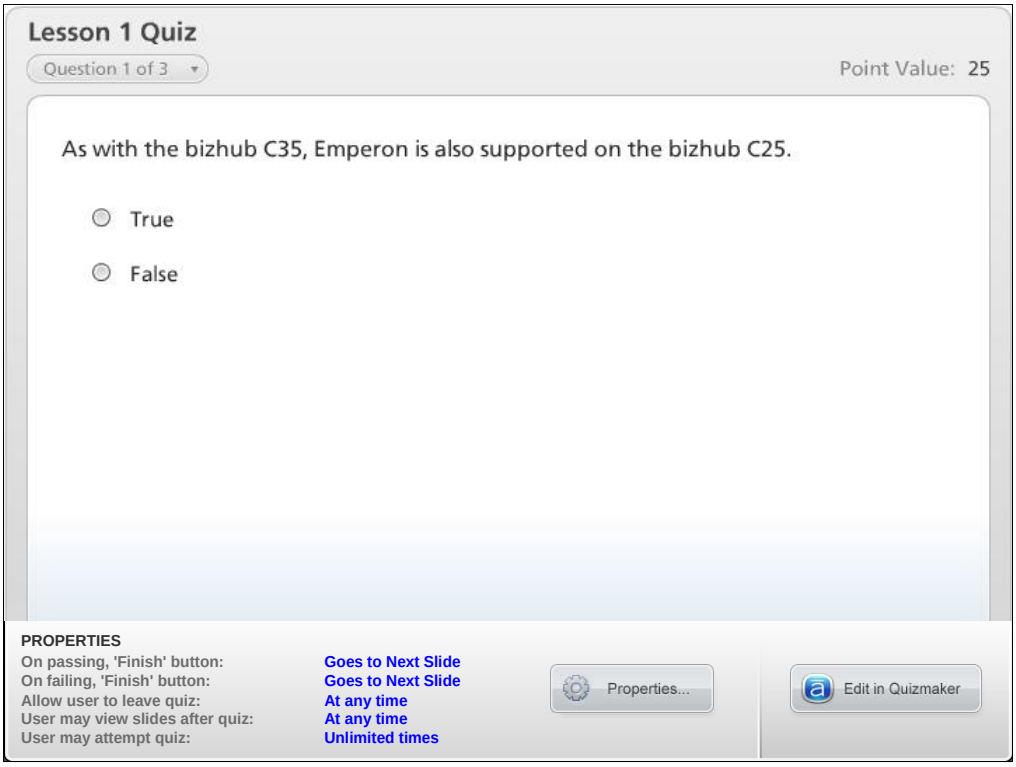
The media, which has undergone the 2nd image transfer process, is neutralized so that it can be properly separated from the transfer belt.

[Transfer belt cleaning]

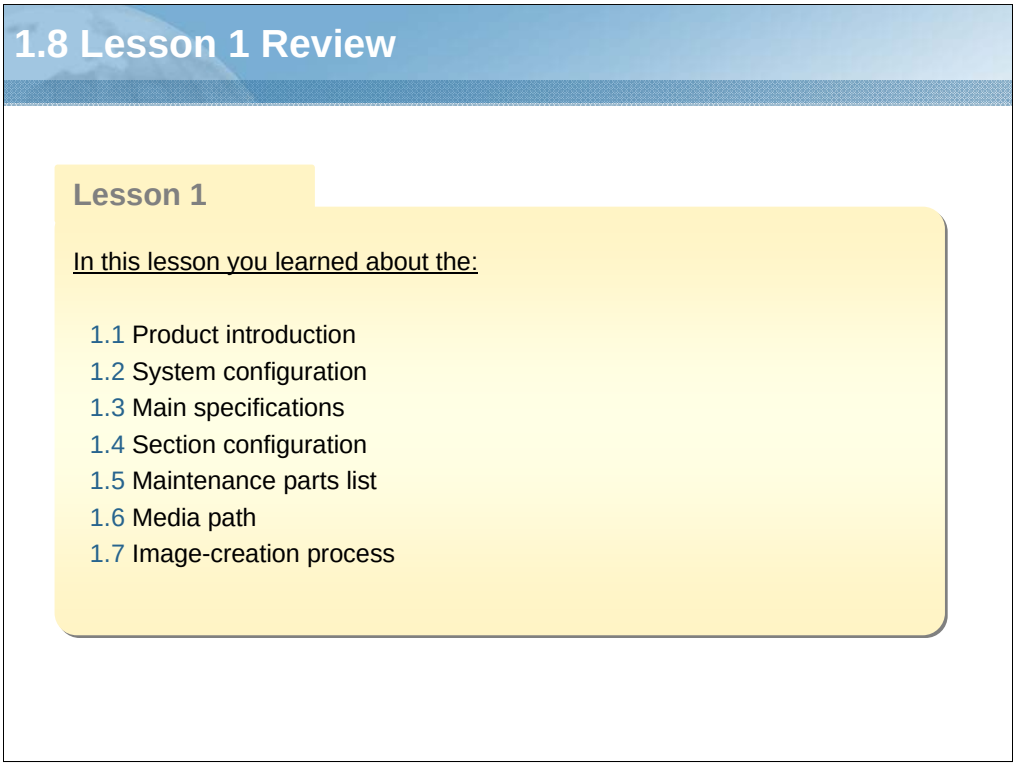
The residual toner left on the surface of the transfer belt is scraped off.

[PC drum cleaning]

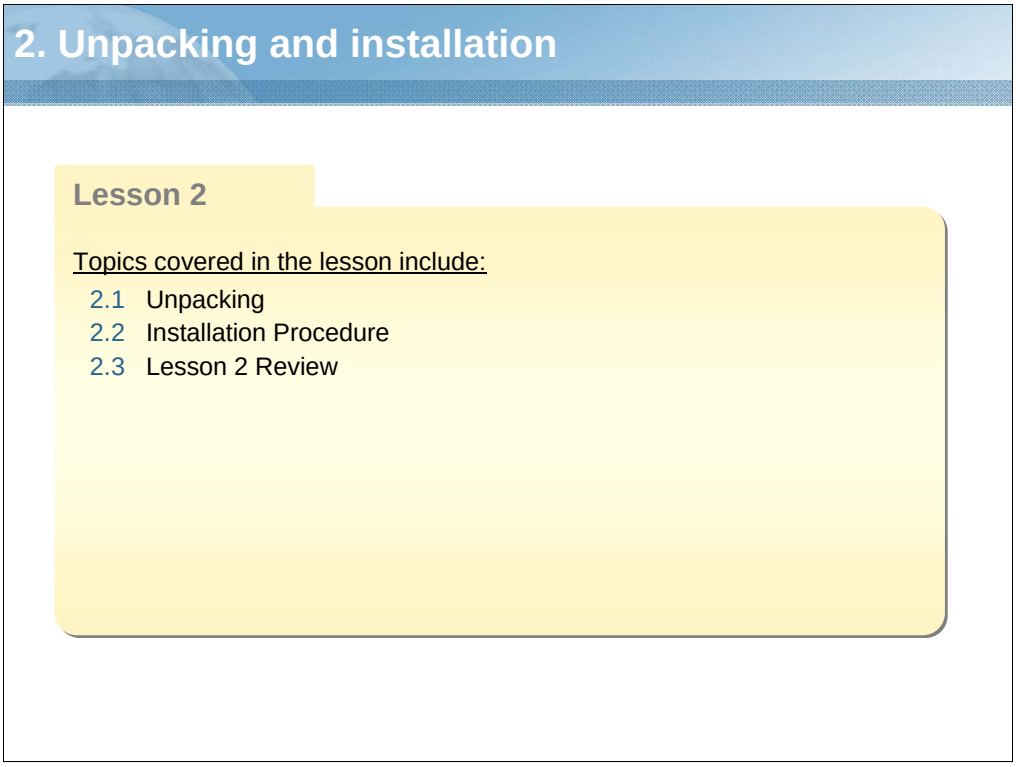
The residual toner left on the surface of the PC drum is scraped off.



NARRATION: This is the review quiz for this lesson.

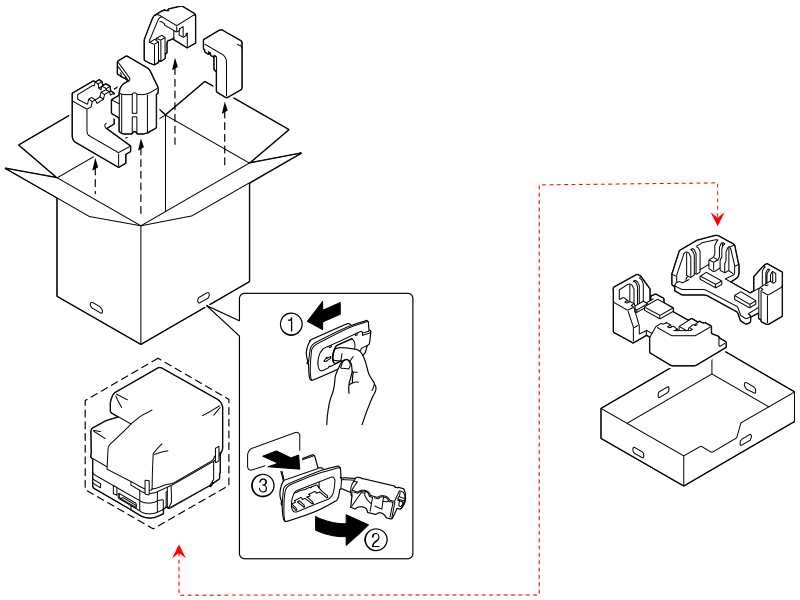


NARRATION: In this lesson, you learned about the following items.



NARRATION: The following Unpacking and Installation Lesson will explain these topics.

2.1 Unpacking



NARRATION: This is the unpacking procedure.

Before setting up your printer, examine the safety information in the Safety Information Guide. Dispose of the packing material according to your local regulations.

2.2 Installation procedure

bizhub C25 

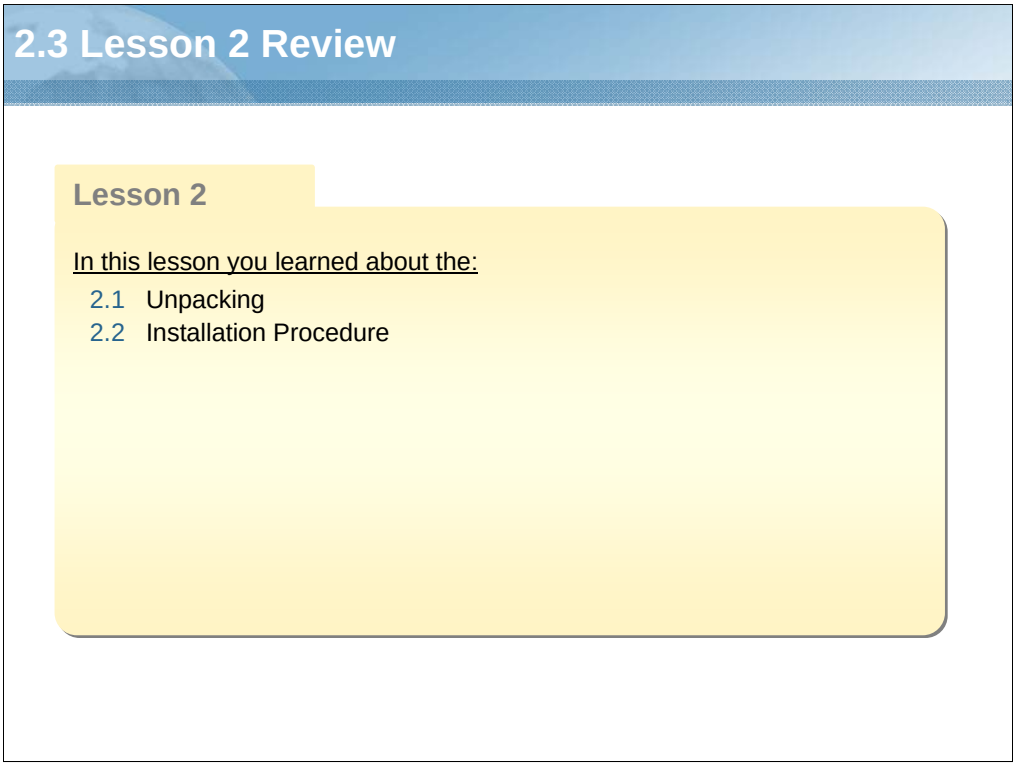
Lower Feeder Unit (PF-P09) 

Hard Disk Kit (HD-P03) 

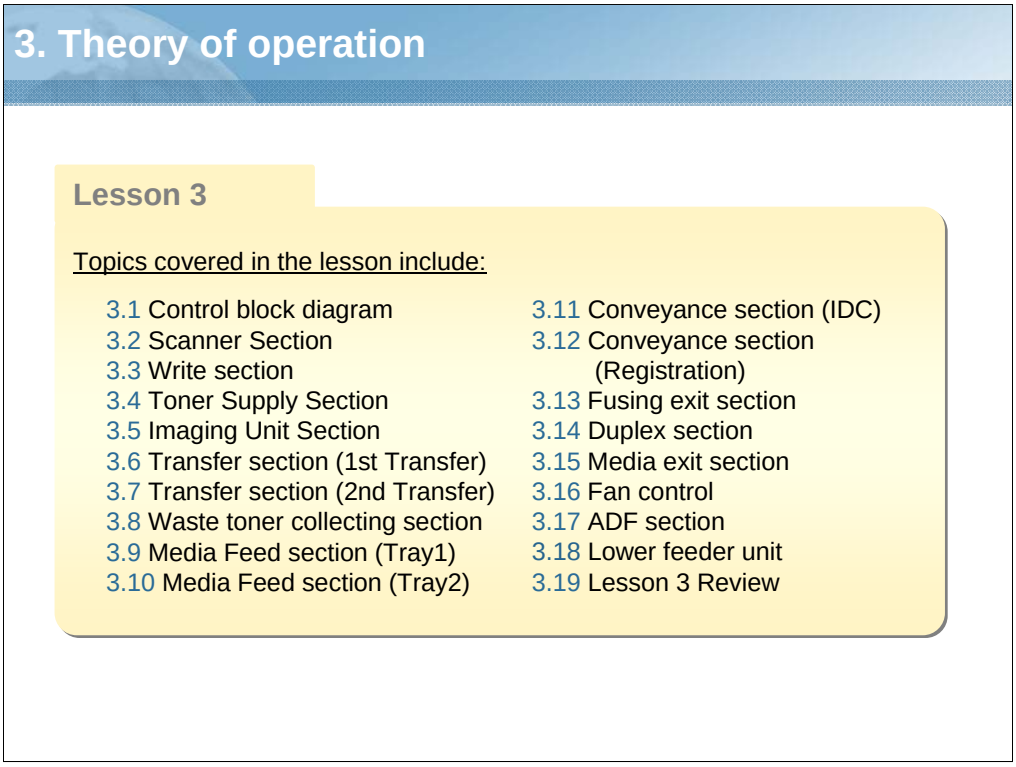
CF Adapter (MK-725) 

DIMM 

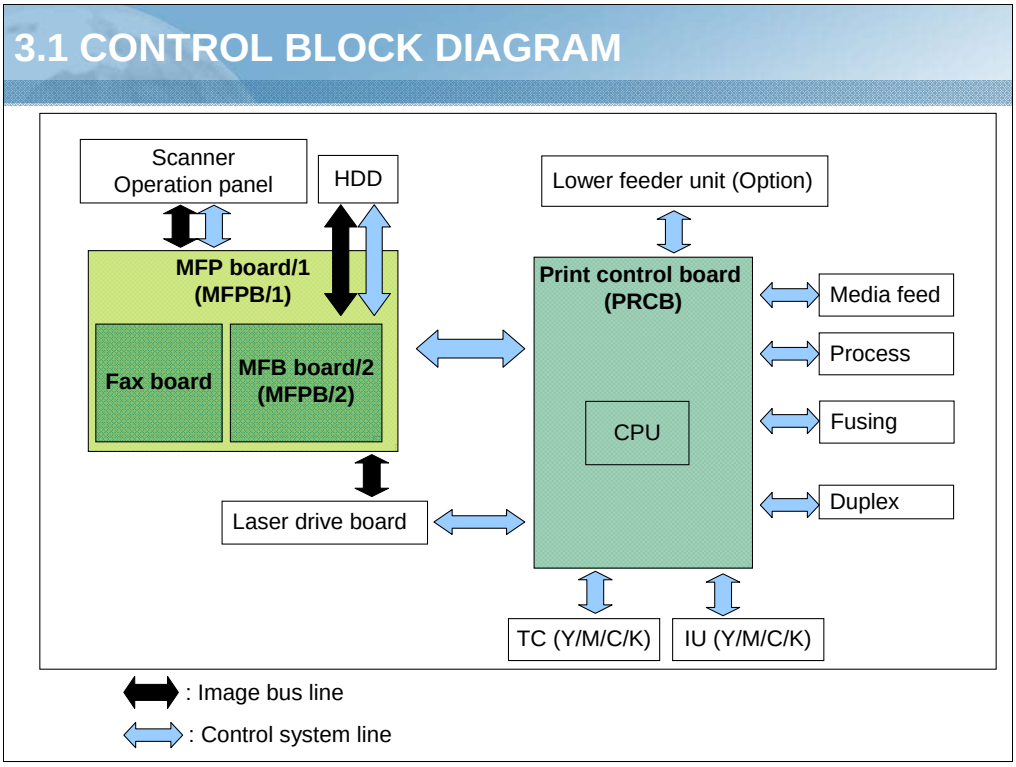
NARRATION: Click on the links to download and view the installation procedures.



NARRATION: In this lesson, you learned about the following items.



NARRATION: The following Theory of Operation Lesson will explain these topics.



NARRATION: This illustration shows the control structure of the printer.

Motors

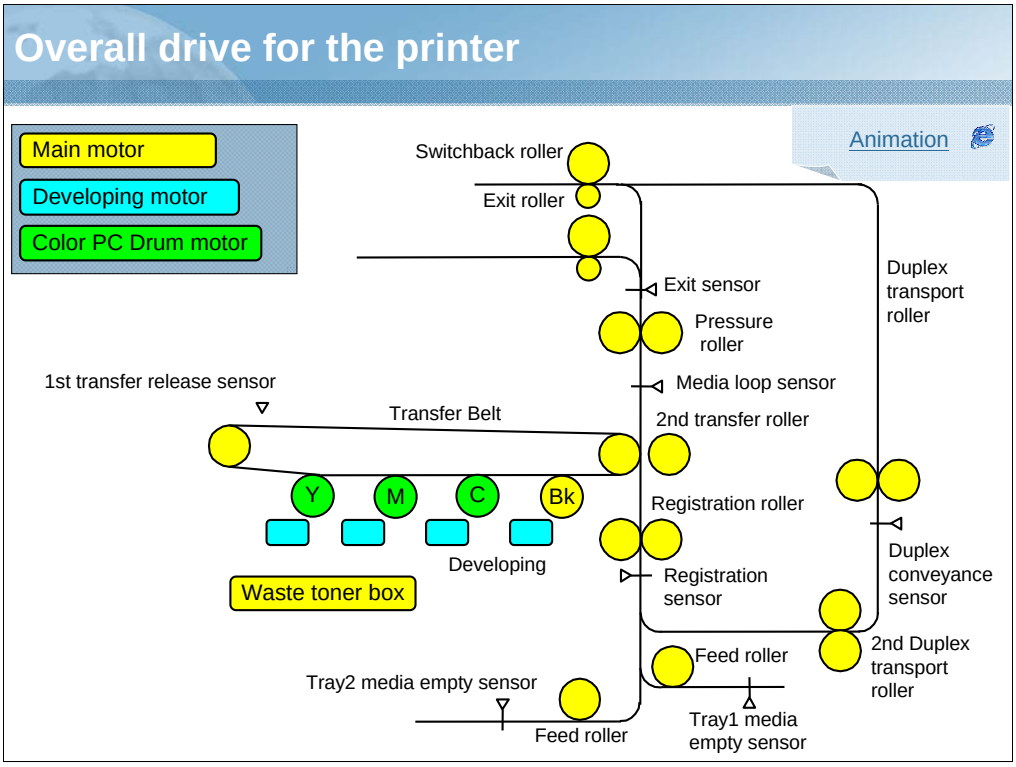
The engine of the machine is driven by the main motor, developing motor, and color PC drum motor.

The main motor drives the photo conductor/K, transfer belt, transfer roller, cassette/multi-bypass unit, transport mechanism, fusing/exit unit, duplex unit, and waste toner bottle.
No motor is available for the exclusive use for fusing.

The color PC drum motor drives the photo conductors/Y, M, and C.
The developing motor drives the developing units for both color and monochrome, either of which is selected by changing the direction of rotation of the motor, either forward or backward. The developing motor also provides drive for agitating toner in the toner cartridge.

A total of six motors are in use, including the scanner motor, DF transport motor, and the optional cassette's media feed motor.

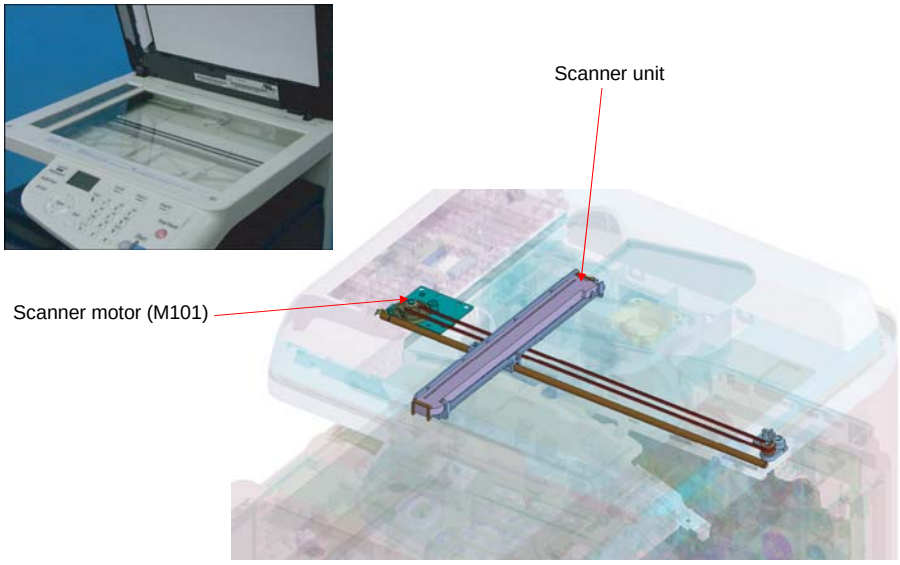
NARRATION: This is the description of the drive motors used in the machine.



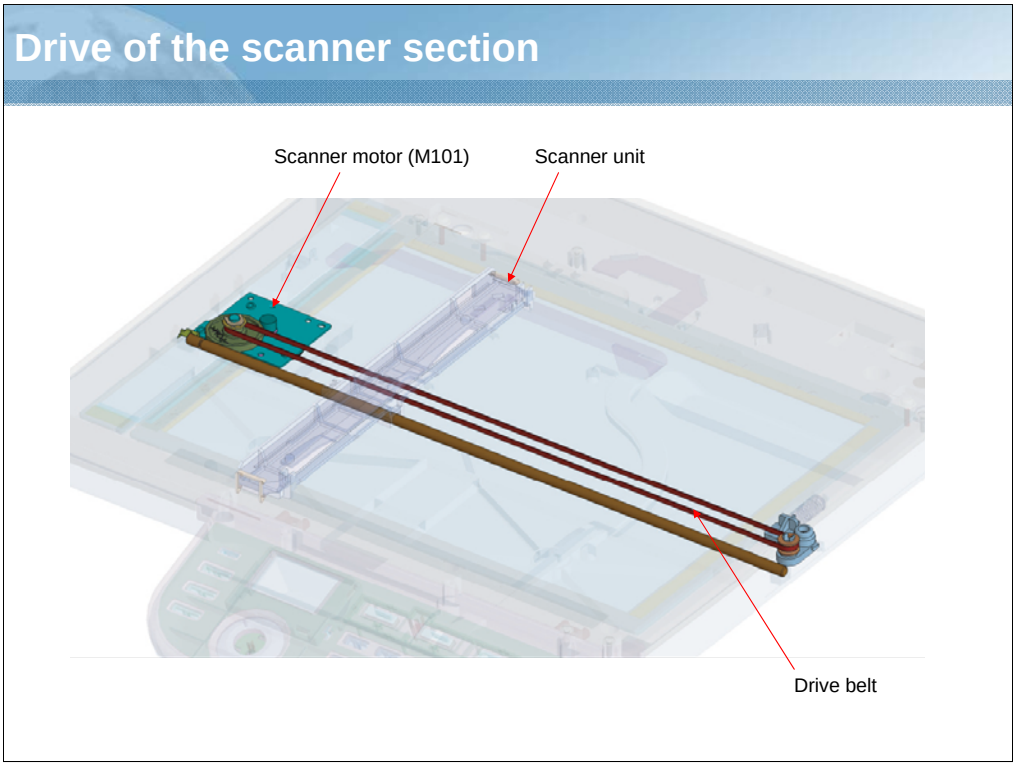
NARRATION: The engine section is driven by three motors.

3.2 SCANNER SECTION

❖ **Composition**



NARRATION: This illustration shows the composition of the scanner section.



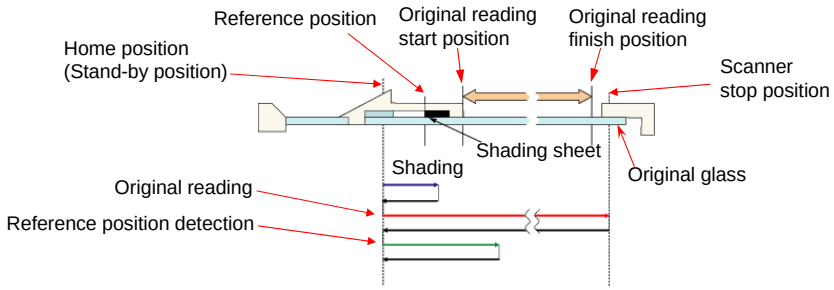
NARRATION: This illustration shows the drive mechanism of the scanner section.

When the Start key is pressed (1/2)

❖ **Original reading mode**

(1) Original cover mode

1. Press the start key, and the LED lights ON.
2. The exposure units moves from the home position (stand-by position) reading the shading sheet to make a shading compensation.
3. The exposure units moves to the stand-by position.
4. Original image reading starts from the start position of original reading.
5. When the original reading completes, it moves to scanner stop position.
6. After the reading completes, the exposure lamp lights OFF and it moves to the stand-by position.
7. It moves again to detect the reference position.
8. It moves to the stand-by position and stops there.

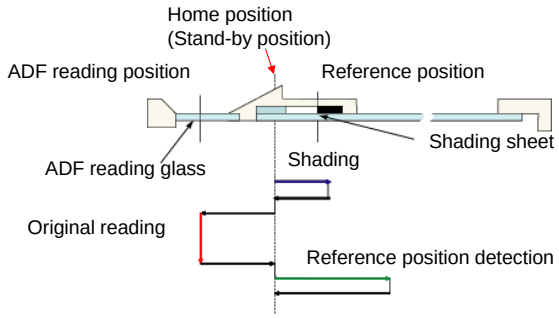


NARRATION: This is an explanation of the original cover mode of the original reading mode.

