

IMPORTANT SAFETY NOTICES

PREVENTION OF PHYSICAL INJURY

1. Before disassembling or assembling parts of the copier and peripherals, make sure that the copier power cord is unplugged.
2. The wall outlet should be near the copier and easily accessible.
3. Note that some components of the copier and the paper tray unit are supplied with electrical voltage even if the main power switch is turned off.
4. If any adjustment or operation check has to be made with exterior covers off or open while the main switch is turned on, keep hands away from electrified or mechanically driven components.
5. If the Start key is pressed before the copier completes the warm-up period (the Start key starts blinking red and green alternatively), keep hands away from the mechanical and the electrical components as the copier starts making copies as soon as the warm-up period is completed.
6. The inside and the metal parts of the fusing unit become extremely hot while the copier is operating. Be careful to avoid touching those components with your bare hands.

HEALTH SAFETY CONDITIONS

1. Never operate the copier without the ozone filters installed.
2. Always replace the ozone filters with the specified ones at the specified intervals.
3. Toner and developer are non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Try to remove with eye drops or flush with water as first aid. If unsuccessful, get medical attention.

OBSERVANCE OF ELECTRICAL SAFETY STANDARDS

1. The copier and its peripherals must be installed and maintained by a customer service representative who has completed the training course on those models.
2. The NVRAM on the system control board has a lithium battery which can explode if replaced incorrectly. Replace the NVRAM only with an identical one. The manufacturer recommends replacing the entire NVRAM. Do not recharge or burn this battery. Used NVRAM must be handled in accordance with local regulations.

1. SAFETY AND ECOLOGICAL NOTES FOR DISPOSAL

- Do not incinerate toner bottles or used toner. Toner dust may ignite suddenly when exposed to an open flame.
- Dispose of used toner, developer, and organic photoconductors in accordance with local regulations. (These are non-toxic supplies.)
- Dispose of replaced parts in accordance with local regulations.
- When keeping used lithium batteries in order to dispose of them later, do not put more than 100 batteries per sealed box. Storing larger numbers or not sealing them apart may lead to chemical reactions and heat build-up.

LASER SAFETY

The Center for Devices and Radiological Health (CDRH) prohibits the repair of laser-based optical units in the field. The optical housing unit can only be repaired in a factory or at a location with the requisite equipment. The laser subsystem is replaceable in the field by a qualified Customer Engineer. The laser chassis is not repairable in the field. Customer engineers are therefore directed to return all chassis and laser subsystems to the factory or service depot when replacement of the optical subsystem is required.

WARNING

Use of controls, or adjustment, or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

WARNING

Turn off the main switch before attempting any of the procedures in the Laser Unit section. Laser beams can seriously damage your eyes.

CAUTION MARKING:

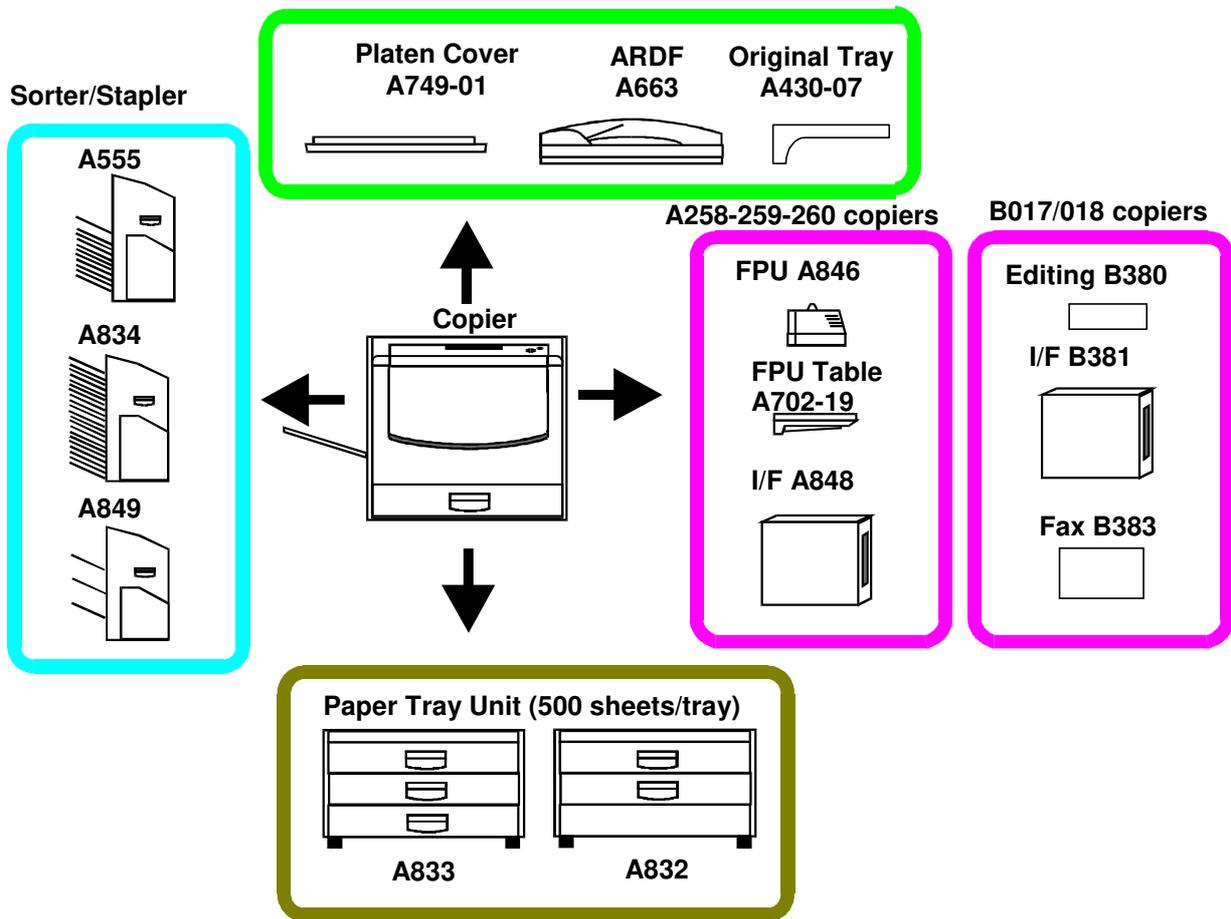


1. OVERALL MACHINE INFORMATION

1.1 SPECIFICATIONS

1.1.1 MACHINE CONFIGURATION

	A258 / B018	A259	A260	B017
Operation Panel	40-digit 4-line LCD Hard Key Type	144 mm x 192 mm (10.4 inch) Color Touch Panel Display		
Paper Tray Unit	500 sheets	Duplex		
Edit Function	No	No	Yes	Option



B017V501.WMF

	A258/A259/A260	B017/B018																																																				
First Copy Time 8 1/2"x11" (S) / A4	<table border="1"> <thead> <tr> <th></th> <th>8 1/2"x11" (S) / A4</th> </tr> </thead> <tbody> <tr> <td colspan="2">Normal Mode</td> </tr> <tr> <td>F/C</td> <td>22.4</td> </tr> <tr> <td>S/C (K)</td> <td>8</td> </tr> <tr> <td>S/C (CMY)</td> <td>10</td> </tr> <tr> <td>S/C (BGR)</td> <td>16</td> </tr> <tr> <td colspan="2">OHP/Thick paper mode</td> </tr> <tr> <td>F/C</td> <td>35</td> </tr> <tr> <td>S/C (K)</td> <td>23</td> </tr> <tr> <td>S/C (CMY)</td> <td>25</td> </tr> <tr> <td>S/C (BGR)</td> <td>27</td> </tr> </tbody> </table>		8 1/2"x11" (S) / A4	Normal Mode		F/C	22.4	S/C (K)	8	S/C (CMY)	10	S/C (BGR)	16	OHP/Thick paper mode		F/C	35	S/C (K)	23	S/C (CMY)	25	S/C (BGR)	27	<table border="1"> <thead> <tr> <th></th> <th>8 1/2"x11" (S) / A4</th> </tr> </thead> <tbody> <tr> <td colspan="2">Normal Mode</td> </tr> <tr> <td>F/C</td> <td>22.4</td> </tr> <tr> <td>S/C (K)</td> <td>8</td> </tr> <tr> <td>S/C (CMY)</td> <td>10</td> </tr> <tr> <td>S/C (B)</td> <td>19</td> </tr> <tr> <td>S/C (G)</td> <td>16</td> </tr> <tr> <td>S/C (R)</td> <td>16</td> </tr> <tr> <td colspan="2">OHP/Thick paper mode</td> </tr> <tr> <td>F/C</td> <td>35</td> </tr> <tr> <td>S/C (K)</td> <td>23</td> </tr> <tr> <td>S/C (CMY)</td> <td>25</td> </tr> <tr> <td>S/C (B)</td> <td>30</td> </tr> <tr> <td>S/C (G)</td> <td>27</td> </tr> <tr> <td>S/C (R)</td> <td>27</td> </tr> </tbody> </table>		8 1/2"x11" (S) / A4	Normal Mode		F/C	22.4	S/C (K)	8	S/C (CMY)	10	S/C (B)	19	S/C (G)	16	S/C (R)	16	OHP/Thick paper mode		F/C	35	S/C (K)	23	S/C (CMY)	25	S/C (B)	30	S/C (G)	27	S/C (R)	27
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Warm-up Time	Approx. 7 minutes (at 68°F / 20°C)	Approx. 4.5 minutes (at 68°F / 20°C)																																																				
Duplexing: A258/B017: Manual Duplex A259/A260/ B018: Auto Duplex	Manual duplexing in full color and single color modes Manual & auto duplexing in full color and single color modes Manual & auto duplexing in full color and single color modes Duplexing can be done on 64-105 g/m ² paper. Manual duplexing can be done through the bypass table only, and the user should press the Duplex Side 2 key before copying the reverse side.																																																					
Non-Reproduction Area:	Leading edge: 0.2" ± 0.08" (5 mm ± 2 mm) Side: 0.08" ± 0.08" (2 mm ± 2 mm)/ Total less than 0.16" (4 mm) Trailing Edge: 2.0 mm + 2.0/-1.5 mm																																																					
Copy Number Input	Number keys, 1 to 99																																																					
Copy Number Input (Auto Duplex)	Number keys Single Color - 1 to 50: smaller than A3, 11" x 17" 1 to 30: A3, 11" x 17" Full Color 1 to 20: all sizes																																																					
Image Density	Auto/Manual (9 steps)																																																					
Paper Capacity	Tray: 500 sheets x 1 tray (Manual Duplex Models: A258 / B018) Bypass: Normal paper (80 g/m ² /20 lb.) 50 sheets OHP 20 sheets Adhesive paper 1 sheet																																																					

Overall Information

	A258/A259/A260	B017/B018																												
Toner Replenishment	Toner Addition (K, Y, C, M) (220 g/cartridge)																													
Copy Tray Capacity	100 sheets (11" x 17"/A3 and smaller)																													
Power Source	US: 120V/12A/60Hz, Europe/Asia: 220-240V/8A/50,60 Hz Taiwan: 110 V/12A/60Hz																													
Power Consumption	Maximum: 1.5 kVA Average power consumption: <table border="1" style="margin-left: 20px;"> <tr> <td>Stand-by</td> <td>0.4 kW</td> </tr> <tr> <td>Warm-up</td> <td>1.3 kW</td> </tr> <tr> <td>Copying</td> <td>1.1 kW (B/W A4S) 0.6 kW (F/C A4S)</td> </tr> <tr> <td>Energy Saver Mode</td> <td>Value for standby minus 25W</td> </tr> </table>		Stand-by	0.4 kW	Warm-up	1.3 kW	Copying	1.1 kW (B/W A4S) 0.6 kW (F/C A4S)	Energy Saver Mode	Value for standby minus 25W																				
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Weight	A258: 105 kg (231.3 lbs.) A259/A260: 108 kg (237.9 lbs.)	B018: 108 kg (237.6 lbs.) B017: 112 kg (246.4 lbs.)																												
Optional Equipment	ARDF: A663 Sorter Stapler: A555 (10 bins) A834 (20 bins) Sorter: A849 (3 bins) FPU: A846 FPU Holder: A702-19 Paper Tray Unit: A832 (2 trays) A833 (3 trays) I/F Unit: A848 RC-200: G528 Platen Cover: A749-01 Original Tray: A430-07 Key Counter	ARDF: A663 Sorter Stapler: A555 (10 bins) A834 (20 bins) Sorter: A849 (3 bins) FPU: - FPU Holder: - Paper Tray Unit: A832 (2 trays) A833 (3 trays) I/F Unit: B381 RC-210: G549 Platen Cover: A749-01 Original Tray: A430-07 Key Counter																												

	A258/A259/A260	B017/B018
		<p>- for B017 only –</p> <p>Unique:</p> <p>Edit Option: B380-01</p> <p>Fax Option: B383</p> <p>EXSAF Board: A818-10</p> <p>HDD: A841-11</p> <p>Fax Stamp(NA only): A563-17</p> <p>Common with A230/231/232:</p> <p>ISDN Unit: A816-27</p> <p>PMU Board: A818-12</p> <p>ISDN Unit: A816-27</p>

Overall Information

Options: Compatibility Table

OK: Can be installed N/A: Not applicable			A258	A259	A260	B018	B017	
ARDF	ARDF	A663	OK					
Sorter	10 Bin S/S	A555	OK					
	20 Bin S/S	A834	OK					
	3 Bin Sorter	A849	OK					
Paper Tray	2 Tray Unit	A832	OK					
	3 Tray Unit	A833	OK					
FPU	FPU	A846	OK		N/A			
	FPU Table	A702-19	OK		N/A			
I/F	I/F (Type E)	A848	OK		N/A			
	I/F (Type H)	B381	N/A		OK			
Controller	RC-200	G528	OK		N/A			
	RC-210	G549	N/A		OK	OK		
Fax	Fax Option	B383	NA			N/A	OK	
	Fax HDD	A841-11	NA			N/A	OK	
	Handset	A841-13	NA			N/A	OK	
	G4 Option	A816-17	NA			N/A	OK	
	JBIG Option	A818-12	NA			N/A	OK	
	SAF Memory	A818-10	NA			N/A	OK	
	Fax Stamp	A563-17	NA			N/A	OK	
Other	Platen Cover	A749-01	OK					
	Original Tray	A430-07	OK					
	Edit Option	B380	N/A					OK

1.1.3 PLATEN/ARDF ORIGINAL SIZE DETECTION

Size (width x length) [mm]	Platen		ARDF	
	Inches	Metric	Inches	Metric
A3 (297 x 420) L	No	Yes	No	Yes
B4 (257 x 364) L	No	Yes	No	Yes
A4 (210 x 297) L	No	Yes	Yes	Yes
A4 (297 x 210) S	No	Yes	Yes	Yes
B5 (182 x 257) L	No	Yes	No	Yes
B5 (257 x 182) S	No	Yes	No	Yes
A5 (148 x 210) L	No	No*	No	Yes
A5 (210 x 148) S	No	No	No	Yes
B6 (128 x 182) L	No	No	No	Yes
B6 (182 x 128) S	No	No	No	Yes
11" x 17" (DLT)	Yes	No	Yes	Yes
11" x 15"	No	No	Yes	No
10" x 14"	No	No	Yes	Yes
8.5" x 14" (LG)	Yes	No	Yes	No
8.5" x 13" (F4)	No	No	Yes	Yes
8.25" x 13"	No	No	No	No
8" x 13"(F)	No	Yes	Yes	No
8.5" x 11" (LT)	Yes	No	Yes	Yes
11" x 8.5" (LT)	Yes	No	Yes	Yes
8" x 10.5"	No	No	No	No
8" x 10"	No	No	Yes	No
5.5" x 8.5" (HLT)	No*	No	Yes	No
8.5" x 5.5" (HLT)	No	No	Yes	No
A6 (105 x 148) L	No	No	No	No

*: When the message "Cannot detect original size" appears use SP4-303 to detect original sizes as A5 lengthwise/HLT.

*: This SP mode is only applicable for B017/018 copiers.

1.1.4 COPY PAPER SIZE

Overall Information

Size (width x length) [mm]	Trays in the main body				By-pass	Optional Sort/Step.
	Paper Tray (A258/B018)		Duplex Tray (A259/A260/B017)			
	Inches	Metric	Inches	Metric	All versions	
A3 (297 x 420) L	No	Yes	Yes	Yes	Yes	Yes
B4 (257 x 364) L	No	Yes	Yes	Yes	Yes	Yes
A4 (210 x 297) L	Yes	Yes	Yes	Yes	Yes	Yes
A4 (297 x 210) S	Yes	Yes	Yes	Yes	Yes	Yes
B5 (182 x 257) L	No	Yes	No	Yes	Yes	Yes
B5 (257 x 182) S	No	Yes	No	Yes	Yes	Yes
A5 (148 x 210) L	No	Yes	No	No	Yes	Yes (1)
A5 (210 x 148) S	No	No	Yes	Yes	Yes	Yes (2)
B6 (128 x 182) L	No	No	No	No	Yes	Yes (1)
B6 (182 x 128) S	No	No	No	No	No	No
12" x 18"	No	No	No	No	Yes	Yes (3)
11" x 17" (DLT)	Yes	Yes	Yes	Yes	Yes	Yes
11" x 15"	Yes	No	Yes	No	Yes	Yes
10" x 14"	Yes	No	Yes	No	Yes	Yes
8.5" x 14" (LG)	Yes	No	Yes	No	Yes	Yes
8.5" x 13" (F4)	Yes	Yes	Yes	Yes	Yes	Yes
8.25" x 13"	No	No	Yes	Yes	Yes	Yes
8" x 13"(F)	No	No	Yes	Yes	Yes	Yes
8.5" x 11" (LT)	Yes	Yes	Yes	Yes	Yes	Yes
11" x 8.5" (LT)	Yes	Yes	Yes	Yes	Yes	Yes
8" x 10.5"	No	No	Yes	No	Yes	Yes
8" x 10"	Yes	No	Yes	Yes	Yes	Yes
5.5" x 8.5" (HLT)	No	No	No	No	Yes	Yes (1)
8.5" x 5.5" (HLT)	Yes	No	Yes	Yes	Yes	Yes (2)
A6 (105 x 148) L	No	No	No	No	Yes	Yes (2)

Yes (1): Stapling is not possible.

Yes (2): Only with the proof tray. Sorter bins cannot be used.

Yes (3): 20-bin sorter (A834): Stapling is not possible.

10-bin sorter (A555): Not available

1.1.5 APS PAPER SIZES AVAILABLE

— For metric machines —

Zoom Ratios	200 ~ 174	173 ~ 164	163 ~ 142	141 ~ 123	122 ~ 116	115 ~ 101	100 ~ 94	93 ~ 88	87 ~ 83	82 ~ 76	75 ~ 72	71 ~ 66	65 ~ 62	61 ~ 58	57 ~ 51	50 ~
A3	—	—	—	—	—	—	A3	—	B4	—	—	A4L	8.5 x13	B5L	—	A5L
B4	—	—	—	—	—	A3	B4	—	—	A4L	8.5 x13	B5L	—	—	A5L	—
A4L	—	—	—	A3	B4	—	A4L	8.5 x13	B5L	—	—	A5L	—	—	—	—
B5L	—	—	A3	B4	—	A4L	B5L	—	—	A5L	—	—	—	—	—	—
A5L	A3	B4	—	A4L	B5L	—	A5L	—	—	—	—	—	—	—	—	—
A4S	—	—	—	—	—	—	A4 S	—	B5 S	—	—	A5 S	—	—	—	—
B5S	—	—	—	—	—	A4 S	B5 S	—	—	A5 S	—	—	—	—	—	—
A5S	—	—	—	A4 S	B5 S	—	A5 S	—	—	—	—	—	—	—	—	—
8.5 x 11	—	—	—	—	—	—	8.5 x11	—	—	—	—	—	—	—	—	—
11 x 8.5	—	—	—	—	—	—	11 x8.5	—	—	—	—	—	—	—	—	—
8.5 x 13	—	—	—	—	A3	—	8.5 x13	—	—	A4L	B5L	—	—	—	—	A5L
11 x 15	—	—	—	—	—	—	11 x15	—	—	—	—	—	—	—	—	—

☐ : Unavailable in platen cover mode. L: Lengthwise S: Sideways

— For standard machines (in inches)—

Zoom Ratios	200 ~ 177	176 ~ 156	155 ~ 130	129 ~ 122	121 ~ 101	100 ~ 94	93 ~ 86	85 ~ 78	77 ~ 75	74 ~ 66	65 ~ 51	50 ~
11x17	—	—	—	—	—	11x17	11x17	11x15	8.5 x14	—	8.5 x11	5.5 x8.5
11x15	—	—	—	—	—	11x15	11x15	—	8.5 x14	8.5 x11	—	5.5 x8.5
8.5x14	—	—	—	—	11 x17	8.5 x14	—	—	8.5 x11	—	—	5.5 x8.5
8.5x11	—	—	—	11x17	—	8.5 x11	—	—	—	—	5.5 x8.5	—
5.5 x8.5	11 x17	11 x15	8.5 x14	8.5 x11	—	5.5 x8.5	—	—	—	—	—	—
8.5 x5.5	—	—	—	11 x8.5	—	8.5 x5.5	—	—	—	—	—	—
11x8.5	—	—	—	—	—	11 x8.5	—	—	—	—	8.5 x5.5	—
8x10	—	—	—	11x17	10x14	8x10	—	—	—	—	5.5 x8.5	—
10x14	—	—	—	—	—	10x14	—	8.5 x14	8.5 x11	—	—	5.5 x14
8x13	—	—	—	11x17	—	8x13	—	—	—	—	5.5 x8.5	—

☐ : Unavailable in platen cover mode.

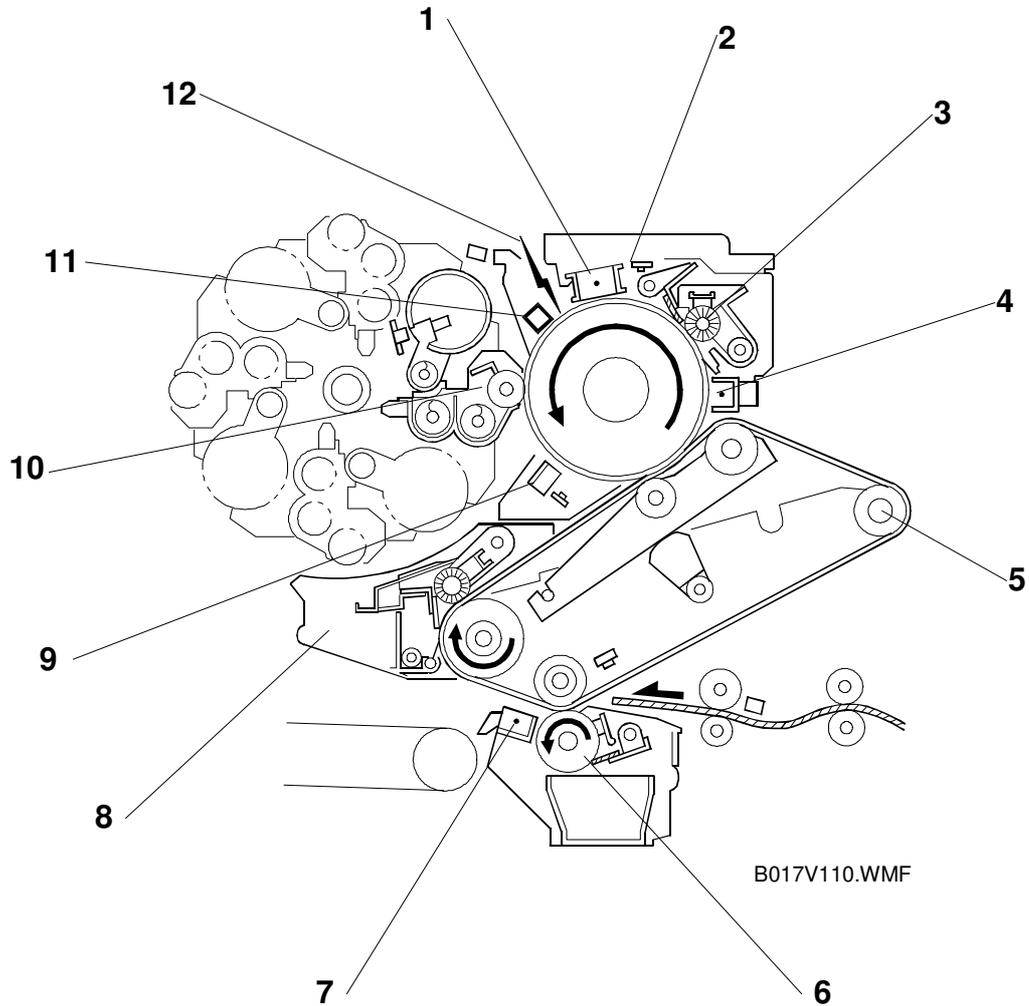
- NOTE:**
- 1) The tables indicate the copy paper size for each original for 50 to 200 % zoom ratios.
 - 2) After specifying a zoom ratio, APS automatically selects a paper size if there is an equivalent paper size available, that guarantees the quality of the magnified copy image.
 - 3) If there is no paper that corresponds to the detected size, the machine displays the message "Set xx paper in tray" and stops the job (copying is still possible).
 - 4) For "—" in the above tables, the machine displays the message "Cannot detect original size" and stops the job (copying is still possible). The selected paper feed tray does not change.
 - 5) When less than 49% or more than 201% is selected, APS behaves in accordance with note 4 above.
 - 6) APS also supports the by-pass feed table (except for non-standard paper sizes). When the paper size selected by APS can only be fed from the by-pass feed table, the machine displays a warning to instruct the user to use the by-pass feed table.
 - 7) APS does not support A6, B6, and A5.

1.1.6 DISPLAY EDITOR SPECIFICATIONS

Function	Specifications
Scanned image	<ul style="list-style-type: none"> • The scanner scans the image. • Maximum A3/DLT (11" x 17"): Reduced image display
Displayed image	<ul style="list-style-type: none"> • 144 x 192 mm, 256 colors (8 bits/dot) • 640 x 480 dots, 0.33 mm/dot Reduces the dpi of scanned images to approximately 25 dpi and displays the entire image • Zoom display: 4 levels (200%, 264%, 400%, 528%)
Area specification procedure	<ul style="list-style-type: none"> • Move the arrow on the screen by using the cursor key and enter a point by pressing the coordinate entry key.

1.2 MECHANISM OVERVIEW

1.2.1 IMAGE GENERATION PROCESS



- | | |
|------------------------------|---|
| 1. Drum Charge | 7. Paper Separation Corona |
| 2. Quenching | 8. Belt Cleaning Unit and Lubricant Application Brush |
| 3. Drum Cleaning | 9. ID Sensor |
| 4. PPC (Pre-cleaning Corona) | 10. Development |
| 5. Belt Transfer | 11. Potential Sensor |
| 6. Paper Transfer | 12. Laser Exposure |

(1) Drum Charge

The charge corona applies a negative charge to the OPC drum and the charge grid ensures that this charge is even.

- B017/018 -

- A new charge corona cleaner was adopted to keep the charge wire and charge grid clean. The cleaner starts automatically when the main switch is turned on and if the fusing temperature is less than 100°C.

(2) Quenching

After cleaning, the OPC is fully exposed to light from an array of red LEDs, which quench the residual charge on the OPC drum in preparation for the next copy cycle.

(3) Drum Cleaning

The cleaning brush increases drum cleaning efficiency by applying lubricant to the OPC drum. The cleaning blade scrapes the residual toner off the OPC drum.

(4) PCC (Pre-cleaning Corona)

The PCC lowers the charge on the photoconductor drum by applying AC and negative DC to improve the efficacy of the cleaning brush.

(5) Belt Transfer

Positive charge applied to the back of the transfer belt transfers the toner image on the OPC drum to the transfer belt.

- B017/018 -

- The electrical resistance of the belt varies from belt to belt and directly influences the image transfer belt bias. To optimize the image transfer belt bias a Current Feedback System was adopted to correct the current fluctuation caused by the variation of the electrical resistance on the belt.
- Another solenoid was added to the image transfer belt unit to keep the belt away from the drum between copy jobs. This helps prevent drum fatigue from residual voltage on the belt.

(6) Paper Transfer

The negatively charged toner image is transferred to the paper by giving a positive charge to the back of the paper while the paper and transfer belt are held in close contact.

- B017/018 -

- A brush was added to the image transfer belt unit to help push the belt down. This enables toner on the transfer belt to transfer onto the paper before the electrical field between the transfer belt and roller affects it. This helps to decrease the amount of scattered toner on printouts.

(7) Paper Separation Corona

After transfer, the separation corona quenches the negative charge on the paper to reduce the attraction between the belt and paper. The curvature of the belt causes the paper to separate from the transfer belt.

(8) Belt Cleaning Unit and Lubricant Application Brush

The brush applies lubricant, which makes it easier for the belt cleaning blade to scrape excess toner off the transfer belt.

(9) ID Sensor

The ID sensor detects the density of the sensor patches developed on the OPC drum. The signal from the ID sensor is used for process and toner supply control.

- B017/018 -

- A thermistor has been added to the ID sensor board. The thermistor corrects the output from the ID sensor depending on the temperature. This supplies more reliable data for better toner density control.

(10) Development

The latent image on the drum attracts the negatively charged toner. Toner is preferentially attracted to those places on the drum surface where the laser reduced the negative charge. The development units for each color are included in the revolver unit.

- B017/018 -

- A High frequency alternating current is applied to the development bias to optimize development. This improves the quality of grainy images.

(11) Potential Sensor

The potential sensor detects the electrical potential (the strength of the electric field) on the photoconductor drum for process control.

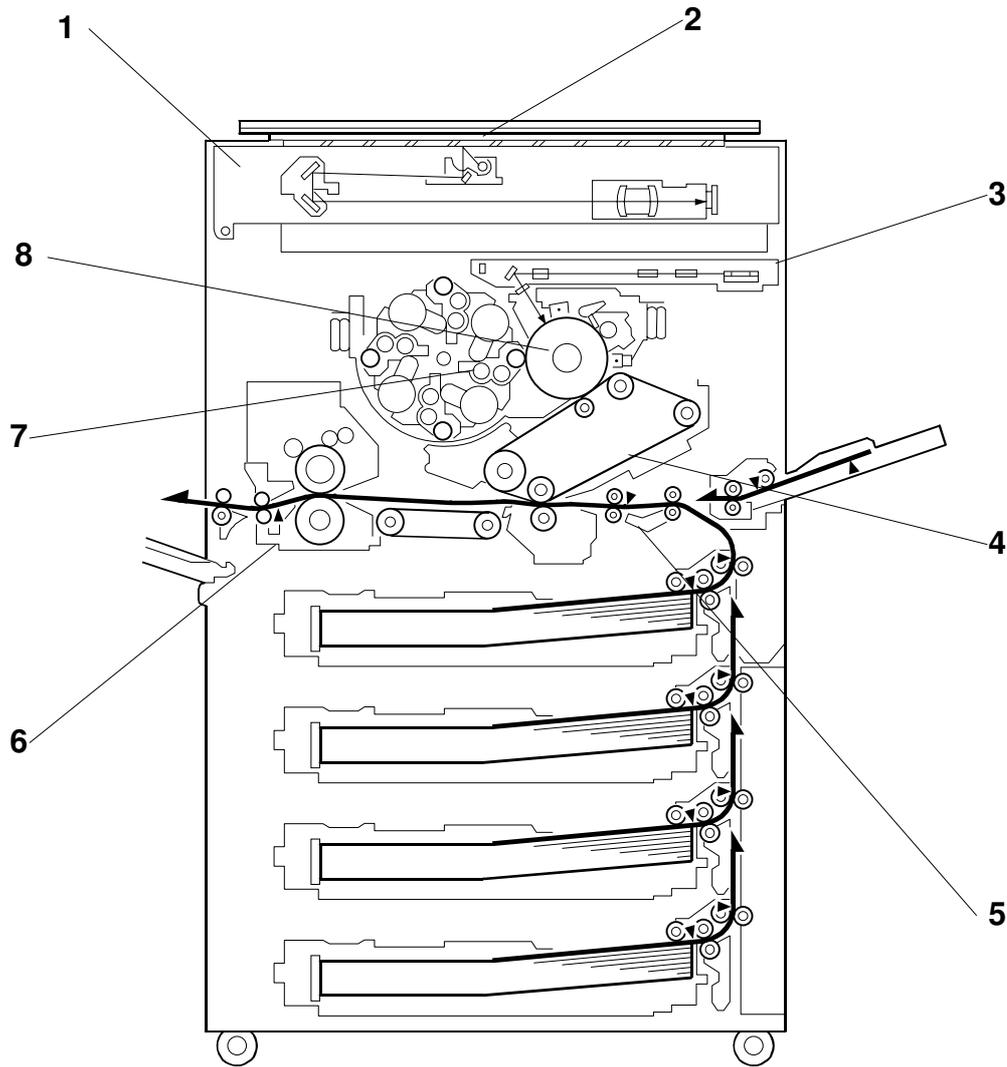
(12) Laser Exposure

The polygon mirror reflects the laser beam emitted from the laser diode and projects it onto the drum through the f-theta lens, drum mirror, and toner shield glass. The intensity of the laser output varies in correspondence with the image data. This process creates the latent image on the drum.

- B017/018 -

- The laser power was adjusted to achieve uniform side-to-side laser power. This causes the laser power to be applied evenly across the drum surface.
- Pulse positioning control was adopted to make the image appear smoother.

1.3 MAJOR UNIT LAYOUT AND PAPER FEED PATH



B017V109.WMF

(1) Scanner

- 400 dpi, 10-bit scanning in both main and sub-scan directions **(A258/259/260)**
- 600 dpi, 10-bit scanning in both main and sub-scan directions **(B017/018)**
- 3-line CCD
- Halogen exposure lamp
- 5-phase stepper motor drive
- Dual-side continuous scan (A4) support (in continuous copy mode)
- One scan copy in mono-toner color multi-copies **(B017/18)**

(2) Operation panel (A259, A260, and B017)

- 10.4-inch (640 x 480) color LCD (8-bit) touch-panel
- An additional operation panel is installed when the printer controller is installed.

(3) Laser unit

- Optics: 6-sided polygon mirror + 2 f-theta lenses + BTL
- Polygon mirror motor (24,567 rpm) with oil bearing **(A258/259/260)**
- Polygon mirror motor (36,850 rpm) with oil bearing **(B017/018)**
- 400 dpi (8 bits per pixel for each color) in copy mode
600 dpi (8 bits per pixel for each color) in printer mode **(A258/259/260)**
- 600 dpi (8 bits per pixel for each color) in both the copy and printer modes **(B017/018)**
- Modulation: PM + PWM
- Laser power correction **(B017/018)**
- Image rotation feature **(B017/018)**

(4) Transfer belt

- Transfer belt: Always in contact with the drum **(A258/259/260)**
- Transfer belt: In contact with drum during copy process **(B017/018)**
- Belt transfer: Indirect application of voltage with a roller
- Paper transfer: Roller transfer
- Registration: Synchronization by the transfer belt H.P. sensor
- Drive: Synchronized with the drum (same motor)
- Separation: Curvature separation + corona unit
- Transfer cycle: 1 belt rotation/A4, 2 rotations/A3
- Belt cleaning: Counter blade
- Lubrication: Brush roller with lubricant bar
- Bias control: Current feedback system **(B107/018)**

(5) Paper feed/transport system

- Paper feed (A258/B018)
Front loading 500 sheets, 1-layer tray + by-pass feed
- Transport: Transport belt + fan
- Duplexing: Duplex unit installed as a standard component **(A259/A260/B017)**
- Paper tray (optional): Holds 500 sheets x 2 trays or 500 sheets x 3 trays.

(6) Fusing and paper exit

- Fusing: Silicone roller fusing **(A258/259/260)**
Fusing: Silicone belt and roller fusing **(B017/018)**
- Oil application method: Double roller system
- Cleaning: Cleaning rollers (for hot and pressure rollers) **(A258/259/260)**
Europe/Asia: Cleaning roller for hot roller, cleaning blade for pressure roller
- Cleaning: Tension roller for fusing belt, blade and pad for pressure roller.
(B017/018)
- OHP/thick paper speed change

(7) Development and toner supply

- Development: Two-component magnetic brush development
- Development switching: Revolver system
- Image density control: ID sensor + process control
- Toner supply: Screw-in bottle (220 g)
- Toner supply unit: Front of developer unit (rotation type)

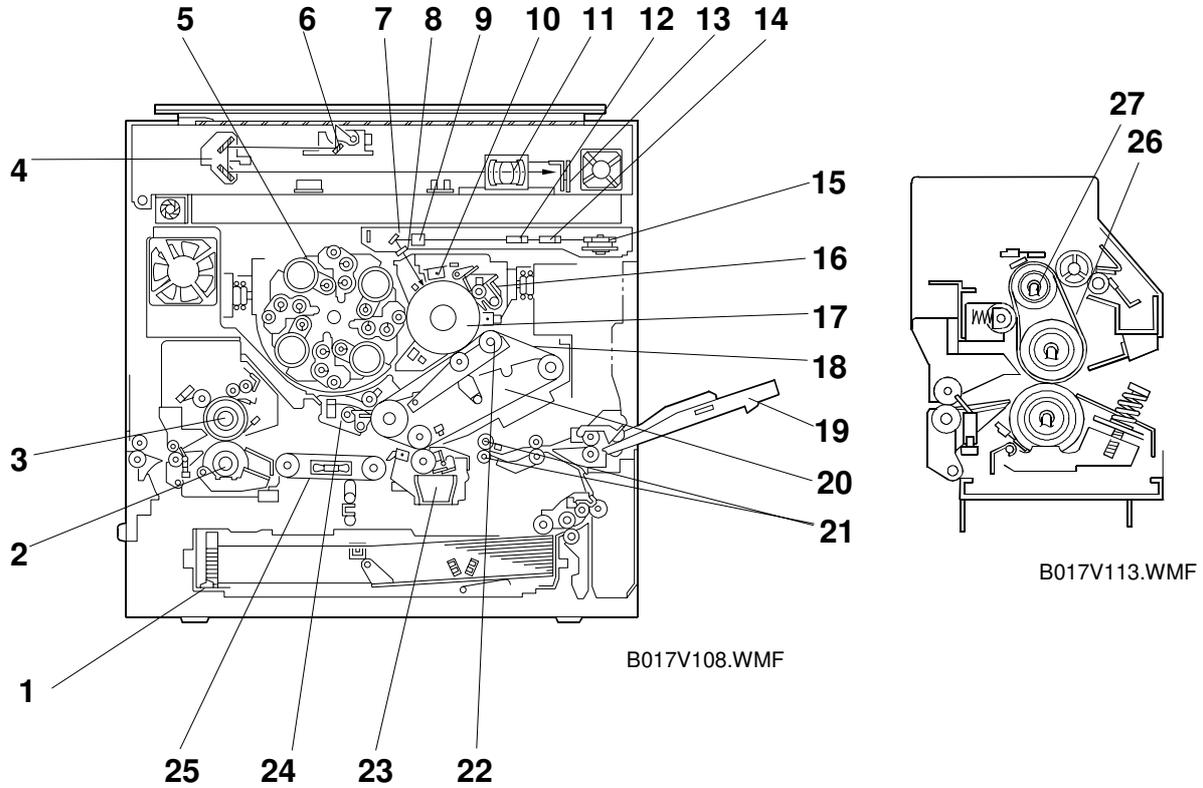
(8) Drum unit

- The drum unit contains the photoconductor drum, charge corona unit, and cleaning unit.
- Charge corona unit: Single-wire scorotron
- Quenching lamp: LED array
- Drive: Synchronized with the transfer belt (DC brushless motor + flywheel)
- Potential sensor included

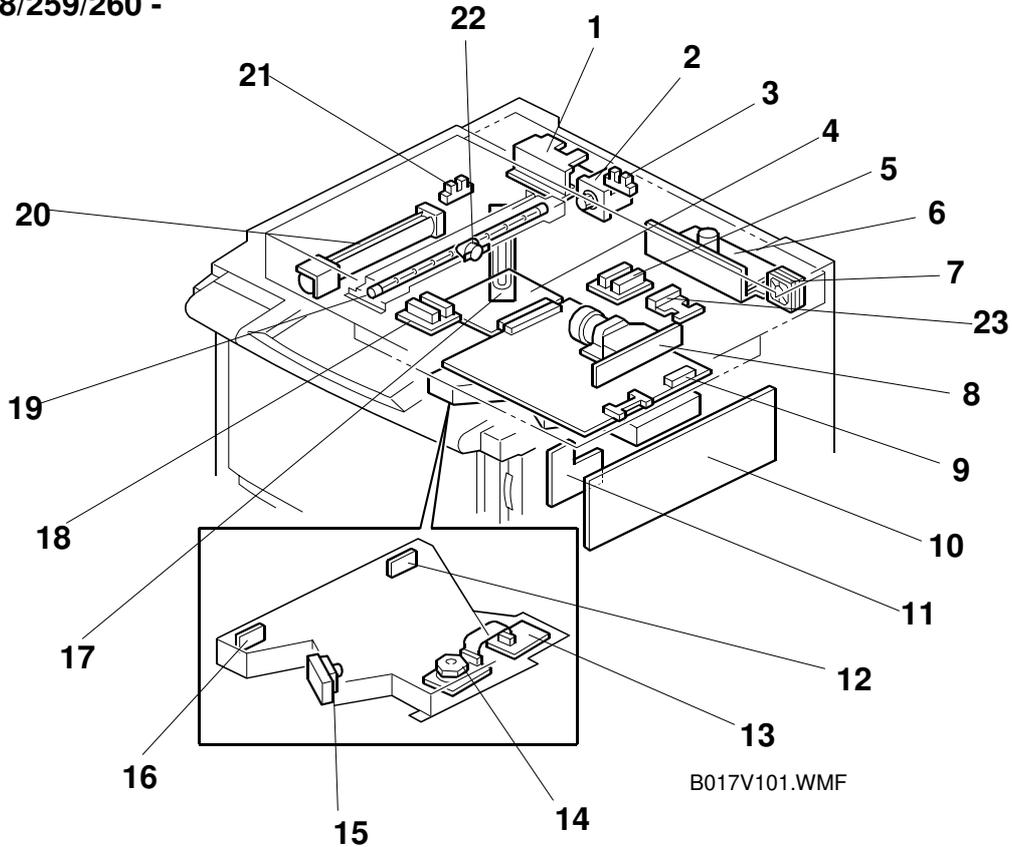
Overall Information

1.4 PARTS LAYOUT

1.4.1 MECHANICAL COMPONENT LAYOUT



- | | |
|--|-------------------------------------|
| 1. Paper Tray (A258/B018)/Duplex Tray (A259/A260/B017) | 14. 1st F-theta Lens |
| 2. Pressure Roller | 15. Polygon Mirror |
| 3. Hot Roller | 16. Drum Cleaning Unit |
| 4. 2nd Scanner | 17. OPC Drum |
| 5. Revolver Development Unit | 18. Image Transfer Belt (ITB) |
| 6. 1st Scanner | 19. By-pass Feed Table |
| 7. Drum Mirror | 20. Image Transfer Belt Unit |
| 8. Toner Shield Glass | 21. Registration Roller |
| 9. BTL (Barrel Torroidal Lens) | 22. Transfer Belt Bias Roller |
| 10. Charge Corona Unit | 23. Paper Transfer Unit |
| 11. Scanner Lens | 24. Belt Cleaning Unit |
| 12. 2nd F-theta Lens | 25. Transport Belt |
| 13. CCD Board | 26. Fusing Belt (B017/018) |
| | 27. Heat Roller (B017/018) |

1.4.2 ELECTRICAL COMPONENT LAYOUT**- A258/259/260 -****Diagram 1**

- | | |
|--|--|
| 1. Scanner Motor Drive Board | 13. Polygon Mirror Motor Drive Board |
| 2. Scanner Motor | 14. Polygon Mirror Motor |
| 3. Platen Cover Position Sensor | 15. LD (Laser Diode) Drive Board |
| 4. IDU Board | 16. Laser Synchronizing Detector Board 1 |
| 5. Original Length Sensor | 17. Optics Anti-condensation Heater |
| 6. Lamp Regulator | 18. Original Width Sensor |
| 7. Scanner Exhaust Fan | 19. Exposure Lamp |
| 8. CCD Board (SBU) | 20. Optics Cooling Fan |
| 9. Scanner IPU Board | 21. Scanner H.P. Sensor |
| 10. Main Control Board | 22. Exposure Lamp Thermostat |
| 11. LD (Laser Diode) Main Control Board | 23. Original Length Sensor-Sub |
| 12. Laser Synchronizing Detector Board 2 | |

Overall Information

1.4.3 ELECTRICAL COMPONENT LAYOUT

- B017/018 -

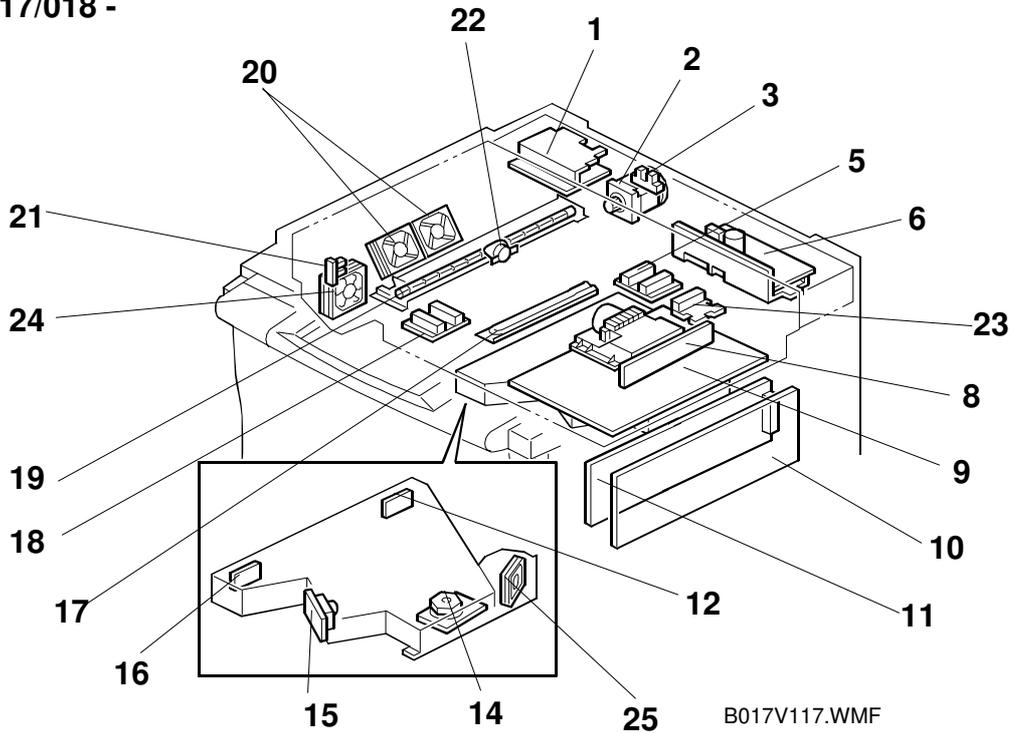


Diagram 1

- | | |
|--|--|
| 1. Scanner Motor Drive Board | 14. Polygon Mirror Motor |
| 2. Scanner Motor | 15. LD (Laser Diode) Drive Board |
| 3. Platen Cover Position Sensor | 16. Laser Synchronizing Detector Board 1 |
| 4. Blank | 17. Optics Anti-condensation Heater |
| 5. Original Length Sensor | 18. Original Width Sensor |
| 6. Lamp Regulator | 19. Exposure Lamp |
| 7. Blank | 20. Optics Cooling Fans |
| 8. CCD Board (SBU) | 21. Scanner H.P. Sensor |
| 9. Scanner IPU Board | 22. Exposure Lamp Thermostat |
| 10. Main Control Board | 23. Original Length Sensor-Sub |
| 11. LD (Laser Diode) Main Control Board | 24. IPU Cooling Fan |
| 12. Laser Synchronizing Detector Board 2 | 25. Polygon Mirror Motor Cooling Fan |
| 13. Blank | |

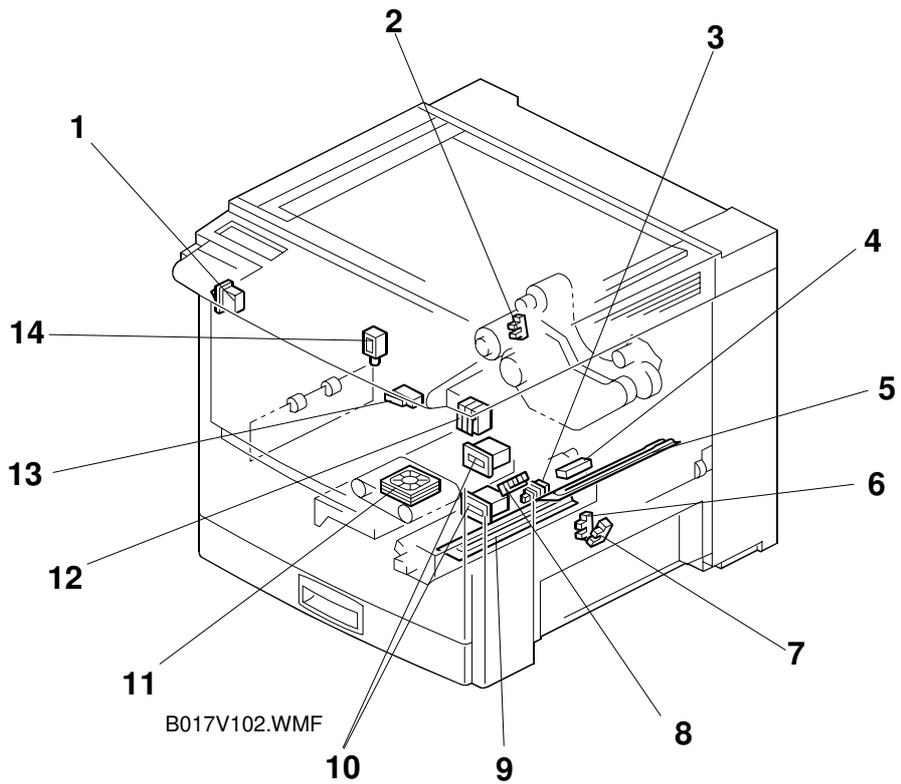


Diagram 2

- | | |
|---------------------------------------|---|
| 1. Main Power Switch | 9. Paper Transfer Unit Heater |
| 2. Belt Cleaning H.P. Sensor | 10. Counters |
| 3. Paper Tray Detector Switch | 11. Transport Fan |
| 4. Transfer Belt Home Position Sensor | 12. Front Door Switch |
| 5. Transfer Belt Heater | 13. Paper Exit Door Switch
(A259/A260/B017) |
| 6. Paper Height Sensor-1 | 14. Junction Gate Solenoid
(A259/A260/B017) |
| 7. Paper Height Sensor-2 | |
| 8. Paper Transfer H.P. Sensor | |