When the Start key is pressed (2/2)

(2) DF mode

1. Press the start key, and the LED lights ON.
2. The exposure units moves from the home position (stand-by position) reading the shading sheet to make a shading compensation.
3. The exposure units moves to the stand-by position.
4. It moves to the ADF reading position and original image reading starts.
5. After the reading completes, the exposure lamp lights OFF and it moves to the stand-by position.
6. After it moves again to detect the reference position, it moves to the stand-by position and stops there.



NARRATION: This is an explanation of the DF mode of the original reading mode.

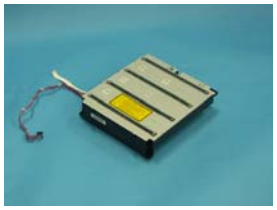
Shading compensation

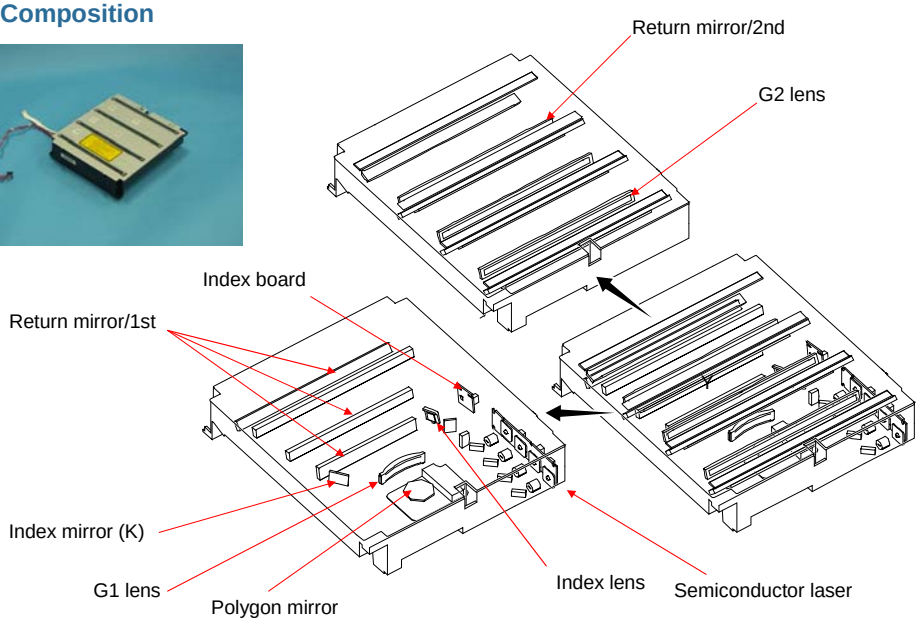
- This shading compensation function compensates reading quality dispersion due to sensitivity uniformity of image element of each CIS sensor or LED light distribution irregularity.
- Shading compensation is carried out immediately before the original glass reading and ADF original reading.

NARRATION: This is an explanation of the description of the shading correction function.

3.3 WRITE SECTION

❖ **Composition**



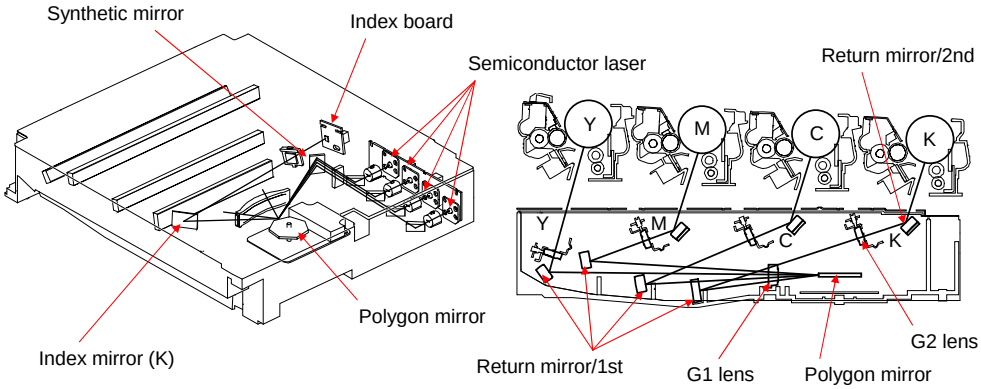


NARRATION: Four semiconductor lasers are provided, one for each of the four different colors. A single polygon motor is used to make a scan motion.

Each photo conductor is irradiated with a laser light so that an electrostatic latent image is formed on it.

Laser exposure process

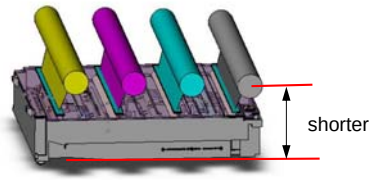
1. The laser light emitted by each of the semiconductor lasers/Y, M, C, and K is reflected onto the polygon mirror via the synthetic mirror.
2. Since the angle of incidence for each color of laser light varies, the laser light reflected by the polygon mirror is reflected at a different angle for each color.
3. The condensing angle of each color of laser light is corrected by the G1 lens before reaching each return mirror.
4. The laser light of each color is condensed on the surface of the photo conductor through the return mirror/1st, G2 lens, and return mirror/2nd.



NARRATION: These illustrations show the laser exposure process.

Slanted layout of the engine section

The engine section is more compact and highly integrated thanks to the slanted layout of the IU, image transfer unit, fixing unit and toner cartridge. Combined with a smaller print head unit, the size of the bizhub C25 is significantly reduced.
The print head unit of the bizhub C25 is also smaller.

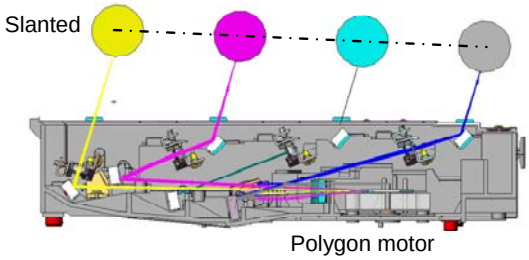


The distance between the centers of the photoconductive drums to the bottom surface of the print head unit is 19-mm shorter compared to the previous model. This reduces the unit height.

NARRATION: This slide explains the slanted layout of the engine section.

Reduction of print head unit size

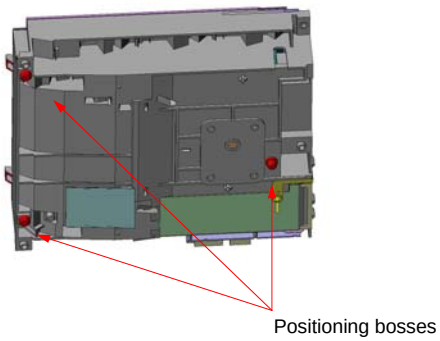
The compact print head unit has longer optical path lengths as a result of the bending of the paths at oblique angles.
Thanks to the optimum layout of the print head unit inside the main unit, based on the slanted arrangement of the photoconductive drum array, the bizhub C25 is simultaneously smaller and faster.
Konica Minolta fully utilized its time-proven optical technologies, such as its high precision lens, to achieve this downsizing and performance improvement.



NARRATION: This slide explains the print head unit size.

PH positioning

The PH has three positioning bosses provided on its bottom that determine the position of the PH relative to the main unit.
No screws are necessary for fixing the PH in place.

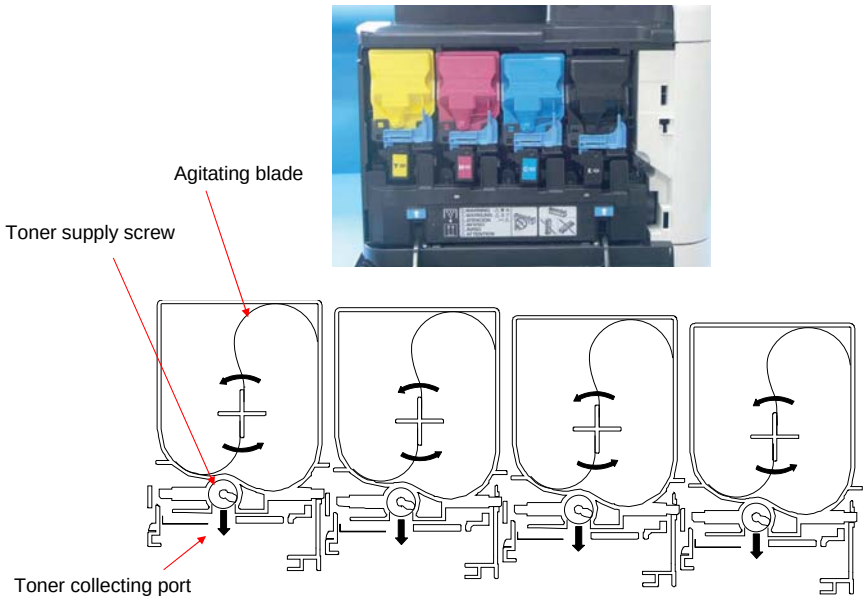


NARRATION: The print head (PH) has three positioning bosses provided on its bottom that determine the position of the print head relative to the main unit.

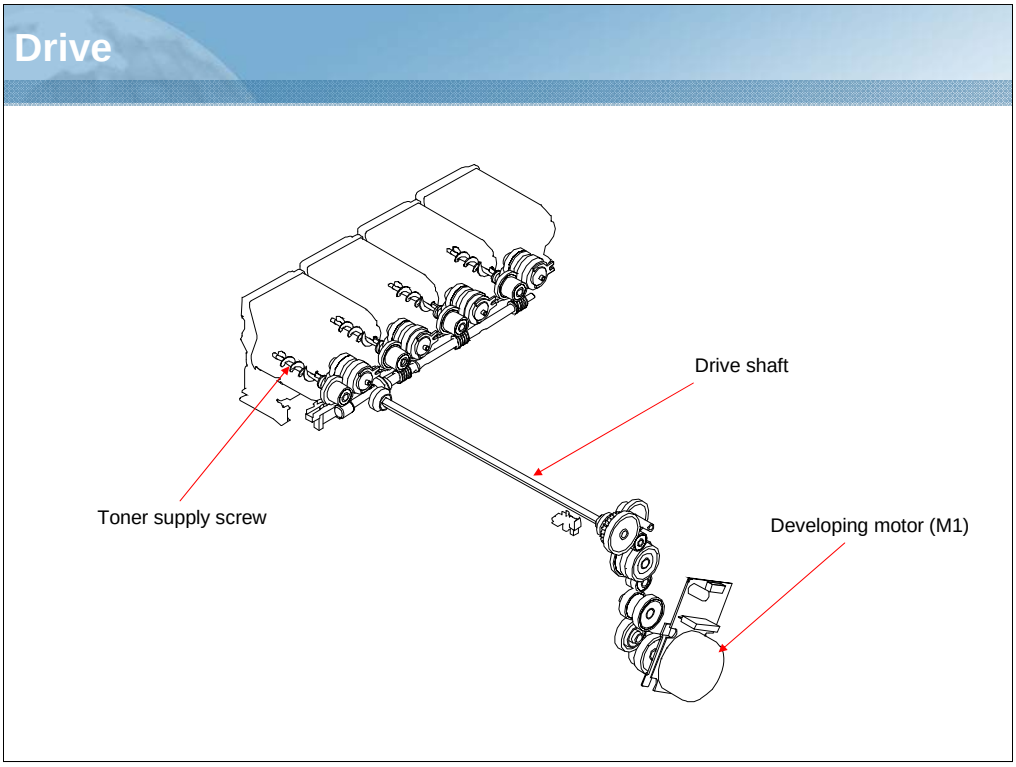
No screws are necessary for fixing the print head in place.

3.4 TONER SUPPLY SECTION

❖ **Composition**



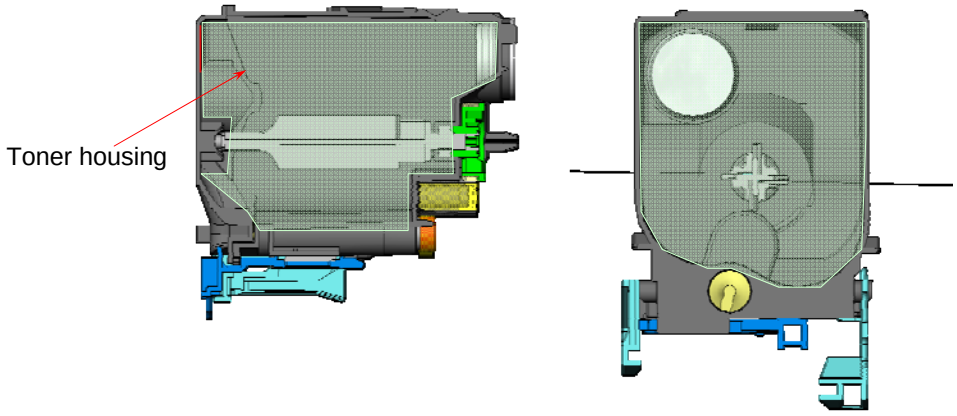
NARRATION: These illustrations show the composition of the toner supply section.



NARRATION: This illustration shows the drive mechanism of the toner supply section.

Toner cartridge

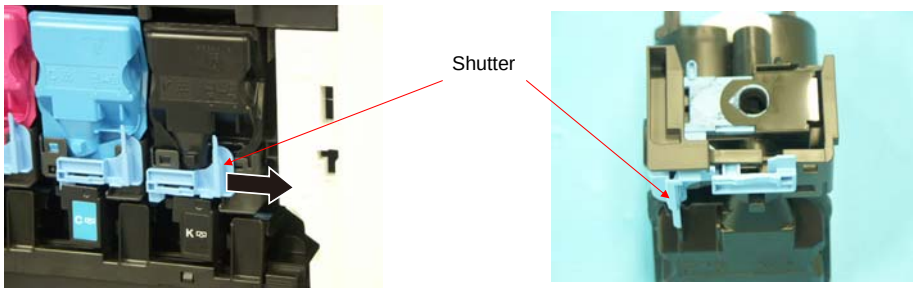
Toner in the toner cartridge is agitated and supplied by the developing motor.
The toner cartridge of each color of toner is provided with an electromagnetic clutch, so that the machine uses a total of four electromagnetic clutches.
The toner conveying screw supplies toner. The amount of toner conveyed is controlled by the speed of the toner conveying screw.
The toner consumption rate is calculated by counting the cumulative period of time during which the clutch is energized for each color of toner.



NARRATION: This slide explains the toner cartridge print head unit size.

Toner collecting port shutter mechanism

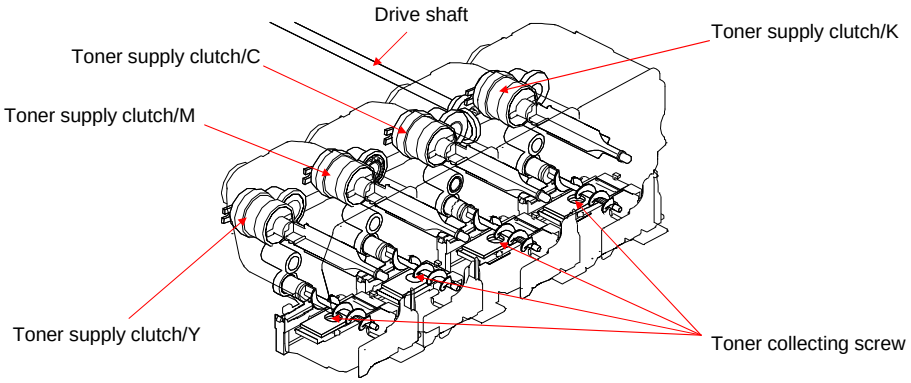
- The toner collecting port is provided with a shutter that prevents toner from being spilled out when the toner cartridge is removed from the main body.
- After installing the toner cartridge into the main body, placing the toner cartridge release lever in its locked position opens the shutter of the toner collecting port. Then toner can be conveyed to the imaging unit.
- Moving the toner cartridge release lever to the right or left accompanies a synchronized movement of the slider to open or close the shutter. The toner collecting port is provided with a shutter that prevents toner from being spilled out when the imaging unit is removed from the main body.



NARRATION: This is an explanation of the toner collecting port shutter mechanism.

Toner replenishing mechanism

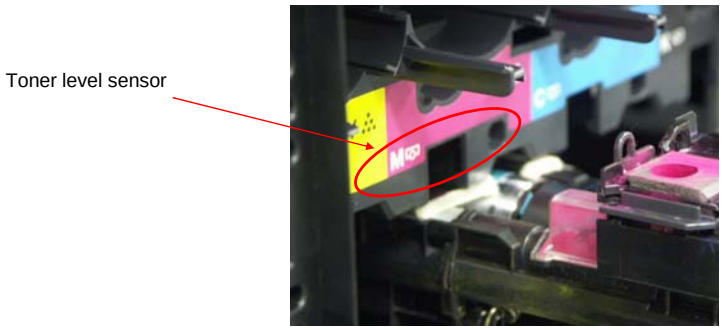
- The developing motor is energized by monitoring the condition of the toner level sensor for each color of toner. Toner is then supplied from the toner cartridge to the imaging unit as necessary.
- Rotation of the developing motor transmits the drive to the drive shaft via each gear.
- Rotation of the drive shaft then transmits the drive to the supply screw of the toner cartridge.
- The drive of the supply screw is controlled by the toner supply clutch of each toner cartridge. The supply screw is operated when the toner supply clutch is energized.



NARRATION: This is an explanation of the toner replenishing mechanism.

Toner replenishing control

- The toner level sensor is used to detect the amount of toner in the pre-agitation section (imaging unit), so that the main body can determine whether or not to replenish the toner.
- During developing drive, the toner level sensor measures the amount of toner. If the value detected by the toner level sensor is a predetermined value in V or less, the main body determines that there is a short supply of toner and replenish the toner as necessary.
- When the value detected by the toner level sensor reaches the predetermined value in V or more, the toner replenishing sequence is stopped.



NARRATION: The toner level sensor is used to detect the amount of toner in the pre-agitation section, so that the main body can determine whether or not to replenish the toner.

Toner cartridge detection

❖ **In-box toner cartridge**

- The in-box toner cartridge is not provided with the CSIC board and thus does not allow the user to determine whether or not a toner cartridge is mounted. The main body determines whether or not the toner cartridge is mounted at a toner empty condition. A new print cycle can therefore be started, even when each of the toner cartridges is not mounted.

❖ **Replacement toner cartridge**

- The main body accesses the CSIC board when the front door is closed or the power switch is turned ON, thereby determining whether or not the toner cartridge is mounted.
- After the toner cartridge has been detected, the main body then determines whether or not the cartridge is new.

❖ **Combination of alternative (used) toner cartridge**

- The main body allows an alternative (used) toner cartridge to be used among main body variations of the same model in consideration in a case in which a new toner cartridge is not ready when the toner near-empty or empty message appears.
  Note, however, that, even if the in-box toner cartridge is remounted after the replacement toner cartridge has been previously mounted, a message appears telling that the toner cartridge is yet to be mounted and the in-box toner cartridge is not usable.
  When the alternative toner cartridge is mounted, the consumption rate display succeeds the information of the alternative toner cartridge.

NARRATION: This is an explanation of toner cartridge detection.
Different toner cartridge detection methods apply according to the type of toner cartridge: the in-box toner cartridge shipped with the main body and the replacement toner cartridge. Control also varies when the life of the product is reached.

Toner life 1

❖ Toner consumption rate detection

- The toner consumption rate is calculated based on the toner supply time (the period of time the toner supply clutch is energized).
- The toner level (approximate threshold) can be checked with the Statistics Page, control panel, or PWSC.

❖ Toner life detection

- A near life (near-empty) condition of the toner cartridge is detected based on the toner supply time (the period of time the toner supply clutch is energized) of each color of toner.
- When a near life condition is detected, a corresponding message will appear on the control panel.
- A life (empty) condition of the toner cartridge is detected by the toner level sensor.
- If the toner level sensor detects a life (empty) condition and toner is not replenished after the lapse of a predetermined period of time thereafter, the main body determines that there is an empty condition, gives a corresponding message on the control panel and stops the operation of the MFP.

NARRATION: This is an explanation of the toner consumption rate detection and the toner life detection.

The toner consumption rate is calculated based on the toner supply time.

A near life condition of the toner cartridge is detected based on the toner supply time of each color of toner.

A life condition of the toner cartridge is detected by the toner level sensor.

Toner life 2

❖ Toner near-empty condition detection

- Different approximate threshold values apply for the toner near-empty condition (toner level) detection according to the type of toner cartridge: the in-box cartridge shipped with the main body and the replacement toner cartridge.

Toner cartridge		Toner level (target value)
In-box toner cartridge: Equivalent to 2,000 images	Y, M, C	15%
	K	25%
Toner cartridge: Equivalent to 4,500 images	Y, M, C	25%
Toner cartridge: Equivalent to 5,000 images	K	

**: Based on the 5% chart..*

- The toner near-empty condition is reset when a new toner cartridge is detected.

❖ Toner empty condition detection

- A sequence is started for detecting a toner empty condition when a toner near-empty condition is detected. The main body determines that there is a toner empty condition when the toner level sensor output value exceeds a predetermined value and if the following event is detected a predetermined number of consecutive times: the output value of the toner level sensor exceeds a predetermined value for more than a predetermined period of time.
- The consecutive detection count is retained in memory even when the power switch is turned OFF.
- The toner empty condition is reset when a new toner cartridge is detected.

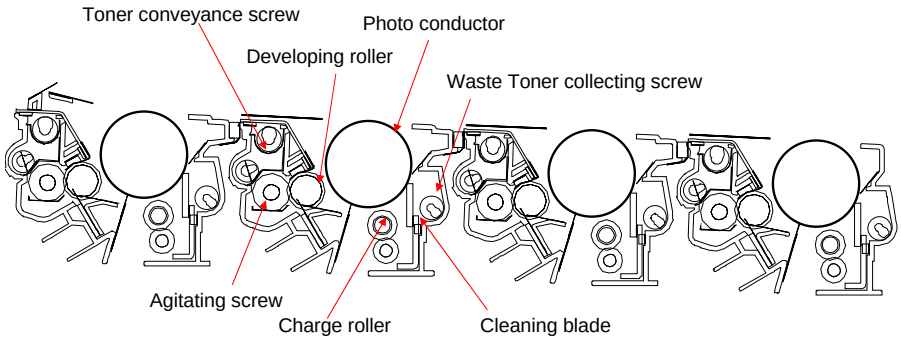
❖ Monochrome prints

- The color print is disabled when any of the C, M, and Y toner cartridges are empty. Monochrome print only is, however, enabled if the K toner cartridge is not empty.
- The monochrome print is also controlled by the ordinary near-empty and empty condition detection methods.

NARRATION: This is an explanation of the toner near-empty condition detection, toner empty condition detection, and monochrome prints.

3.5 IMAGING UNIT SECTION

❖ **Composition**



NARRATION: These illustrations show the composition of the imaging unit section.

Imaging unit detection

- Different imaging unit detection methods apply according to the type of imaging unit: the in-box imaging unit shipped with the main body and the replacement imaging unit. Control also varies when the life is reached. The following describes the details.

❖ In-box imaging unit

- The in-box imaging unit has no CSIC board and the toner level sensor is used to determine whether the imaging unit is mounted or not.
- The detection is made during the print cycle and image stabilization sequence.
- When the imaging unit not being mounted during printing is detected, it is determined as paper misdeed at the stabilizing part.

Though the paper may be discharged in cases such as with small papers, it is still detected as paper misfeed.

❖ Replacement imaging unit

- The main body accesses the CSIC board when the front door is opened and closed, thereby determining whether or not the imaging unit is mounted.
- After the imaging unit has been detected, the main body then determines whether the imaging unit is new or not.

❖ Combination of alternative (used) imaging unit

- The main body allows an alternative (used) imaging unit to be used among main body variations of the same model in consideration of a case in which a new imaging unit is not ready when the imaging unit near-life or life message appears. When the alternative imaging unit is mounted, the consumption rate display succeeds the information of the alternative imaging unit.

NARRATION: This is an explanation of imaging unit detection.

Imaging unit consumption rate detection

- The consumption rate is calculated based on the period of time through which the main motor and the color PC drum motor are energized and displayed on the configuration page and PSWC.

❖ Imaging unit life detection

- The life of the imaging unit is determined based on the main motor drive time, color PC drum motor drive time, and the number of printed pages produced.
- When any one of the main motor drive time, color PC drum motor drive time, and the number of printed pages produced reaches a life value, the near-life and life message is displayed on the control panel.
- When the life value (empty) is reached, the main body is brought to a stop and a message prompting replacement is displayed on the control panel.

NARRATION: The imaging unit consumption rate is calculated based on the period of time through which the main motor and the color PC drum motor are energized and displayed on the configuration page and PSWC.

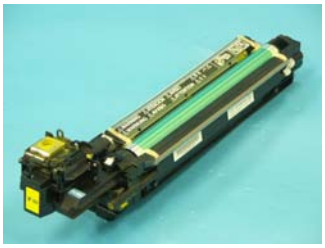
The life of the imaging unit is determined based on the main motor drive time, color PC drum motor drive time, and the number of printed pages produced.

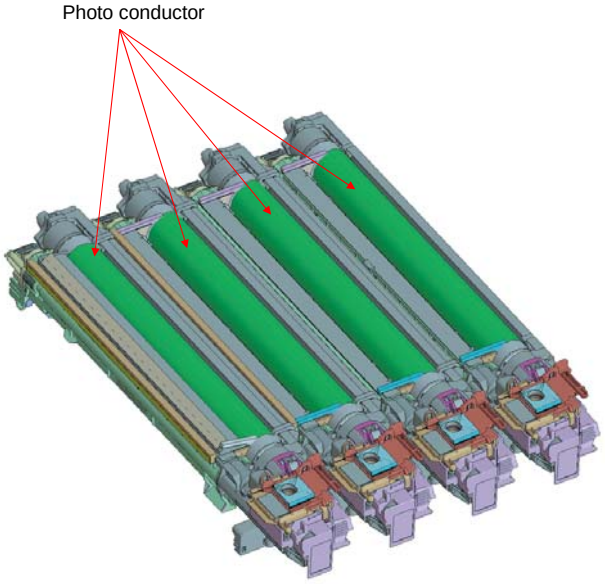
When any one of the main motor drive time, color PC drum motor drive time, and the number of printed pages produced reaches a life value, the near-life and life message is displayed on the control panel.

When the life value (empty) is reached, the main body is brought to a stop and a message prompting replacement is displayed on the control panel.

IMAGING UNIT SECTION (photo conductor)

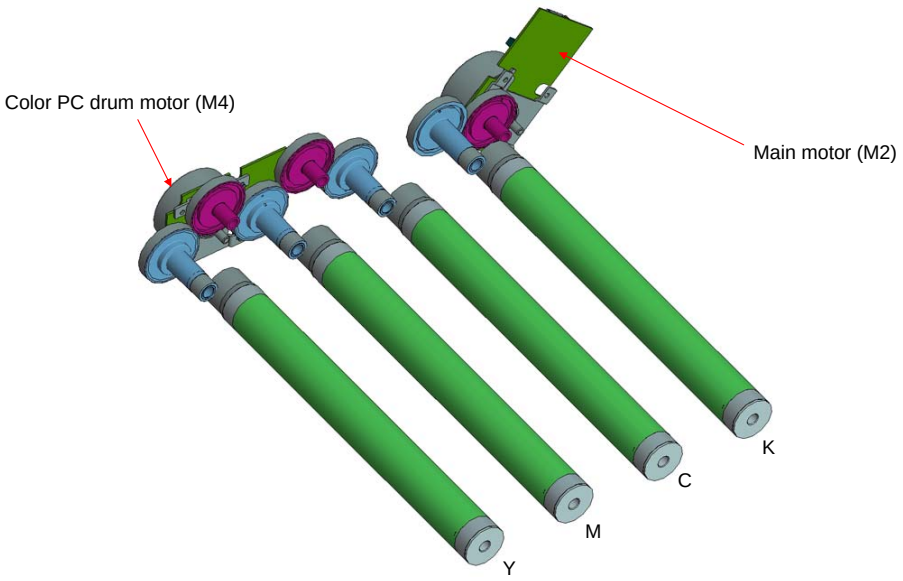
❖ **Composition**





NARRATION: This illustration shows the composition of the imaging unit (photo conductor) section.

Drive of IMAGING UNIT SECTION (photo conductor)



NARRATION: This illustration shows the drive mechanism for the photo conductors.

Motors are used for the drive mechanism independently of the developing system to suppress incorrect color registration and uneven pitch.

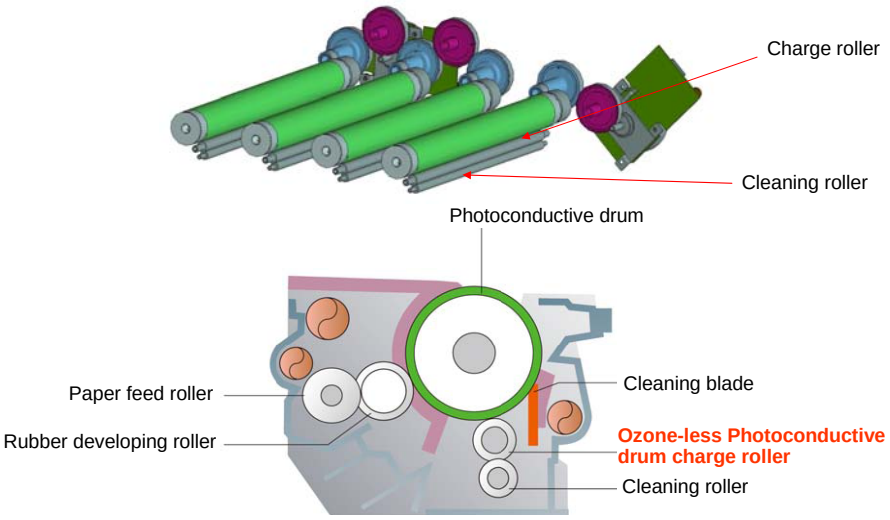
Because the drive for the color imaging unit is stopped in the monochrome mode, different motors are used to drive the color photo conductors and black photo conductor.

The color PC drum motor drives the photo conductors/Y, M, and C, while the main motor drives the photo conductor/K.

In addition to the photo conductor/K, the main motor also drives the transfer system, media feed system, and synchronizing drive system.

Charge roller

The newly developed ozone-less photoconductive drum charge roller in the bizhub C25, is made by wrapping rubber around a shaft. This roller becomes electrically charged when voltage is applied.

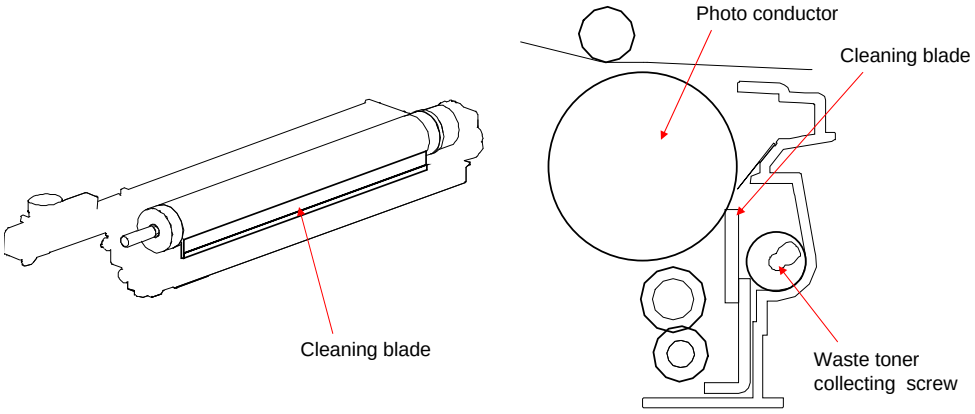


NARRATION: The use of the photoconductive drum charge roller helps prevent ozone from being generated, thus eliminating the need for an ozone filter or ozone fan motor. The photoconductive drum charge roller is cleaned by the cleaning roller.

Cleaning mechanism

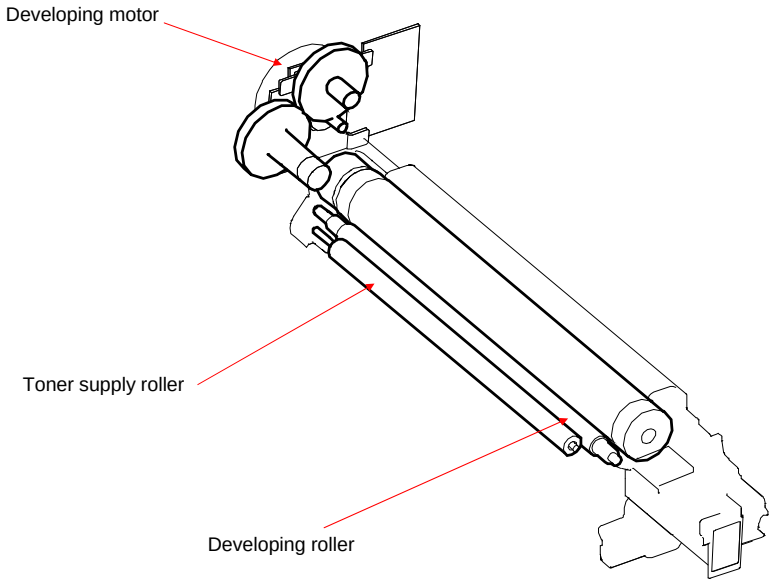
❖ Cleaning operation

1. The cleaning blade is pressed against the surface of the photo conductor to remove toner that remains on the surface (fixed blade system).
2. The toner, which has been scraped off by the cleaning blade, is conveyed by the waste toner collecting screw and collected in the waste toner transport section.

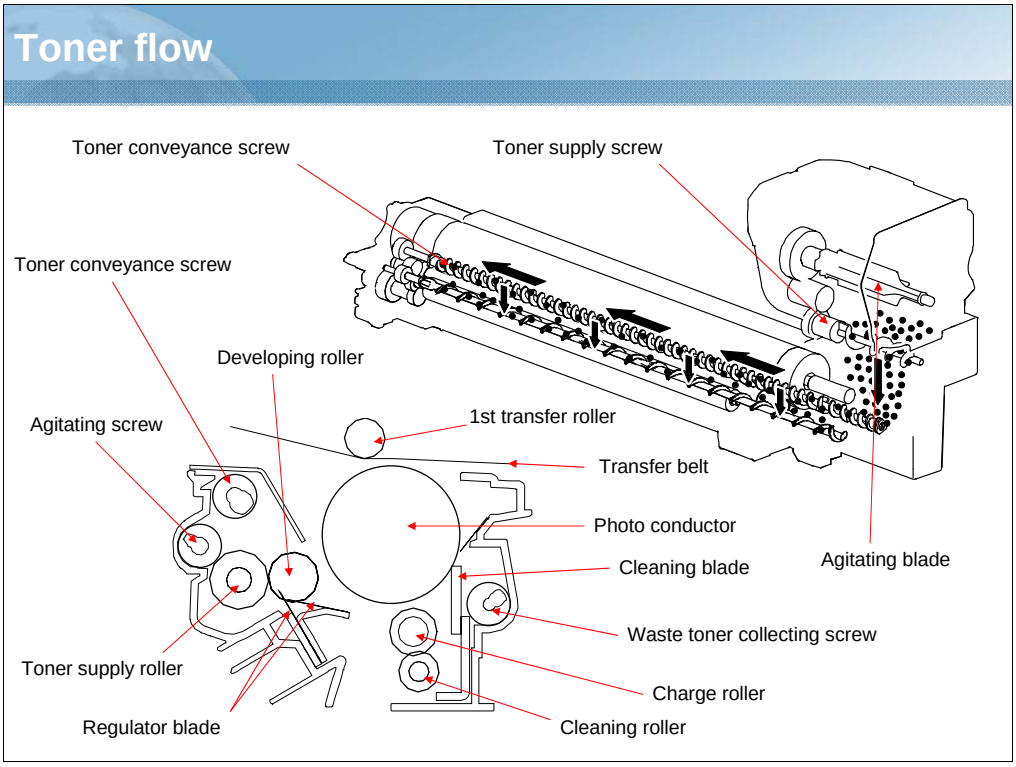


NARRATION: The cleaning blade is pressed against the surface of the photo conductor to remove toner that remains on the surface (fixed blade system).

Drive of the developing roller



NARRATION: This illustration shows the drive mechanism of the developing roller.



NARRATION: These illustrations show the toner flow function.

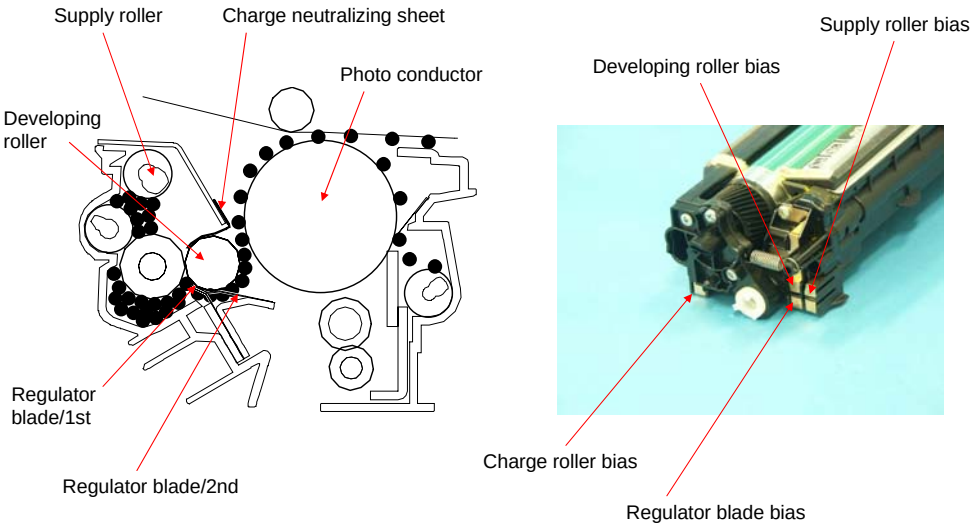
Refer to the notes for full details.

NOTES:

1. Toner stored in the toner cartridge is agitated by the agitating blade and conveyed onto the front side of the toner cartridge by the toner supply screw.
2. Toner conveyed onto the front side of the toner cartridge, is conveyed through the toner collecting port, and then conveyed to the imaging unit collecting port.
3. The toner conveyed to the collecting port is conveyed into the toner chamber by the conveyance screw.
4. The toner level detection system of the imaging unit (the sensor is mounted on the main body side) detects, at this time, the level of toner still available for use in the toner chamber.
5. Toner conveyed onto the rear side of the toner chamber is fed to the toner supply roller via the agitating screw.
6. Toner fed to the supply roller is conveyed onto the developing roller. At this time, the regulator blade/1st and /2nd regulate the height of toner on the surface of the developing roller.
7. Toner on the developing roller is fed to the electrostatic latent image formed on the surface of the photo conductor.
8. Toner left on the developing roller is neutralized and returned to the supply roller.
9. The toner on the surface of the photo conductor is transferred onto the transfer belt.
10. Toner left on the surface of the photo conductor is scraped off by the cleaning blade.
11. The toner scraped off by the cleaning blade is conveyed to the waste toner conveyance section by the waste toner collecting screw.
12. The toner conveyed by the toner collecting screw is conveyed and stored as waste toner in the waste toner bottle.

Developing system

- Two types of developing systems are used, a non-contact developing system and an alternating current application system.



NARRATION: These illustrations show the developing system.

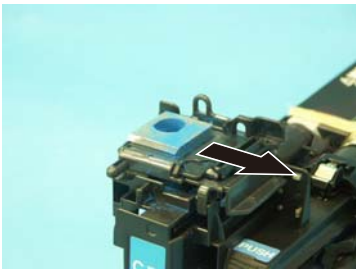
Refer to the notes for full details.

NOTES:

1. A negative charge (supply bias voltage Vr) is applied to the supply roller to regulate the amount of toner sticking to the developing roller.
2. A negative charge (blade bias voltage Vb1) is applied to the regulator blade/1st to negatively charge the toner and form a thin layer of toner.
3. Toner on the surface of the developing roller is evened out by the regulator blade/2nd.
4. During development, DC + AC developing bias voltage (Vb) is applied to the developing roller. The AC component of the developing bias voltage is applied only during development. At any time other than the development, only the DC component of the developing bias voltage is applied.
5. The developing roller causes the toner to stick to the photo conductor when the AC component of the developing bias voltage is negative. The voltage and time length of the negative component determine the image density.
6. A negative charge (charge neutralizing bias voltage: same potential as the developing bias) is applied to the charge neutralizing sheet to neutralize any toner left on the surface of the developing roller. The neutralized toner is returned to the supply roller.

Toner collecting port shutter mechanism

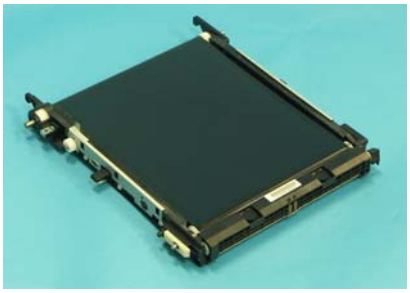
- The toner collecting port is equipped with a shutter mechanism that prevents toner from being spilled out when the imaging unit is removed from the main body.
- The shutter of the toner collecting port is operatively connected to the toner cartridge release lever. Operating the toner cartridge release lever to the right or left, opens or closes the shutter of the imaging unit.

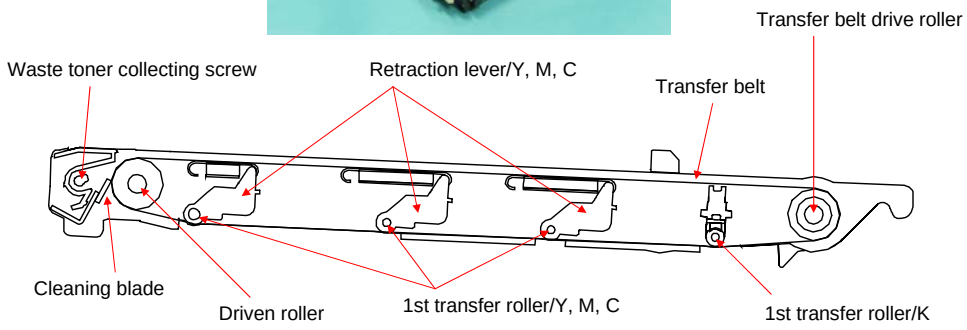


NARRATION: This is an explanation of the toner collecting port shutter mechanism.

3.6 TRANSFER SECTION (1st transfer)

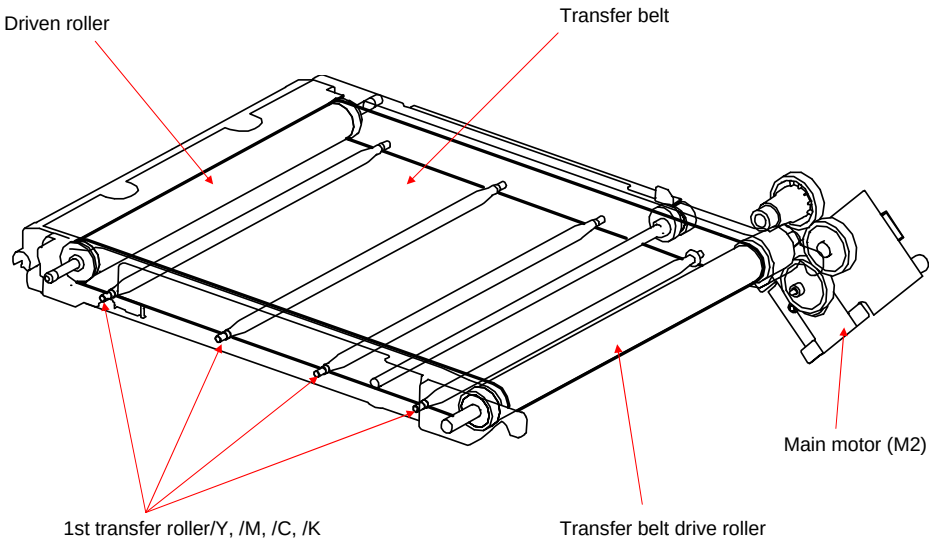
❖ **Composition**





NARRATION: This illustration shows the composition of the transfer section.

Drive of TRANSFER SECTION (1st transfer)



NARRATION: This illustration shows the drive mechanism of the transfer section.

1st transfer output control

- To transfer the toner image from the photo conductor to the transfer belt, the transfer voltage is applied to the 1st transfer roller.
- A charge of the same potential is applied to each of the 1st transfer rollers.
- The transfer voltage is applied after the 1st transfer rollers/Y, M, C are pressed against the transfer belt for the color mode.
- The transfer output is turned OFF after the last image moves past the 2nd transfer section.

❖ Monochrome mode

- The 1st transfer rollers/Y, M, C are moved inward (for retraction) and the photo conductors/Y, M, C are stopped.

❖ Color mode

- During the 1st transfer in the color mode, the 1st transfer rollers/Y, M, C are moved toward the photo conductors (pressed) so that the transfer belt is pressed against the photo conductor.

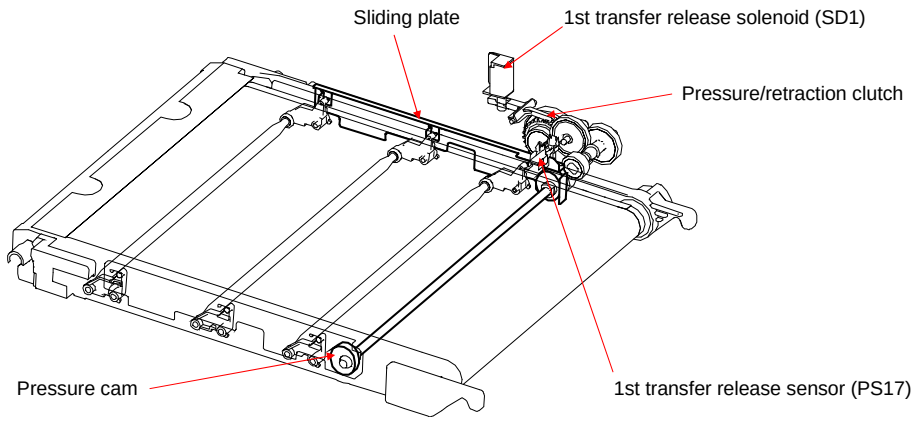
❖ Others

- The transfer roller is moved (retracted) and the photo conductor is stopped in the ordinary standby state.

NARRATION: This is an explanation of the 1st transfer output control function.

1st transfer roller pressure/retraction control (1/2)

- To extend the service life of the photo conductor/Y, M, C, the pressure position of the 1st transfer roller is changed between the monochrome mode and the color mode.
  The 1st transfer roller/K is not provided with a retraction mechanism; the transfer belt is pressed against photo conductor/K at all times.
- The main motor provides the drive for pressure/retraction operation of the 1st transfer roller/Y, M, C.

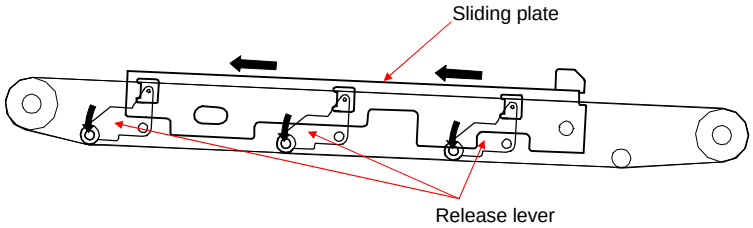


NARRATION: This illustration shows the 1st transfer roller pressure/retraction control function.

1st transfer roller pressure/retraction control (2/2)

❖ **1st transfer roller pressure operation**

1. Rotation of the Transport motor is transmitted by a gear train to the pressure/release clutch.
2. Drive through the pressure/release clutch rotates the pressure cam a half turn, thus pushing back the sliding plate.
3. As the sliding plate is pushed back, the release lever turns.
4. As the release lever turns, the 1st transfer roller is pressed against the transfer belt.



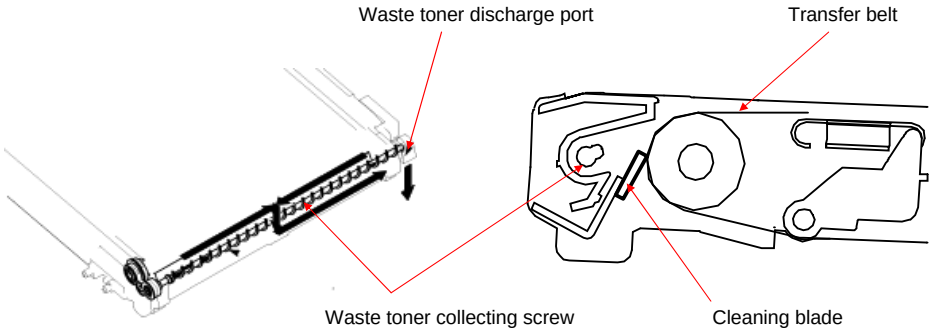
❖ **1st transfer roller release operation**

1. Rotation of the Transport motor is transmitted by a gear train to the pressure/release clutch.
2. Drive through the pressure/release clutch rotates the pressure cam a half turn, thus pushing the sliding plate.
3. As the sliding plate is pushed, the release lever turns.
4. As the release lever turns, the 1st transfer roller is released from the transfer belt.

NARRATION: This is an explanation of the 1st transfer roller pressure operation.

Transfer belt cleaning mechanism

- To scrape residual toner off the surface of the transfer belt unit, the transfer belt is provided with a cleaning blade.
- The cleaning blade is in pressed contact with the transfer belt at all times. That is, it cleans the surface of the transfer belt as long as the belt turns.
- The toner scraped off by the cleaning blade is collected to the middle of the transfer belt by the toner collecting screw.
- The collected waste toner is conveyed from the waste toner discharge port of the transfer belt unit to the waste toner bottle by way of the toner collecting screw.



NARRATION: These illustrations show the transfer belt cleaning mechanism.

1st transfer belt backward rotation control

- To prevent media dust, toner, and other foreign matter from being wedged in the cleaning blade while the transfer belt remains stationary, the transfer belt is turned backward so that the foreign matter can be removed.

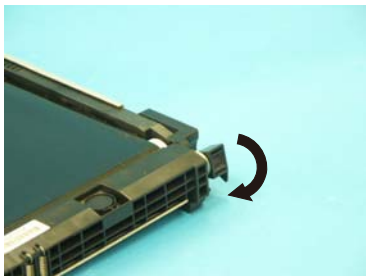
❖ **Operation timing**

- At the end of the print cycle
- When the Main body interior temperature is a predetermined value or less.

NARRATION: This is an explanation of the 1st transfer belt backward rotation control function.

Toner collecting port shutter mechanism

- A shutter mechanism is provided to prevent waste toner from being spilled from the waste toner discharge port when the transfer belt unit is removed and reinstalled.
- The shutter is fitted to the transfer belt unit. When the transfer belt unit is removed, the waste toner discharge port is automatically closed.



NARRATION: A shutter mechanism is provided to prevent waste toner from being spilled from the waste toner discharge port when the transfer belt unit is removed and reinstalled.

The shutter is fitted to the transfer belt unit. When the transfer belt unit is removed, the waste toner discharge port is automatically closed.

Detecting New Article

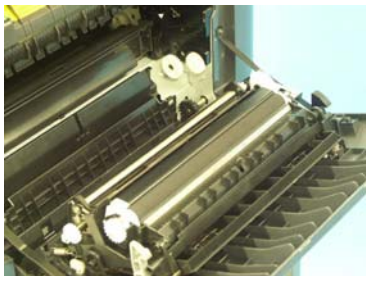
The transfer unit is not provided with any new article detection mechanism.
If the transfer unit is replaced with a new one, therefore, the counter needs to be reset by using the [SUPPLIES REPLACE] function of the UTILITY, USER SERVICE MODE or SERVICE MODE.

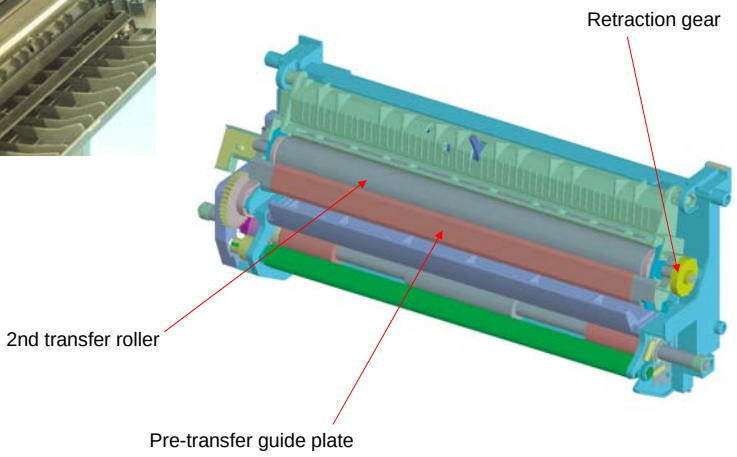
- Reference (UTILITY): [ADMIN. MANAGEMENT] / [SUPPLIES REPLACE] and execute [TRANSFER BELT].
- Reference (USER SERVICE MODE): [SUPPLIES REPLACE] and execute [TRANSFER BELT].
- Reference (SERVICE MODE): [ADJUST]/ [SUPPLIES REPLACE] and execute [TRANSFER BELT].

NARRATION: This is an explanation of the detecting new article function.