Overall Information

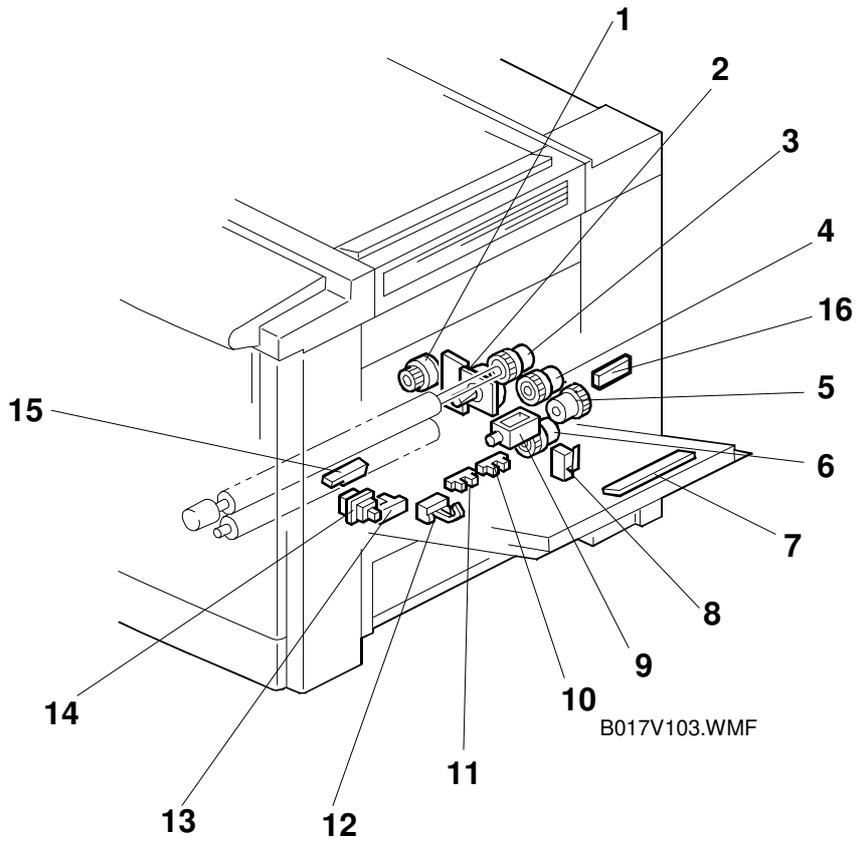


Diagram 3

- | | |
|--|-------------------------------------|
| 1. Paper Transfer Positioning Clutch | 9. By-pass Pick-up Solenoid |
| 2. Paper Feed Motor | 10. Upper Limit Sensor |
| 3. Registration Clutch | 11. Paper End Sensor |
| 4. Relay Clutch | 12. Relay Sensor |
| 5. By-pass Feed Clutch | 13. By-pass Paper End Sensor |
| 6. Paper Feed Clutch | 14. By-pass Feed Table Switch |
| 7. By-pass Paper Width Detection Board | 15. Registration Sensor |
| 8. Vertical Transport Switch | 16. Temperature and Humidity Sensor |

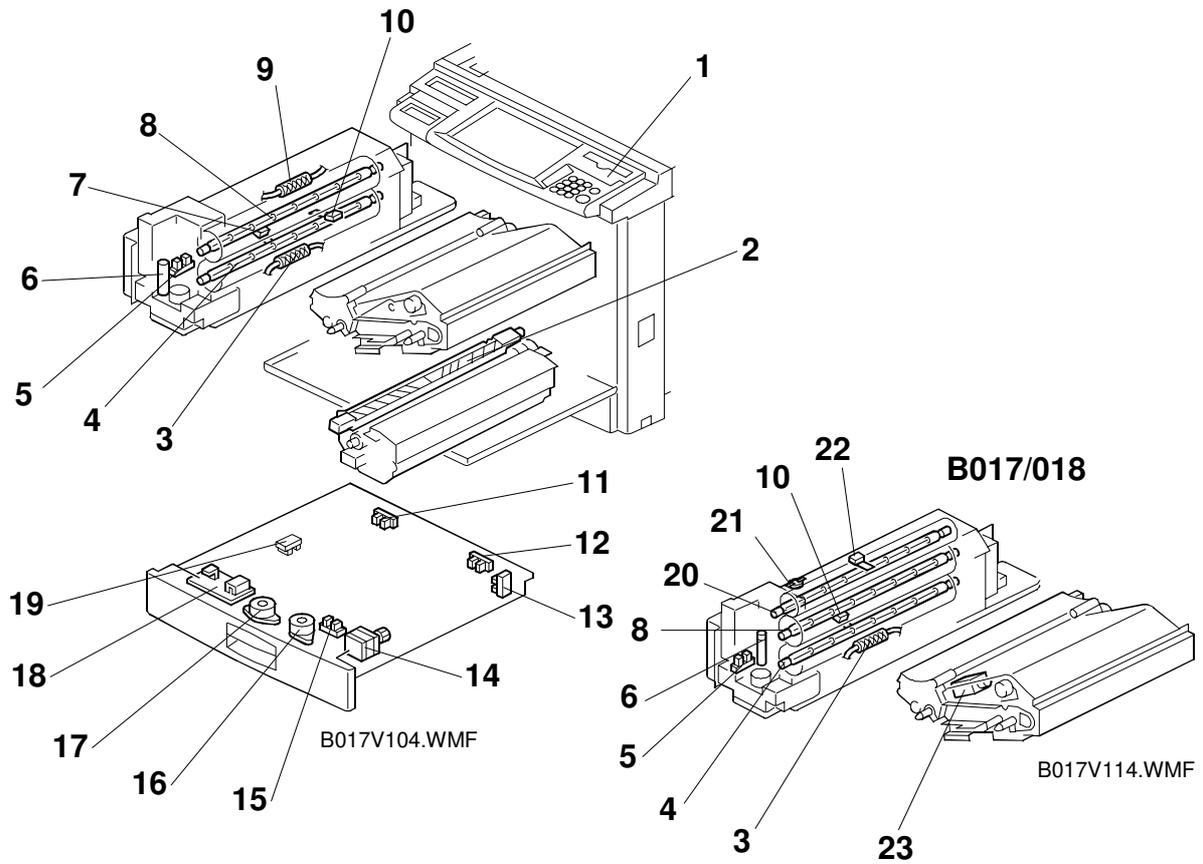


Diagram 4

- | | |
|--|--|
| 1. Operation Panel | 12. Duplex Turn Sensor |
| 2. Paper Separation Corona Unit | 13. Duplex Paper End Sensor |
| 3. Pressure Roller Thermofuse | 14. Duplex Feed Motor |
| 4. Pressure Roller Fusing Lamp | 15. Side Fence Jogger HP Sensor |
| 5. Paper Exit Sensor | 16. Duplex Side Fence Jogger Motor |
| 6. Oil End Sensor | 17. Duplex End Fence Jogger Motor |
| 7. Hot Roller Thermistor (A258/259/260) | 18. Duplex Control Board |
| 8. Hot Roller Fusing Lamp | 19. End Fence Jogger HP Sensor |
| 9. Hot Roller Thermofuse (A258/259/260) | 20. Heat Roller Fusing Lamp (B017/018) |
| 10. Pressure Roller Thermistor | 21. Heat Roller Thermostat (B017/018) |
| 11. Duplex Entrance Sensor | 22. Heat Roller Thermistor (B017/018) |
| | 23. Image Transfer Belt Release Solenoid (B017/018) |

Overall Information

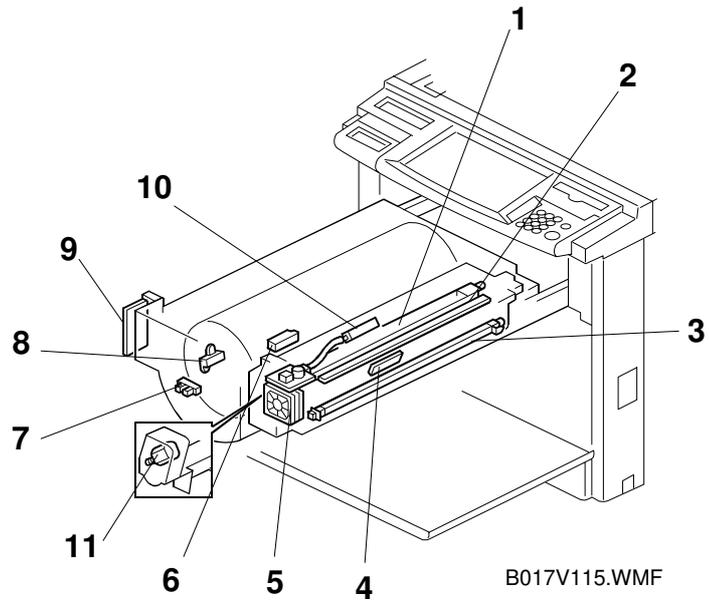
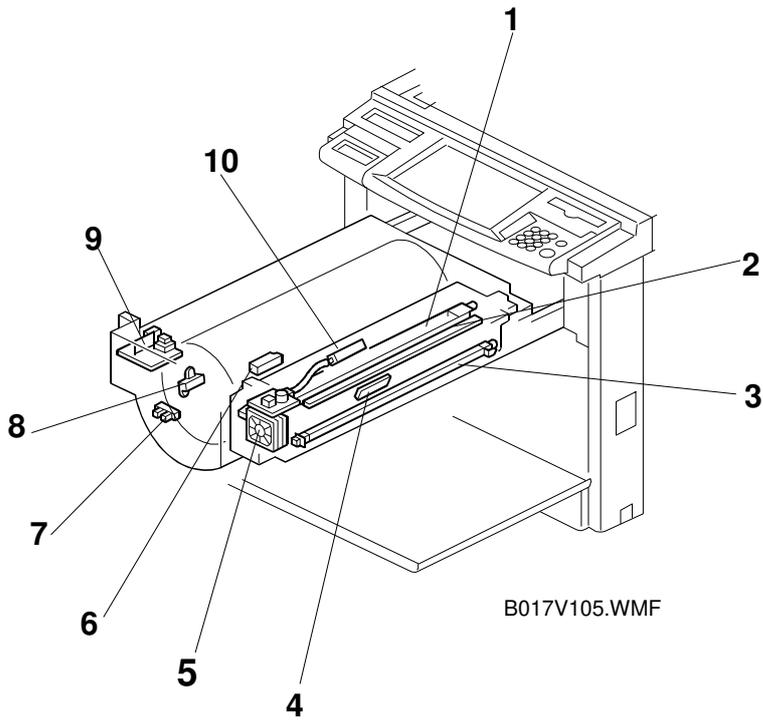


Diagram 5

- 1. Charge Corona Unit
- 2. Quenching Lamp
- 3. PCC (Pre-cleaning Corona)
- 4. ID Sensor
- 5. Charge Corona Fan
- 6. Toner Cartridge Sensor
- 7. Revolver H.P. Sensor
- 8. Toner End Sensor
- 9. High Voltage Supply Board: B
- 10. Potential Sensor
- 11. Charge Corona Cleaner Motor (B017/018)

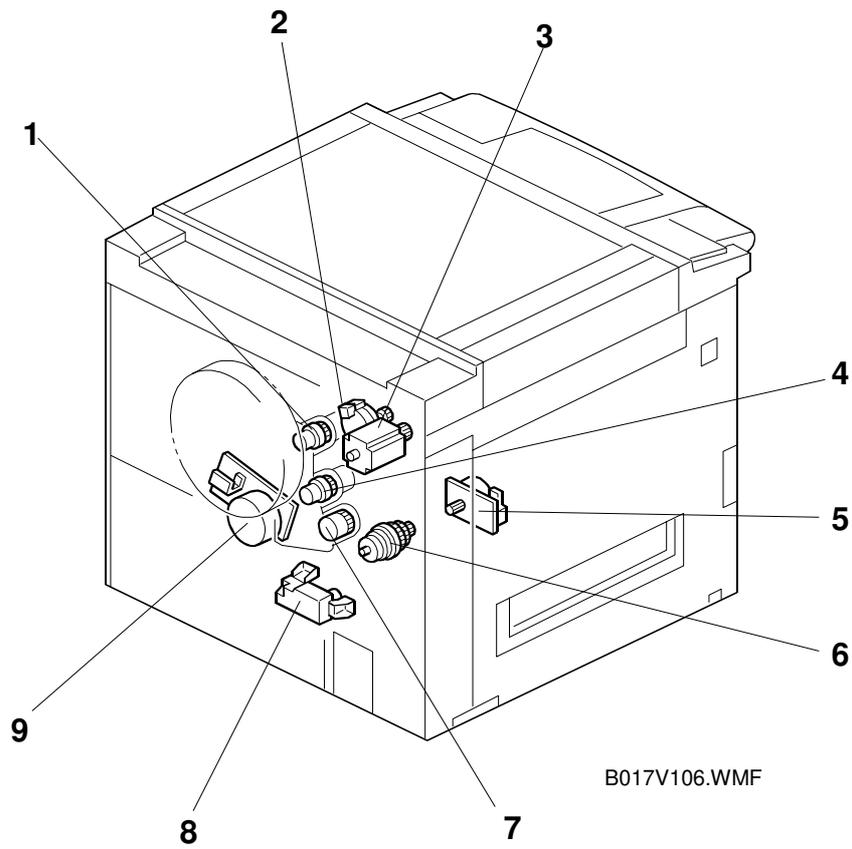


Diagram 6

- | | |
|--------------------------|-------------------------|
| 1. Development Clutch | 6. Fusing Clutch |
| 2. Toner Supply Motor | 7. Belt Cleaning Clutch |
| 3. Revolver Motor | 8. Tray Lift Motor |
| 4. Belt Lubricant Clutch | 9. Drum Motor |
| 5. Fusing Motor | |

Overall Information

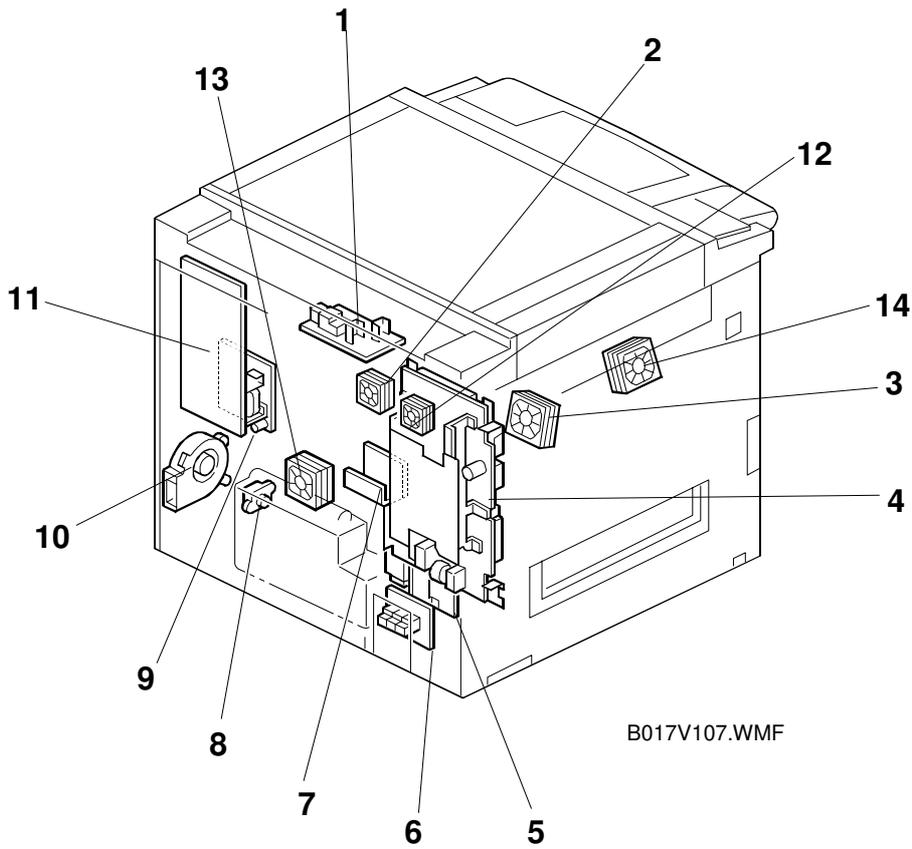
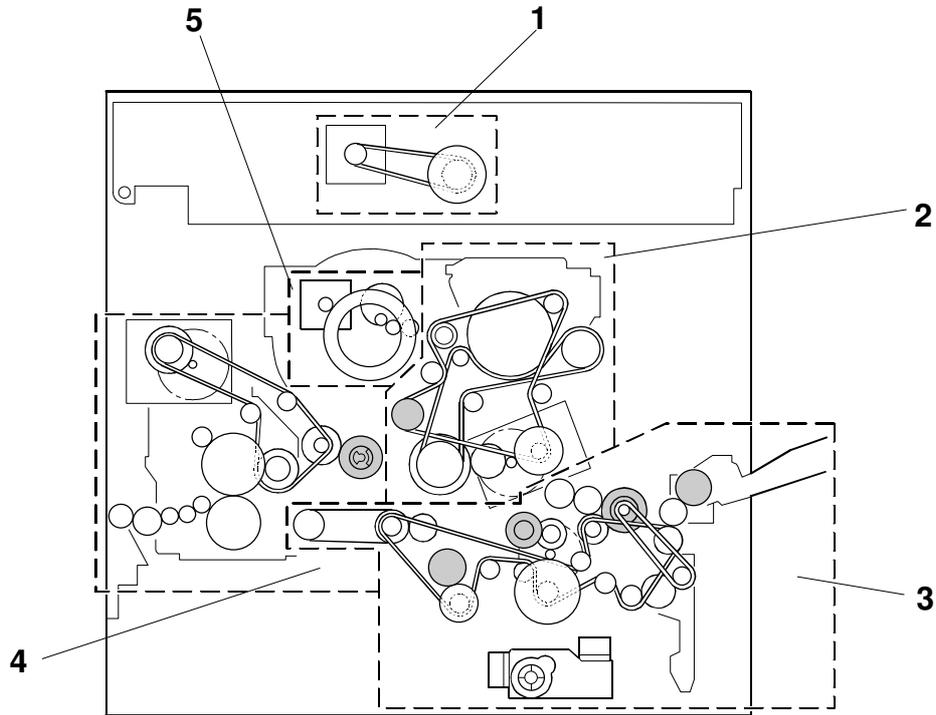


Diagram 7

- | | |
|-------------------------------------|--|
| 1. High Voltage Supply Board: C, G | 8. Used Toner Sensor |
| 2. Rear Upper Cooling Fan Motor | 9. High Voltage Supply Board: T1, PCC |
| 3. Fusing Unit Fan Motor | 10. Main Exhaust Fan Motor |
| 4. PSU (Power Supply Unit) | 11. I/O (Input/Output) Control Board |
| 5. High Voltage Supply Board: T2, D | 12. PSU Fan Motor |
| 6. CSS/Bank Interface Board | 13. Rear Lower Cooling Fan |
| 7. Revolver Motor Drive Board | 14. Development Cooling Fan (B017/018) |

1.4.4 DRIVE LAYOUT



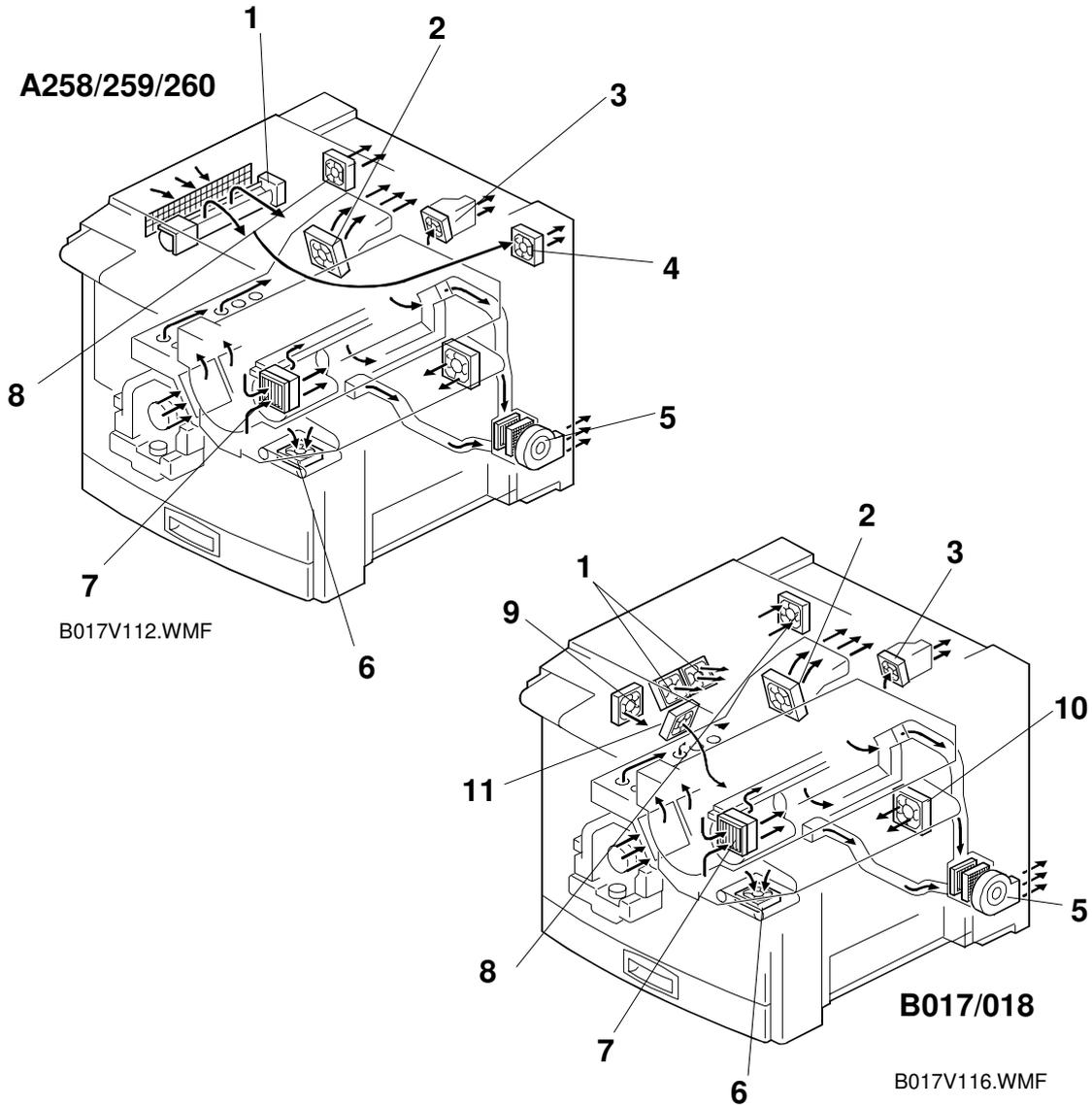
B017V111.WMF

Five motors drive the mechanical components for this machine. The drive sections driven by these five motors are listed below.