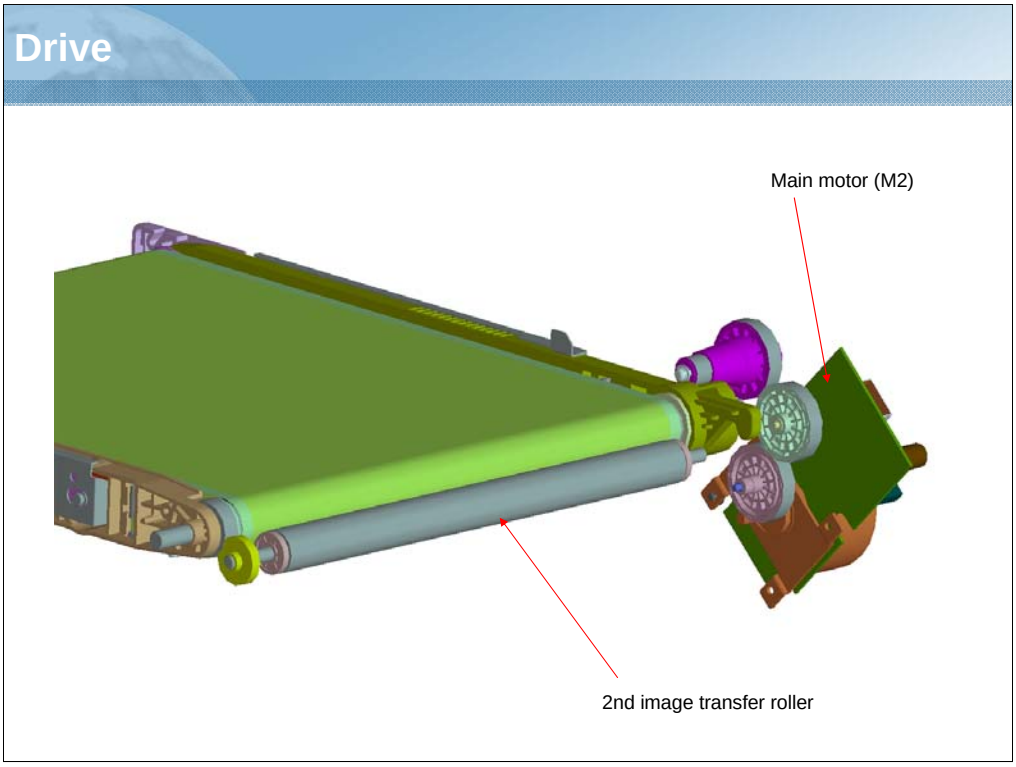
3.7 TRANSFER SECTION (2nd transfer)

❖ **Composition**





NARRATION: These illustrations show the composition of the 2nd transfer section.



NARRATION: This illustration shows the drive mechanism of the 2nd transfer section.

2nd transfer roller pressure mechanism (1/3)

- The main body is provided with a mechanism that presses the 2nd transfer roller up against, and retracts it from, the transfer belt. This is done to prevent the 2nd transfer roller from being dirtied, due to patterns produced for purposes other than an actual printing operation, and to prevent creep that would otherwise occur between the transfer belt and the 2nd transfer roller, as a result of tight contact between them at all times.
- The IDC sensor serves to determine whether the two parts are in contact with, or separated from, each other.
- When the registration clutch and the 2nd transfer release solenoid are energized, drive of the gear train is transmitted to the lever of the IDC sensor, closing the IDC sensor shutter. When the shutter is closed, the IDC sensor outputs a predetermined value, which allows the main body to determine that the 2nd transfer roller is pressed up against the transfer belt.

❖ 2nd transfer roller pressure

- The 2nd transfer roller is pressed against the transfer belt to allow the toner image on the transfer belt to be transferred onto the media.
- The 2nd transfer roller is pressed against the transfer belt to allow the roller to be cleaned.

NARRATION: This is an explanation of the 2nd transfer roller pressure mechanism.

2nd transfer roller pressure mechanism (2/3)

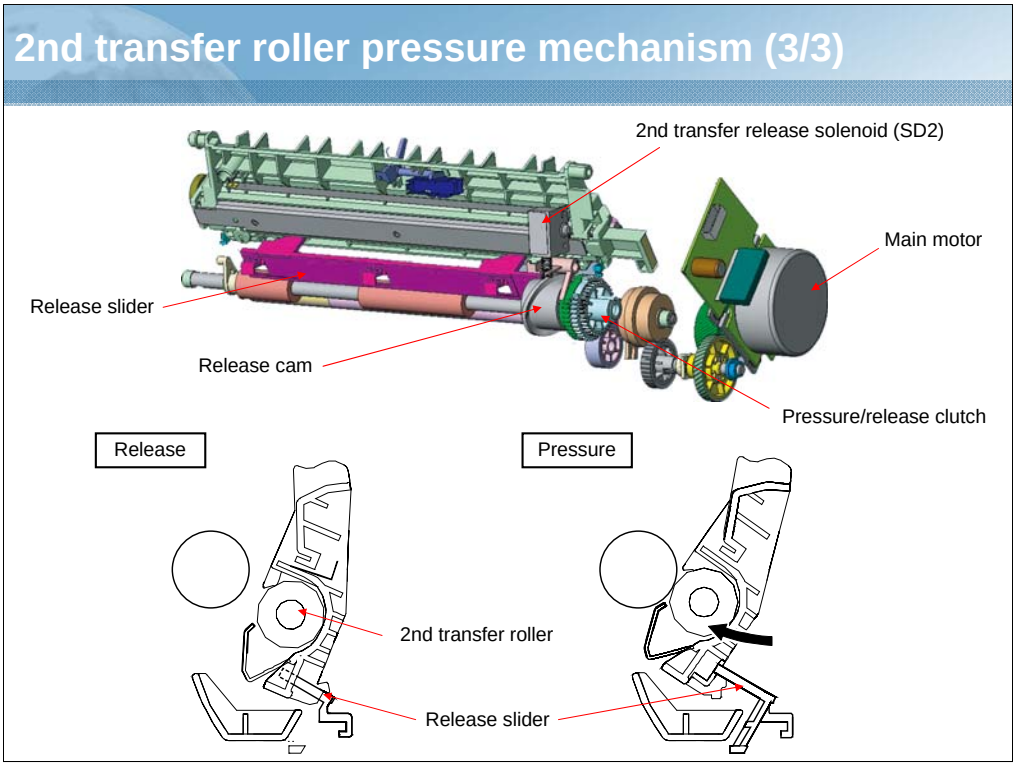
❖ **2nd transfer roller retraction**

- The 2nd transfer roller is retracted from the transfer belt at times when a detection pattern is produced on the transfer belt during, for example, an image stabilization control sequence.
- The 2nd transfer roller is also retracted from the transfer belt when the image on the transfer belt cannot be transferred onto paper, due to a paper empty condition during a print cycle.
- The 2nd transfer roller is retracted from the transfer belt after the 2nd transfer of the last image is completed during a multi-print cycle.
- When a paper misfeed occurs.

❖ **Pressure/release operation**

1. When the registration clutch and the 2nd transfer release solenoid are energized, the rotation is transmitted to the release cam via a coupling gear.
2. When the release cam is rotated a half turn, the release slider moves to the front side of the main body, which results in the 2nd transfer roller being pressed against the transfer belt.
3. When the registration clutch and the 2nd transfer release solenoid are energized a second time, the release cam is rotated another half turn. This moves the release slider toward the back side of the main body, which results in the 2nd transfer roller being retracted from the transfer belt.

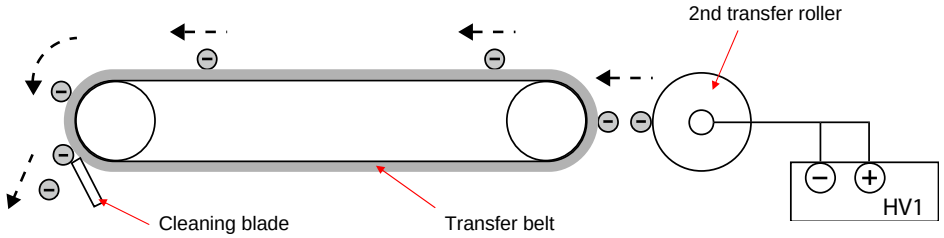
NARRATION: This is an explanation of the 2nd transfer roller retraction mechanism.



NARRATION: These illustrations show the 2nd transfer roller pressure mechanism.

2nd transfer roller cleaning control

- DC positive and negative transfer bias voltages are alternately applied to the 2nd transfer roller. This allows toner residue on the surface of the 2nd transfer roller to be transferred back to the transfer belt, thus cleaning the 2nd transfer roller.
- Any voltage for other control purposes is not applied during the cleaning procedure.
- The toner transferred back to the transfer belt is collected by the cleaning blade.



❖ Operation timing

- The 2nd transfer roller cleaning sequence is carried out after the transfer belt has been cleaned during recovery from a media misfeed or malfunction.
- If a predetermined number of printed pages or more have been produced (after the last cleaning sequence when the printer completes a print cycle and is then brought to a stop), a new cleaning sequence is carried out before the printer is brought to a stop.
- The cleaning sequence is carried out when a media size error occurs.

NARRATION: This is an explanation of the 2nd transfer roller cleaning control function.

Detecting New Article

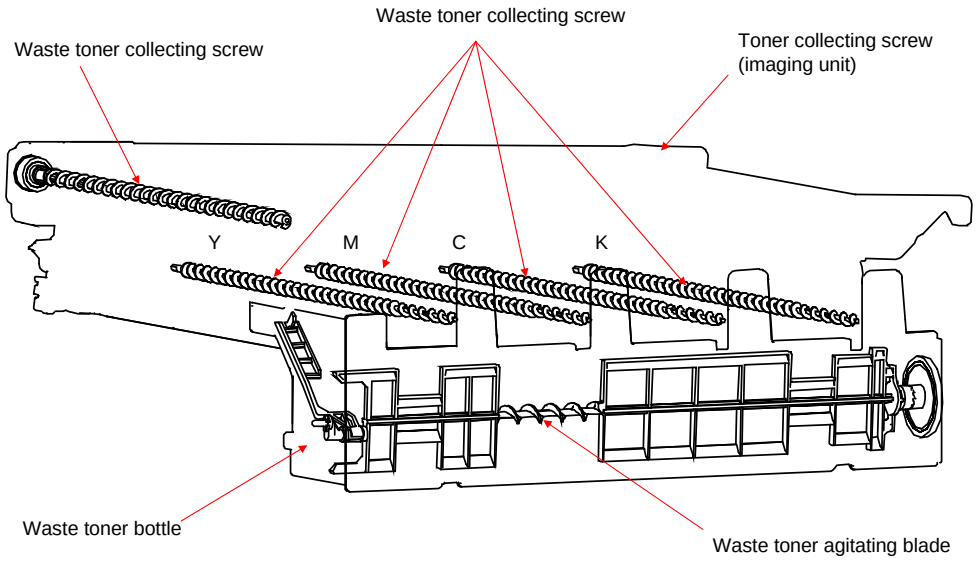
The transfer roller is not provided with any new article detection mechanism.
If the transfer roller is replaced with a new one, therefore, the counter needs to be reset by using the [SUPPLIES REPLACE] function of the UTILITY, USER SERVICE MODE or SERVICE MODE.

- Reference (UTILITY): [ADMIN. MANAGEMENT] / [SUPPLIES REPLACE] and execute [TRANSFER ROLLER].
- Reference (USER SERVICE MODE): [SUPPLIES REPLACE] and execute [TRANSFER ROLLER].
- Reference (SERVICE MODE): [ADJUST] / [SUPPLIES REPLACE] and execute [TRANSFER ROLLER].

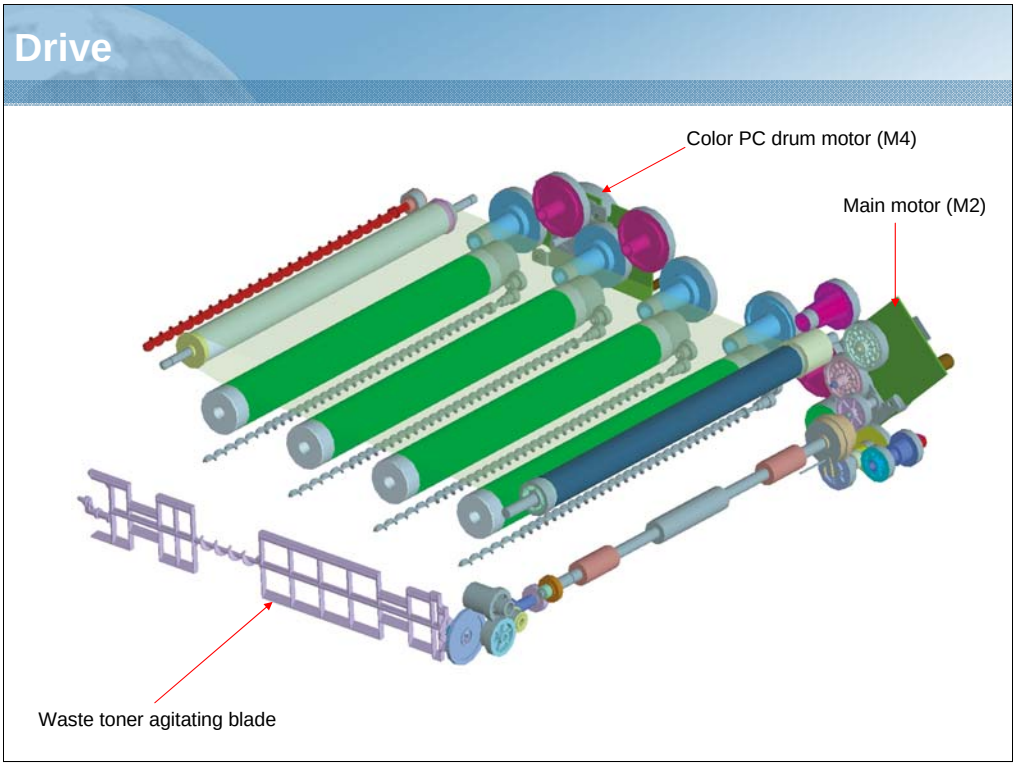
NARRATION: If the transfer roller is replaced with a new one, the counter needs to be reset by using the function of the UTILITY, USER SERVICE MODE or SERVICE MODE.

3.8 WASTE TONER COLLECTING SECTION

❖ **Composition**



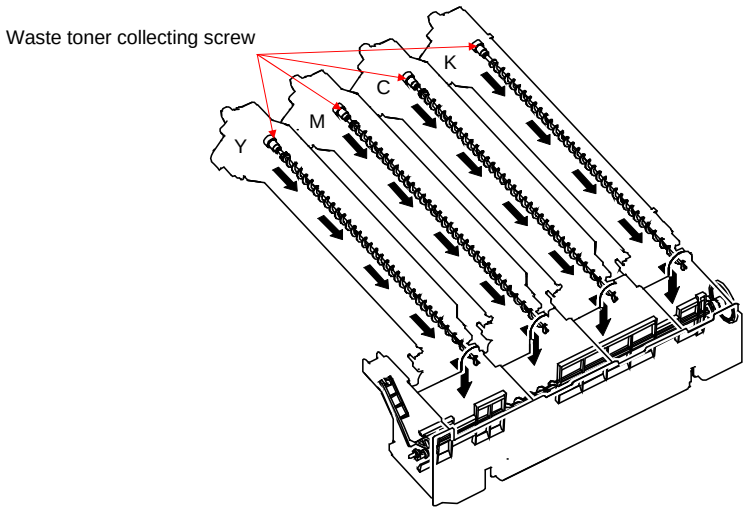
NARRATION: This illustration shows the composition of the waste toner collecting section.



NARRATION: This illustration shows the drive mechanism of the waste toner collecting section.

Toner flow at the imaging unit section

1. Toner scraped off by the cleaning blade in the imaging unit is conveyed to the waste toner discharge port by the toner collecting screw.
2. The toner conveyed is stored in the waste toner bottle.

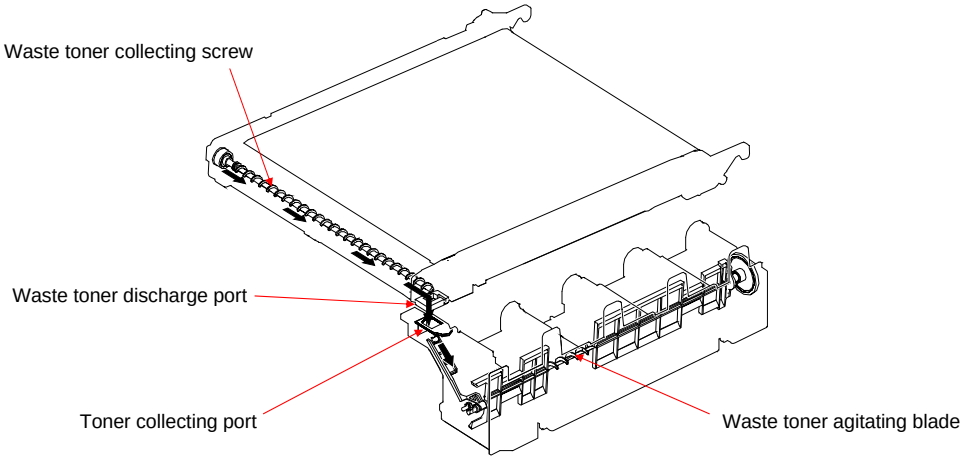


NARRATION: Toner scraped off by the cleaning blade in the imaging unit is conveyed to the waste toner discharge port by the toner collecting screw.

The toner conveyed is stored in the waste toner bottle.

Waste toner flow at transfer belt unit section

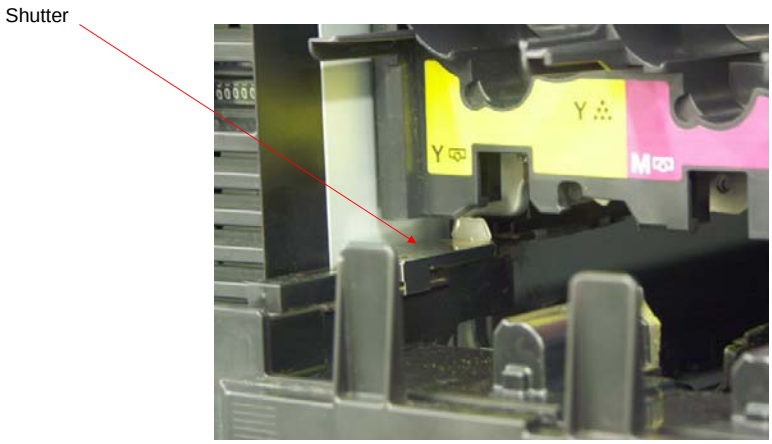
- Toner scraped off by the cleaning blade provided in the transfer belt unit, is collected onto the waste toner discharge port of the transfer belt unit by the toner collecting screw.
- The waste toner collected is conveyed to the waste toner bottle, by the waste toner agitating blade from the toner collecting port, that is provided in the middle of the transfer belt unit.



NARRATION: This illustration shows the waste toner flow at the transfer belt unit section/2nd transfer section.

Toner collecting port shutter mechanism

- A shutter mechanism is provided to prevent waste toner from being spilled from the toner collecting port when the waste toner bottle is removed or reinstalled.
- Inserting the waste toner bottle causes the shutter stopper to be caught by the frame of the main body, which automatically opens the shutter.

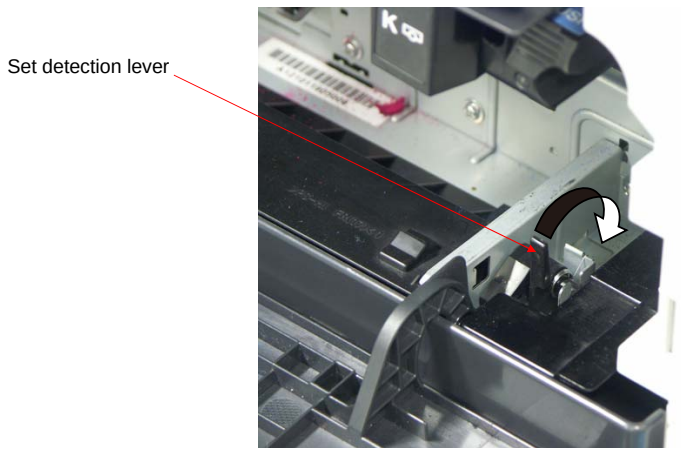


NARRATION: A shutter mechanism is provided to prevent waste toner from being spilled from the toner collecting port when the waste toner bottle is removed or reinstalled.

Inserting the waste toner bottle causes the shutter stopper to be caught by the frame of the main body, which automatically opens the shutter.

Waste toner bottle-in-position detection mechanism

- The waste toner bottle set detection lever is provided to detect a waste toner bottle loaded in position.
- When the waste toner bottle is not loaded, the set detection lever is raised, so that the protrusion provided in the front door interferes with the set detection lever. Then, the front door cannot be closed.

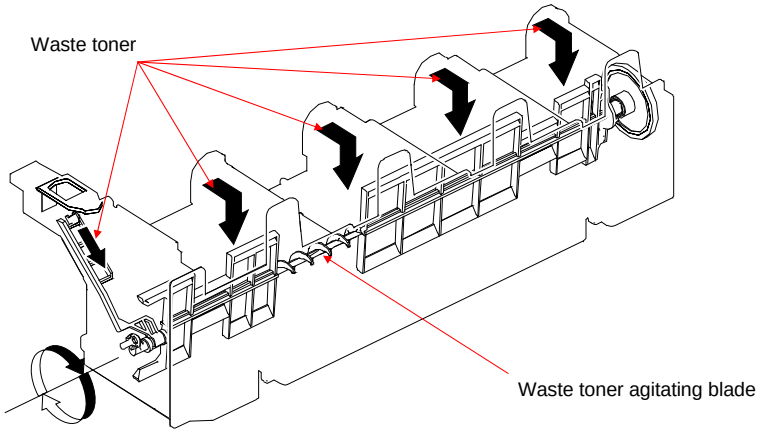


NARRATION: The waste toner bottle set detection lever is provided to detect a waste toner bottle loaded in position.

When the waste toner bottle is not loaded, the set detection lever is raised, so that the protrusion provided in the front door interferes with the set detection lever. Then, the front door cannot be closed.

Waste toner flow in the waste toner bottle

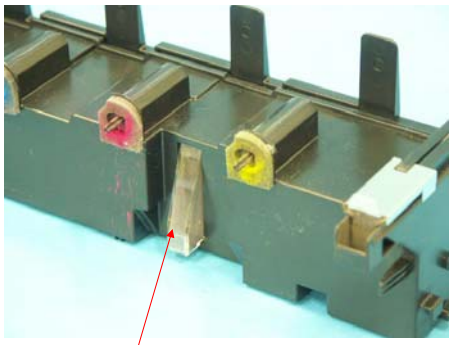
- Waste toner conveyed from the transfer belt and each of the imaging units is evened out in the waste toner bottle by the waste toner agitating blade.
- The waste toner bottle is provided with a detection window. The waste toner sensor is unblocked or blocked through the detection window to detect the amount of waste toner in the waste toner bottle.
- When the waste toner sensor is blocked, the main body determines that a waste toner near-full condition exists.



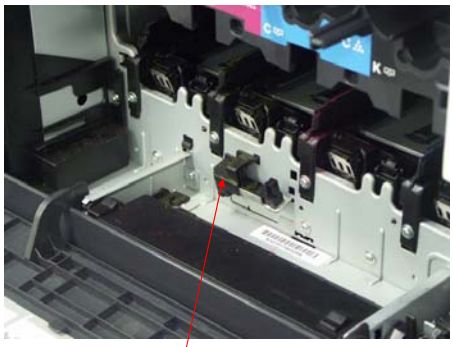
NARRATION: Waste toner conveyed from the transfer belt and each of the imaging units, is evened out in the waste toner bottle by the waste toner agitating blade.

Waste toner near-full condition detection control

- A waste toner near-full condition is detected when the waste toner sensor is continuously blocked for a predetermined period of time.
- At this time, a waste toner near-full condition warning is given on the panel.
- Approx. 2400 B/W images or 600 Color images can be produced for the period of time that begins when the waste toner near-full condition is detected and ends when the lifetime is reached (Based on the 5% chart and 2 page prints/job).



Detection window



Waste toner near full sensor (PS12)

NARRATION: A waste toner near-full condition is detected when the waste toner sensor is continuously blocked for a predetermined period of time.

Waste toner full condition detection control

- The main body accepts no print job after the waste toner full condition has been detected.
- A waste toner full condition warning is given on the panel at this time.
- The waste toner full warning indication disappears when a new waste toner bottle is installed.

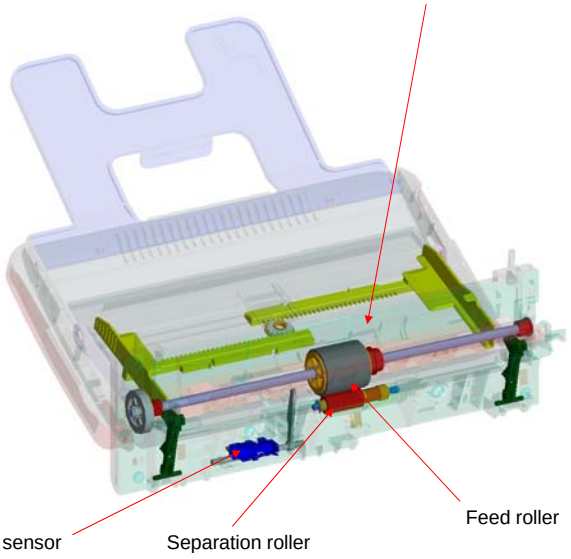
NARRATION: The main body accepts no print job after the waste toner full condition has been detected.

A waste toner full condition warning is given on the panel at this time.

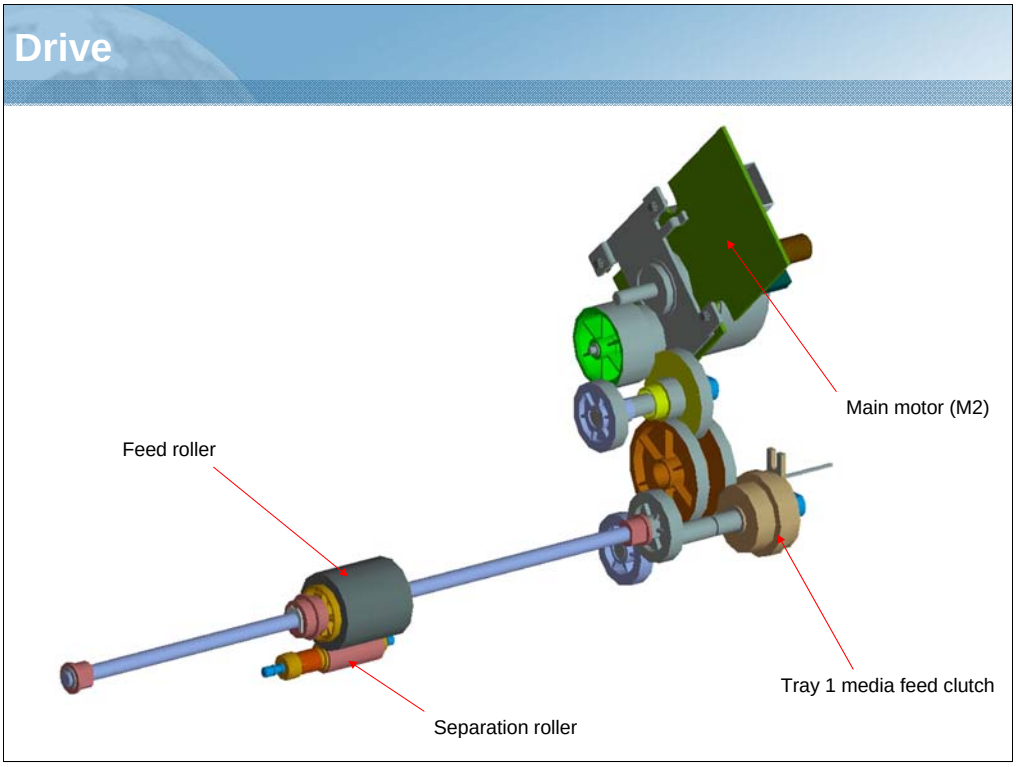
The waste toner full warning indication disappears when a new waste toner bottle is installed.