1. Scanner Drive
2. Development/Drum/Transfer Belt Drive
3. Paper Feed/Registration/Paper Transfer/Transport Belt Drive
4. Fusing Unit/Paper Exit Drive
5. Revolver Drive

Overall Information

1.4.5 AIR FLOW



- 1. Optics Cooling Fan
- 2. Fusing Unit Fan
- 3. Rear Upper Cooling Fan
- 4. Scanner Exhaust Fan (A258/259/260)
- 5. Main Exhaust Fan
- 6. Transport Fan
- 7. Charge Corona Fan
- 8. PSU Fan
- 9. IPU cooling fan (B017/018)
- 10. Rear lower cooling fan
- 11. Development cooling fan (B017/018)

1.4.6 ELECTRICAL COMPONENT DESCRIPTIONS

Printed Circuit Boards

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
PCB1	PSU	Supplies AC and DC power.	7-4	K4	G3
PCB2	Lamp regulator	Supplies AC power to the exposure lamp.	1-6	O7	J6
PCB3	SBU	Converts the light reflected from the original into video signals.	1-8	J9	G6
PCB4	Scanner IPU	Converts the RGB image signal from the CCD to a CMYK signal and sends it to the LD main control board.	1-9	L8	H7
PCB5	Scanner motor drive	Supplies DC power to the scanner motor.	1-1	M7	H4
PCB6	I/O control	Interfaces the sensors, clutches, solenoids, and motors in the printer module with the main control board.	7-11	D14	C7
PCB7	High voltage supply: C, G	Supplies power to the charge corona wire and grid.	7-1	A14	A10
PCB8	High voltage supply: T1, PCC	Supplies power to the transfer belt and pre-cleaning corona unit.	7-9	A2	A4
PCB9	High voltage supply: T2, D	Supplies power to the paper transfer bias roller and paper separation corona unit.	7-5	A1	A3
PCB10	High voltage supply: B	Supplies power to the development rollers.	5-9	A3	A1
PCB11	Main control	Controls the printer sequence.	1-10	J12	E10
PCB12	Laser synchronizing detector 1	Detects laser main scan synchronization while the latent image is being written to the drum.	1-16	O15	J9
PCB13	Laser synchronizing detector 2	Detects laser main scan synchronization while the latent image is being written to the drum.	1-12	O15	J10
PCB14	Revolver motor drive	Controls the revolver motor.	7-7	F5	D4
PCB15	Interface: CSS/Bank	Connects to the CSS unit and optional paper tray unit.	7-6	J9	F6
PCB16	LD drive	Drives the laser diode.	1-15	O17	J9
PCB17	LD main control	Controls the laser power, main scan synchronizing sensors, and process control gamma correction. Rotates scanned image (B017/018) Analyzes images for anti-counterfeiting. (B017/018)	1-11	M16	H10

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
PCB18	By-pass paper width detection	Detects the paper width on the by-pass feed table.	3-7	A10	A5
PCB19	Operation panel	Used to operate the copier.	4-1	H19	
PCB20	Duplex control	Controls the duplex unit.	4-18	F20 (A259/A260 copiers only)	D12
PCB21	IDU	Analyzes images for anti-counterfeiting. (A258/259/260)	1-4	M14	-
PCB22	Polygon mirror motor drive	Controls the polygon mirror motor. (A258/259/260)	1-13	O15	-
PCB23	Temperature and humidity sensor	Detects the ambient temperature and humidity.	3-16	E19	D11
PCB24	Header relay	Supplies the power to the heaters	-	-	H1

Overall
Information**Motors**

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
M1	Scanner	Drives the scanner.	1-2	M6	H4
M2	Polygon mirror	Drives the polygon mirror (laser unit).	1-14	O15	H8
M3	Revolver drive	Rotates the revolver unit.	6-3	G5	E4
M4	Duplex feed motor	Drives the paper feed roller in the duplex unit.	4-14	G20 (A259/A260 copiers only)	E12 (B017 models only)
M5	Duplex Side fence jogger	Drives the duplex unit side fences.	4-16	G21 (A259/A260 copiers only)	E12 (B017 models only)
M6	Duplex End fence jogger	Drives the duplex unit end fences.	4-17	G21 (A259/A260 copiers only)	E13 (B017 models only)
M7	Paper feed	Drives the paper feed unit.	3-2	A12	A6
M8	Tray lift	Lifts the tray bottom plate.	6-8	A12 (A258 model only)	A7 (B018 models only)
M9	Toner supply	Supplies toner.	6-2	A7	A3
M10	Drum	Drives the drum, the development unit currently at the development position, and the transfer belt.	6-9	A19	A9
M11	Fusing	Drives the transport and fusing units.	6-5	E8	A10
M12	Charge corona cleaner	Drives the charge corona cleaner	5-11	-	A2

Fan Motors

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
FM1	Transport	Attracts copy paper to the transport belt.	2-11	A11	A6
FM2	Optics cooling	Cools the scanner unit	1-20	O14	-
FM3	Charge corona	Cools the charge corona unit.	5-5	A6	A3
FM4	Scanner exhaust	Cools the scanner unit.	1-7	P7	-
FM5	Fusing unit	Cools the fusing unit.	7-3	E1	D4
FM6	Main exhaust	Sucks air from the charge and transfer areas out of the machine.	7-10	A17	A5
FM7	Rear cooling unit (A258/59/60) Rear upper cooling (B017/018)	Cools the rear section of the copier.	7-2	E10	D3
FM8	PSU	Cools the PSU.	7-12	A7	A11
FM9	Rear lower cooling	Cools the rear section of the copier.	7-13		D2
FM10	Polygon mirror motor	Cools the polygon mirror motor	1-25	-	D6
FM11	Optics cooling 0	Cools the scanner unit.	1-20	-	J7
FM12	Optics cooling 1		1-20	-	J7
FM13	IPU cooling	Cools the IPU section.	1-24	-	J7
FM14	Development cooling	Cools the development section.	7-14	-	J7

Sensors

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
S1	Toner end	Detects the presence or absence of toner in a cartridge.	5-8	A4	A1
S2	Toner cartridge	Detects the presence or absence of toner cartridges.	5-6	A4	A1
S3	Revolver H.P.	Detects if the revolver is at the home position.	5-7	A4	A2
S4	Potential	Detects the potential of the drum surface.	5-10	A5	A2
S5	ID	Detects the density of toner on the developed ID sensor patch on the drum.	5-4	A5	A2
S6	Belt cleaning H.P.	Detects if the belt cleaning unit is at the home position.	2-2	A8	A11
S7	By-pass feed paper end	Detects if there is paper on the by-pass feed table.	3-13	A8	A5
S8	Upper limit	Detects the upper limit position of the tray bottom plate.	3-10	A13 (A258 model only)	A7 (B018 model only)
S9	Relay	Detects paper jams at the relay section.	3-12	A13 (A258 model only)	A7 (B018 model only)

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
S10	Tray paper end	Detects if there is paper in the paper feed tray.	3-11	G13 (A258 model only)	A7 (B018 model only)
S11	Relay	Detects a paper jam at the relay section	3-12	A14 (A259/A260 models only)	A7
S12	Used toner	Detects if the used toner tank is full.	7-8	A15	A4
S13	Paper transfer H.P.	Detects if the paper transfer unit is at the home position.	2-8	A15	A4
S14	Paper height 1	Detects the amount of paper in the tray.	2-6	A16 (A258 model only)	A8 (B018 model only)
S15	Paper height 2	Detects the amount of paper in the tray.	2-7	A16 (A258 model only)	A8 (B018 model only)
S16	Transfer belt H.P.	Detects the mark on the transfer belt.	2-4	A18	A9
S17	Registration H.P.	Detects paper jams at the registration section.	3-15	A19	A9
S18	Paper exit	Detects paper jams at the paper exit.	4-5	F1	D1
S19	Oil end	Detects if there is silicone oil in that tank.	4-6	G1	E1
S20	Original length	Detects the length of the original.	1-5	N7	J5
S21	Platen cover position	Detects if the platen cover is open or closed.	1-3	O7	J5
S22	Original length -sub	Detects the length of the original	1-23	P7	I4
S23	Scanner H.P.	Detects the scanner home position.	1-21	P14	J6
S24	Original width	Detects the width of the original.	1-18	P14	J6
S25	Side fence jogger HP	Detects the home position of the duplex unit side fence.	4-15	G22 (A259/A260 models only)	E13 (B017 model only)
S26	End fence jogger HP	Detects the home position of the duplex unit end fence.	4-19	G22 (A259/A260 models only)	E13 (B017 model only)
S27	Duplex paper end	Detects if there is paper in the duplex unit.	4-13	G22 (A259/A260 models only)	E13 (B017 model only)
S28	Duplex entrance	Detects when copy paper comes into the duplex unit.	4-11	G23 (A259/A260 models only)	E13 (B017 model only)
S29	Duplex turn	Detects when copy paper is being reversed in the duplex unit.	4-12	G23 (A259/A260 models only)	E13 (B017 model only)

Overall Information

Switches

Symbol s	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
SW1	Main power	Turns the copier power on or off.	2-1	M1	H1
SW2	Front door	Cuts the DC line to the high voltage supply board when the front door is open.	2-12	E11	A11
SW3	Paper exit door	Detects if the paper exit door is open or closed.	2-13	A7 (A259/A260 models only)	D2 (B017 model only)
SW4	By-pass feed table	Detects if the by-pass feed table is open or closed.	3-14	A8	A5
SW5	Paper tray detector	Detects the presence or absence of a paper tray.	2-3	A16 (A258 model only)	A7 (B018 model only)
SW6	Vertical transport	Detects if the vertical transport door is open or closed.	3-8	A17	A4

Clutches

Symbol s	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
CL1	By-pass feed	Transmits drive to the by-pass feed mechanism.	3-5	A9	A5
CL2	Paper feed	Transmits drive to the paper feed mechanism.	3-6	A17	A8
CL3	Registration	Transmits drive to the registration rollers.	3-3	A18	A8
CL4	Paper transfer positioning	Transmits drive to the paper transfer unit.	3-1	A11	A6
CL5	Development	Transmits drive to the development mechanism.	6-1	E3	D2
CL6	Relay	Transmits drive to the relay rollers.	3-4	A18	A8
CL7	Belt cleaning	Transmits drive to the belt cleaning unit.	6-7	E2	D1
CL8	Fusing	Transmits drive to the fusing unit.	6-6	E1	D1
CL9	Belt lubricant	Transmits drive to the belt lubricant mechanism.	6-4	E2	D1

Solenoids

Symbol s	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
SOL1	By-pass pick-up	Lowers the by-pass pick-up roller.	3-9	A9	A5
SOL2	Junction gate	Raises the junction gate for the duplex tray.	2-14	A7 (A259/A260 copiers only)	D2
SOL3	Image transfer belt release	Releases the image transfer belt from the drum.	4-22	-	A12

Overall
Information**Lamps**

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
L1	Hot roller fusing	Provides heat to the hot roller.	4-7	H1	E1
L2	Pressure roller fusing	Provides heat to the pressure roller.	4-4	G1	F1
L3	Exposure	Applies high intensity light to the original for exposure.	1-19	O5	J5
L4	Quenching	Neutralizes any charge remaining on the photoconductor.	5-2	A6	A2
L5	Heat roller fusing	Provides heat to the heat roller.	4-20	-	E1

Heaters

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
H1	Paper transfer unit	Prevents moisture from forming around the paper transfer unit.	2-9	J1	G1
H2	Transfer belt	Used to stabilize the temperature around the transfer belt.	2-5	K1	G1
H3	Optics anti-condensation	Prevents moisture from forming on the optics.	1-17	L1	G1

Thermistors

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
TH1	Pressure roller	Controls the temperature of the pressure roller.	4-9	F1	D1
TH2	Hot roller	Controls the temperature of the hot roller.	4-6	G1	-
TH3	Heat Roller	Controls the temperature of the heat roller.	4-22	-	E1

Thermofuses

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
TF1	Hot roller	Protects the hot roller from overheating.	4-8	H1	-
TF2	Pressure roller	Protects the pressure roller from overheating.	4-3	H1	F1

Thermostat

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
TS1	Exposure lamp	Prevents the exposure lamp from overheating when it is on for a long time.	1-22	O6	J5
TS2	Heat roller	Prevents the heat roller fusing lamp from overheating when it is on for a long time.	4-21	-	E1

Counter

Symbol	Name	Function	Index- No	Location	
				A258/259/ 260	B017/018
CO1	Upper mechanical	Indicates the total number of development cycles made using the C, M, and Y development units;	2-10	A9	D6
CO2	Lower mechanical	Shows the total number of black developments.	2-10	A10	D7

2. DETAILED DESCRIPTION (B017/018)

2.1 PROCESS CONTROL

2.1.1 OVERVIEW

The process control for this machine is almost the same as for the A258/259/260 copiers. The only difference is in the potential values of VD (charge voltage), VL (laser power), and VB (development bias). These potential values are optimized for 600 dpi processing. By changing the resolution, the density of the pattern used for process control has been changed. For process control to work properly, these potential values were changed from the A258/259/260 copier level to their current potential values for the B017/B018.

Detailed
Descriptions

2.1.2 POTENTIAL CONTROL

Just like A258/259/260 copiers, there are 4 process control self-checks.

- 1) Forced process control self-check
- 2) Initial process control self-check
- 3) Interval process control self-check
- 4) Times process control self-check

The different points on the process control self-check from A258/259/260 copiers are as follows.

Initial process control self-check

- The initial process control starts automatically when the power is turned on (or when the machine returns to stand-by mode from sleep mode), but only if the fusing belt in the fusing unit is less than 55⁰C. This is because the fusing belt temperature drops faster because the fusing belt is thinner than the hot roller.

TD auto correction (SP3-128)

- During the self-check, the machine automatically adjusts the toner concentration if the M/A (Mass/Area) of the ID sensor pattern is out of 4.0 +/- 0.05 mg/cm², in order to attain proper image density. This mode is executed only when performing the interval process control self-check. (This was executed only when performing the initial process control self-check on A258/259/260 copiers.)

2.2 DRUM UNIT

2.2.1 DRIVE MECHANISM

The drive mechanism for this machine is the same as for the A258/A259/A260 copiers. However, the drum shaft extends fully from the rear to the front side in order to prevent the photoconductor gap from fluctuating during drum rotation.

2.2.2 CHARGE CORONA UNIT CLEANER

A charge corona unit cleaner was adopted to prevent the charge corona wire and charge grid from being contaminated with toner and paper dust.

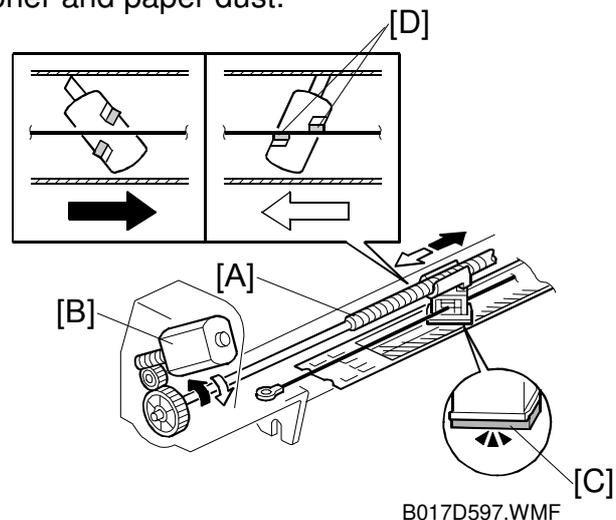
Drive:

- Cleaner affixed to screw rod [A].
- Unit driven by DC motor [B] located at copier front.

Cleaning:

- Grid cleaner pad [C] and charge wire cleaner pads [D].
- Home position at copier front.
- Machine cleans according to conditions below:

- 1) When the main switch is turned on.
- 2) When the fusing temperature is less than 55°C.
- 3) When forced using an SP mode (SP2-802).



B017D597.WMF

Cleaning Path:

Copier front – Rear end point – Copier front

Only the charge corona grid is cleaned during the traverse from the copier front to the rear end point (black arrow). Both the charge wire and grid are cleaned during this traversal from the rear end point to the copier front (white arrow).

Position Detection:

- No sensor to detect the position of the cleaner.
- I/O control board detects the current supplied to the motor
 - It senses the sudden change in the current value, which occurs when the cleaner reaches the end point.
- At the turnaround point, the motor reverses.
- If current does not increase within 60 seconds after motor rotation, the I/O control board detects an open circuit or disconnected condition, stops the motor, and then displays SC303.

Related SP modes:

- 1) SP2-802-000: Forced Charger Cleaning
This performs the charge and grid cleaning.
- 2) SP2-803-001: Auto Cleaning ON/OFF
This specifies the timing when the charger cleaning is performed.
- 3) SP2-803-002: Development Count
This enables charger cleaning at specified development cycle count
- 4) SP2-803-003: Operation Time
This specifies the operation time interval.

2.3 SCANNER UNIT

2.3.1 OVERVIEW

- Scanning resolution is 600 dpi.
 - Higher resolution improves sharpness, and color and image reproduction capability.
- A new lens, CCD, and exposure lamp were added to attain the new 600 dpi resolution.
- New image rotation feature
 - Rotates the scanned image in 90-degree increments and then prints out.
 - 80MB of memory is used for the image rotation.
 - Stores up to A3/DLT mono-toner color images.
 - The copier only makes one scan for the multi copy run in mono-toner (CMYK) color copy mode.
 - The image rotation circuit is in the LD main control board.

2.4 IMAGE PROCESSING

2.4.1 OVERVIEW

The following features were added to B017/018 copiers or modified from the A258/259/260 copiers.

Image rotation feature

- Rotates up to A3/DLT full color images.
- Maintains the maximum copy speed by feeding paper sideways.

Laser power correction

- A correction value is applied to the laser power.
 - This evenly applies the power across the drum surface, preventing uneven image density images.

600 dpi resolution

- Improved sharpness and gradation of images.
 - New dither patterns in copy mode
 - Increased productivity in print mode (Prints images out without slowing down the process speed for 600 dpi.)
- NOTE:** On the A258/259/260 copiers, the process speed changes to 2/3 of the standard speed for 600 dpi.

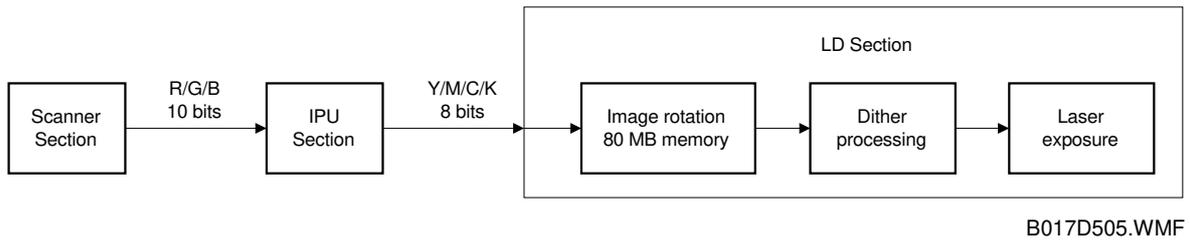
Dither processing

- Two dither patterns for Text and Photo modes
- Dither pattern size is increased to improve gradation.

Pulse positioning control

- Machine can change the start timing for laser exposure.
- Makes lines appear smoother. (This improves the quality of grainy images.)

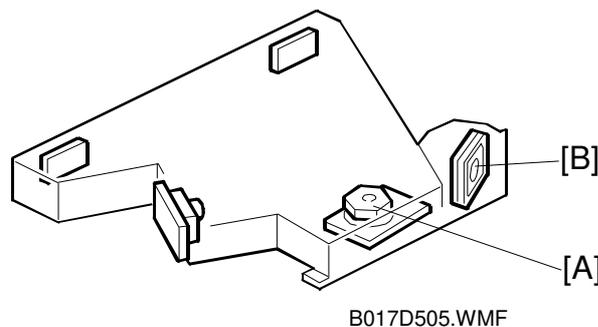
2.4.2 IMAGE ROTATION



Detailed Descriptions

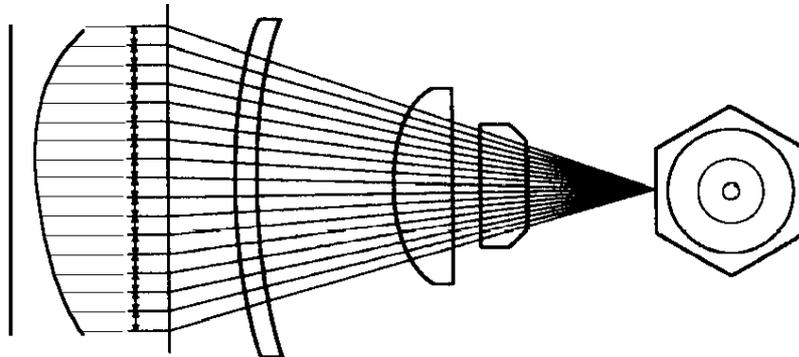
- The image rotation circuit is located on the LD control board.
- CMYK data processed in the IPU section is sent to the LD control board.
- Image rotation circuit has 80MB memory.
 - 64MB to store up to A3/DLT mono toner color image data
 - 16MB to store image separation data.
- After the image is rotated in this circuit, dither processing is applied to the image data and laser exposure begins.
- Since mono-toner color (CMYK) image data can be stored in memory, the scanner only scans the image once to make multi-copies.

2.4.3 LASER EXPOSURE



- New polygon mirror motor [A] to achieve real 600 dpi.
- Rotates at 36,850 rpm.
- The polygon mirror motor cooling fan [B] is beside the optical housing unit because of this high-speed rotation.

2.4.4 LASER POWER CORRECTION



B017D507.PCX

Even if the power from the LD unit is the same from side to side, laser power is not evenly applied across the drum surface due to the characteristics of the F-theta and Barrel Torroidal lenses as shown by the curve in the illustration. These characteristics cause the laser power at the center to be slightly stronger than at either side. This causes uneven image density on your printout.

Since all scanner units have the same characteristics, a correction curve is applied to the laser power exposed from the LD unit so that the laser power applied across the drum surface becomes even. The curved line in the illustration becomes straight by applying the correction to the laser power.

2.4.5 DITHER PROCESSING

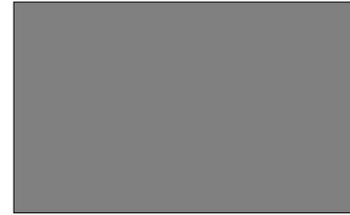


B017D508.WMF

- Two dither patterns for Text and Photo modes.
 - In Text mode, dither patterns are made with 2x2 dot units for fine resolution.
 - In the Photo mode, dither patterns are made with 3x3 dot units.
- Using the larger unit makes the image appear smoother, improving the quality of grainy images.

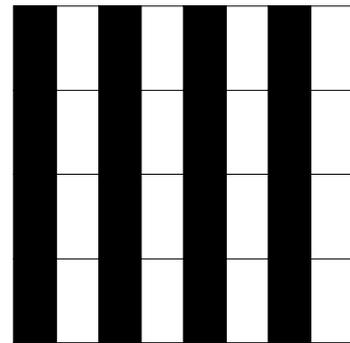
2.4.6 PULSE POSITIONING CONTROL

- The location of the active part of the laser signal can be on either the left or right side of each pixel.
- The positioning of the active part of the laser signal shifts to the left or right depending on adjacent pixel values.

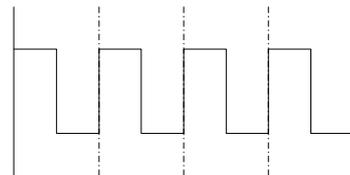


Detailed Descriptions

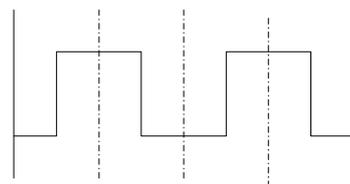
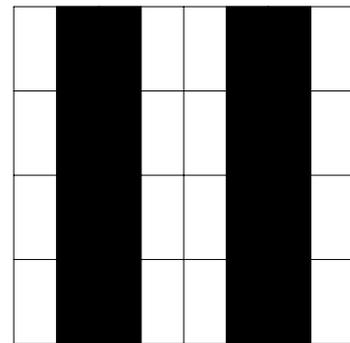
- When scanning the gray solid image, top right, all active parts locate on the left side of each pixel if pulse-positioning control is not used.



- Engine capability problems cause these thin lines to be reproduced improperly.
- The line is not completely straight because image data was lost. This also causes grainy images.



- Pulse positioning control thickens the lines and reproduces them properly without any image loss.
 - This causes the lines to appear smoother. (This improves the quality of grainy images.)



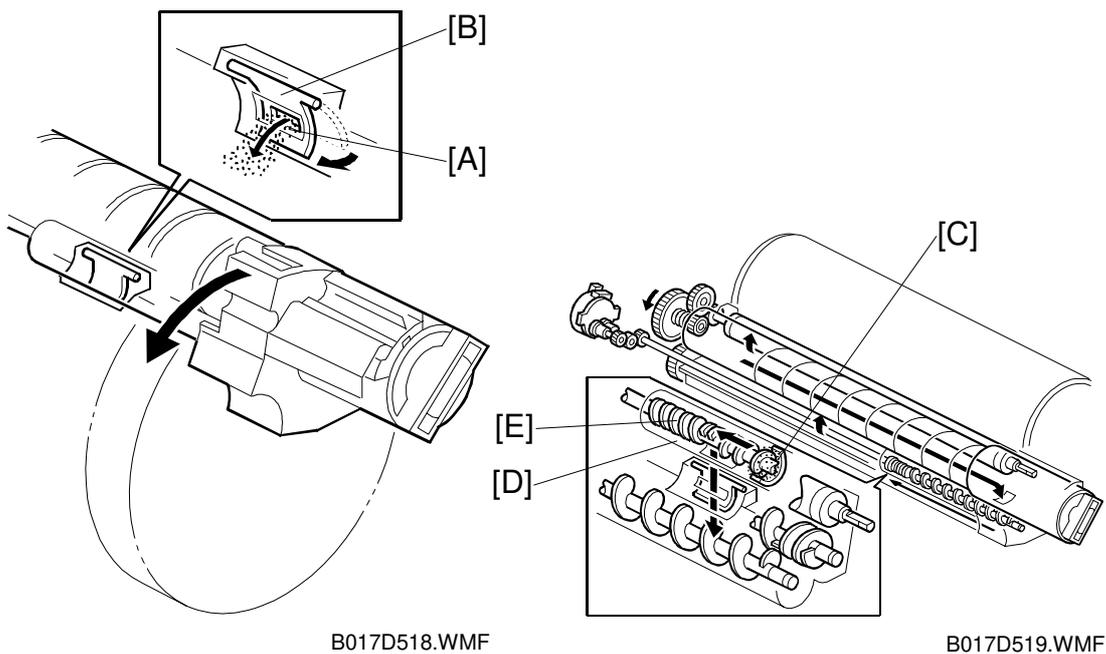
B017D516.WMF

2.5 DEVELOPMENT UNIT

2.5.1 OVERVIEW

To optimize image development, a high frequency AC component has been applied to the development bias. The high frequency AC component improves the quality of grainy images.

2.5.2 TONER SUPPLY



When the revolver unit rotates, small amounts of toner tend to flow into the development unit. This causes the toner concentration to increase. To prevent toner from flowing into the development units, a small window [A] is added to the development shutter [B] and a magnet [C] is attached on to the toner supply pipe [D].

A small amount of developer flows back into the toner supply pipe through the small window on the shutter during the revolver rotation and is caught by the magnet. The developer caught by the magnet functions as a shield and prevents toner from flowing into the development unit. When toner is supplied to the development unit, the supply auger [E] rotates and supplies the proper amount of toner.

2.6 IMAGE TRANSFER BELT UNIT

2.6.1 OVERVIEW

The image transfer function is the same as the A258/259/260 copiers. The changes described below were applied to the B017/018 to improve reliability and image quality.

Image transfer unit positioning

- Changed to maintain the width of the photoconductor gap.
 - Changed compression spring position and the shape of the drum stay.