3.9 MEDIA FEED SECTION (Tray 1)

❖ **Composition**



NARRATION: These illustrations show the composition of the media feed section for tray1.

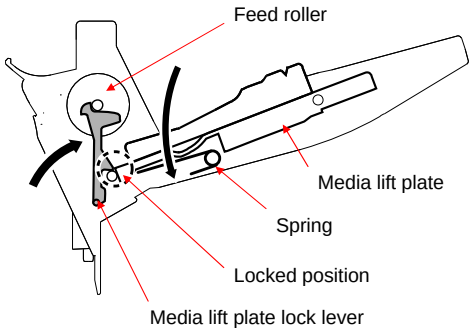


NARRATION: This illustration shows the drive mechanism of the media feed section for tray1.

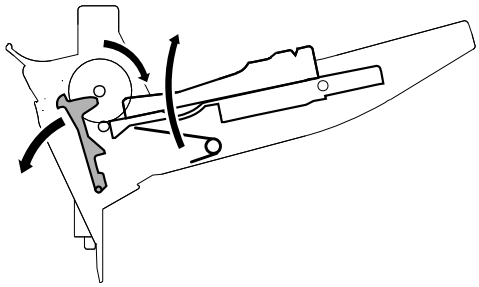
Media lift plate mechanism

- The media lift plate will be locked under the media lift plate lock lever by pressing it down (in which the media is loaded in position).
- The media feed clutch causes the feed roller shaft to rotate, which causes the media lift plate lock lever to follow the motion to thereby release the media lift plate.
- The media lift plate (media stack) is pressed against the feed roller.
- The media lift plate (media stack) is pressed upward by the springs at all times.

LOCK POSITION



LOCK RELEASE POSITION

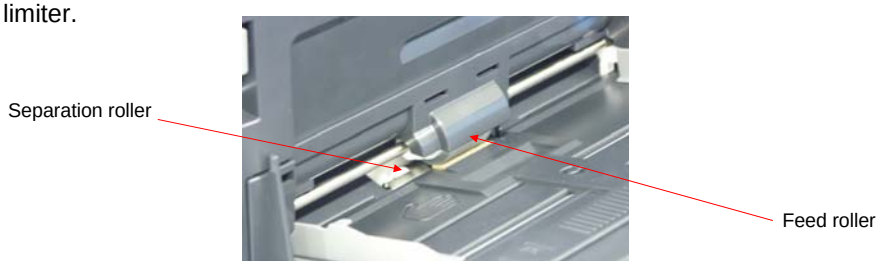


NARRATION: This is an explanation of the media lift plate mechanism.

Media feed

Media separation mechanism

- Rotation of the transport motor is transmitted through the media feed clutch to drive the feed roller.
- The feed roller rotates to take up and feed media into the main body.
- Double-feeding of media is prevented by a separation roller provided with a torque limiter.



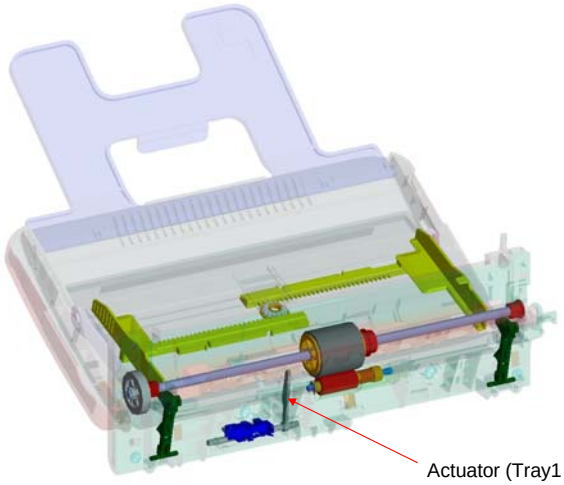
Media feed control

- Rotation of the transport motor is transmitted through the media feed clutch to drive the feed roller to take up and feed the media.
- The media taken up and fed in is conveyed onto the registration roller.
- The media is pressed against the stationary registration roller so that a loop is formed in the media. The feed roller is then stopped. The loop thus formed in the media corrects any mechanical skew in the media.

NARRATION: This is an explanation of the media separation and feed mechanism.

Media empty condition detection control

- A media empty condition is detected when the empty sensor actuator blocks the media empty sensor.
- No mechanism is provided for detecting a media near-empty condition. The media supply level indicator serves this purpose.

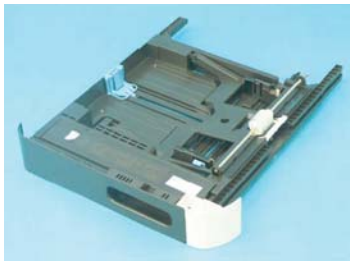


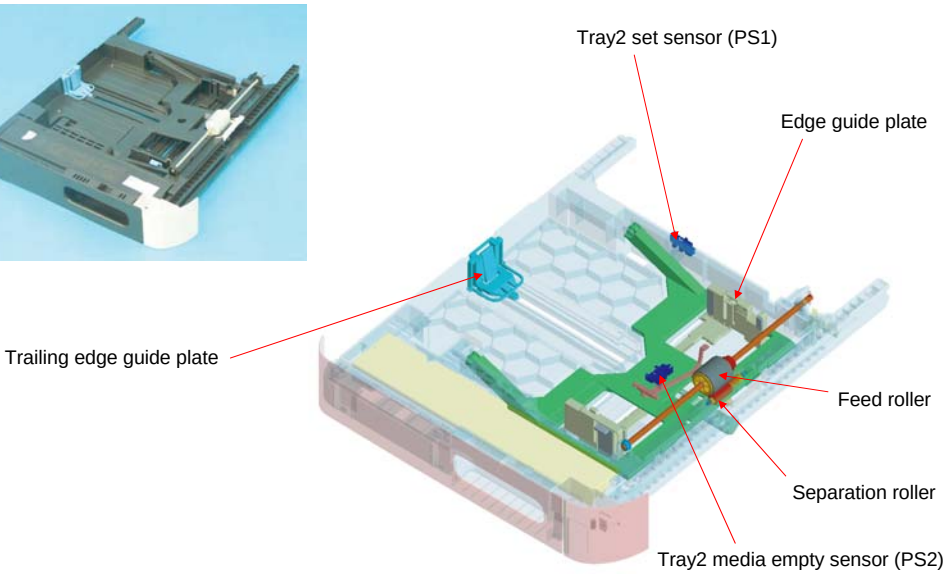
NARRATION: A media empty condition is detected when the empty sensor actuator blocks the media empty sensor.

No mechanism is provided for detecting a media near-empty condition. The media supply level indicator serves this purpose.

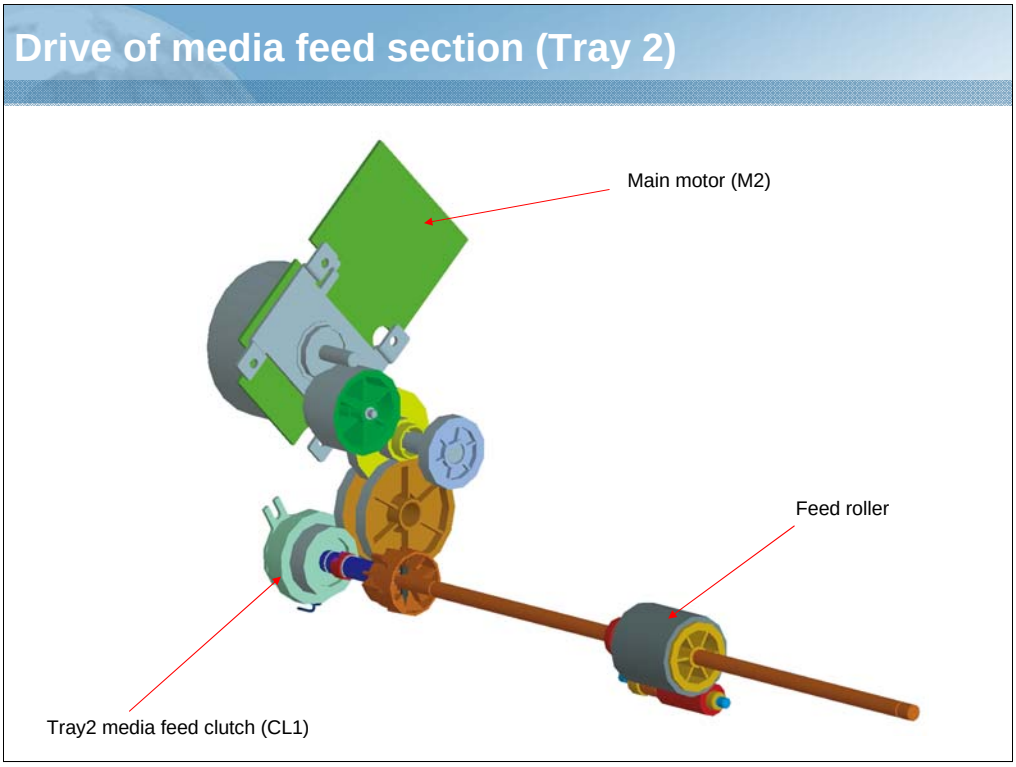
3.10 Media feed section (Tray 2)

❖ **Composition**





NARRATION: This is the composition of the media feed section for tray2.

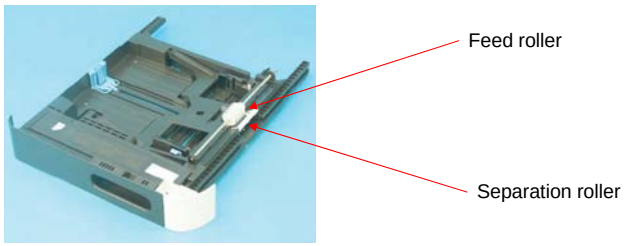


NARRATION: This illustration shows the drive mechanism of the media feed section for tray2.

Media separation and feed mechanism

❖ Media separation mechanism

- Rotation of the main motor is transmitted through the media feed clutch to drive the feed roller.
- The feed roller rotates to take up and feed media into the main body.
- Double-feeding of media is prevented by the separation roller provided with a torque limiter.



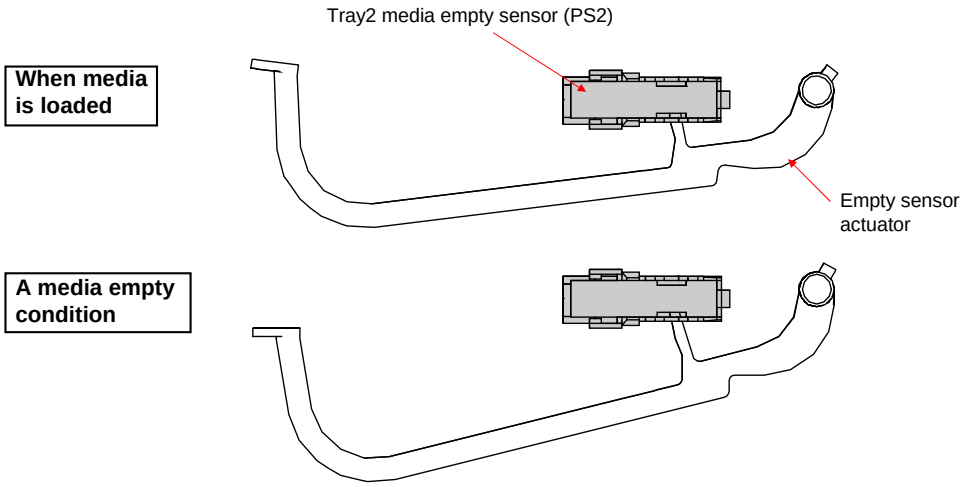
❖ Media feed control

- Rotation of the main motor is transmitted through the media feed clutch to drive the feed roller to take up and feed the media.
- The media taken up and fed in is conveyed onto the registration roller.
- The media is pressed against the stationary registration roller so that a loop is formed in the media. The feed roller is then stopped. The loop thus formed in the media corrects any mechanical skew in the media.
- As the trailing edge of the media reaches a point immediately before the feed roller, the feed roller is stopped.

NARRATION: This is an explanation of the media separation mechanism and media feed control.

Media empty condition detection control

- The media empty message “PAPER EMPTY TRAY2” is displayed on the panel when the empty sensor actuator unblocks the media empty sensor.
- No mechanism is provided for detecting a media near-empty condition. The media supply level indicator replaces this function.

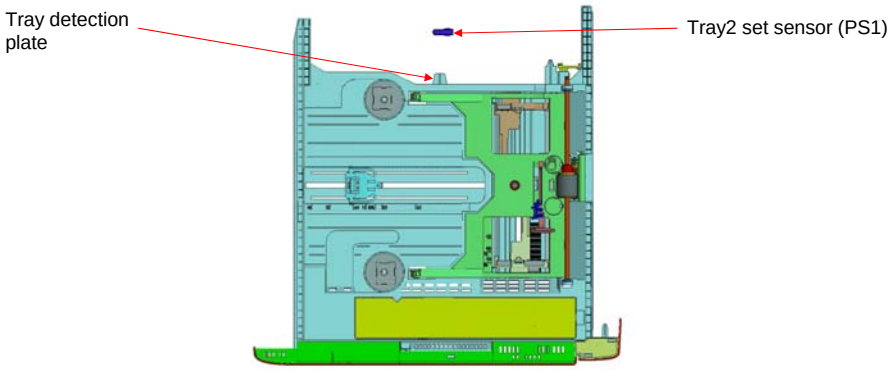


NARRATION: The media empty message “PAPER EMPTY TRAY2” is displayed on the panel when the empty sensor actuator unblocks the media empty sensor.

No mechanism is provided for detecting a media near-empty condition. The media supply level indicator replaces this function.

Tray open/close detection control

- The tray2 set sensor detects a tray in the open or closed position.
- The detection plate of tray 2 blocks or unblocks the tray2 set sensor, which allows the main body to determine if tray 2 is in place or not.

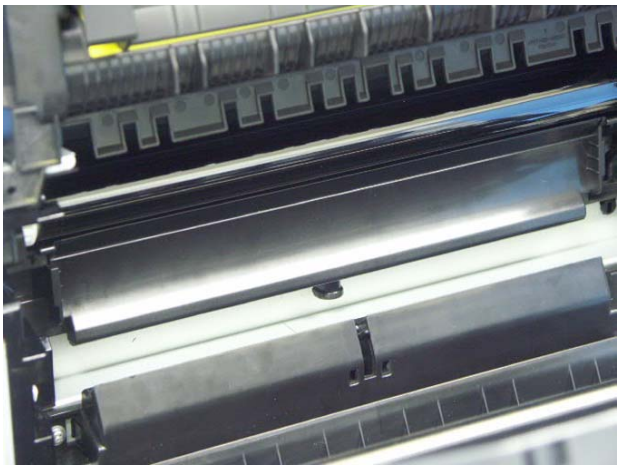


NARRATION: The tray2 set sensor detects a tray in the open or closed position.

The detection plate of tray 2 blocks or unblocks the tray2 set sensor, which allows the main body to determine if tray 2 is in place or not.

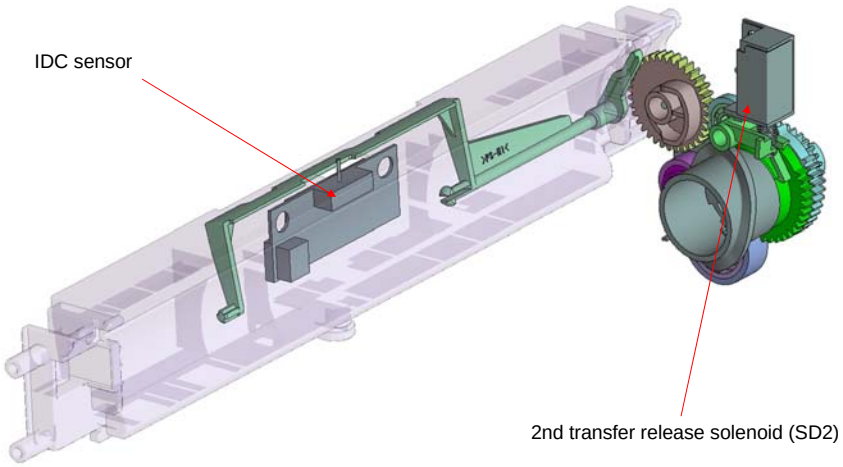
3.11 CONVEYANCE SECTION (IDC sensor)

❖ **Composition**



NARRATION: This is the composition of the conveyance section.

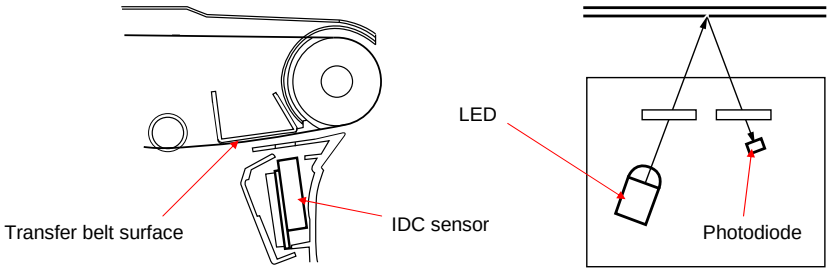
Drive



NARRATION: This is the drive mechanism of the conveyance section.
One IDC sensor is used for this product.

Toner density detection control

- A reflective sensor is used for the IDC sensor that detects the amount of toner sticking to the surface of the transfer belt. Image stabilization is performed based on the value detected.
- The detection pattern (toner image) produced on the surface of the transfer belt is irradiated with light emitted by the LED of the sensor.
- The photodiode of the sensor detects the light reflected off the toner pattern on the surface of the transfer belt.



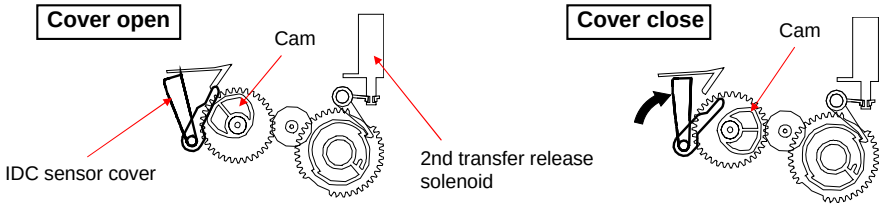
- A voltage corresponding to the intensity of the light reflected off the toner pattern is output to the MFP board.

Amount of toner sticking	Intensity of light reflected	Output
Large	Small	Low
Small	Great	High

NARRATION: This is an explanation of the toner density detection control function.

IDC sensor cover open/close mechanism

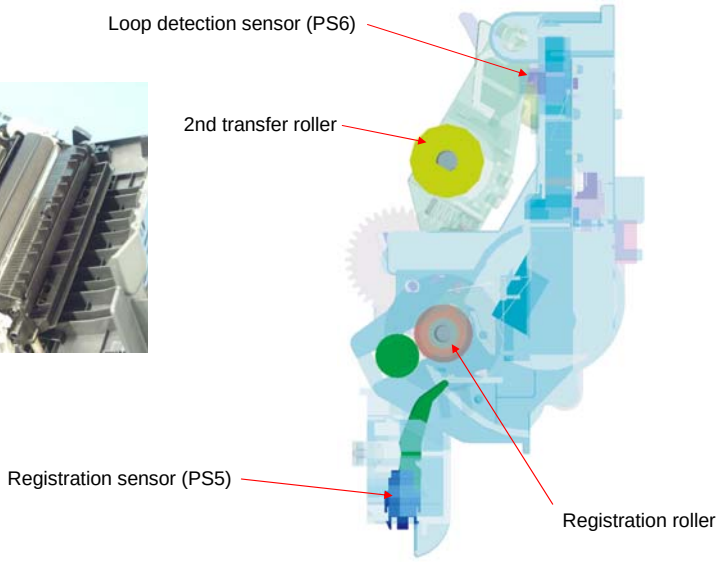
- Since the IDC sensor is installed below the transfer belt, it can be dirtied with toner or other foreign matter. A shutter mechanism is therefore provided above the IDC sensor to prevent it from being dirtied.
- The cover is opened or closed in synchronism with the pressure or retraction motion of the 2nd transfer roller. When the 2nd transfer roller is released, the cam pushes up the sensor lever, which opens the cover above the IDC sensor.
- When the 2nd transfer roller is pressed, on the other hand, the cover above the IDC sensor is closed by the tension of a spring.



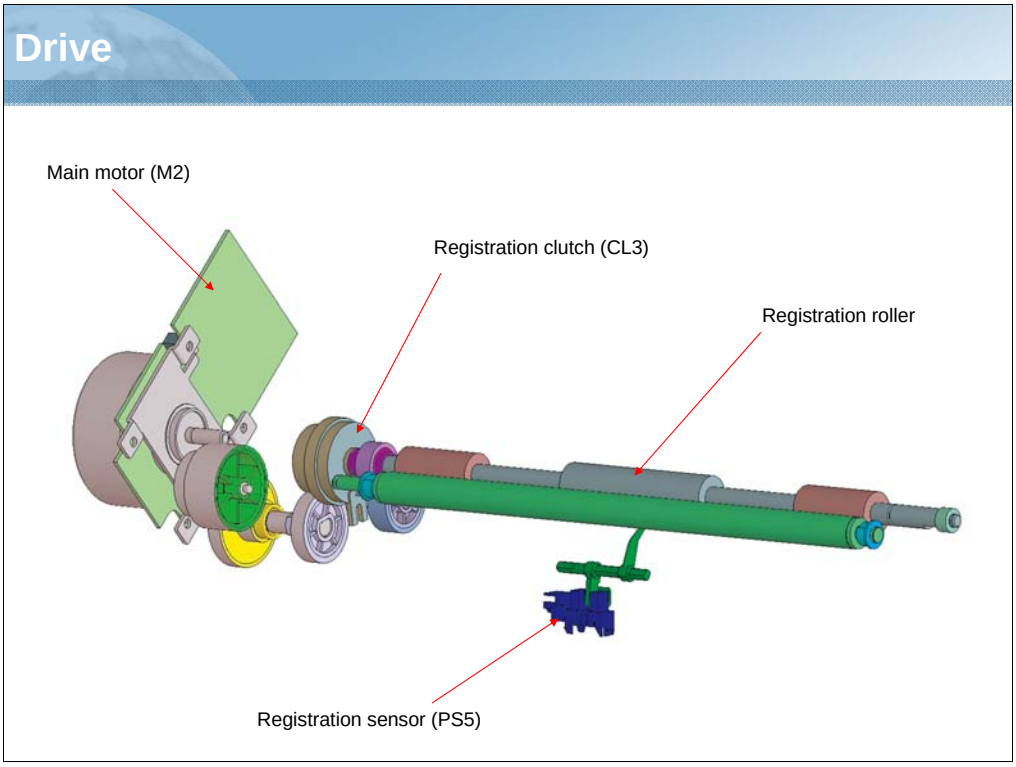
NARRATION: This is an explanation of the IDC sensor cover open/close mechanism.

3.12 CONVEYANCE SECTION (Registration roller)

❖ **Composition**



NARRATION: These illustrations show the composition of the conveyance section/registration roller.



NARRATION: This illustration shows the drive mechanism of the conveyance section/registration roller.

Conveyance speed control

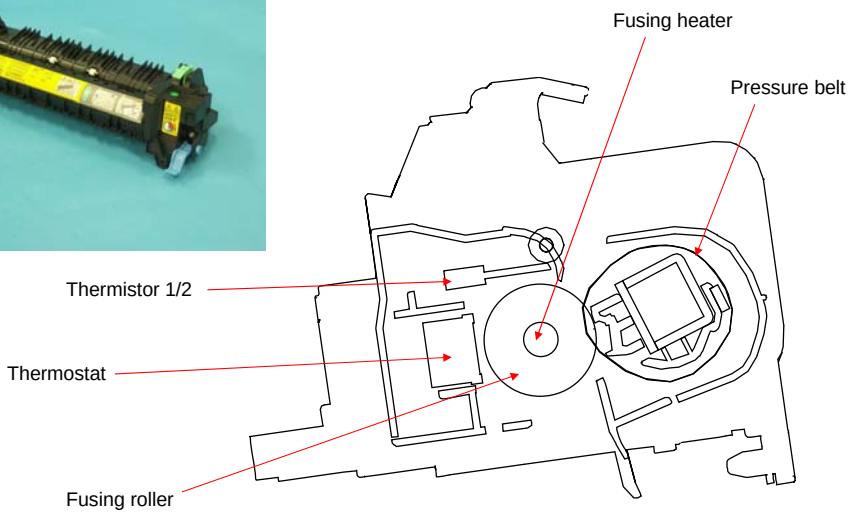
- The Transport motor provides drive for the conveyance section.
- The conveyance speed is variable in two steps and the appropriate one is selected according to the media type and print mode as detailed below.

Media type/print mode	Conveyance speed
Plain media	144 mm/s
Thick stock, envelopes, postcards, label	72 mm/s

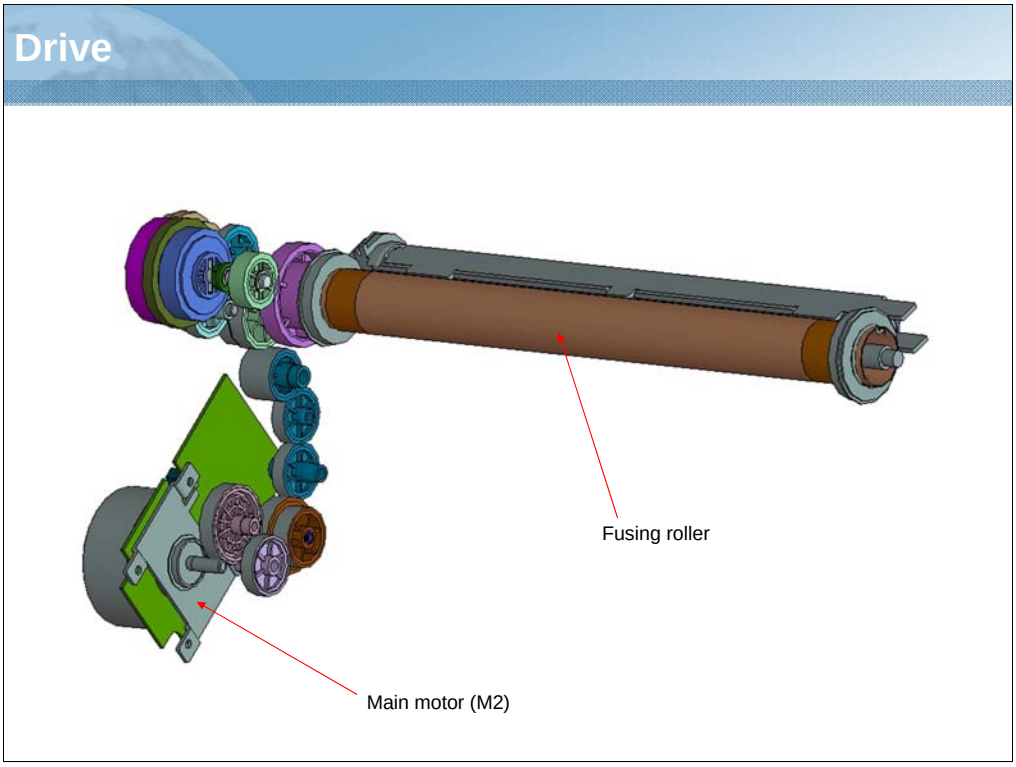
NARRATION: The conveyance speed is variable in two steps and the appropriate one is selected according to the media type and print mode.