Current feedback system

- Optimized the image transfer bias.
 - Automatically corrects the current applied to the belt to apply a constant optimum transfer bias to the belt.
 - This also prevents dark spots.

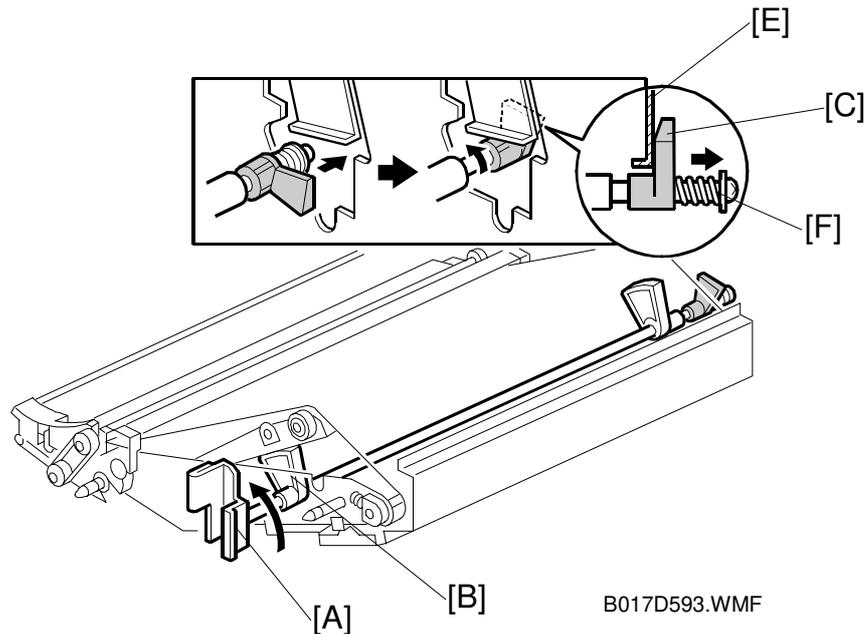
Touch and release mechanism

- Added a solenoid to the image transfer belt unit.
 - Keeps the image transfer belt away from the drum between copy jobs
 - Prevents drum fatigue due to residual voltage on the belt.

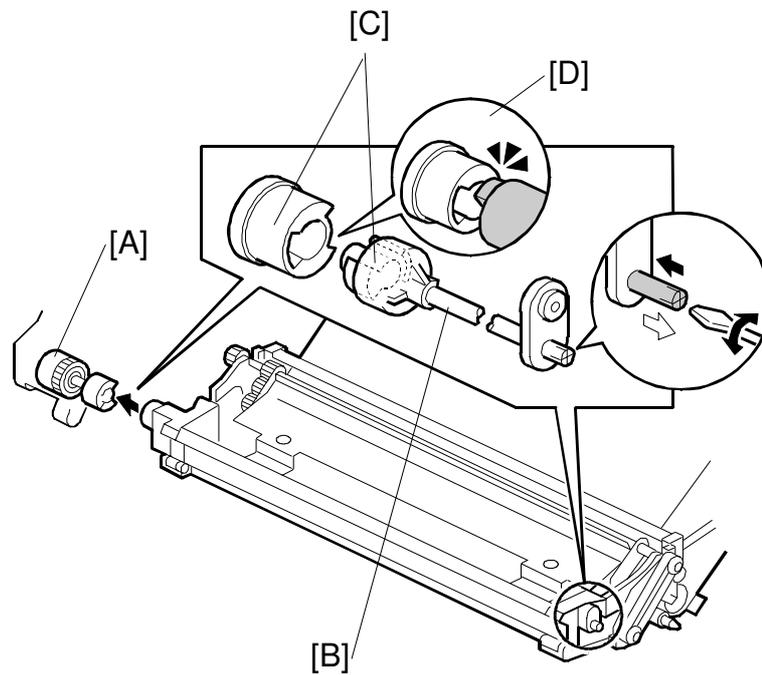
Paper transfer mechanism

- Added brush to the image transfer belt unit
- Changed the shape of the paper guide of the paper transfer unit.
 - Ensures correct paper transfer
 - Improves the quality of the toner blaster image.

2.6.2 IMAGE TRANSFER BELT UNIT POSITIONING



- The release lever [A] is at the front of the unit.
 - Moving the release lever rotates the release lever cam [B].
- Rotating the release lever counterclockwise applies tension to the belt
- The positioning cam [C] located at the end of the release shaft [D] moves in the same direction.
- The positioning cam moves along the rear frame [E]
 - It is pushed outward by the rear frame because of the shape of the cam.
- A compression spring [F] is also located between the end of shaft and the positioning cam.
 - This spring applies the pressure to the image transfer belt unit and places the unit in the proper position.
- To properly place this unit on A258/259/260 copiers:
 - Compression spring put on the front side of the image transfer belt unit
 - The drum stay presses the spring, which maintains the position of both the transfer belt and drum units.
- When securing the transfer belt stay with screws, its position might fluctuate slightly
 - This is due to the pressure applied from the spring, causing the photoconductor gap to change slightly.
 - To maintain this gap, the compression spring position and the transfer belt stay shape were changed for the B017/018 copiers.



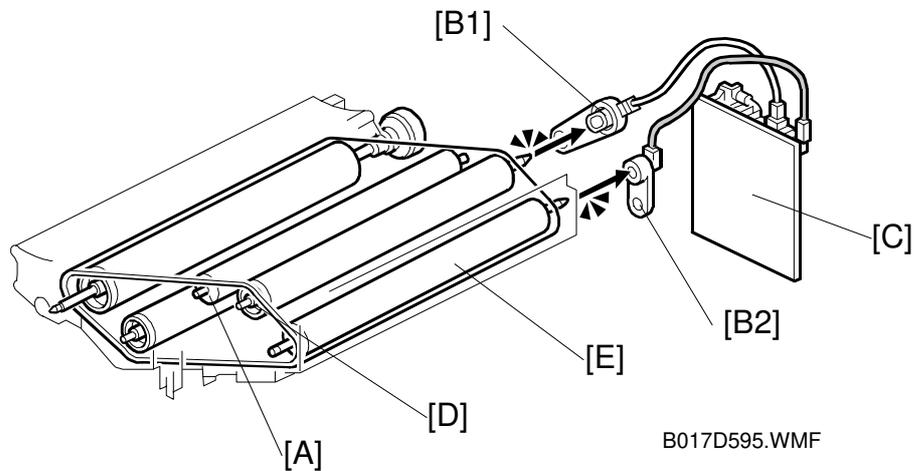
B017D517.WMF

Detailed
Descriptions

The belt cleaning clutch [A] transfers drive from the fusing motor to the belt cleaning shaft [B] through the couplings [C]. If the couplings are not properly engaged as shown [D], this may cause SC457 (ITB cleaning unit position error). This may happen when the machine power is on after the image transfer belt unit is installed.

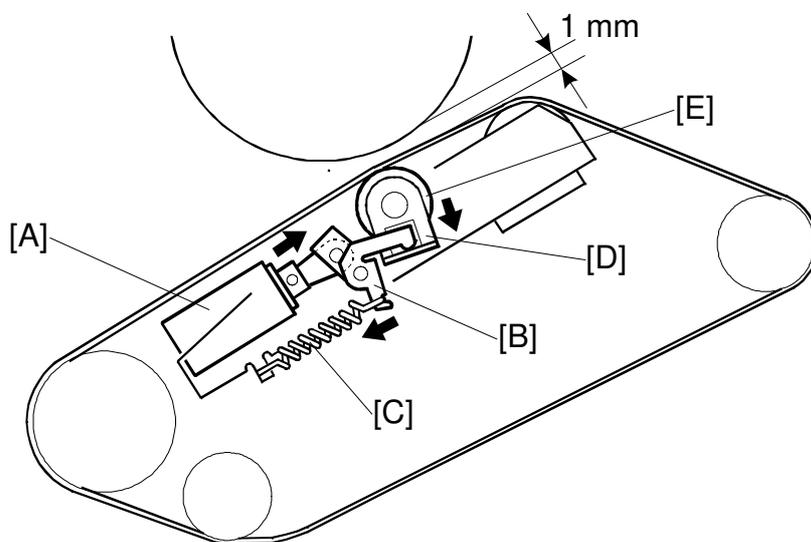
If the couplings are not properly engaged, the coupling on the belt cleaning shaft is pressed by another coupling and the shaft moves to the front side of the copier as shown by white arrow. Rotating the belt cleaning shaft can properly connect the couplings by using a screwdriver to turn the shaft.

2.6.3 CURRENT FEEDBACK SYSTEM



- Electrical resistance of image transfer belts varies belt to belt.
 - Current applied to the image transfer belt changes due to the variation of electrical resistance.
- The current feedback system was adopted to optimize the transfer bias. Insulated material is used for the roller [A]
- A receptacle [B2] was added to the rear side of the belt tension roller.
 - This receptacle is connected to the high voltage supply board - T1, PCC [C].
- Current flows from the high voltage supply board to receptacle [B1] to the transfer bias roller [D] then to the belt. From the belt it is transferred to the tension roller [E] then to the receptacle [B2] and finally back to the high voltage supply board.
 - The current fed back to the high voltage supply board changes because the electrical resistance of the belt varies.
 - The current applied to the belt is automatically corrected thereby applying a constant optimum transfer bias to the belt.

2.6.4 TOUCH AND RELEASE MECHANISM

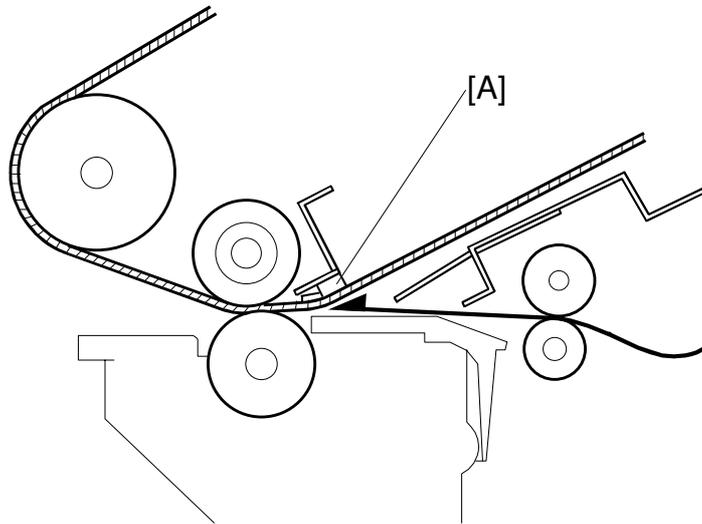


B017D594.WMF

Detailed
Descriptions

- If the image transfer belt is always in contact with the drum surface, residual voltage remains on the belt because the bias is always applied to the image transfer belt during operation.
 - Residual voltage may cause drum fatigue, resulting in darker bands on copies.
- A solenoid [A] was added to the image transfer belt unit to prevent drum fatigue.
 - The solenoid turns off between each copy job to keep the belt away from the drum.
 - The image transfer belt is in contact with the drum whenever it rotates because the drum motor drives the belt.
 - The solenoid turns off to keep the belt away from the drum 100 milliseconds after the drum motor stops between each copy job
 - It turns on again 100 milliseconds before the drum motor starts rotating to bring the belt in contact with the drum.
- When the solenoid turns off, the release bracket [B] is pulled by the spring [C].
- The bracket [B] pushes the stay [D] for the insulation roller [E] down, resulting in approximately a 1-mm clearance between the drum and belt.

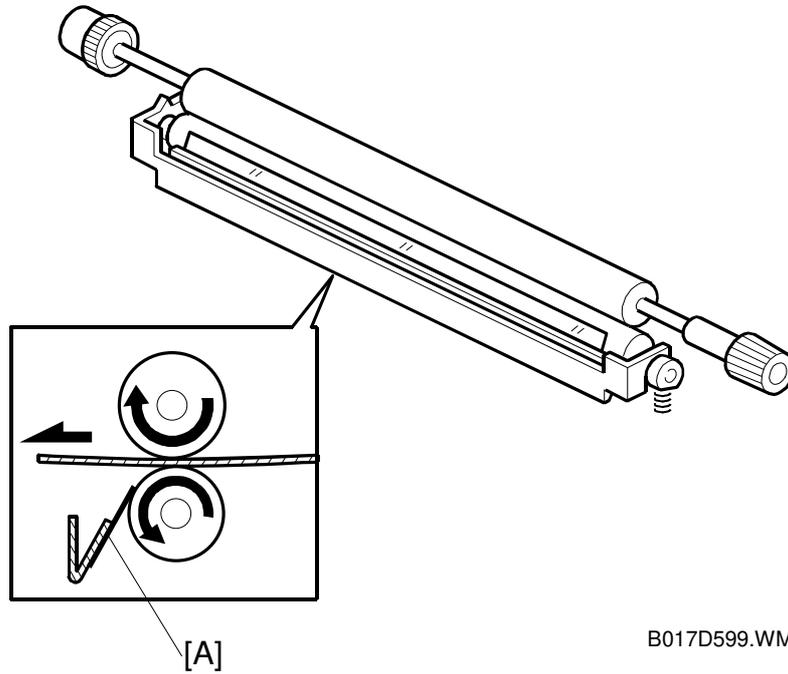
2.6.5 PAPER TRANSFER MECHANISM



B017D596.WMF

- Brush [A], in the image transfer belt unit, pushes the belt down.
 - This ensures that paper comes in contact with the image transfer belt before the electrical field affects the toner on the belt.
- High voltage applied to the paper transfer roller generates the electrical field.
 - If this field affects the toner before the paper comes in contact with the belt, toner will be scattered around the image on the paper or smeared.

2.7 REGISTRATION



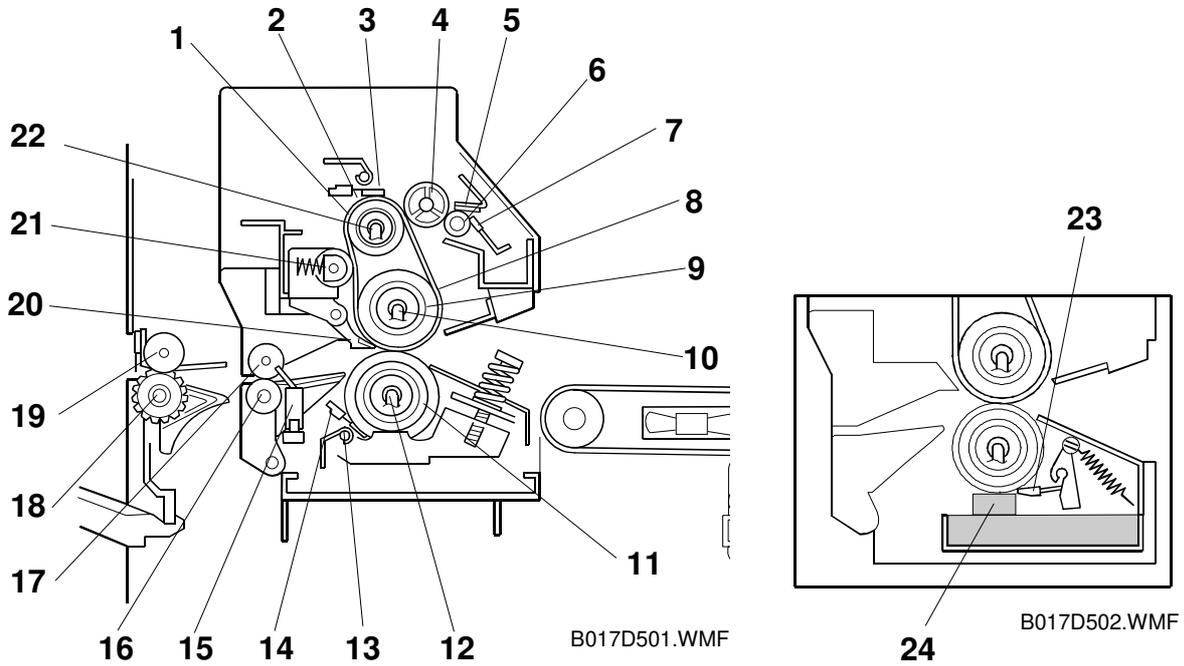
Detailed
Descriptions

B017D599.WMF

While making copies, paper dust is transferred to the paper transport section. The paper transport roller is cleaned by the cleaning blade; however, paper dust may cause cleaning efficiency to drop, resulting in the dirty backgrounds on the back side of copies. To prevent this, a cleaning scraper [A] was added to the registration roller section. The cleaning scraper removes paper dust off of the registration roller. The edge of the scraper needs to be cleaned at every PM to maintain cleaning efficiency.

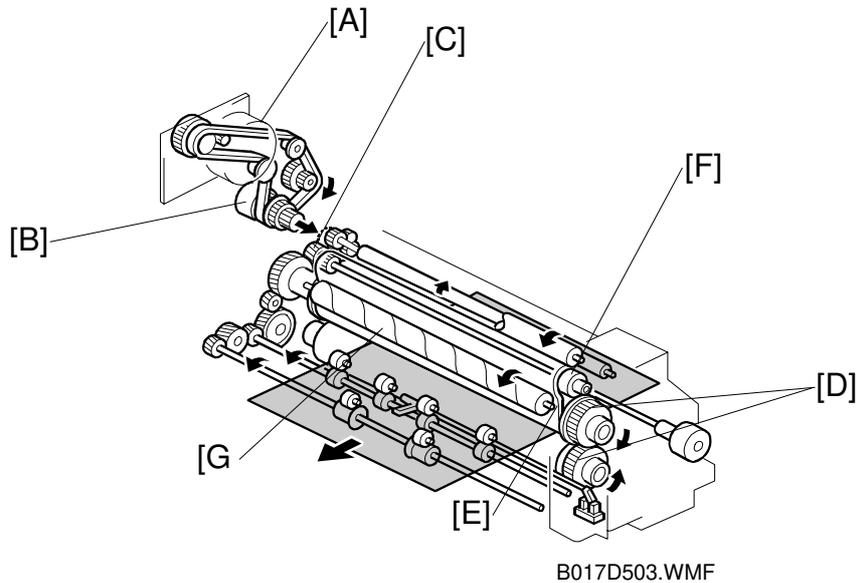
2.8 FUSING

2.8.1 MAJOR COMPONENTS



- | | |
|---------------------------------|------------------------------------|
| 1. Heat Roller | 13. Pressure Roller Thermofuse |
| 2. Heat Roller Thermostat | 14. Pressure Roller Thermistor |
| 3. Heat Roller Thermistor | 15. Paper Exit Sensor |
| 4. Oil Supply Roller | 16. Fusing Exit Roller |
| 5. Oil Supply Pad | 17. Fusing Exit Sub-Roller |
| 6. Oil Supply Sub-Roller | 18. Exit Roller |
| 7. Oil Blade | 19. Exit Sub-Roller |
| 8. Fusing Belt | 20. Pick-off Pawls |
| 9. Hot Roller | 21. Tension Roller |
| 10. Hot Roller Fusing Lamp | 22. Heat Roller Fusing Lamp |
| 11. Pressure Roller | 23. Pressure Roller Cleaning Blade |
| 12. Pressure Roller Fusing Lamp | 24. Pressure Roller Cleaning Pad |

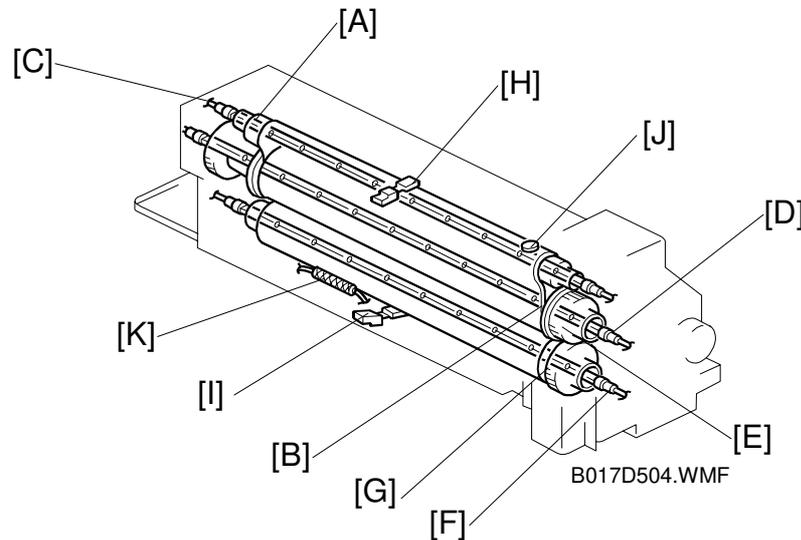
2.8.2 DRIVE MECHANISM


 Detailed
Descriptions

- The fusing motor [A] drives the fusing and paper exit units.
- The fusing clutch [B] transmits drive to the fusing drive gear [C].
- When the CPU detects that the front door is opened (by the signal from the front door switch), it turns off the clutch,
 - The clutch cuts the drive transmission from the drive gear [C].
- There are also gears [D] at the front of the hot and pressure rollers to reduce creasing.
- The friction between the fusing belt and hot roller drives the fusing belt [E].
 - The fusing belt drives the heat roller [F] using this friction.
- The tension roller [G] applies tension to the fusing belt
 - The friction from the fusing belt rotates it.
 - This roller cleans the fusing belt surface.

2.8.3 FUSING UNIT

Fusing Mechanism



- A belt fusing system was adopted to reduce the warming-up time.
 - Warming-up time is 4.5 minutes.
- The heat roller [A] is made of aluminum
- The fusing belt [B] is made of resin coated with silicone rubber.
 - The heat roller and fusing belt heat up faster because the heat conduction efficiency increased compared to the hot and pressure roller system.
- The heat, hot, and pressure rollers have a fusing lamp:
 - 500W [C] for the heat roller,
 - 150W [D] for the hot roller [E],
 - 400W [F] for the pressure roller [G].
- The heat roller thermistor [H] controls the heat and hot roller fusing lamps.
 - These two lamps turn on and off simultaneously.
 - The fusing lamp for the hot roller evenly heats the roller. This prevents uneven fusing for the 1st copy after the power is switched on.
- The pressure roller thermistor [I] controls the pressure roller fusing lamp.
- When the main switch is turned on, the fusing rollers start rotating (idling mode) after the fusing belt temperature reaches 150°C.
 - The pressure roller then absorbs the heat of the fusing belt.
 - Then, the fusing belt temperature drops from 150°C.
 - Fusing rollers stop rotating after the fusing belt temperature reaches 150°C, again.
- Temperature control is normally accomplished by turning the fusing lamps on and off (SP mode (SP1-104).
- Thermostat [J] and thermofuse [K] prevent the temperature in the fusing section from rising to dangerous levels.
 - The heat roller thermostat [J] blows at 200°C
 - The pressure roller thermofuse [K] blows at 117°C.

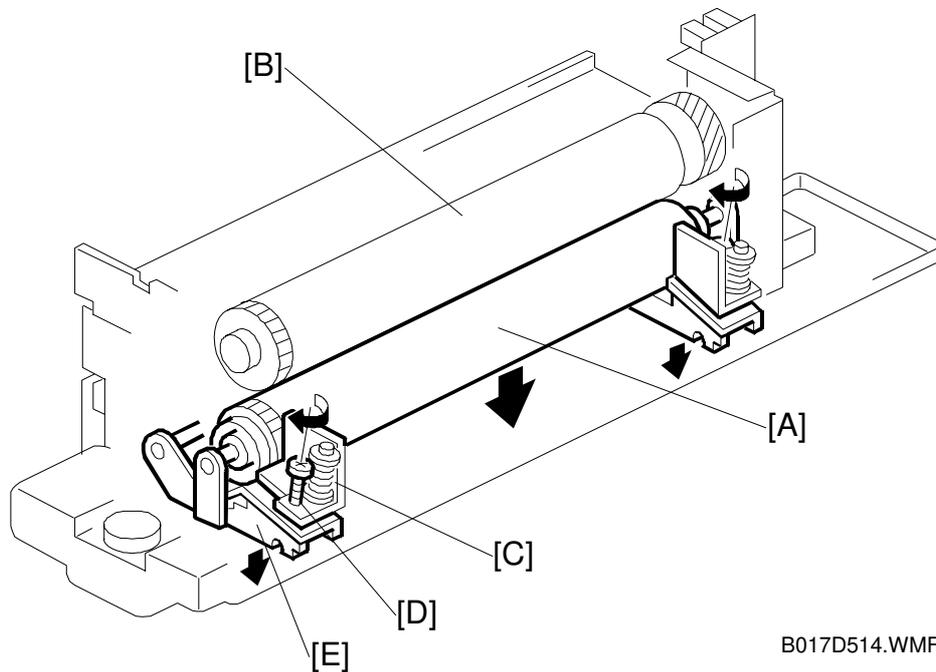
By adopting a heat roller made of aluminum, the temperature of the fusing belt increases quickly. This may cause the fusing belt temperature to rise too high before the thermofuse blows, therefore the thermostat was adopted. The thermostat is in contact with the non-image area of the fusing belt and blows at 200°C.

Fusing Temperature Control

The fusing temperature depends on the selected copy modes, as shown below. The defaults indicated in the table can be adjusted with SP modes.

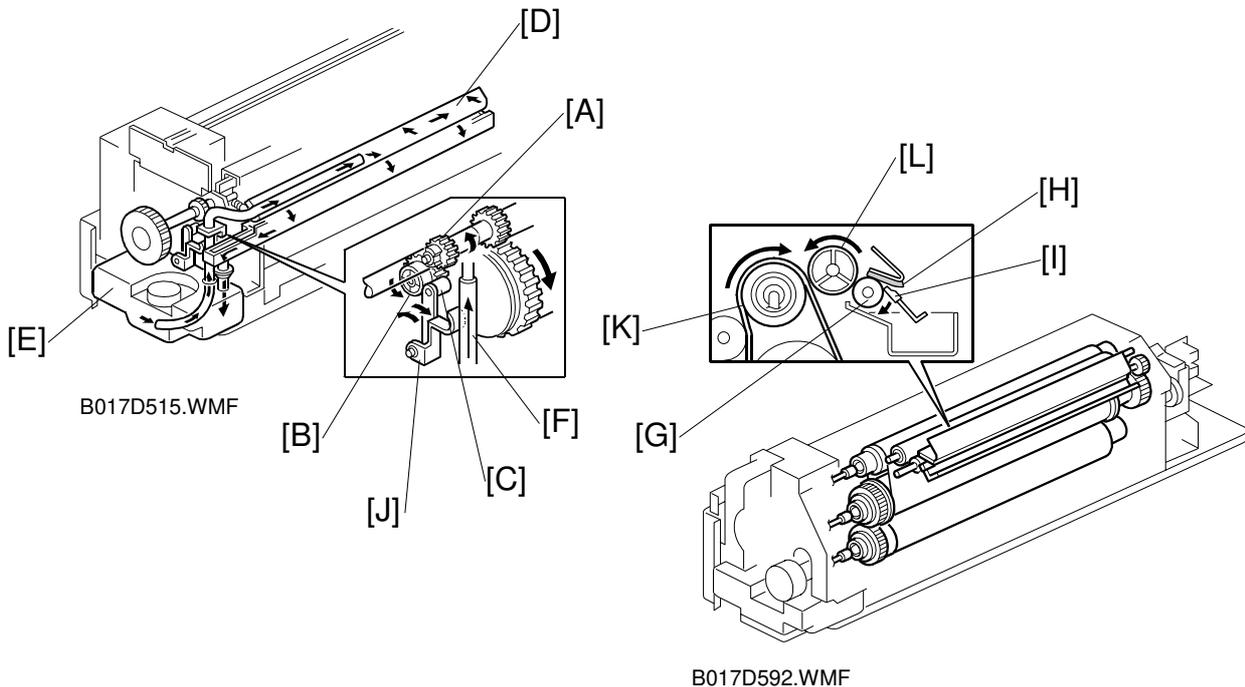
Detailed Descriptions

State/ Mode Rollers	Stand-by Mode	Copy Mode			
		Normal		OHP/Thick Paper	
		Single Color	Full Color	Single Color	Full Color
Fusing: simplex, duplex side 1	175 °C	160 °C	175 °C	150 °C	170 °C
Fusing: , duplex side 2	175 °C	160 °C	175 °C	150 °C	170 °C
Pressure: simplex, duplex side 1	150 °C	100 °C	150 °C	150 °C	
Pressure: , duplex side 2	150 °C	100 °C	150 °C	150 °C	

Fusing/Pressurization Mechanism

- The hot and pressure rollers are made from silicone.
- The oil supply mechanism makes it easier for paper to separate from the fusing belt and roller after fusing.
- Springs [C] and a bracket press the pressure roller [A] against the fusing belt and hot roller [B].
- Screwing in the pressure release screw [D] and lowering the pressure lever [E] releases the pressure between the rollers when disassembling the fusing unit.

Oil Supply Mechanism



- Gear [A] and cam gear [B], on the fusing knob shaft at the front of the fusing unit, are always engaged.
- The actuator [C] for the oil pump roller is in contact with this cam gear.
- When the fusing drive gear rotates causing the fusing knob to rotate, the gear and cam gear on the fusing knob shaft rotate.
 - This rotates the roller of the actuator following the cam about pin [J].
 - This presses the oil pump sleeve [F] to supply oil to the oil supply pad [D].
 - Excess oil is collected in the oil tank [E].
- At both ends of the oil pump sleeve [F] are valves, which prevent oil from flowing back.
- Oil is supplied to the oil sub roller [G] from the oil supply pad [H].
- The oil blade [I] prevents oil from being applied unevenly to the oil sub roller.
- Oil is then supplied to the fusing belt [K] via the oil supply roller [L].
- Capacity of the oil tank is increased from 350cc to 498cc.

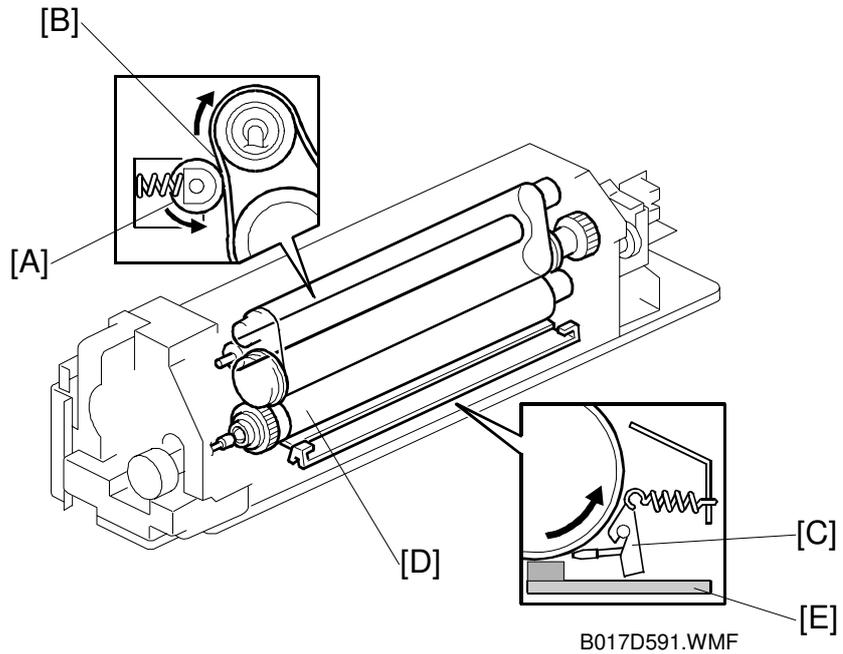


Oil End Detection

When the oil end is detected, approximately 60cc of oil are still in the tank. Since more than 1,000 copies (A3/DLT) can be made, the software is changed as follows;

When the oil end sensor detects the oil end condition, the machine displays oil near end condition. The machine displays oil end condition 1,000 copies made (regardless the paper size) after the near end condition is detected.

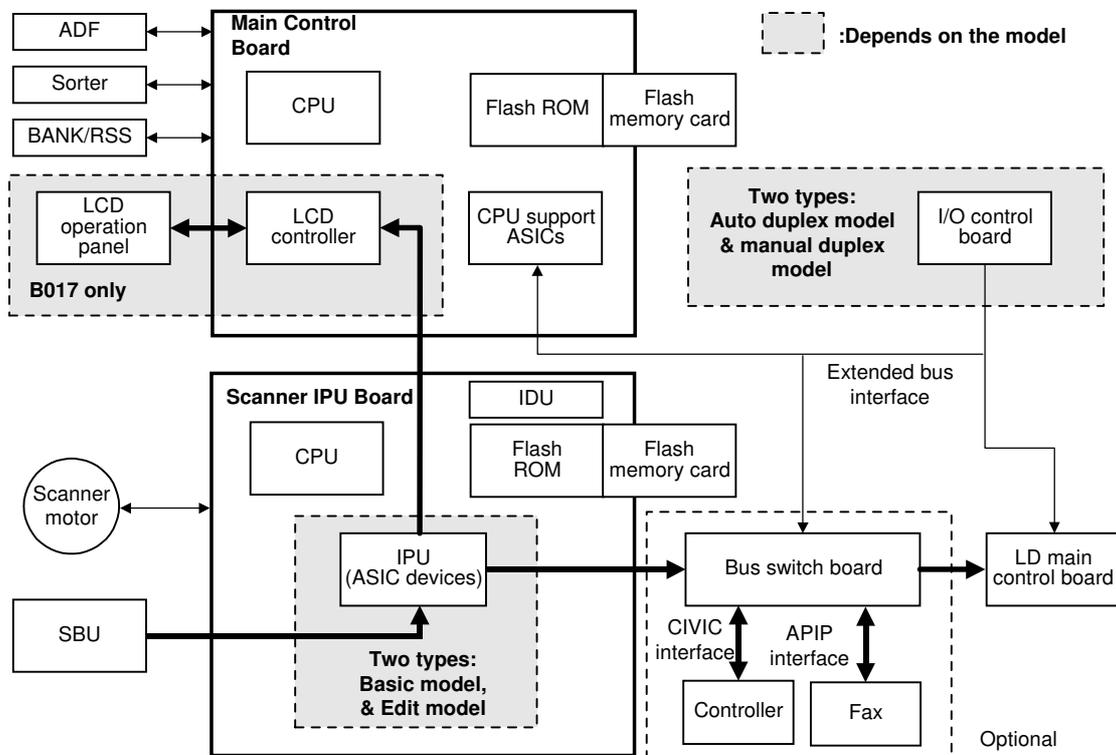
Cleaning Mechanism



- The tension roller [A] cleans the fusing belt [B].
- Toner and dust on the fusing belt adheres to the tension roller.
- The pressure roller blade [C] removes paper dust from the pressure roller [D].
- When making smaller size copies, the oil accumulates on the pressure roller outside the paper path. This may cause oil marks on outputs when making larger size copies. To prevent this, the pressure roller pad [E] is used and remove the excessive oil from the pressure roller.

2.9 OTHERS

2.9.1 SYSTEM CONFIGURATION



Detailed Descriptions

- The main control board CPU, controls the whole system by managing the:
 - Scanner
 - Operation panel
 - Printer engine
- The scanner IPU board CPU controls the:
 - Scanner motor
 - Image data processing
- Both the main control board and the scanner IPU board have flash memory.
 - This enables their programs to be replaced using a flash ROM card.
- The main control board uses the extended bus interface (CIVIC interface for controller and APIP interface for fax) to control the:
 - Printer controller
 - Fax unit

2.9.2 POWER STATES

This machine has three types of energy saver mode:

- 1) Energy saver mode
- 2) Power-off (sleep) state (called 'AOF, Auto Off mode' in the operation instructions)
- 3) Night mode (copier/printer, copier/fax, copier/printer/fax configurations only)

Energy Saver Mode

In energy saver mode, all indicators on the operation panel, except the Main Power indicator and the LED on the Energy Saver key, are turned off. Three energy saver levels are available as shown in the following table. The energy saver level can be selected in User Tools (Default: Level 1).

Level	Warming-up time required	Energy Save	Fusing control
Level 1	0 seconds	3 %	Indicators on operation panel turn off.
Level 2	60 seconds	25%	Heat roller temperature drops by 120°C.
Level 3	120 seconds	50%	Heat roller temperature drops by 120°C and pressure roller temperature drops by 70°C.

Power-off (Sleep) State (AOF mode)

The power-off state of this copier conforms to the International Energy Star standard (sleep mode). Of the DC outputs (VAA, VCA, VCB, VCC1, and VCC2) from the PSU, only VCC1 is turned on; all of the other outputs are off. In this state, power is applied only to the main control board and the operation switch, so that the machine can detect when the operation switch is pressed. In this state, the fusing lamps are off.

When the main board detects that the operation switch was pressed, the machine goes back to standby mode.

Night mode

The machine enters night mode when one of the following is done.

- The operation switch is pressed to turn the power off
- The auto off timer settings expire (the operation switch is then turned off)

If the machine is in one or more of the following conditions, the machine enters night stand-by mode. If not, the machine enters night mode (same as Power-off state). The machine does not enter either night stand-by mode or night mode if the machine is not in the stand-by mode (ex. service calls, error messages, paper misfeeds, open covers, or if the optional handset is in use).

- G4 option is installed.
- Hard disk is installed.
- The data is stored in the memory.
- The machine is in memory transmission or polling reception
- Bit 1 of System Switch 15 is set to "1". (This setting disables night mode.)

Night stand-by mode

DC output is supplied to all components. To save energy, the fusing lamps and all fans except for the IPU cooling fan are all off.

Night mode (same as Power-off state)

Only VCC1 is turned on; all other output is off. When the machine detects a ringing or off-hook signal, it returns to night stand-by mode and DC output is supplied. The machine then receives the incoming message and prints it.

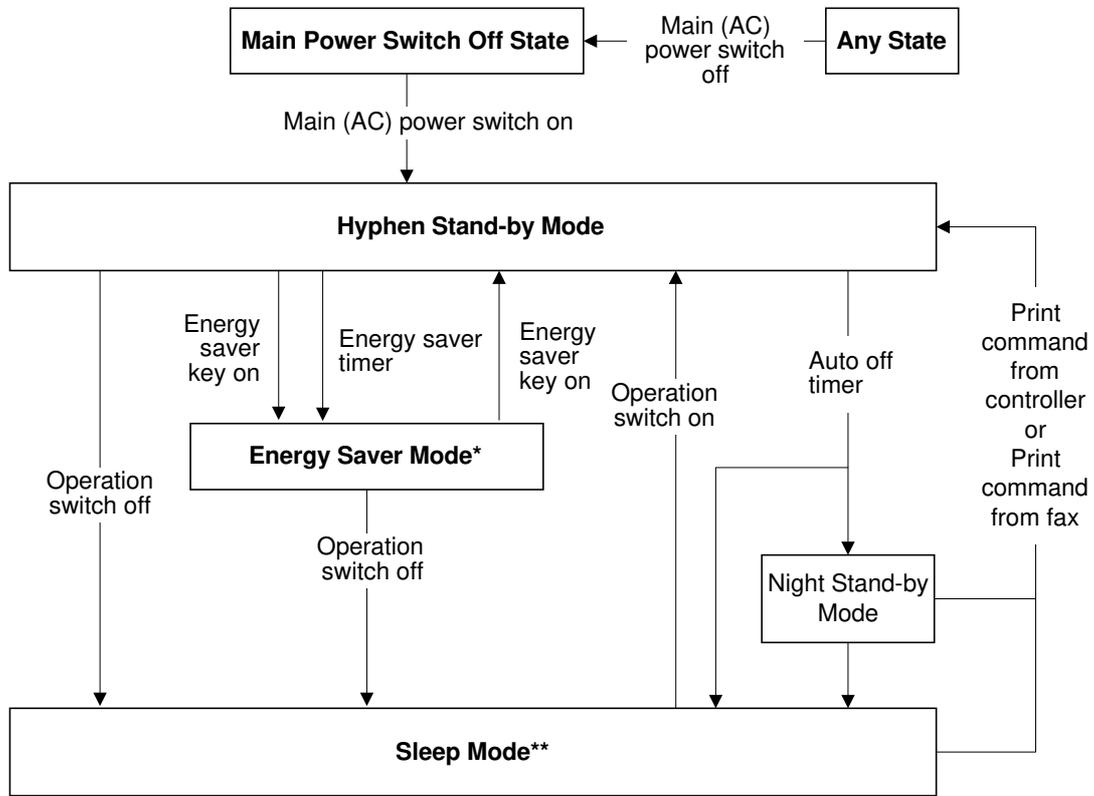
Main Power Switch Off State

When the main power switch is off, all power is shut off except the following heaters, which are always on whenever the power cord is connected to the outlet.

- Optics anti-condensation heater
- Transfer belt heater
- Paper transfer unit heater

Power State Transition Diagram

The following diagram shows the conditions in which the machine changes from one state to another.

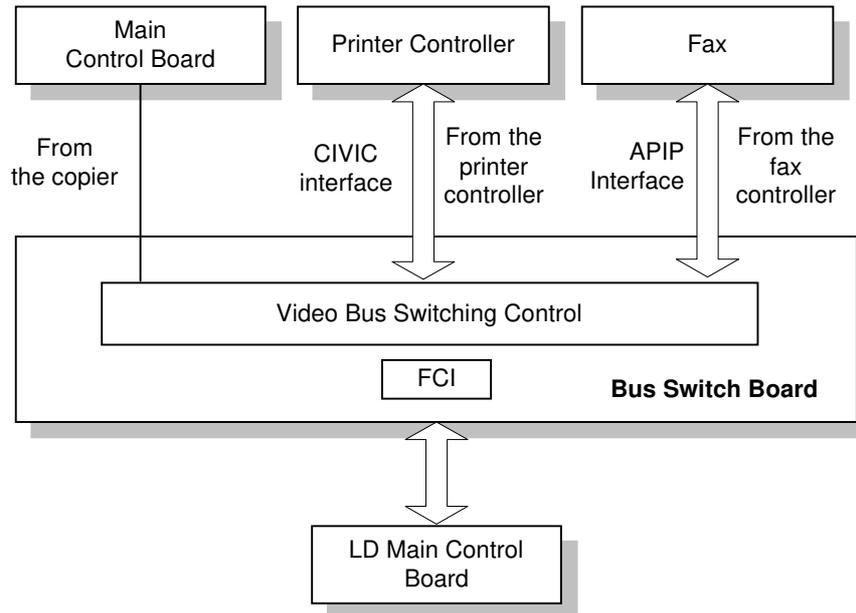


*: LCD panel off mode
 **: Power lines are cut except for 5V line

B017D511.WMF

The timers can be programmed by user.

2.9.3 BUS SWITCH BOARD (OPTIONAL)



B017D512.WMF

Detailed
Descriptions

- The printer controller is an option for this copier.
- The bus switchboard interfaces the copier with the controller.
 - The CIVIC interface between the controller unit and the bus switchboard transfers image data on an 8-bits/pixel basis for each color.
 - The APIP interface between the fax unit and the bus switch board transfers image data on 2-bits/pixel basis for B&W.
- The FCI (Fine Character and Image) chip performs image smoothing and line correction only in the fax mode.
 - When the user selects smoothing, the FCI converts the image data (8 bits) to 7 bits of image and 1 bit of pixel positioning data.
 - This simulates 1200 dpi resolution across the page.

3. INSTALLATION PROCEDURE (B017/018)

3.1 INSTALLATION REQUIREMENTS

⚠ CAUTION
Rating Voltages for Peripherals

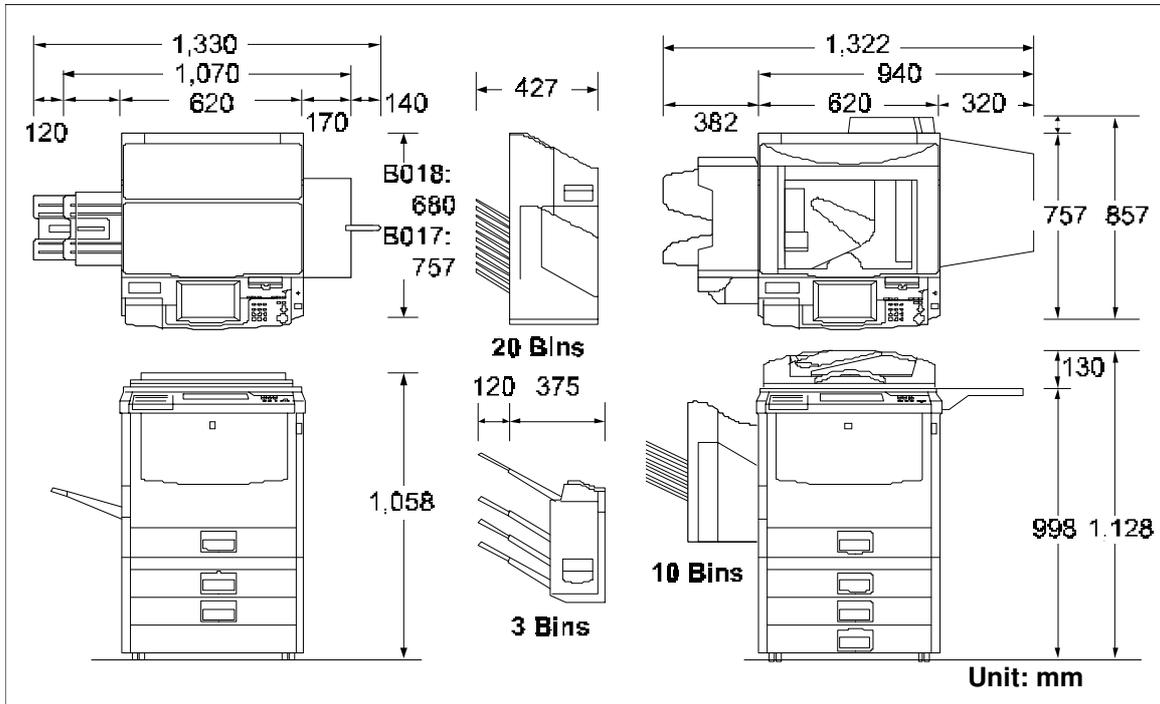
The diagram shows the rear panel of a printer with four callout boxes pointing to specific ports:

- ARDF**: "Rating Voltage of Output Connector; Max. DC 24 V"
- CONTROLLER INTERFACE**: "Rating Voltage of Output Connector; Max. AC 120 V (N. America) Max. AC 240 V (Europe/Asia) Max. AC110 V (Taiwan)"
- SORTER**: "Rating Voltage of Output Connector Max. DC 24 V"
- PAPER TRAY UNIT**: "Rating Voltage of Output Connector; Max. AC 120 V (N. America) Max. AC 240 V (Europe/Asia) Max. AC 110 V (Taiwan)'"

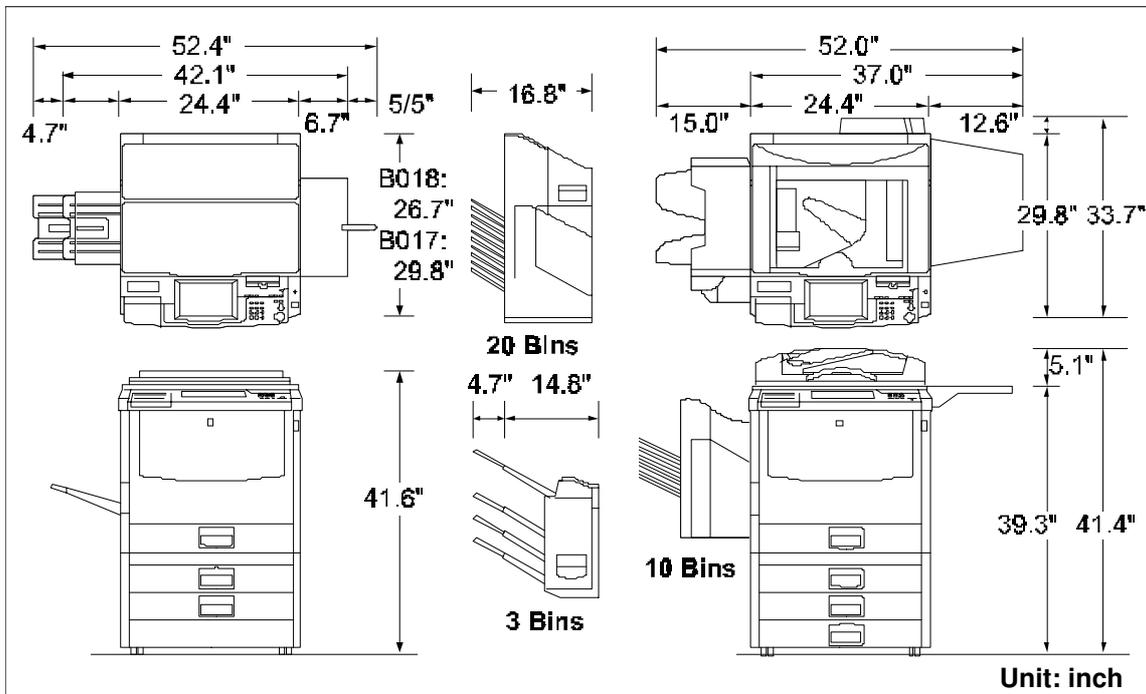
B017I591.WMF

Installation

3.1.1 DIMENSIONS



B0171122.WMF



B0171121.WMF

3.1.2 ENVIRONMENTAL REQUIREMENTS

To ensure the optimum copy quality, the following environmental requirements need to be observed. When installing this copier at the customer site, make sure that the location meets these requirements.