3.13 Fusing section

❖ **Composition**



NARRATION: These illustrations show the composition of the Fusing section.

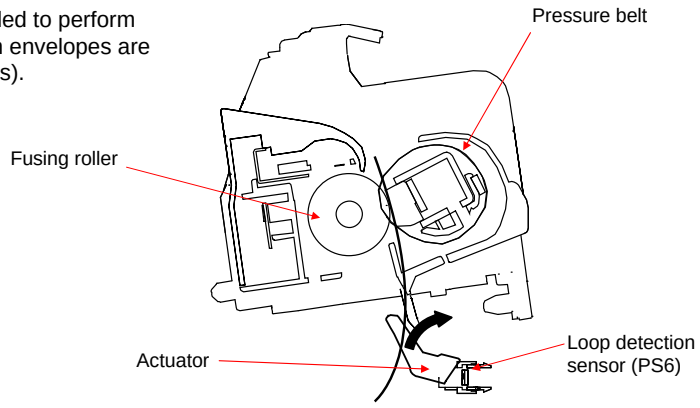


NARRATION: This illustration shows the drive mechanism of the Fusing section.

Fusing roller drive control (1/2)

❖ **Fusing speed control (control of loop before fusing)**

- To prevent double transferred images and brush effects from occurring, the difference between the fusing speed and the media conveyance speed during image transfer is corrected.
- The media loop sensor detects the length of the loop formed in the media between the 2nd transfer roller and the fusing pressure roller. The fusing speed is then varied according to the media size. By varying the fusing speed, media is prevented from being misfed or contacting the charge neutralizing cloth.
- No loop control is provided to perform the fusing process when envelopes are used (to prevent wrinkles).



NARRATION: To prevent double transferred images and brush effects from occurring, the difference between the fusing speed and the media conveyance speed during image transfer is corrected.

Fusing roller drive control (2/2)

❖ Fusing roller deformation prevention control

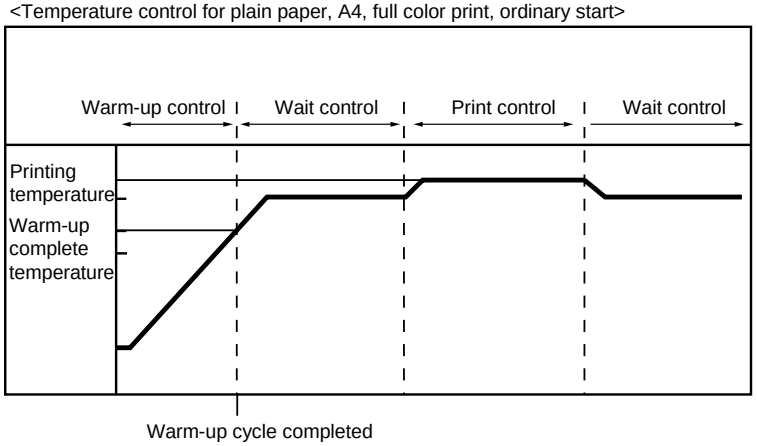
- To prevent the fusing roller from being deformed, the fusing roller is forcibly turned if it is left idle for a predetermined period of time.
- Operation timing:
  1. If the main body remains in the standby state for more than a predetermined period of time, the fusing motor is energized for a predetermined period of time.
  2. If the main body remains in the power save mode for more than a predetermined number of days, the temperature adjustment is started. After the temperature rises to a predetermined value or more, the main motor is energized for a predetermined period of time.

NARRATION: To prevent the fusing roller from being deformed, the fusing roller is forcibly turned if it is left idle for a predetermined period of time.

Fusing temperature control

- To fuse the toner image on the media (image yet to be permanently fixed) properly into the media, the heater lamps are turned ON and OFF as necessary to bring the fusing temperature to an appropriate level.
- Thermistors are used to detect the surface temperature of the Fusing roller. The heater lamps are then turned ON and OFF as necessary to achieve the set temperature.

<Temperature control for plain paper, A4, full color print, ordinary start>



NARRATION: This table shows the fusing temperature control function.

Fusing speed control

❖ PPM control

- The PPM control is performed to inhibit the temperature of the fusing roller from decreasing during a multi-print cycle and the temperatures of the edges of the roller from increasing.
- Running a multi-print cycle causes the temperature of the fusing roller to decrease, thus degrading fusing performance of the printed image.
- To prevent this, fusing performance is estimated from the surface temperature of the fusing roller; the distance between sheets of media is then widened according to the length of the media and the fusing speed, thereby allowing the fusing pressure roller and fusing belt to recover their temperatures to thereby achieve satisfactory fusing performance of the printed toner image.
- If a multi-print cycle is run using plain paper of a small size (B5, A5) or thick paper of a small size (B5, A5, postcards), a difference is produced in temperature between the center portion of the roller/belt (the surface over which the media moves past) and the edges of the roller/belt (where no part of the media moves past). To inhibit this situation, the distance between the sheets of media is widened and the temperature of the fusing roller is thereby made uniform.
- The PPM control is also performed during a two-sided print cycle to produce a predetermined number of printed pages more continuously. (A4, Letter, B5)

NARRATION: This is an explanation of PPM control of the fusing speed control function.

Fusing unit new article detection

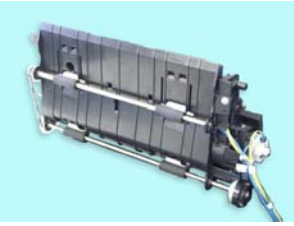
The fusing unit is not provided with any new article detection mechanism.
If the fusing unit is replaced with a new one, therefore, the counter needs to be reset by using the [SUPPLIES REPLACE] function of the UTILITY, USER SERVICE MODE or SERVICE MODE.

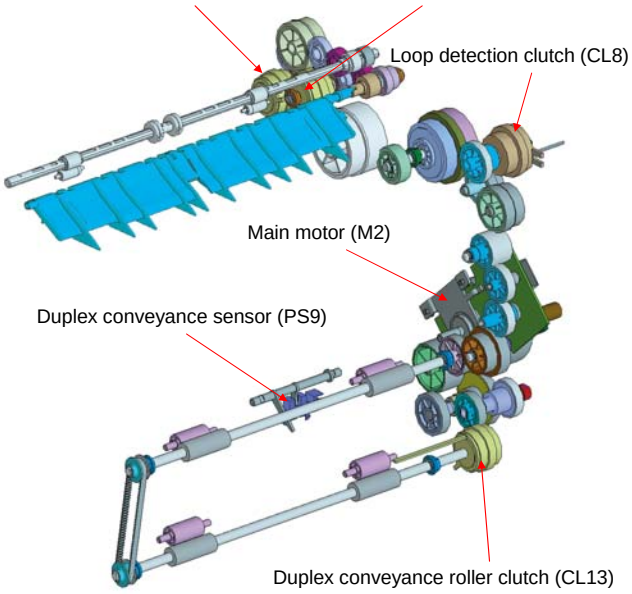
- Reference (UTILITY): [ADMIN. MANAGEMENT] / [SUPPLIES REPLACE] and execute [FUSER UNIT].
- Reference (USER SERVICE MODE): [SUPPLIES REPLACE] and execute [FUSER UNIT].
- Reference (SERVICE MODE): [ADJUST] / [SUPPLIES REPLACE] and execute [FUSER UNIT].

NARRATION: This is an explanation of the fuser unit new article detection function.

3.14 DUPLEX SECTION

❖ **Composition**





NARRATION: The duplex unit is a built-in type. For quiet operation, the machine has no motors dedicated to the duplex function; instead, the main motor is used to drive it.

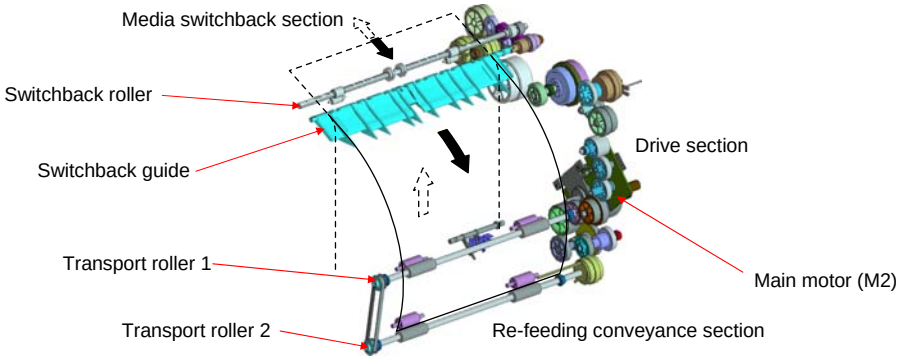
The duplex unit is provided with a switchback path and switchback roller, which achieves 100% duplex productivity when plain paper, A4 or Letter, is used.

The switchback guide functions to select the path into either the exit tray or duplex unit.

Media transport control (1/2)

❖ Media transport

- The main motor provides drive for media transport onto the duplex section.
- When the main motor is energized, the media exit roller, switchback roller, transport roller 1, and transport roller 2 are driven to transport media from the duplex section to the re-feeding position.
- The duplex conveyance sensor is located at the re-feeding position in the duplex section, serving to control the timing at which media is moved and to detect media misfeeds or media left in the duplex section.
- Because of the new capability of handling thick paper during two-sided printing, the 2nd duplex transport roller is located between the 1st duplex transport roller and registration roller, to ensure that media is properly transported onto the main body.



NARRATION: The main motor provides drive for media transport onto the duplex section.

Media transport control (2/2)

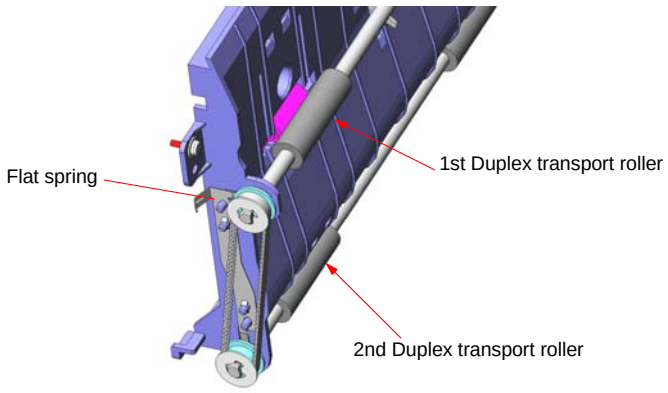
❖ Loop formation

- To correct skew in the media transported to the duplex section, a loop is formed in the media at the duplex section before the media is transported onto the main body.
- The registration roller functions to control formation of the loop. The registration roller is brought to a stop after the lapse of a predetermined period of time after the media has moved past the duplex conveyance sensor. A loop is thereby formed in the media at the duplex section.

NARRATION: This is the explanation of Loop formation of the media transport control function.

2nd duplex transport roller

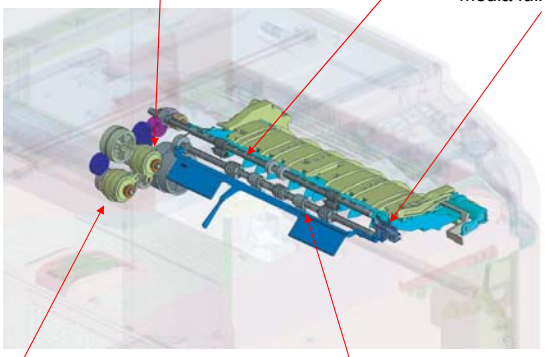
Two duplex transport rollers are used to respond to the need for duplex printing on thick paper.



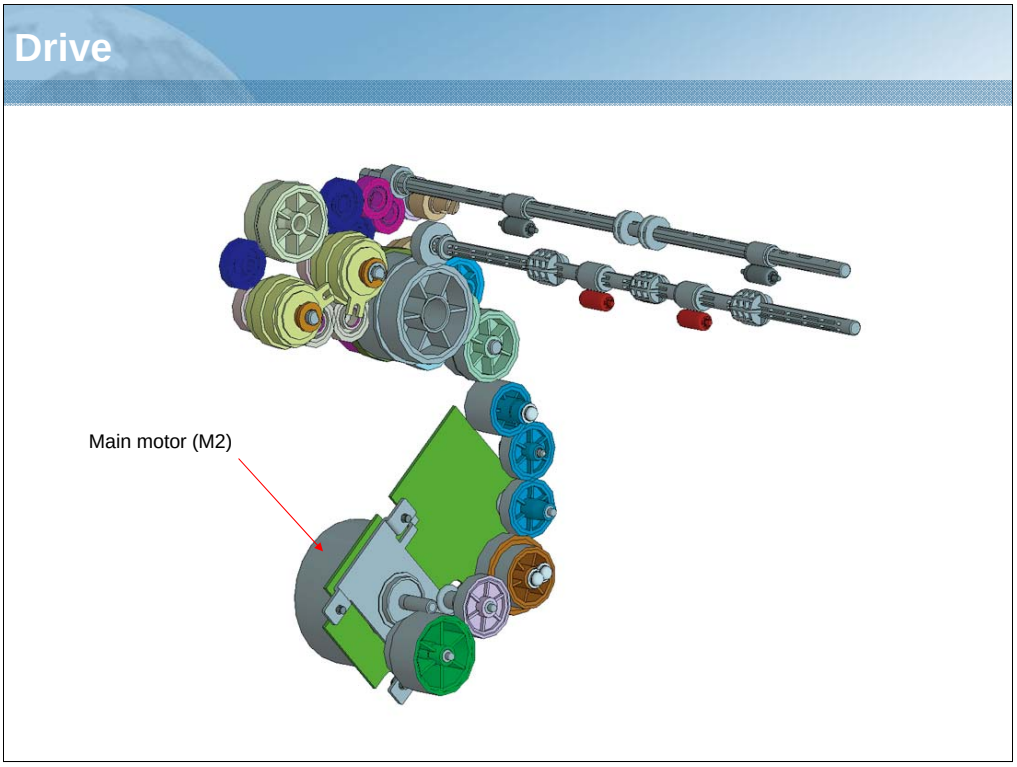
NARRATION: Two duplex transport rollers are used to respond to the need for duplex printing on thick paper.

3.15 MEDIA EXIT SECTION

❖ **Composition**



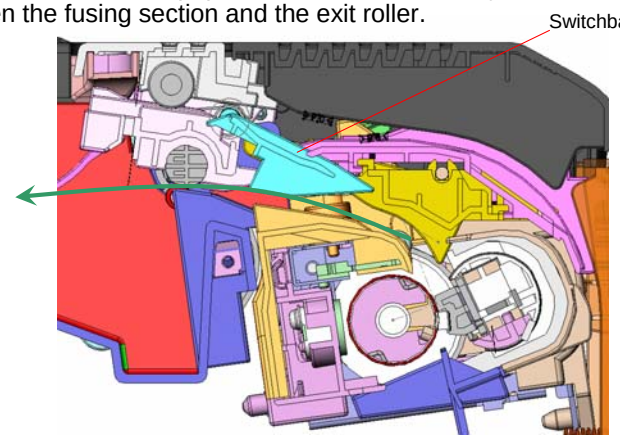
NARRATION: This illustration shows the composition of the media exit section.



NARRATION: This illustration shows the drive mechanism of the media exit section.

Path switching

The switchback guide selects the paper path, either in the direction of the duplex switchback or exit.
After an image has been printed on one side of the paper, the switchback guide allows the paper to be fed into the path dedicated to switchback; when the trailing edge of the paper reaches the switchback path, the switchback roller is rotated backward, so that the paper is fed into the re-feed transport path.
To ensure that the exit paper can be removed easily, the switchback guide is located between the fusing section and the exit roller.



NARRATION: The switchback guide selects the paper path, either in the direction of the duplex switchback or exit.

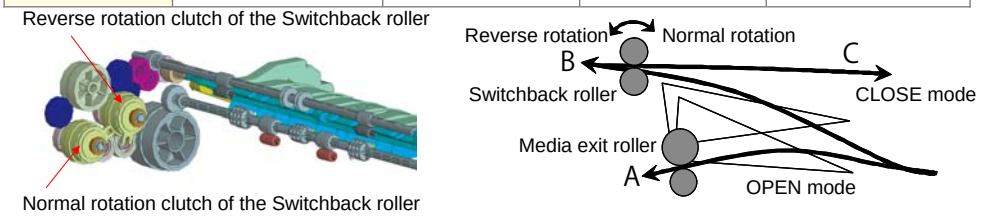
Transport control (1/2)

❖ Media exit switching mechanism

- The media transport path is switched between either the exit direction or toward the switchback roller.
- The path is switched through the combination of the two clutches: the switchback roller feed clutch and switchback roller reverse clutch. The direction of media travel is controlled by the position of the switchback guide and normal or reverse rotation of the switchback roller.
- The two clutches are never energized at the same time.

(1) Normal/reverse rotation clutch motion

Transportation route	Switchback roller rotating direction	Normal rotation clutch	Reverse rotation clutch	Switchback guide mode
A	Stopping	OFF	OFF	CLOSE
B	Normal rotation	ON	OFF	OPEN
C	Reverse rotation	OFF	ON	CLOSE



NARRATION: The media transport path is switched between one in the exit direction and one toward the switchback roller.

The path is switched through the combination of the two clutches: the switchback roller feed clutch and switchback roller reverse clutch. The direction of media travel is controlled by the position of the switchback guide and normal or reverse rotation of the switchback roller.

The two clutches are never energized at the same time.

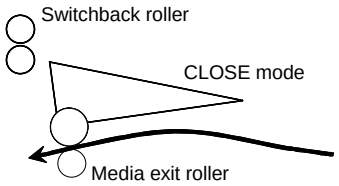
Transport control (2/2)

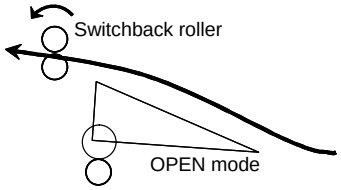
❖ **Single-side printing**

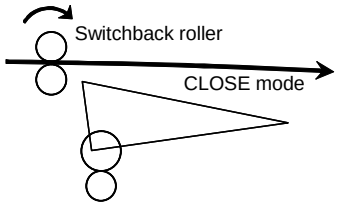
- Media exits outside the machine with the switchback gate in the CLOSE mode.
- The switchback roller mode is stopping.

❖ **Duplex printing**

1. The switchback guide turns to the OPEN mode and the media is transported to the direction of the switchback roller.
2. The switchback roller rotates forward.
3. The switchback guide switches to the CLOSE mode after the back end of the media passes through the switchback roller, and the switchback roller starts rotating backward to send the media to the duplex unit direction.





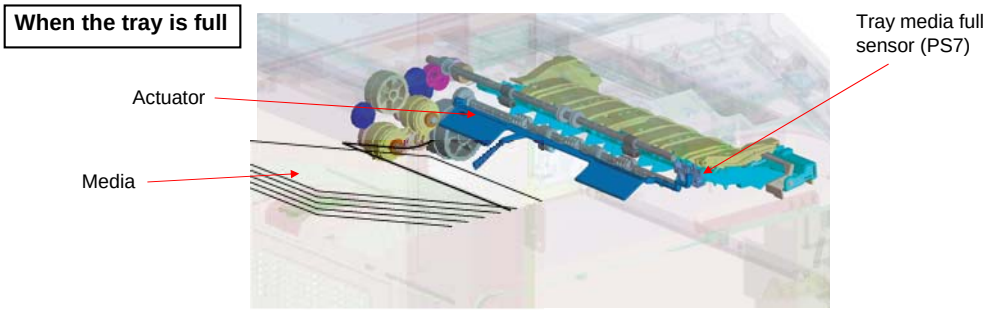


NARRATION: This is an explanation of the transport control for single-side and duplex printing.

Media full detection

- The media full sensor detects the load capacity of output media in the exit tray.
- When the media holding plate is low, the edge of the media holding plate shades the media full sensor.
- When printing starts, the output media pushes up the media holding plate and the edge of the plate unblocks the media full sensor.
- After all media is discharged, the media holding plate goes down and the edge of the plate shades the media full sensor. If the sensor is shaded, the printed media is judged to not have reached the maximum load capacity yet.
- After all media is discharged, if the output media in the exit tray keeps the media holding plate up and the media full sensor remains unblocked, the printed media is judged to have reached the maximum load capacity, and the operation panel displays the message.
- If the sensor detects that the exit tray is full, printing is stopped.

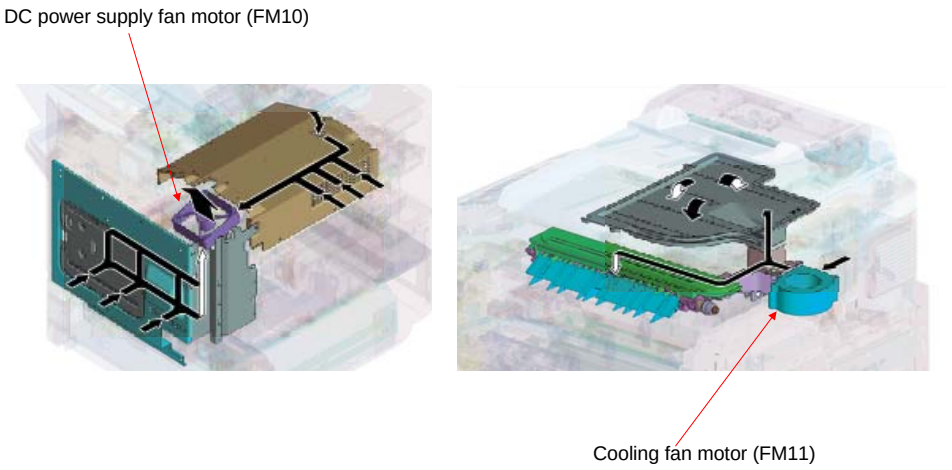
When the tray is full



NARRATION: The media full sensor detects the load capacity of output media in the exit tray.

3.16 FAN CONTROL

❖ **Configuration**



NARRATION: These illustrations show the configuration of the fan control function.

Function

Motor name	Function (purpose)
DC power supply fan motor	▪Discharges heat generated from the interior parts (including the DC power supply, transfer belt section, toner cartridges/C, M, Y, and motor drives) from the main body to prevent the interior temperature from rising inordinately. ▪Discharges heat generated from the print head from the main body to prevent the print head temperature from becoming inordinately high. ▪Removes ozone produced from the toner cartridges and charging section. ▪Air passageway is formed on top of the DC power supply, in the duct inside the toner cartridge rail, and below the print head housing. No air flows through areas around the toner cartridges. This effectively prevents toner from scattering. ▪The heat generated inside the MFP board is discharged outside the main body.
Cooling fan motor	▪It prevents the paper from being stuck due to fusing heat at both-sides of printing part. ▪It prevents overheating inside the scanner.

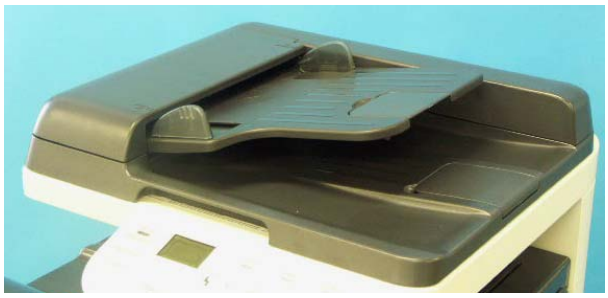
NARRATION: This table shows the function for the fan motors.

Fan control

Motor name	Control	Control conditions (outline)
DC power supply fan motor	ON (high speed)	During a print cycle, warm-up cycle (including door open/close), image stabilization sequence or firmware upgrading, high humidity inside the PH
	ON (medium speed)	No control
	ON (low speed)	Conditions other than those of ON (high speed)
	OFF	Not turned OFF
Cooling fan motor	ON (high speed)	During a two-sided print cycle, when the door is opened and closed, during firmware upgrading, high humidity inside the PH
	ON (medium speed)	No control
	ON (low speed)	No control
	OFF	Conditions other than those of ON (high speed)

NARRATION: This table provides information regarding the Fan control function.

3.17 Auto Document Feeder



Main Specifications
Composition
Document Feed Mechanism
Document Transport Mechanism
Document Exit Mechanism

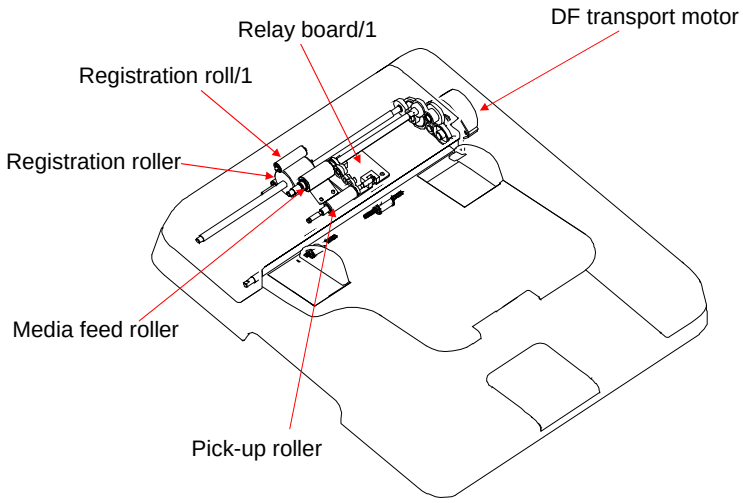
NARRATION: The following items make up the Auto Document Feeder section.

Main Specifications

	Auto Document Feeder
Document alignment	Center
Document loading	Face up
Modes	1-sided
Type of document	Plain paper: 50 to 110 g/m^2
Detectable document size	Maximum size: Legal Width: 140 to 216 mm, Length: 90 to 356 mm
Capacity	Max. 35 sheets (80 g/m^2) or load height

NARRATION: This is the product specifications list for the auto document feeder.

Composition

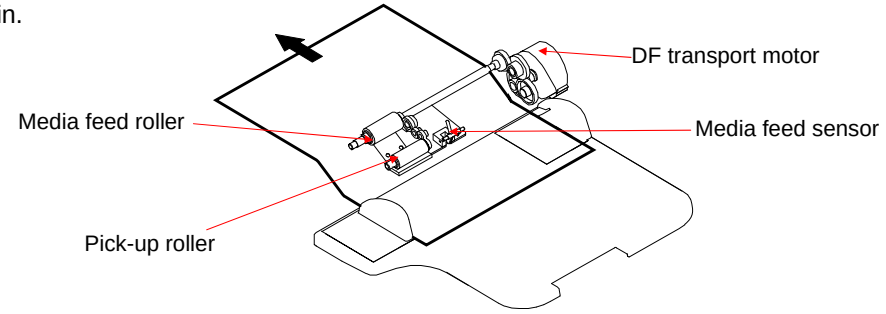


NARRATION: This is the composition of the Auto Document Feeder section.