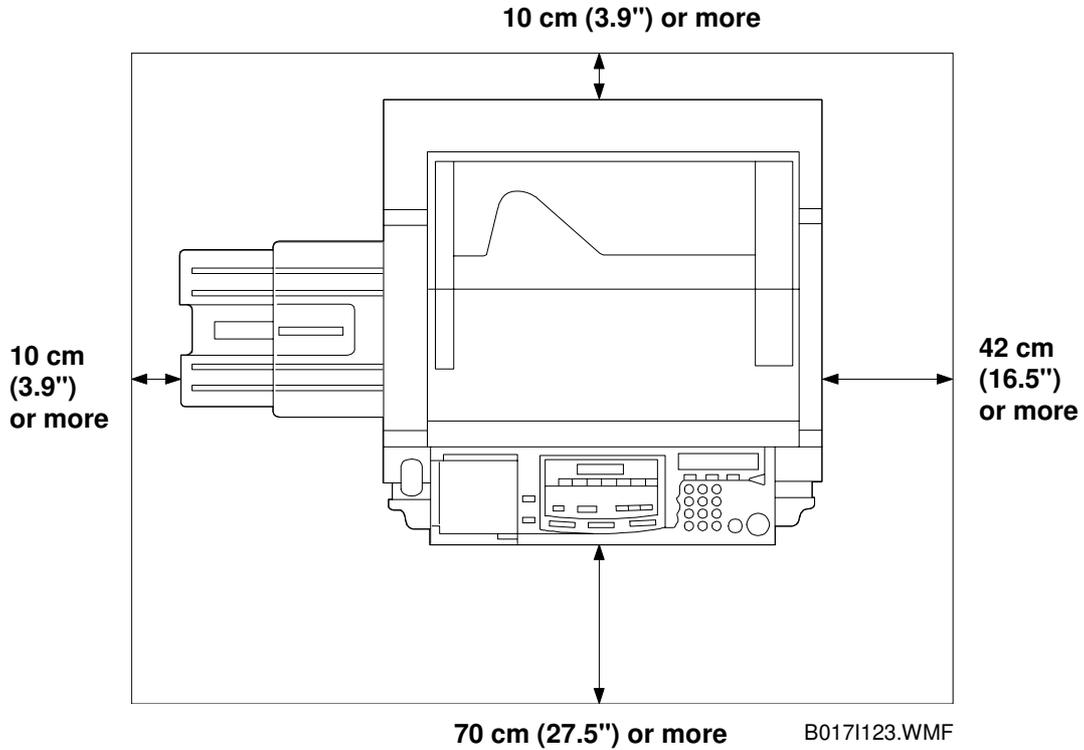
1. Avoid an area which is exposed to direct sunlight or is excessively illuminated (Illumination should not exceed 2000 lux.).
2. Avoid areas that are too hot and humid or too cold and dry.
Standard temperature range: 10°C to 32°C
Standard humidity range: 15% to 80%
3. Avoid areas near fire or heat.
4. Avoid areas that are exposed to sudden temperature changes. This includes areas where the machine will be directly exposed to:
 - 1) Cool air from an air conditioner
 - 2) Heat from a heater.
5. Avoid dusty areas (maximum allowable amount of dust: 0.10 mg/m³).
6. Avoid a poorly-ventilated area (required minimum ventilation: 30 m³/hr/man)
7. Do not place the machine where it will be exposed to corrosive gases.
8. Place the machine on a level floor (the inclination on any side should be no more than 5 mm).
9. Do not place the machine where it may be subjected to strong vibrations.
10. Do not install the machine at any location over 2,000 m (6,500 feet) above sea level.
11. If the machine is installed close to other electronic equipment, they may interfere with each other. To avoid this problem:
 - 1) Keep the machine as far away as possible from television sets or radios.
 - 2) Reorient the receiving antenna of television sets and radios as needed.
 - 3) Use a separate outlet for the machine.

⚠ CAUTION

- 1. Do not install the machine in a very humid or dusty area.**
- 2. Do not install the machine on a rickety or inclined floor.**
- 3. Completely pull out and hold all four handles when moving the machine. If the handles are not fully pulled out, or if you hold other parts of the machine, your fingers may be caught in the machine and get seriously hurt.**
- 4. Do not lift the B017 copier by grasping the operation panel; it may be damaged.**
- 5. When installing the optional paper tray unit, lock the caster wheels. If this is not done, the paper tray unit may fall and hurt someone.**
- 6. When moving the machine after installing the paper tray unit, do not apply force to the upper part of the machine. The copier may fall off the paper tray unit.**

3.1.3 MINIMUM SPACE REQUIREMENTS

Provide clearance for the copier, as shown below. If one or more options (such as the ADF or sorter stapler) are added to the copier, this clearance should be provided around the entire system.



Installation

NOTE: A space of at least 10 cm (3.9") at the rear of the machine is important for machine ventilation.

3.1.4 POWER REQUIREMENTS

⚠ WARNING

- 1. Install the machine as close to the outlet as possible. Firmly plug in the machine after installation.**
- 2. Avoid multi-wiring.**
- 3. The power cord should be placed where it cannot be stepped on or flattened by the machine. When installing the machine, route the power cord out of the way of general traffic.**
- 4. Be sure to connect the power cord's grounding wire.**

1. Input voltage level:
 - US Model: 120 V, 60 Hz: More than 12 A
 - Europe/Asia Model: 220 V to 240 V, 50/60 Hz: More than 8 A
 - Taiwan Model: 110 V, 60 Hz: More than 12 A
2. Permissible voltage fluctuation: $\pm 10\%$
3. Do not set anything on the power cord.

3.2 COPIER INSTALLATION

3.2.1 ACCESSORY CHECK

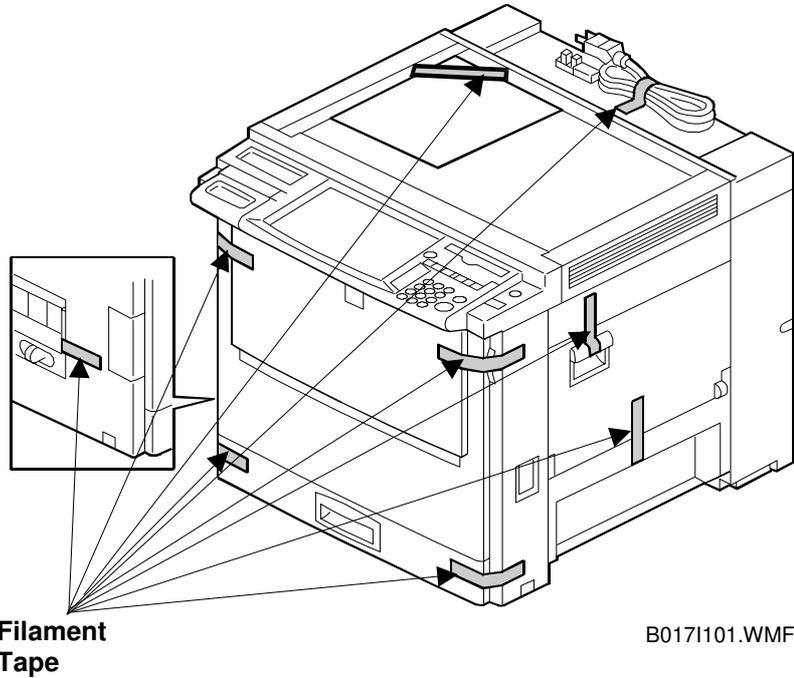
Check the quantity and condition of the accessories in the box with the following list:

Description	Q'ty
1. Paper Size Decal	1
2. Operating Instructions (not -26/-27 machines)	1
3. Quick Guide (not -26/-27 machines)	1
4. New Equipment Condition Report (-17, -19, -27, -29 machines only).....	1
5. User Survey Card (-17 machines only)	1
6. Exit Tray	1
7. Holder for Operating Instructions	1
8. Logging Data Sheet	1
9. Instruction Procedure Sheet (Prevention against counterfeiting)	1
10. Favorite Key Decal (B018 only)	1
11. Precaution Decal (not -26/-27 machines)	1
12. Screw Driver (B018 only) (Keep in the paper tray)	1
13. Toner Replacement Tool	1



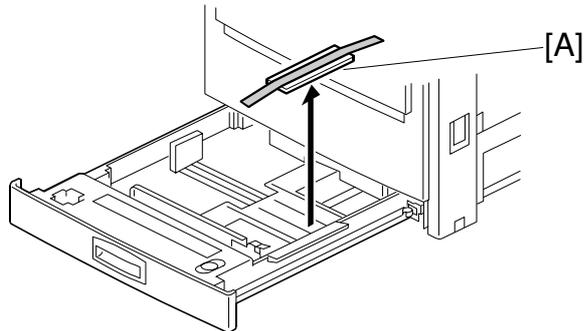
3.2.2 COPIER INSTALLATION PROCEDURE

Tape Removal



1. Remove the strips of filament tape indicated in the above diagram.

– B018 only –

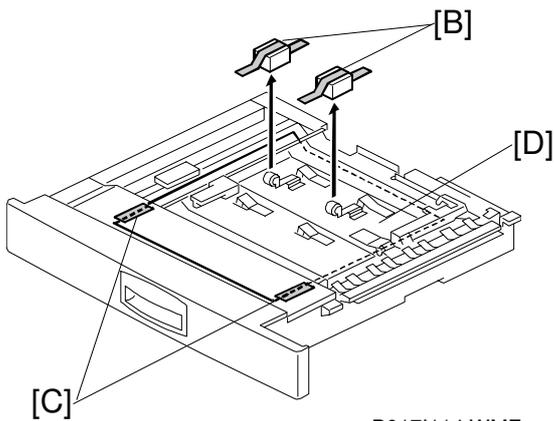


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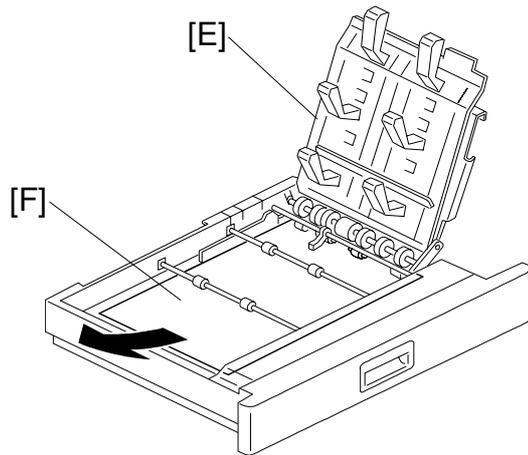
1. Remove the clamping materials [A] from the paper tray.

Installation

– B017 only –



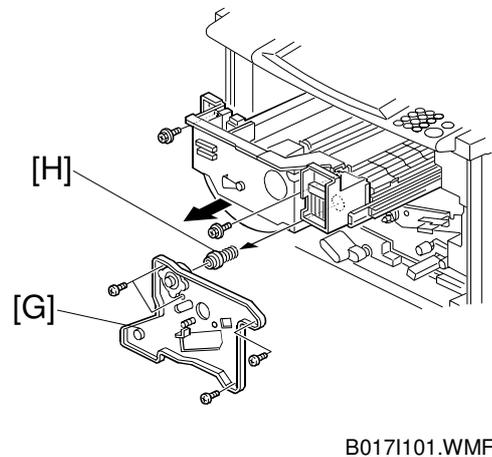
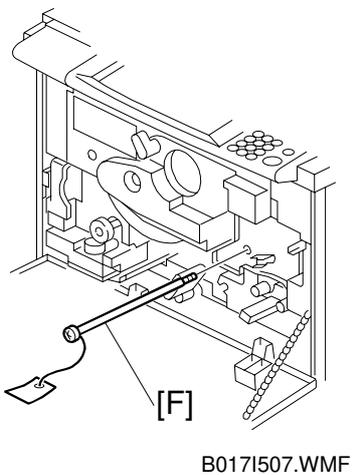
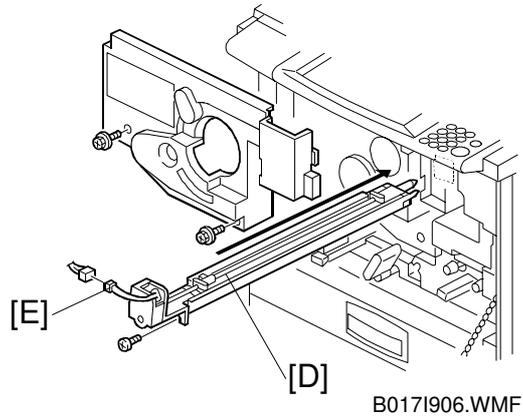
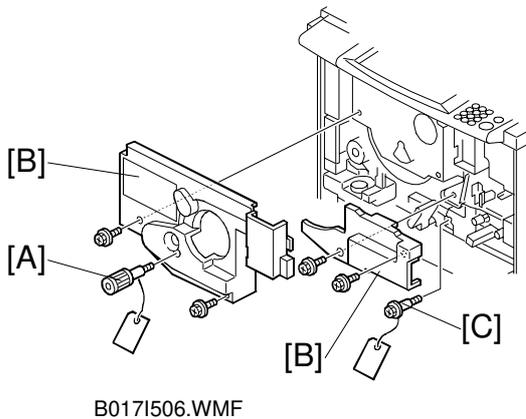
B0171114.WMF



B0171502.WMF

1. Remove the protectors [B] from the metal rollers.
2. Peel off the two pieces of filament tape [C] from the duplex unit and remove the protective sheet [D].
3. While lifting the lower guide plate [E] on the duplex unit, take out the protective sheet [F].

Removing the Inner Transfer Cover and Paper Transfer Locking Screw



NOTE: Place a mat on the floor to keep the floor clean before doing this procedure.

1. Open the front cover and remove the filament tapes and cardboard placed at the paper transport unit.

2. Remove the revolver locking screw [A] and the inner covers [B] (2 screws each).

NOTE: Secure screw [A] on the drawer unit front frame for transportation.

3. Remove the paper transfer locking screw [C].

NOTE: Keep screw [C] for transportation.

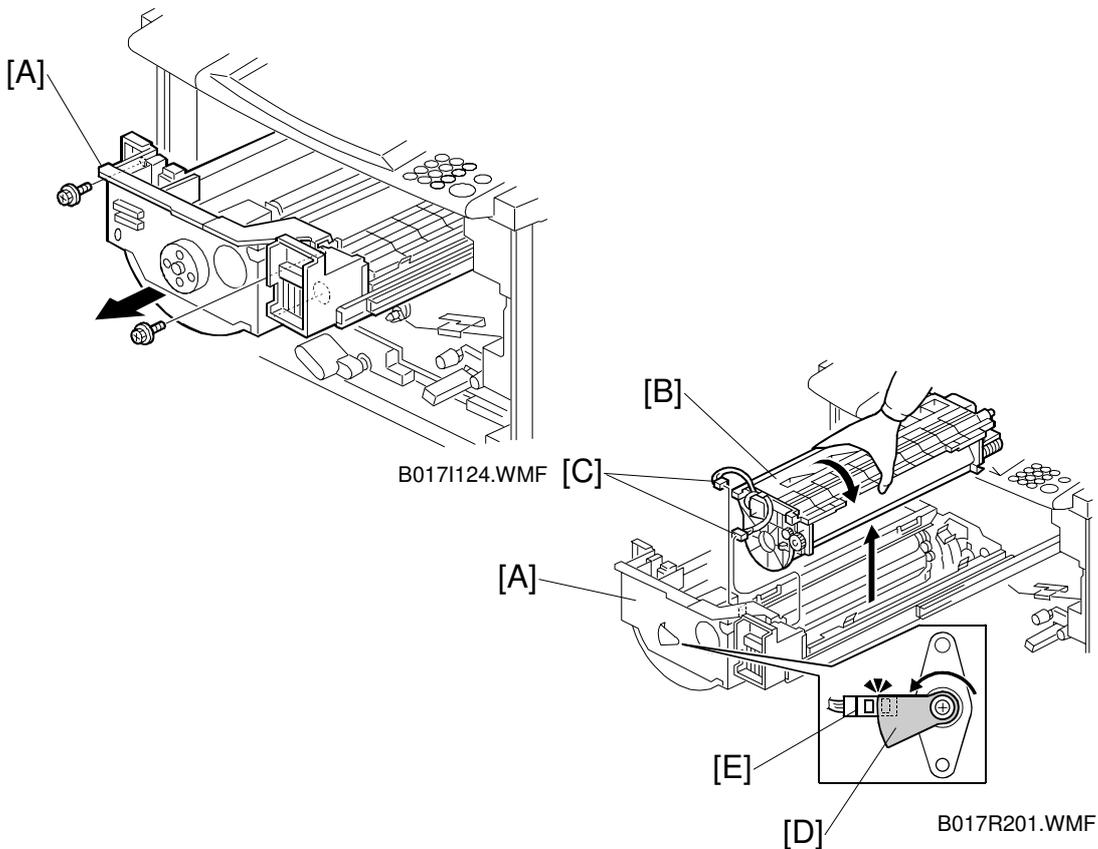
4. Remove the charge coronal unit [D] (1 screw, 1 connector [E], and clamp).

5. Remove the transfer belt lock shaft [F] (1 screw).

NOTE: Keep shaft [F] for transportation.

6. Remove the transfer belt stay [G] (4 screws and spring holder [H]).

NOTE: The spring holder will drop out when the drawer unit is pulled out if you forget to remove it in this step.

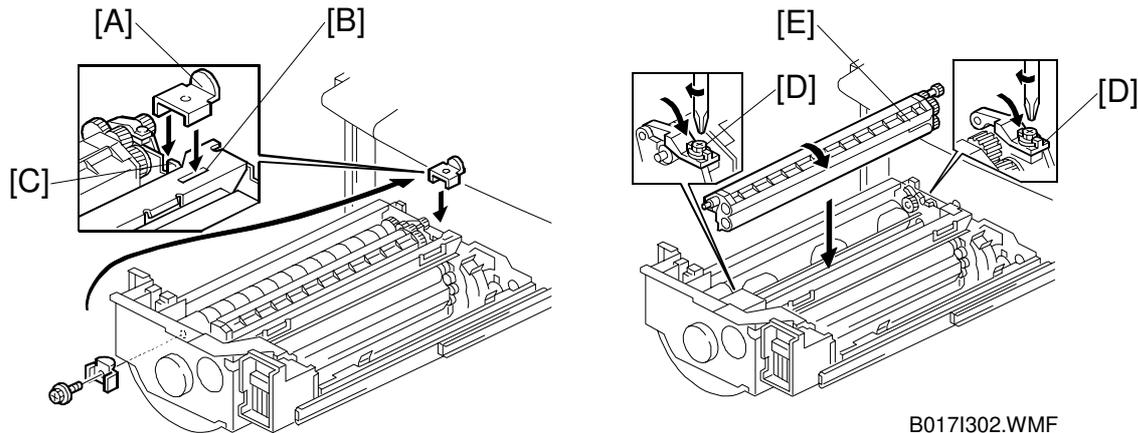


Installation

- NOTE:**
- 1) When the drawer unit [A] is left out, the drum is exposed to light. This may cause optical fatigue, resulting in dark bands. Therefore, after pulling out the drawer unit, remove the drum unit [B] (2 connectors [C]) and cover it with a black sheet or 5 (or more) white sheets of paper.
 - 2) Before removing or installing the drum unit, rotate the drawer unit counterclockwise so that the upper edge of sensor actuator [D] aligns the sensor [E] as shown. This keeps the development sleeve away from the development position and prevents drum damage.
 - 3) The revolver unit rotates counterclockwise. Do NOT try to turn it in the other direction.

7. Rotate the sensor actuator [D] so that the upper edge of the sensor actuator aligns the sensor as shown.
8. Pull out the drawer unit [A] (2 screws), and remove the drum unit [B] (2 connectors [C]). Then, place a black sheet or 5 white sheets of paper on the drum.



Developer Installation

B0171301.WMF

B0171302.WMF

1. Remove the revolver stopper [A] from its storage place in the drawer unit (1 screw) and put it in the rear hole [B] in the revolver side panel and in the notch [C] on the drawer unit stay.

⚠ CAUTION

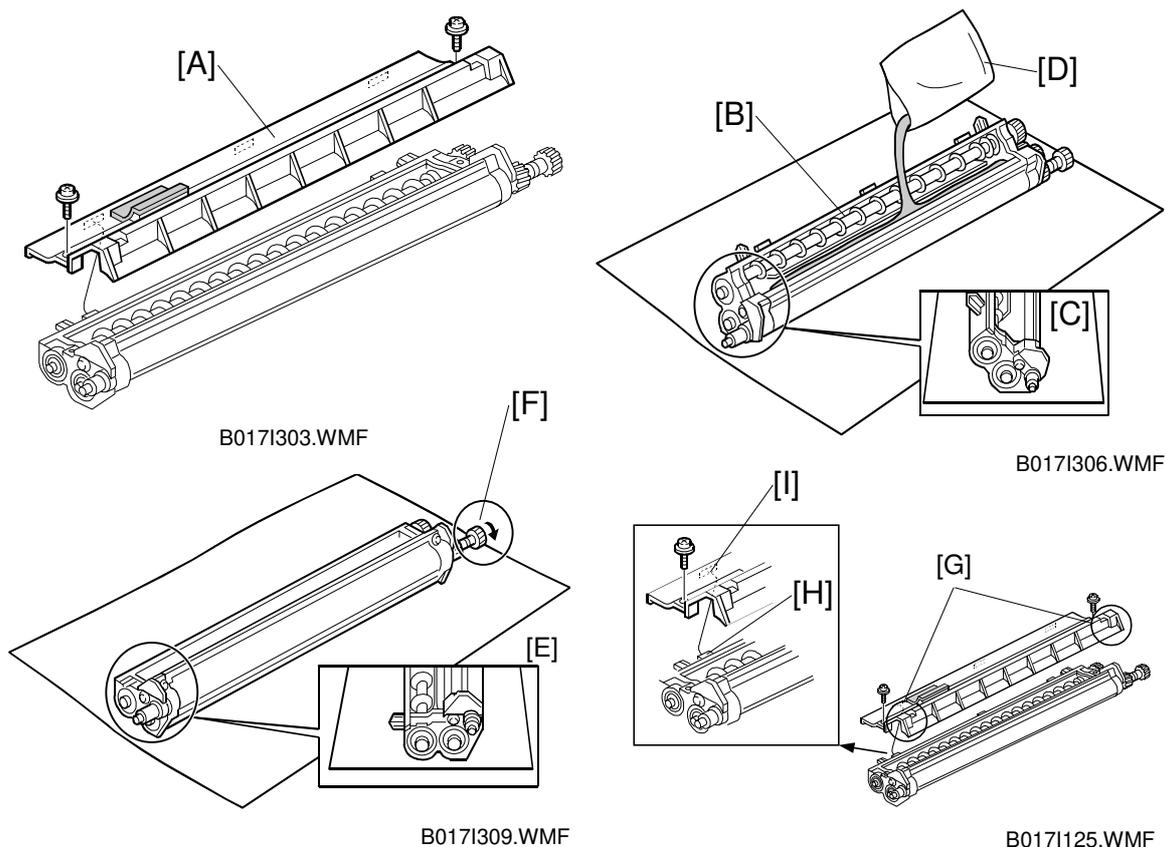
If you do not install the revolver stopper before removing the development unit, the revolver may rotate, causing permanent damage to the development unit or its holder.

2. Open the locks [D] at both ends of the development unit [E] (1 screw each) and remove the development unit [E].

NOTE: When attaching and detaching the development unit, be sure to turn it in the direction shown in the diagram. Turning the development unit in the wrong direction may cause developer to spill from the toner hopper.

⚠ CAUTION

Remove the development units one color at a time (never remove two or more development units from the revolver at the same time). Removing two or more development units at the same time may upset the balance of the revolver. This will cause the revolver to revolve by itself and personal injury may occur.

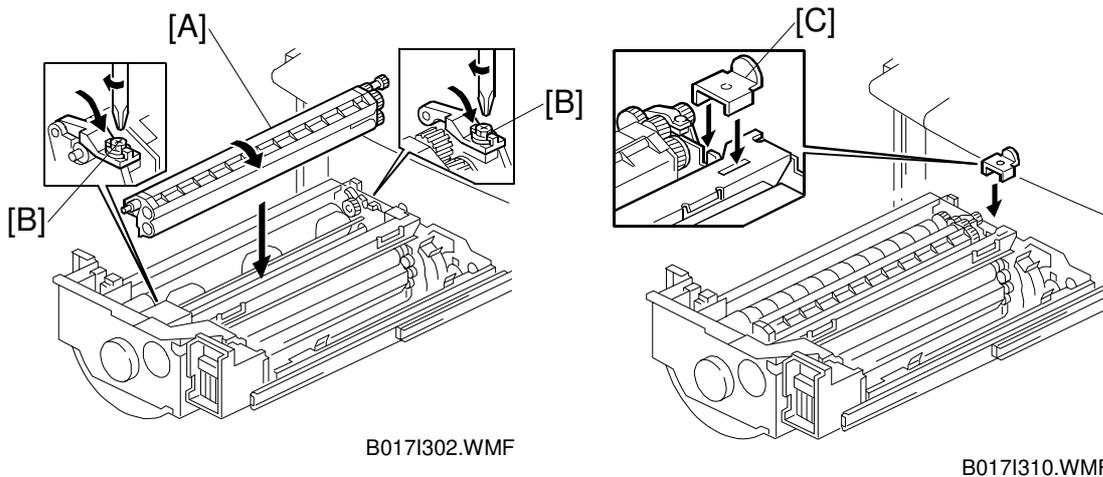


3. Place the development unit on a flat, level surface, and remove the developer cover [A] (2 screws).
4. Place the development unit [B] in the developer installation position [C] and pour in 1 bag (380 g) of developer [D].

NOTE: Pour developer into the auger from the development roller side. This speeds the agitation of the developer and prepares it for use more quickly.

5. Place the development unit in the developer scoop-up position [E], rotate the sleeve in the forward direction [F] to scoop up developer, then check that the roller is evenly coated with developer from front to rear.
6. Set the developer cover by pressing both sides [G] and make sure that the projections [H] are properly set into the 3 cutouts [I] on the development unit; then, affix the cover (2 screws).

NOTE: Make sure that the developer brush on the roller enters the development unit properly in this step. If the development unit is not placed on a flat surface while pouring developer, the development unit may be bent. This may cause developer to spill out. If this happens, the developer should be removed and placed on a clean sheet of paper, then poured back into the unit.