Document Feed Mechanism

The media feed sensor detects a document that has been properly loaded in the document feeder.

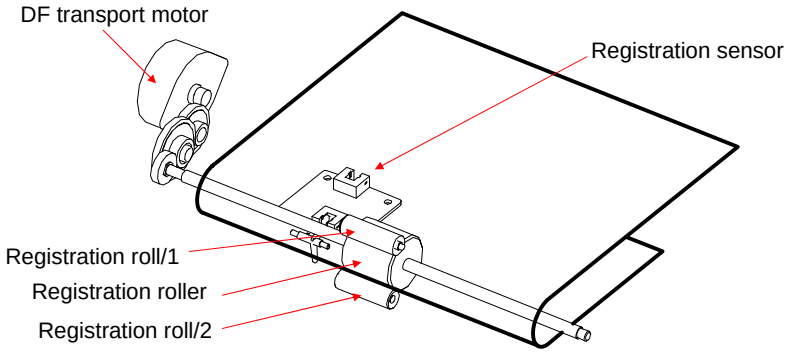
- The document stopper establishes the leading edge position of the document loaded in the document feeder. The stopper is lowered in the standby state and raised when the document is taken up and fed in.
- The document stopper is raised and lowered in synchronism with the raising and lowering motion of the pick-up roller.
- The pick-up roller and media feed roller turn to take up and feed the original properly.
- The pick-up roller transports the original up to the media feed roller.
- The DF transport motor drives the pick-up roller and media feed roller through a gear train.



NARRATION: The media feed sensor detects a document that has been properly loaded in the document feeder.

Document Transport Mechanism

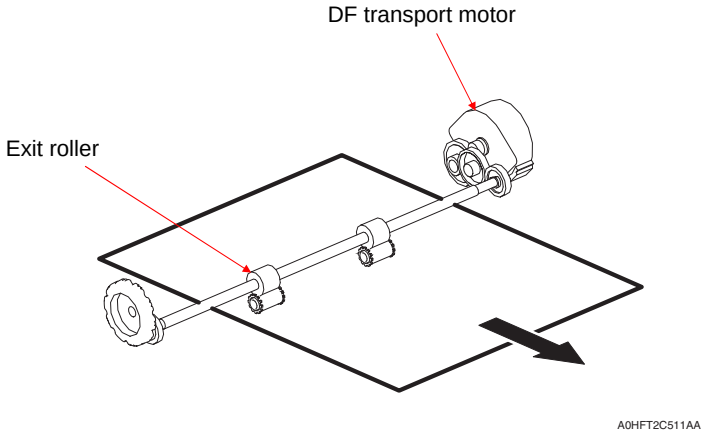
- The registration roller is rotated by the drive from the DF transport motor and transports the original that has been taken up to the document scanning position of the printer.
- The DF transport motor drives the transport roller through a gear train.
- Activation of the registration sensor establishes the document scan start timing.
- Reactivation of the registration sensor establishes the document scan end timing and timing to de-energize the DF transport motor.



NARRATION: Here is an explanation of the document transport mechanism.

Document Exit Mechanism

- The exit roller turns to feed the original out of the document feeder. The original is fed onto the document exit tray.
- The DF transport motor turns the exit roller through a gear train.



NARRATION: Here is an explanation of the document exit mechanism.

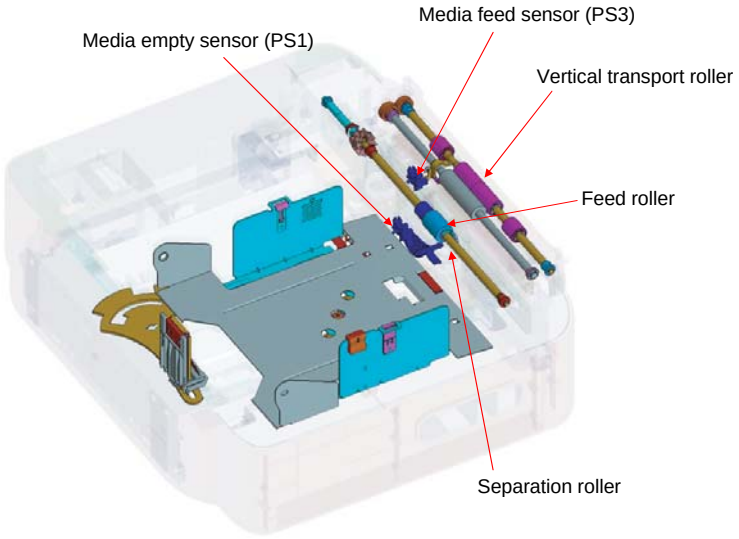
3.18 Lower feeder unit

❖ PRODUCT SPECIFICATIONS

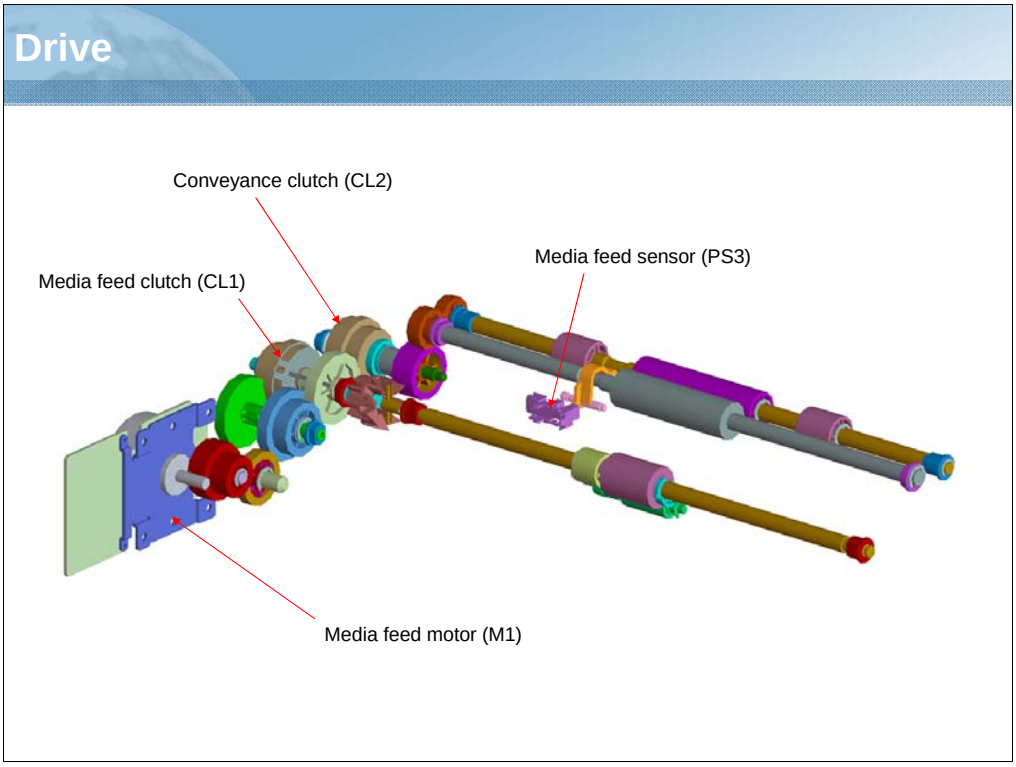
	Auto Document Feeder
Name	Add-on 500-sheet media feed cassette
Type	Front-loading type
Installation	Desk type
Media feeding system	Media separation by a small-diameter roller with torque limiter
Document alignment	Center
Media size	B5S(JIS)/Executive/LetterS/A4S/Letter Plus/G-Legal/Legal
Media type	• Plain paper: 60 to 90 g/m^2 (16 to 24 lb) • Recycled paper: 60 to 90 g/m^2 (16 to 24 lb)
Capacity	500 sheets

NARRATION: This table shows the product specifications of the lower feeder unit.

OVERALL COMPOSITION



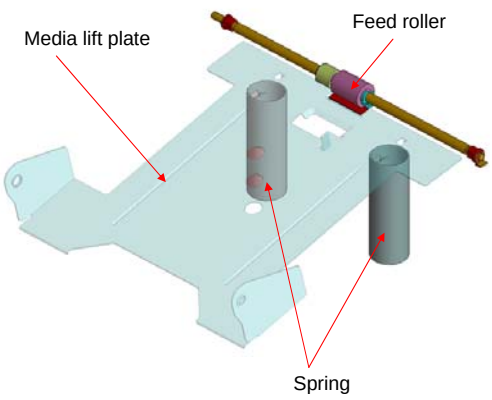
NARRATION: These illustrations show the overall composition of the lower feeder unit.

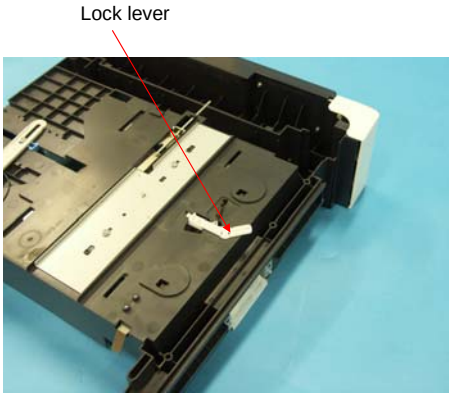


NARRATION: This illustration shows the drive mechanism of the lower feeder unit.

Media lift plate mechanism

- The media lift plate is pressed down into the locked position (in which the media is loaded in position).
- Loading a media stack and then sliding the tray into the main body, unlocks the media lift plate.
- The media lift plate (media stack) is pressed against the feed roller.
- The media lift plate (media stack) is pressed upward by the springs at all times.

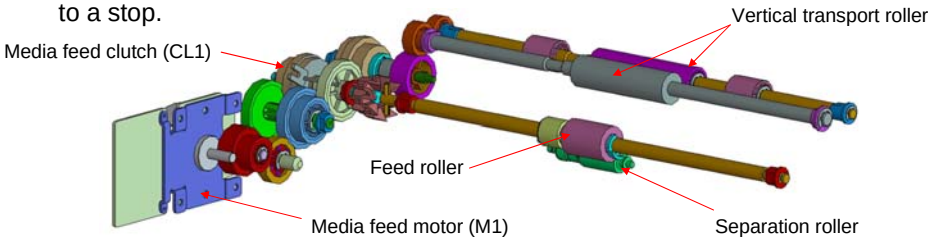




NARRATION: Here is an explanation of the media lift plate mechanism of the media feed control function.

Feed roller/vertical transport roller control

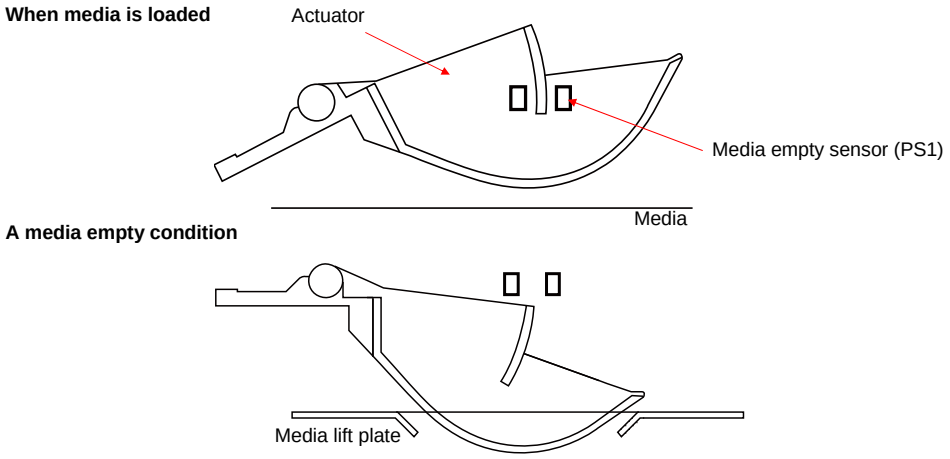
- The feed roller and vertical transport roller are rotated, which feeds media from the lower feeder unit and conveys it further into the inside of the main body.
  1. The media feed motor is energized to turn the vertical transport roller.
  2. The media feed clutch is energized to turn the feed roller.
  3. The media is fed in by the feed roller.
  4. The media fed in by the feed roller is conveyed onto the synchronizing roller of the main body by the vertical transport roller.
  5. When the media feed sensor is activated, the media is conveyed onto a predetermined point in the media path, then the media feed clutch is de-energized, thus bringing the feed roller to a stop. The vertical transport roller thereafter takes charge of conveying media further.
  6. When the trailing edge of the last sheet of media moves past the registration sensor, the media feed motor is de-energized to bring the vertical transport roller to a stop.



NARRATION: This is an explanation of the feed roller/vertical transport roller control function.

Media empty condition detection control

- The media empty message is displayed on the panel when the empty sensor actuator unblocks the media empty sensor.
- No mechanism is provided for detecting a media near empty condition. The media supply level indicator serves this purpose.

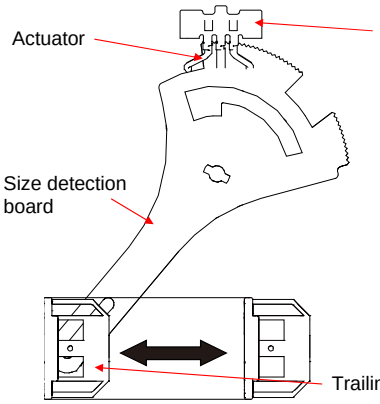


NARRATION: The media empty message is displayed on the panel when the empty sensor actuator unblocks the media empty sensor.

No mechanism is provided for detecting a media near empty condition. The media supply level indicator serves this purpose.

Media size detection control

- The media size switch detects the length size (feed direction) of the media.
  1. The size detection board turns as the trailing edge guide plate is moved.
  2. When the tray is slid into the main body, the size detection board pushes the actuator of the media size switch installed to the main body frame, thus turning ON the switch.
  3. The combination of ON/OFF positions of the sub-switches of the media size switch determines the specific media size that can be either one of the seven different sizes.



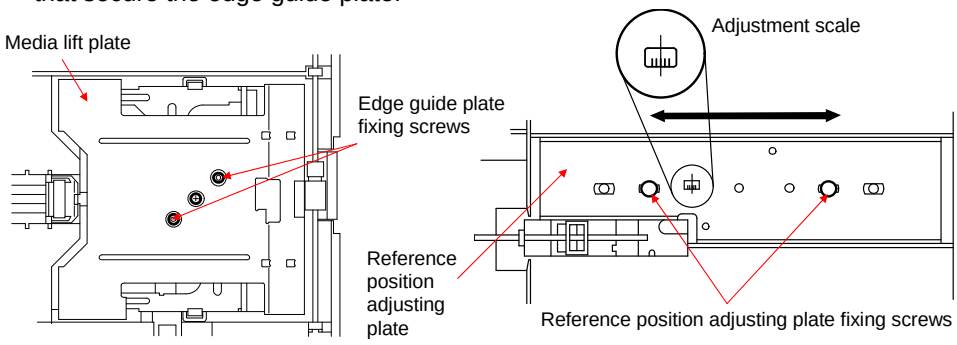
Lower feeder media size switch			Media size
SW1	SW2	SW3	
OFF	ON	ON	Legal (8.5” × 14”)
ON	ON	ON	Government legal letter plus
ON	ON	OFF	A4
ON	OFF	OFF	Letter (8.5” × 11”)
ON	OFF	ON	Executive
OFF	ON	OFF	Custom Size
OFF	OFF	ON	B5
OFF	OFF	OFF	Lower feeder unit not installed

NARRATION: The media size switch detects the length size of the media.

Media reference position adjustment mechanism

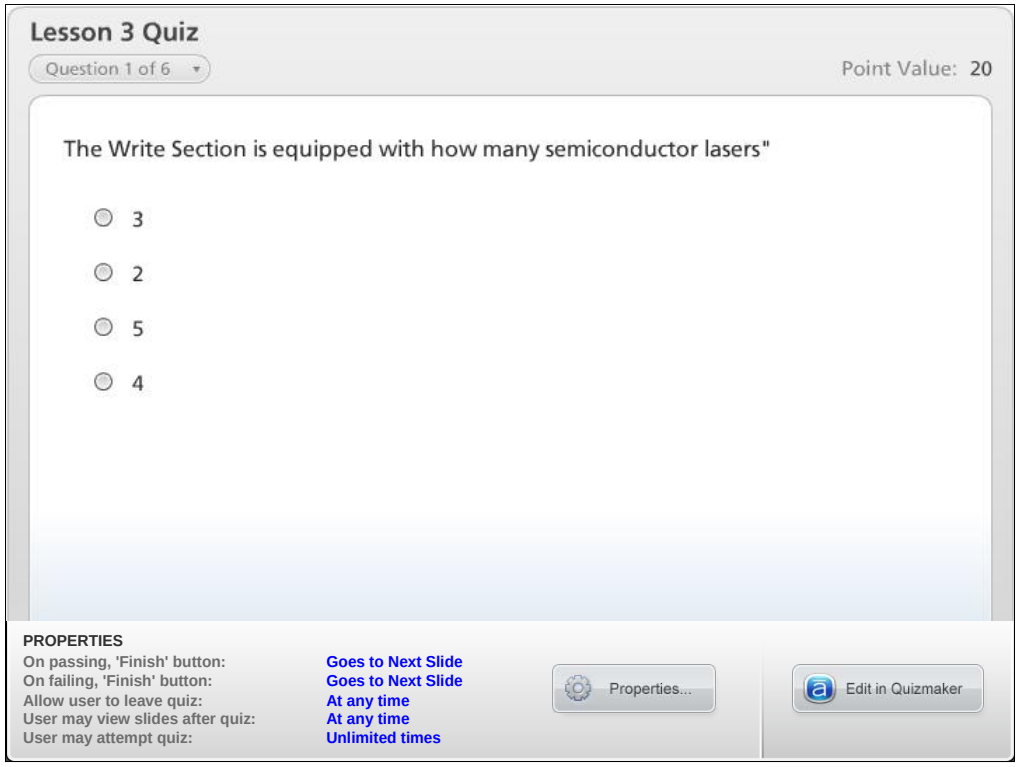
- The edge guide plate can be moved to allow the print start reference position for the media to be adjusted.

1. Through a hole in the media lift plate on top of the tray, loosen two screws that secure the edge guide plate.
2. Access the tray from its bottom surface and loosen two screws that secure the reference position adjusting plate.
3. Slide the reference position adjusting plate as necessary as indicated on the scale.
4. From the bottom surface of the tray, tighten the two screws that secure the reference position adjusting plate.
5. Through the hole in the media lift plate on top of the tray, tighten the two screws that secure the edge guide plate.

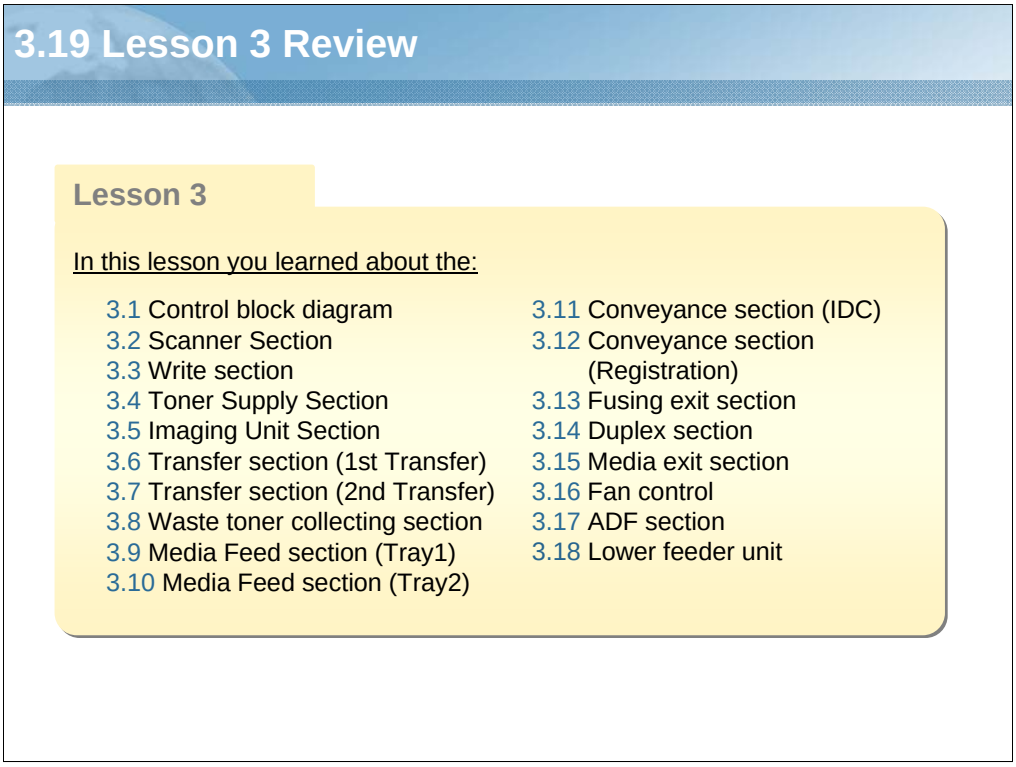


NARRATION: These illustrations explain the media reference position adjustment mechanism.

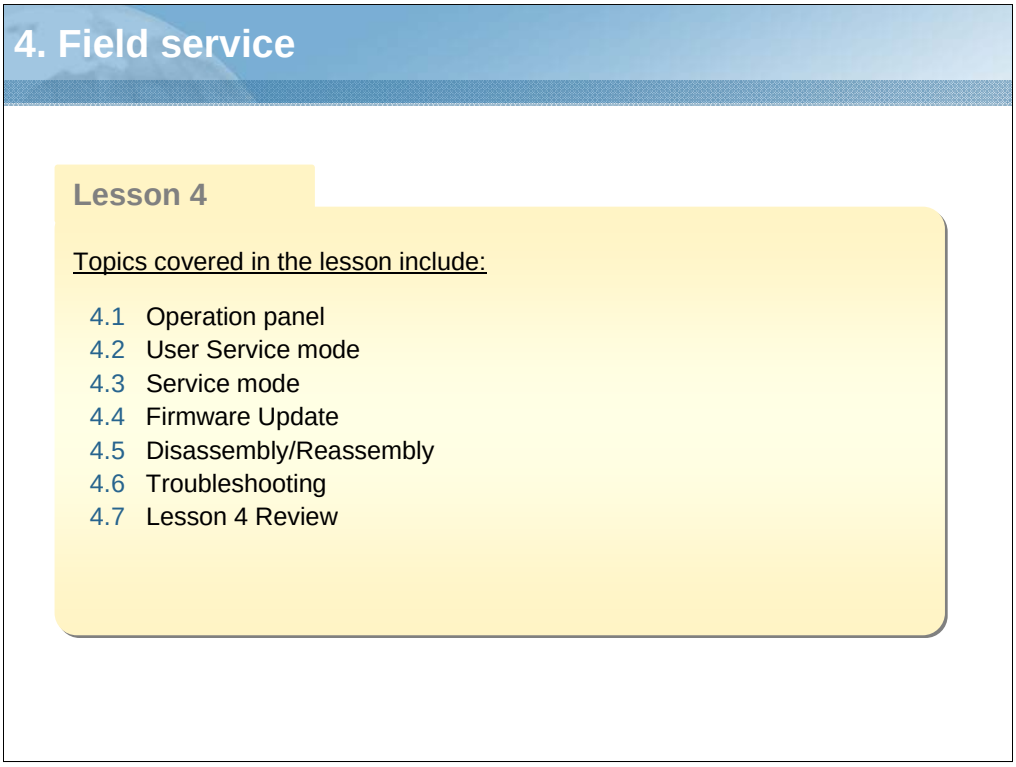
The edge guide plate can be moved to allow the print start reference position for the media to be adjusted.



NARRATION: This is the review quiz for this lesson.



NARRATION: In this lesson, you learned about the following items.

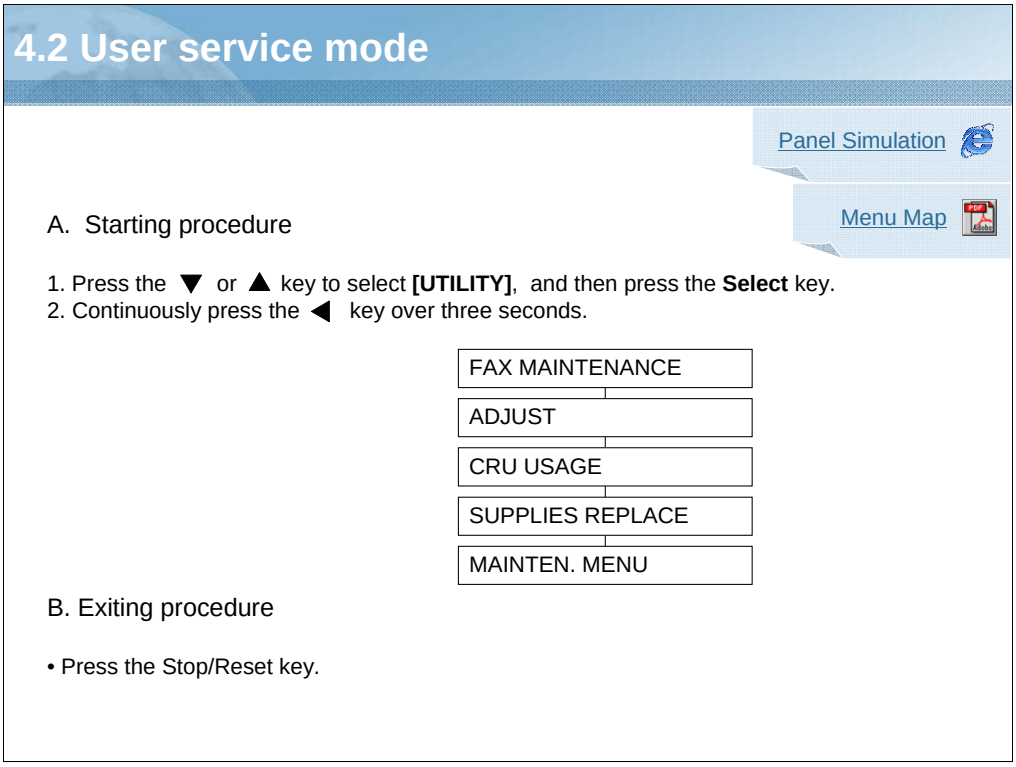


NARRATION: The following Field Service Lesson will explain these topics.

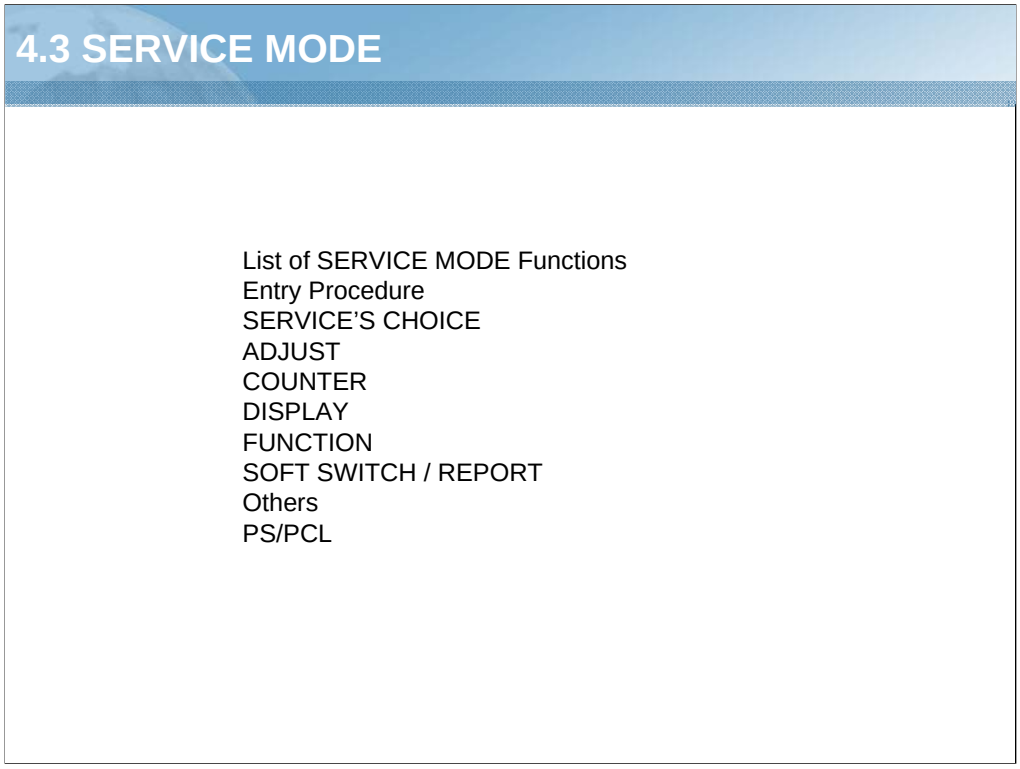
4.1 Operation panel

While the basic layout is similar to that of the previous bizhub C20, and the LCD display is based on the bizhub 184/164, the bizhub C25 is also equipped with a backlight for easy visibility in dark places.

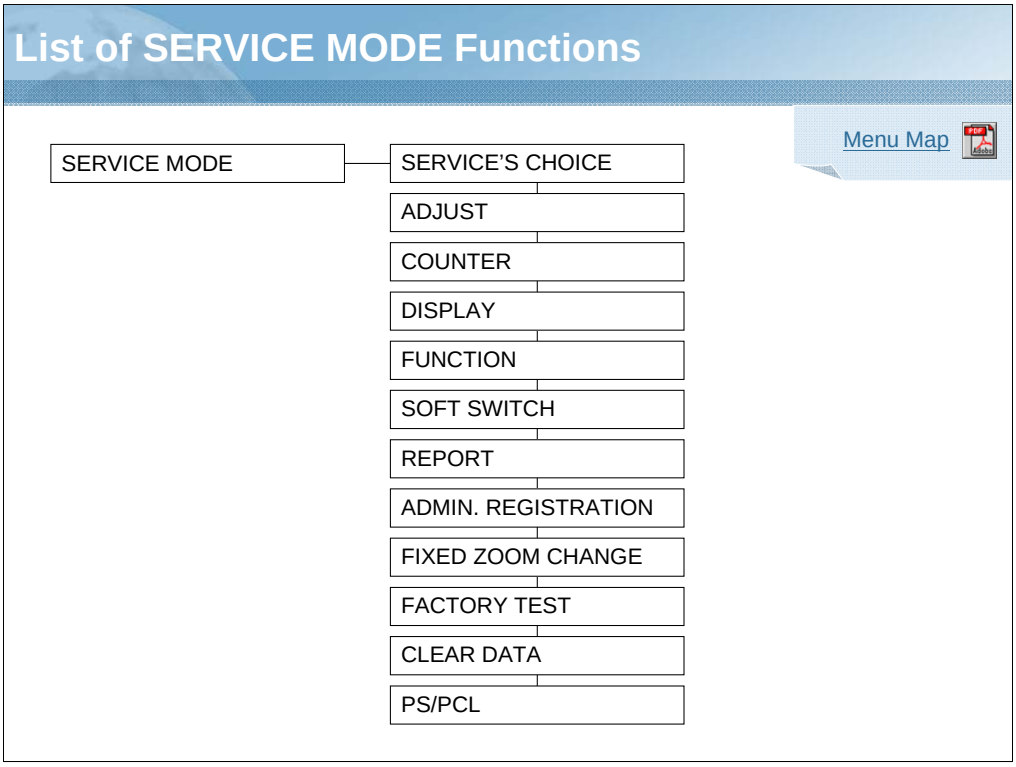
NARRATION: This is the explanation of the operation panel.



NARRATION: This is the list of the various User Service Menu functions. Click on the link to download the attached document for more detailed menu information.



NARRATION: The following items are comprised in the Service Menu.



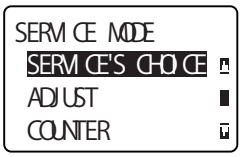
NARRATION: This is the list of the various Service Menu functions. Click on the link to download the attached document for more detailed menu information.

Entry Procedure

Panel Simulation

A. Starting Procedure

1. Press the **Select** key.
2. Press the following keys in this order.; **Stop/Reset** -> **0** -> **0** -> **Stop/Reset** -> **0** -> **1**
3. The Service Mode menu will appear.



B. Exiting

• Press the Stop/Reset key.

NARRATION: Follow this procedure to enter the Service Mode.

SERVICE'S CHOICE (1/2)

Item	Function	Setting Range
TX SPEED	Transmit start speed setting. Choose the mode from among the following.	"V.34", V17 ,V.29, V.27
RX SPEED	Reception start speed setting. Choose the mode from among the following.	"V.34", V17 ,V.29, V.27
TX LEVEL	PSK/FSK signal output level.	-17 to -2 dBm
RX LEVEL	Reception sensitivity level.	-49 to -36 dBm
DTMF LEVEL	Dual tone output level.	-17 to -2 dBm
CNG LEVEL	Calling tone output level.	-17 to -2 dBm
CED LEVEL	Answer tone output level.	-17 to -2 dBm
ECM MODE	Select error correction mode. "ON": When an error occurs during communication, re-send the frame where the error occurs. OFF: Any error is ignored during communication.	"ON"/OFF
CODING SCHEME	Select compression method in TX/ RX mode.	"JBIG"/MMR/MR/MH
TONER EMPTY REPORT	Select to generate a report to a specific destination when toner empty status occurs in the engine. ON: Generate a report to report destination. "OFF": Not to generate report.	ON/"OFF"
PROTOCOL REPORT	Print communication report. "OFF": Disable T.30 communication report. ON: Print T.30 communication report. ON (ERROR): Print T.30 communication report when an error occurs.	OFF/ON/ON(ERROR)

NARRATION: These are the SERVICE'S CHOICE settings.

SERVICE'S CHOICE (2/2)

Item	Function	Setting Range
PC FAX TIMEOUT	To specify the time for GDI time out.	5 sec, 10 sec, 20 sec, 30 sec, 40 sec , 50 sec, "60 sec"
TWAIN TIMEOUT	To specify the time for TWAIN time out.	2min / 4min / "6min" / 8min / 10min / 12min / 14min / 16min / 18min
SLEEP OFF	To display the option of "OFF" for the sleep mode setting screen available from UTILITY mode.	"HIDDEN" APPEAR
ENABLE WARNING		
TONER LOW	Specifies whether or not a warning appears when the toner is about to run out.	ON, "OFF"
I UNIT LOW	Specifies whether or not a warning appears when the print unit is about to reach the end of its service life.	ON, "OFF"
WASTE NEAR FULL	Specifies whether or not a warning appears when the waste toner bottle becomes a near full condition.	"ON", OFF
DETECT DIAL TONE	To set whether to use the Dial Tone detection or not.	"ON", OFF
COUNT MODE		
COUNT MODE	To set the counting method for the total counter and size counter.	Mode1: 1 count per 1 copy cycle Mode2: Large size is double counts
LARGE PAPER MODE	To set the size regarded as the large size (2 counts.)	Mode0, Mode1, Mode2, Mode3
MANUAL INPUT DEST.	To set whether to allow or prohibit to manually enter the destination address on the Fax/Scan mode.	ENABLE" DISABLE

NARRATION: This is a continuation of the SERVICE'S CHOICE settings.

ADJUST (1/2)

Item	Function	Setting Range
CIS MAIN ZOOM	See the linked pdf file. Service manual 	
CIS SUB ZOOM		
CIS MAIN REGIST		
CIS SUB REGIST		
ADF SUB ZOOM	See the linked pdf file. Service manual 	
ADF MAIN REGIST		
ADF SUB REGIST		
FUSER CONTROL	Sets the heater lamp lighting control so that it implements the flicker standards. To use when flickering from fluorescent light occurs. "0": Flicker control is determined according to an area code. 1: Flicker control is always on. 2: Flicker control is always off.	"0", 1, 2
TOP ADJ. (FRONT)	To correct a misaligned print image. PLAIN PAPER/THICK1/THICK2/ENVELOP	-15 to +15 (1 step: 0.21 mm)
LEFT ADJ. (FRONT)	To correct a misaligned print image. TRAY1/TRAY2/TRAY3	-15 to +15 (1 step: 0.21 mm)
LEFT ADJ. (BACK)	To correct a misaligned print image. TRAY1/TRAY2/TRAY3	-15 to +15 (1 step: 0.21 mm)
TRANSFER POWER	Adjust the 2nd image transfer output (ATVC) on the single-sided pages for each media type. SIMPLEX PASS, DUPLEX PASS	-8 to +7

NARRATION: These are the ADJUST settings.

ADJUST (2/2)

Item	Function	Setting Range
IMG ADJ PARAM	Adjusts the printer in case of an image quality problem (uneven density) To correct image quality problems (uneven density) due to the machine being operated at a high altitude.	0 to 6
TEMPERATURE	When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change. PLAIN PAPER/THICK/ENVELOPE	-10 °C / -5 °C / 0 °C
MAIN SCAN SCALE		
MAIN SCAN PAGE	Prints the test pattern used for the main scan adjustment.	
SCAN ADJUST VALUE	Adjusts magnification in the main scan direction. Use when replacing the PH unit. Service Manual 	
AIDC MODE	Sets the frequency of image stabilization that is performed when the power switch is turned ON or the machine returns from sleep mode. MODE1: Always performs image stabilization MODE2: Reduces the frequency of image stabilization	MODE1 “MODE2”
THICK MODE	In order to prevent toner from clogging within the developer unit as a result of it being driven at half-speed, select the timing for driving the developer unit at full speed for a fixed length of time when thick paper is being fed.	“QUALITY MODE” SPEED MODE
FINE LINE ADJ	Adjust how fine lines are reproduced by changing the applied voltage (VC) to the electrostatic roller.	-4 to 3
IU YIELD SETTINGS	Sets the life detection timing of the imaging unit. STANDARD: 105% LONG:150%	“STANDARD” LONG
SUPPLIES REPLACE	Resets the fuser unit and transfer roller counter. **TRANSFER BELT/FUSER UNIT /TRANSFER ROLLER**	
BK CLEAR	To clear engine information backup data. Use when the MFP board is replaced.	

NARRATION: This is a continuation of the ADJUST settings.

COUNTER

Item	Function
TOTAL PRINT	Displays the number of PRINT and COPY pages produced. TOTAL FACE, COLOR COPY, COLOR PRINT, MONO COPY, MONO PRINT, FAX PRINT, TOTAL FACE LARGE SIZE, COLOR COPY LARGE SIZE, COLOR PRINT LARGE SIZE, MONO COPY LARGE SIZE, MONO PRINT LARGE SIZE, FAX PRINT LARGE SIZE, TOTAL DUPLEX COUNTER, DUPLEX COLOR COPY, DUPLEX COLOR PRINT, DUPLEX MONO COPY, DUPLEX MONO PRINT, DUPLEX FAX PRINT
FAX COUNTER	Displays the number of FAX printed pages produced.
SCAN COUNTER	To display the count of the scan counter. IR: Count one when one time of IR action completed. ADF (SINGLE): Count the number of sheets of ADF (single) scanning. ADF (DUPLEX): Count the number of sheets of ADF (Duplex) scanning.
TRAY COUNTER	Displays the number of sheets of paper used for each tray. TRAY1, TRAY2, TRAY3
PAPER SIZE COUNTER	Displays the number of sheets of paper used for each size and type. A4, B5, A5, LEGAL, LETTER, OTHERS
PAPER TYPE COUNTER	Displays the number of sheets of paper used for each paper type. PLAIN PAPER, RECYCLED, THICK, THICK2, GLOSSY, GLOSSY2, TRANSP, ENVELOPE, LETTERHEAD, POSTCARD, LABEL
APPLICATION COUNT.	When checking the number of sheets of paper used for each of different applications. COPY PRINT, FAX RX PRN., REPORT PRN., PC PRINT, FAX TX, MAIL TX, SCAN TO FTP, SCAN TO SMB, SCAN TO USB, TWAIN, USB TO PRN.
SUPPLIES STATUS	Displays the remaining amount of toner in the toner cartridge as a percentage.
CRU USAGE	To check the remaining life of the maintenance service parts. TRANSFER BELT, FUSER UNIT, TRANSFER ROLLER
JAM COUNTER	When checking for the number of misfeeds that have occurred PRINTER, ADF
TROUBLE COUNTER	Displays the number of malfunctions detected.

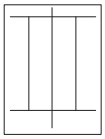
NARRATION: These are the COUNTER settings.

DISPLAY

Item	Function
MAIN F/W VER.	Displays the version of the controller firmware.
ENGINE F/W VER.	Displays the version of the engine firmware.
MAIN RAM SIZE	Displays the size of the main memory.
SERIAL NO.	Displays the serial number of the printer engine.
PP F/W VER.	Displays the version of the PP firmware.
PP BOOT VER.	Displays the version of the PP boot firmware.
PRINTER RAM SIZE	Displays the size of the printer memory.
HARD DISK	Displays the size of the hard disk.
CARD	Displays the size of the CF card.
CPLD VER.	Display the version of the CPLD.

NARRATION: These are the DISPLAY settings.

FUNCTION

Item		Function
PAPER FEED TEST		To check the paper feeding in the paper take-up/transport sections without printing on the paper.
PRN TEST PATTERN		To print the test pattern for adjusting the image.  <PATTERN1>  <PATTERN2>
ADF FEED TEST		To check the original feeding in the paper take-up/transport sections in the Automatic Document Feeder.
COPY ADF GLASS		To check for dirt in the scanning section of the Automatic Document Feeder.
FAX RES. COPY TEST		To check whether the encoding/ decoding process is correct
SCAN TEST		To check the lighting of the Exposure Lamp and the movement of the scanner.
PRINTER TEST		
	SENSOR	The operation of each of the switches and sensors can be checked on a real-time basis.
	ELECTRIC PARTS	The operation of each of the electrical parts can be checked on a real-time basis.
	PRINT TEST	Produces an image pattern on the engine side as commanded from the controller, thereby making a test print on the engine only.
ADF TEST		
	SENSOR	The operation of each of the switches and sensors can be checked on a real-time basis.
	ELECTRIC PARTS	Use to make an operation check of each of electrical parts of the ADF.

NARRATION: These are the FUNCTION settings.

SOFT SWITCH / REPORT

❖ SOFT SWITCH

Item	Function
SOFT SWITCH	This machine is equipped with a total of 64 soft switches that are used for fax adjustment in order to conform to the standard of each country. Service manual 

❖ Engine SWITCH

Not used

❖ REPORT

Item	Function
SERVICE DATA LIST	Print service data list report and Error log history list. Service manual 
ERROR CODE LIST	Print error code (CODE) and error occurrence time (ERROR TIMES). Service manual 
T.30 PROTOCOL LIST	Print out T.30 or V8 protocol after communication. Service manual 

NARRATION: These are the SOFT SWITCH and REPORT settings.

Others

❖ ADMIN. REGISTRATION

Use to display or change the current Administrator number.
Administrator number: 000000 to 999999

❖ FIXED ZOOM CHANGE

The fixed zoom ratios can be changed.
REDUCTION2/REDUCTION1/EXPANSION1/EXPANSION2

❖ FACTORY TEST

This test is for factory adjustment only and should NOT be used.

❖ CLEAR DATA

To clear the settings for the functions listed at the right and return the functions to their default settings.

SRAM CLEAR

The following items are cleared (initialization).
- Menu mode (Except for [ADMIN. MANAGEMENT] - [USER SETTING] - [DATE&TIME] that keeps its setting value):
- Only [USER SERVICE MODE] of the user service mode: Set to default
- Only [TX/RX Result] of the Display mode: Clear
- Only [SERVICE'S CHOICE] and [SOFT SWITCH] of the Service mode: Set to default

MEMORY CLEAR

The following items are cleared (initialization).
- Only [SERVICE'S CHOICE] and [FIXED ZOOM CHANGE] of the Service mode: Set to default

NARRATION: These are the remaining SERVICE MODE settings.

PS/PCL

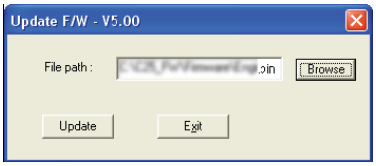
Item		Function	Setting Range
PRINT MENU	MAINTENANCE INFO	To check the maintenance information.	
	EVENT LOG	To check the jam/trouble codes which occurred, and the history of replacing the consumables.	
	ELEMENT PAGE	To check the Element Data.	
	HALFTONE 64 HALFTONE 128 HALFTONE 256	To check the unevenness of the density and the pitch.	
	GRADATION	To check the gradation reproductively.	
IMG ADJ THICK		To fine-adjust density of printed images of each color for thick paper. CYAN / MAGENTA / YELLOW / BLACK	-5 to +5
IMG ADJ BLACK		To fine-adjust the density of the printed image for a black printing.	-2 to +2
SOFT SWITCH		Not used	
CS REMOTE CARE		Service manual 	

NARRATION: These are the remaining PS/PCL settings.

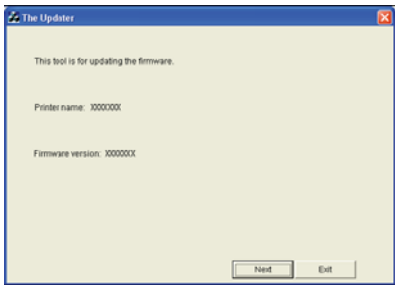
4.4 Firmware Upgrade

❖ **Controller firmware upgrading (for MFPB/1)**

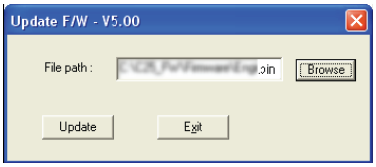
Procedures



❖ **PS/PCL firmware upgrading (for MFPB/2)**



❖ **Engine firmware upgrading**



NARRATION: The machine firmware version can be updated by using the upgrading tool. Reference the following service manuals for more information.

4.5 Dis/Reassembly Procedures

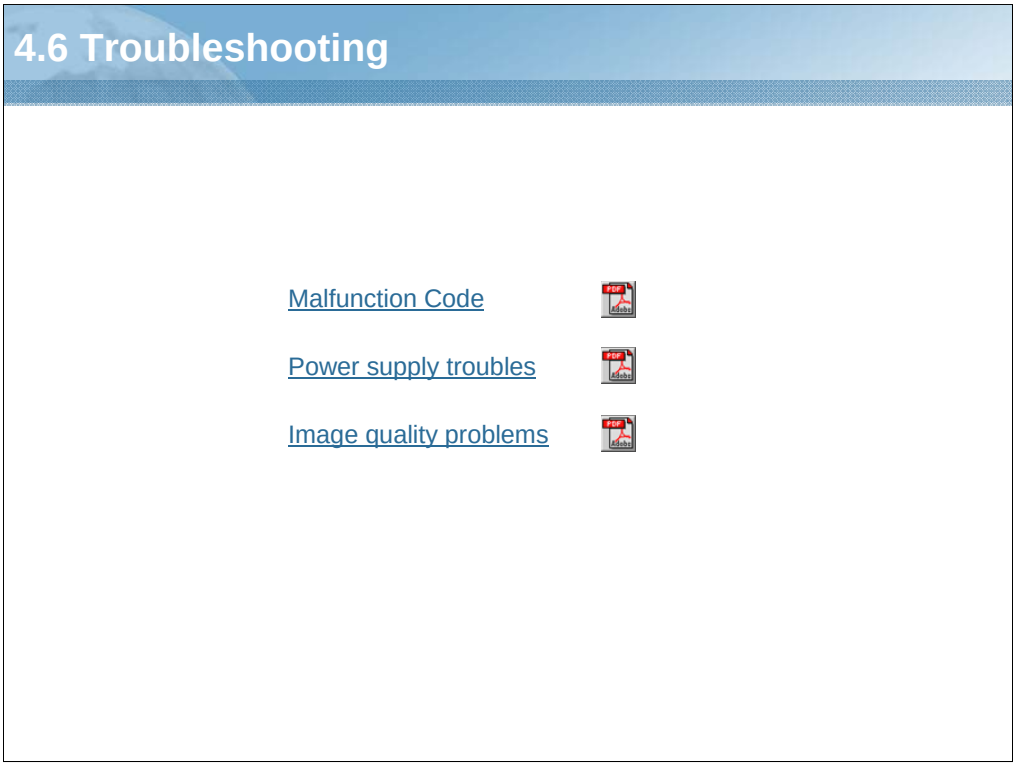
Maintenance Procedures 

Other parts 

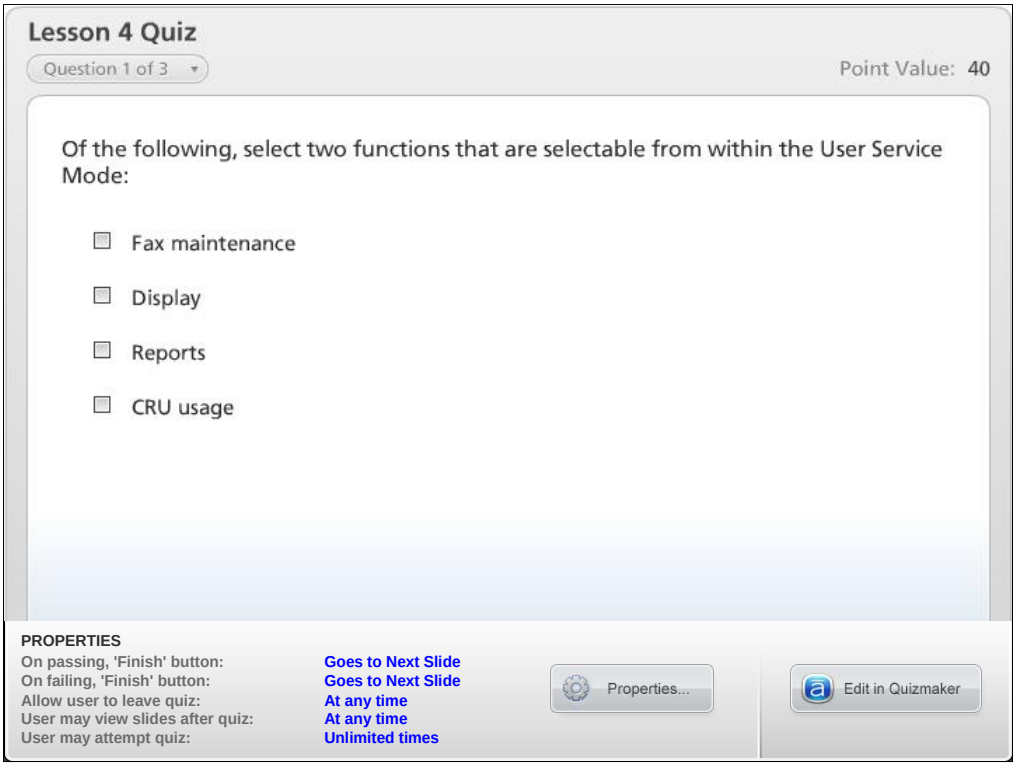
NARRATION: View the attached files for the disassembly and reassembly procedures.

NARRATION: Introduced here are the consumables replacement and cleaning procedure videos.

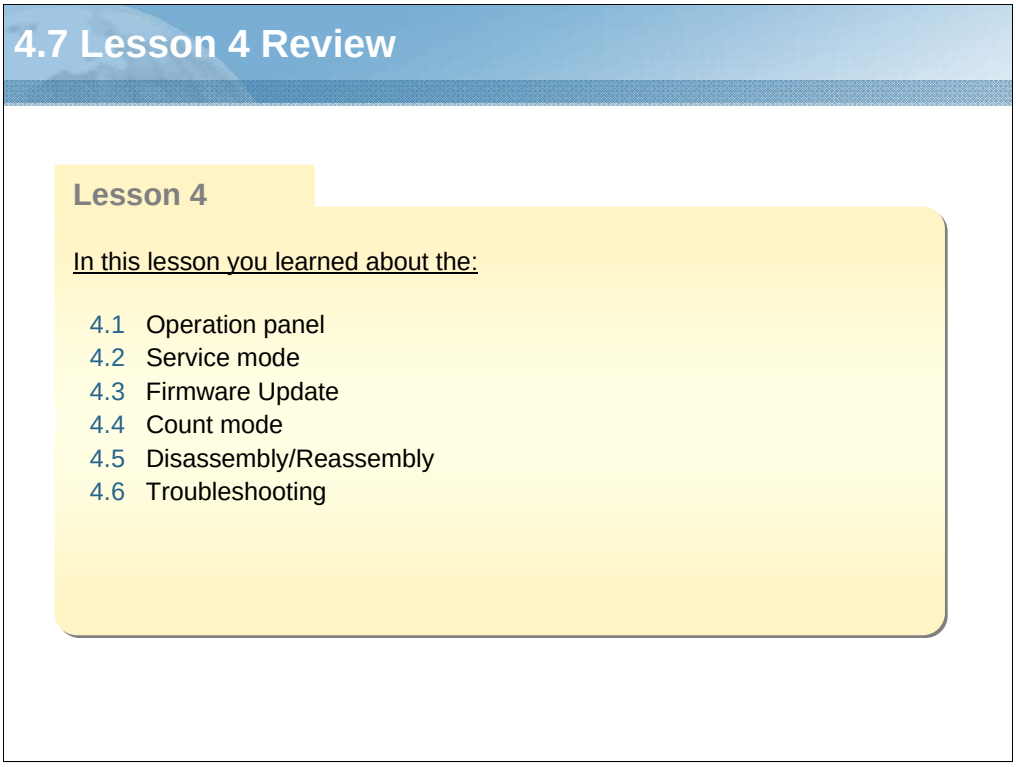
Click the item you would like to view. Windows Media Player is required to view these videos.



NARRATION: The various troubleshooting procedures are outlined in the attached files.



NARRATION: This is the review quiz for this lesson.



NARRATION: In this lesson, you learned about the following items.

Course completion

Congratulations! You have completed the **bizhub C25 Introduction and Main Body/Engine** technical training course.

After reviewing this course, you should now have a good understanding of:

- Overall product features.
- System configurations and specifications.
- Theory of Operation.
- Field service procedures.

Click X at the upper right corner of the browser to close the screen. To end the training course, go back to the front cover slide and click the home key.

NARRATION: Congratulations. You have successfully completed the bizhub C25 Introduction and Main Body/Engine Technical Training Course. After reviewing this course, you should now have a good understanding of the overall product features, system configurations and specifications, theory of operation, and field service procedures.