7. Put the development unit [A] in the drawer unit (2 lock screws [B]).

⚠ CAUTION

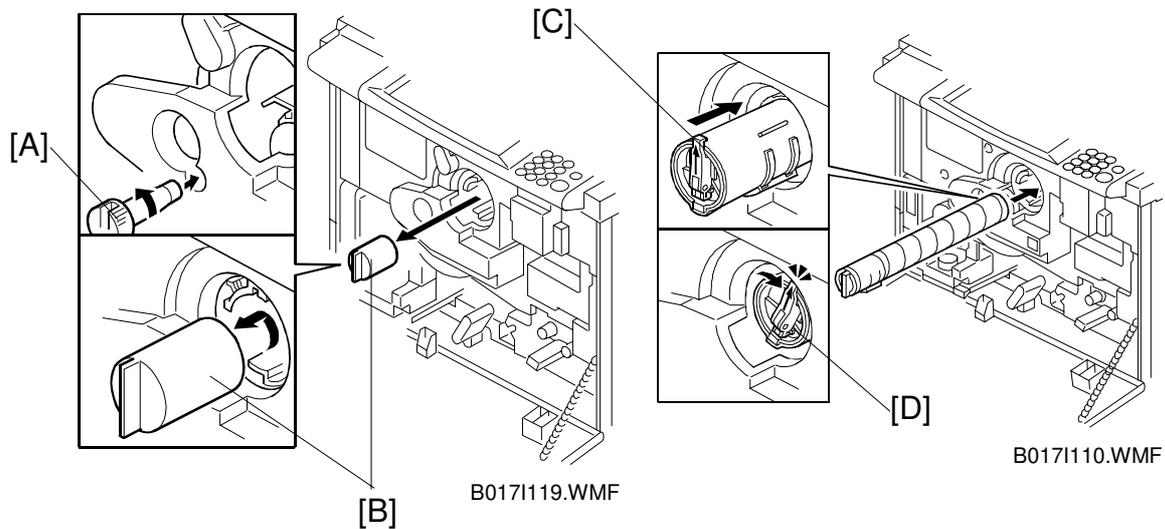
1. When replacing the developer cover, do not apply excessive force to the center of the development unit. The doctor gap will bend, altering the developer scooping efficiency.
2. Make sure that the developer locks (front and rear) are secured with screws before rotating the revolver. This protects the developer assembly and locks from damage.
3. Tighten the developer lock screws firmly. Loose lock screws will cause the PG (Photoconductor Gap) to fluctuate.

8. Remove the revolver stopper [C], rotate the revolver to the next color, then follow the developer installation procedure from step 1.

NOTE: The revolver unit rotates counterclockwise. Do NOT try to turn it in the other direction.

⚠ CAUTION

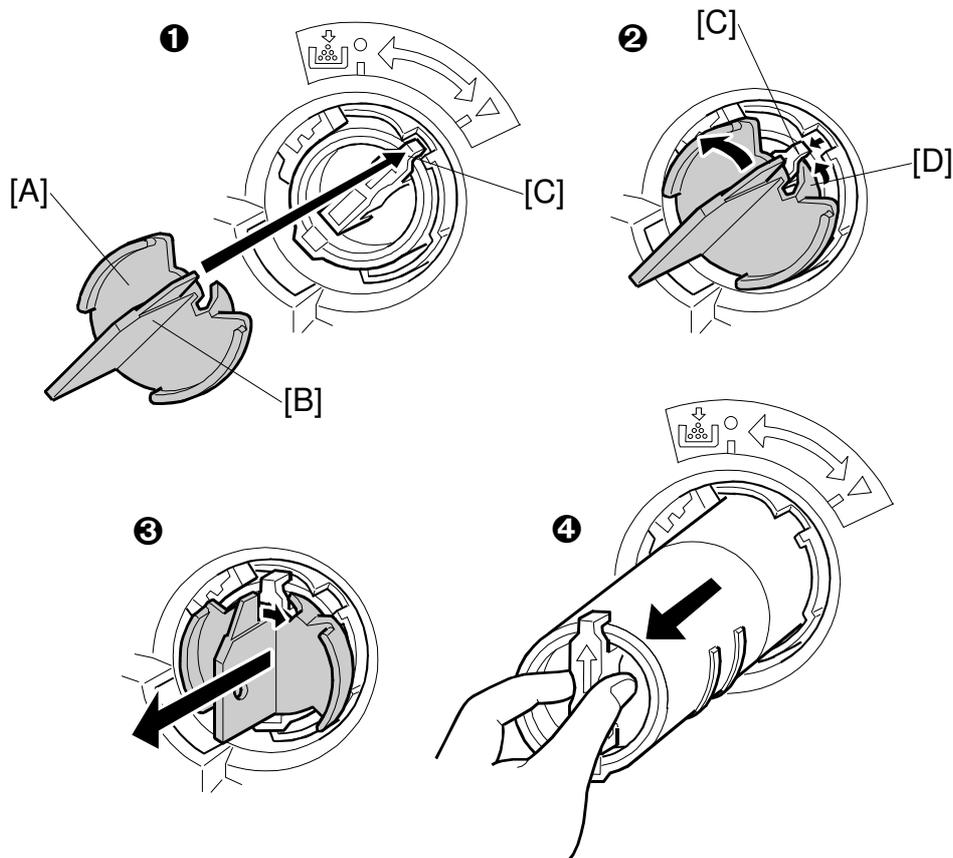
If you do not install the revolver stopper before removing the development unit, the revolver may rotate, causing permanent damage to the development unit or its holder.



9. After all the color developers have been installed, return the revolver stopper to the front stay of the drawer unit.
 10. Rotate the sensor actuator as explained in step 7; then, reinstall the drum unit (2 connectors).

NOTE: Do not forget to reconnect 2 connectors. If the connectors are not connected, SC code or error code occurs during process control or developer initial setting.
 11. Set the drawer unit (2 screws).
 12. Rotate the revolver unit until the cartridge replacement position with the provided screwdriver tool [A]. This tool is at the front of the paper tray (B018) or in the carton (B017).
 13. Remove the dummy toner cap [B].
 14. Hold the new toner cartridge horizontally and shake it 5 or 6 times.
 15. Remove the seal on the toner cartridge [C].
 16. Insert the toner cartridge with the “↑” mark pointing up.
 17. Turn the knob clockwise [D] to the “▲” mark until it clicks.

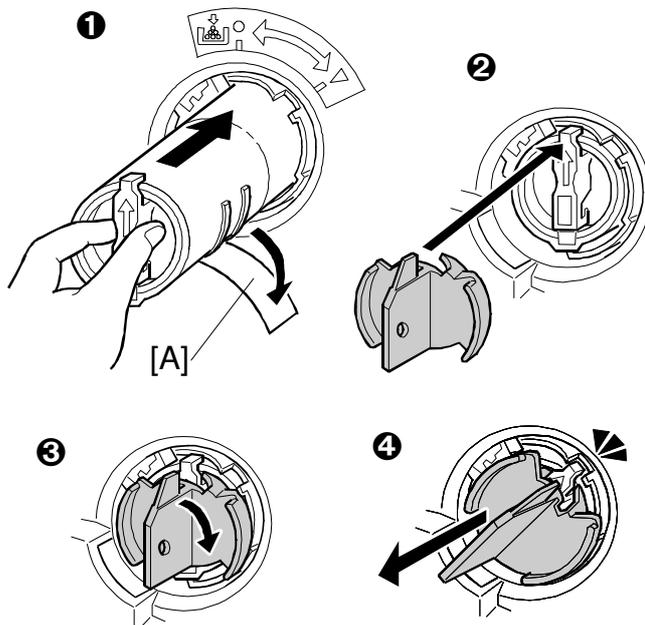
NOTE: To make the toner replenishment procedure easier, a toner replacement tool is enclosed as an accessory. Refer to “Toner Replenishment Procedure” (next page) for ‘how to use this tool’ and instruct users.
 18. Repeat steps 12 to 17 for all colors.
- NOTE:** 1) Do NOT rotate the revolver unit between removing the dummy toner cap and installing the toner cartridge. Otherwise, toner will spill out from the toner hopper.
 2) The revolver unit rotates counterclockwise. Do NOT try to turn it in the other direction.

Toner Replenishment Procedure

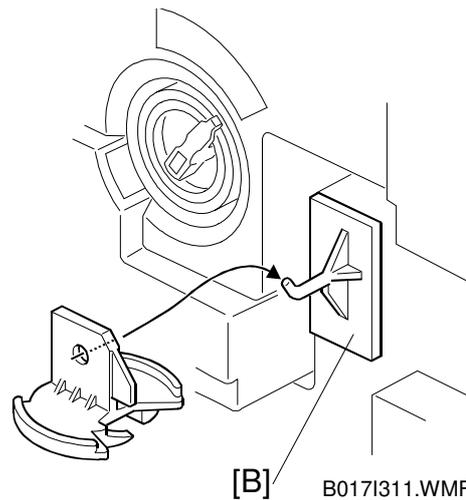
B0171313.WMF

Toner cartridge removal:

1. Set the toner replacement tool [A] in the toner cartridge (1) so that a portion [B] of the tool aligns the knob [C] for the cartridge.
2. Turn the tool counterclockwise (2). The hook [D] for the tool automatically releases the knob from the lock position.
3. Turn the tool clockwise slightly so to keep it away from the toner cartridge knob; then, remove the tool from the cartridge (3).
NOTE: Only the hook holds the knob, therefore an excessive load is applied to the knob if the toner cartridge is pulled out using the tool. This may cause the end part of knob to bend. If the deformed toner cartridge is put back in the machine, it may cause SC361.
4. Pull the toner cartridge out from the machine (4).



B017I312.WMF



[B] B017I311.WMF

Installation

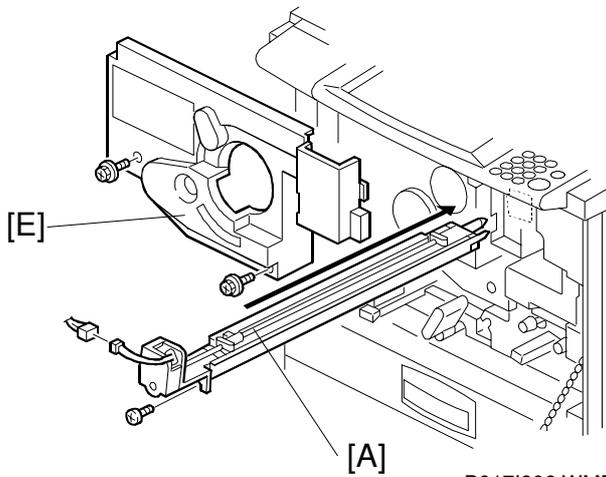
Toner cartridge set:

1. Set the toner cartridge in the machine after removing the seal [A] (❶).
2. Place the tool onto the cartridge after the cartridge is fully inserted (❷).
3. Turn the tool clockwise (❸) and remove it after the knob clicks (❹).

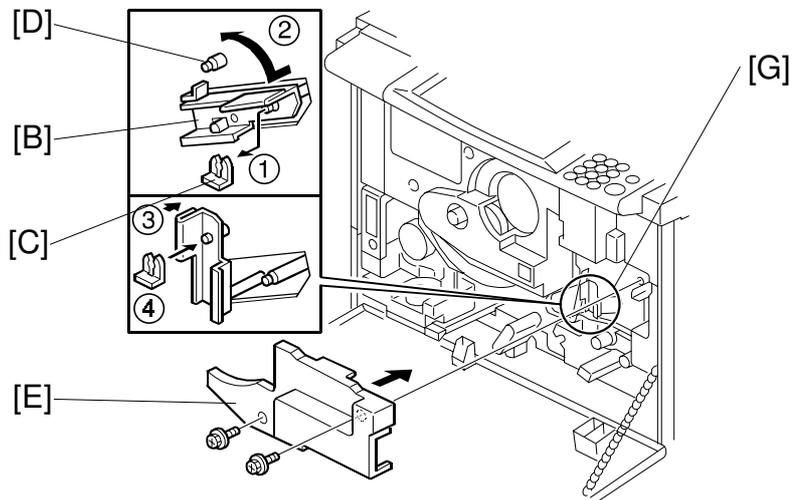
After toner cartridge is replaced, hook the toner replacement tool on the hunger [B] attached to the lower inner cover.



Pressure Release Lever Set-up



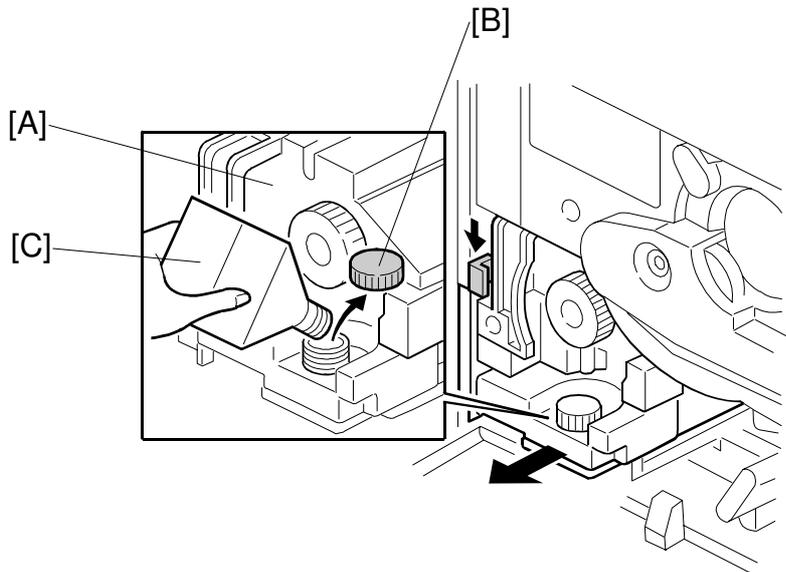
B0171906.WMF



B0171104.WMF

1. Install the charge corona unit [A] (1 screw, 1 connector, and clamp).
2. Reinstall the transfer belt stay (4 screws).
3. Set up the pressure release lever [B] as follows:
 - 1) Remove the snap ring [C] from the transfer unit.
 - 2) Turn the pressure release lever counterclockwise.
 - 3) Fit the pressure release lever on the pin [D].
 - 4) Secure the pressure release lever with the snap ring [C].
4. Install the two inner transfer covers [E] (2 screws each).

Installing Fusing Silicone Oil



B0171106.WMF

Installation

1. Draw the fusing unit [A] halfway out of the main unit and remove the oil cap [B].
2. Pour in silicone oil [C].
3. Close the oil cap and push the fusing unit back in.
4. Close the front cover.

<p>⚠ CAUTION</p> <p>Take care not to spill silicone oil on the floor. If silicone oil spills on the floor, wipe it up completely; otherwise, the floor will become slippery and someone could slip and fall.</p>
--

Initialization and Function Checks

1. Open the front cover and turn on the main switch.
2. When "Close the Front Cover" is displayed, close the front cover, then enter SP mode. [ → ① → ① → ⑦ → ]
3. Perform the developer setup procedure for all colors using SP2-225-005, "All Colors." Press 1 and "Enter" to start this process.
4. When the end-of-setup message appears, look at the code displayed on the operation panel or enter SP mode 3-964 (B018 only) to check that the result is "1" (successful).
NOTE: If the result code is a number other than 1, consult the error code chart (see the Troubleshooting section).
5. Select the tray paper size (see "Setting the Tray Paper Size" on the next page).
6. After the warm-up procedure ends, check the copy quality in each of the following modes: Text, Photo and Text/Photo.
7. If necessary, do the ACC (Auto Color Calibration) in the User Tools ("Copy Features" → "Image Adjustment") to make sure that the chart is printed normally.

 CAUTION

It is not necessary to adjust the Auto Color Calibration (ACC) unless the customer is unsatisfied with the copy samples. The ACC was factory adjusted. For the detailed auto color calibration procedure, refer to the User Tools section of the Operating Instructions manual for the customer.

8. When using the optional paper tray unit, adjust the registration for each tray if required (see "Replacement and Adjustment – Paper Feed and Registration - Copy Image Area Adjustment").

Setting the Tray Paper Size

First, change the position of the side fences and the end fence in each tray to match the paper size you will be using. Then set the paper size for each tray at the operation panel using the following procedure.

1. Press the "User Tools" key.
2. Make sure that the 'System Settings' menu is selected, then press the "OK" key.
3. Press the "NEXT" key until "Tray Paper Size" is displayed.
4. Press the "OK" key.
5. Select the tray with the ◀ ▶ keys, then press the "OK" key.
6. Select the required size with the ◀ ▶ keys, then press the "OK" key.
7. Repeat steps 5 and 6 for each paper feed tray.
8. Press the "User Tools" key to exit the User Tools.
9. Make sure that the paper size in the trays matches the size that you just set up with the user tools.

Setting the Language and Unit of Measurement

When the required language is other than English, French, German, Italian and Spanish, the main program for that language must be downloaded to the main control board. Then, the desired language can be selected. (Replacement and Adjustment – System and Electronics - Main Program Downloading)

– SP5-009-001 –

Setting Value	Language	Setting Value	Language
0	Japanese (not available)	8	Danish
1	English	9	Swedish
2	French	10	Norwegian
3	German	11	Czech
4	Spanish	12	Polish
5	Italian	13	Russian
6	Portuguese	14	Brazilian Portuguese
7	Dutch	15	Taiwan Chinese

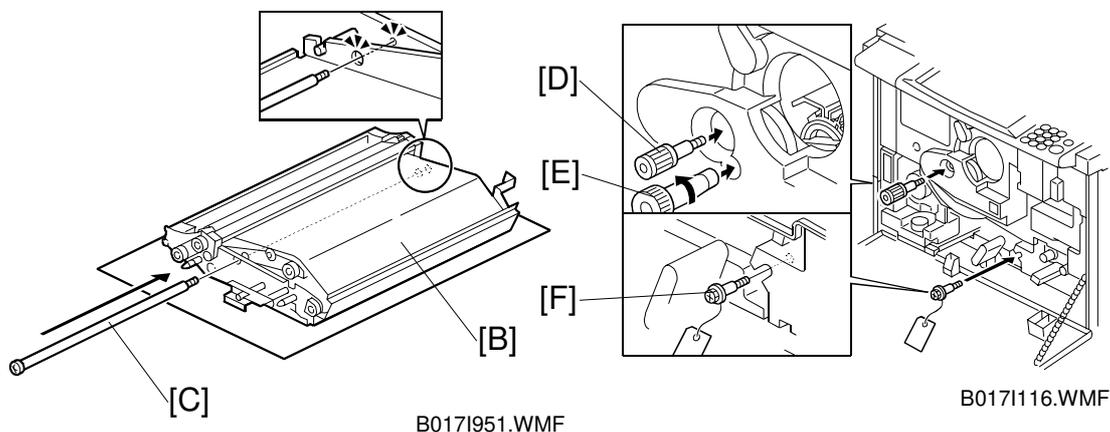
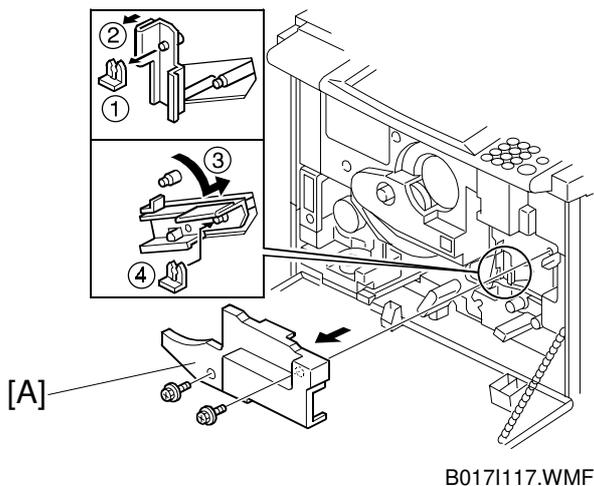
The following procedure outlines how to change the machine language.

1. Enter SP mode.
2. Enter SP5-009-001 "Display Language".
3. Enter the appropriate value from the above table.
4. If necessary, change the measurement to either Standard (inches) or Metric (millimeters) with SP5-009-002.
0: Metric (mm) 1: Standard (inches)
NOTE: By using SP5-009-002, the display for the unit measurement and the Enlargement/Reduction ratio shifts.
5. Turn the machine off/on and check the language and unit measurement on the LCD.

Resetting the Counter

1. Enter the SP mode.
2. Enter SP7-825, "Total Counter 0 Reset."
3. Quit SP mode and make sure that the counter shows zero using the [Counter] key on the operation panel.

3.2.3 RELOCATION PROCEDURE



1. Remove the inner transfer cover [A] and release the belt pressure as shown:
 - 1) Take off the snap ring ① and pull the lever off the pin ②.
 - 2) Move the lever down ③ and put the snap ring back on ④.
2. Remove the transfer belt [B]. (Refer to section 6.7.1 Transfer Belt Section.) Then, install the lock pin [C].
3. Reassemble the machine.
4. Install the revolver locking screw [D] into the development unit through the H.P. actuator using the special screwdriver tool [E] stored in the paper tray.
5. Install the paper transfer locking screw [F].

⚠ CAUTION

After removing the lock screw and shaft after reinstallation, keep them in a safe location, because you will need them later.

3.3 OPTIONS

C: Installation procedure is the same as base models A258/259/260. Refer to the service manual of the base models.

U: The options are unique from the base models. Refer to the installation procedure in this manual.

U (Fax): They are unique options related to the fax. Refer to the installation procedure in the Fax manual.

Options	Product Code	C or U
Paper Tray Unit	A832/A833	C
ARDF	A663	C
20-Bin Sorter Stapler	A834	C
10-Bin Sorter Stapler	A555	C
3-Bin Sorter	A849	C
Platen Cover	A749-01	C
Original Table	A430-07	C
Edit Option	B380	U
Controller I/F Unit	B381	U
Fax Option	B383	U (Fax)
ISDN Unit	A816	U (Fax)
EXSAF Board	A818-10	U (Fax)
PMU Board	A818-12	U (Fax)
HDD	A841-11	U (Fax)
Handset	A841-13	U (Fax)
Fax Stamp	A563-17	U (Fax)

3.4 EDIT OPTION (B380)

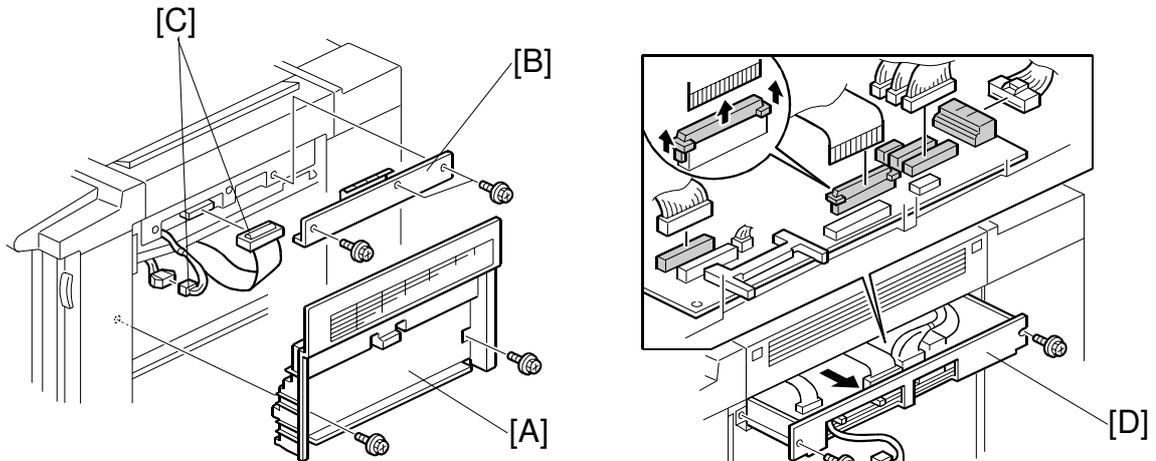
3.4.1 ACCESORY CHECK

Check the quantity and condition of the accessories in the box with the following list:

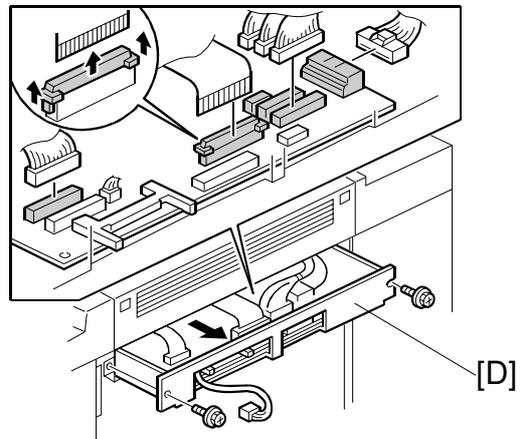
Description	Q'ty
1. DIMM	1
2. Harness	1
3. Edit Pen	1
4. Installation Procedure	1



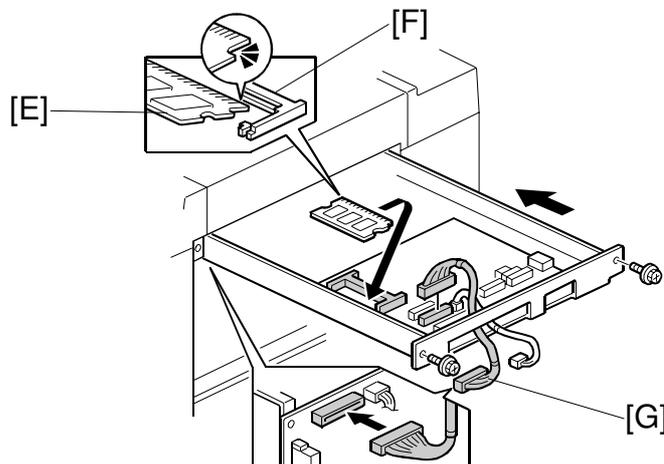
3.4.2 INSTALLATION



B380I101.WMF



B380I102.WMF



B380I103.WMF

⚠ CAUTION

Unplug the copier power cord before starting the following procedure.

1. Remove the right upper cover [A] (2 screws).
2. Remove the Flash ROM card cover [B] (3 screws).
3. Disconnect two connectors [C].
4. Pull out the IPU base [D] slightly (2 screws).
5. Disconnect 6 connectors on the scanner IPU board.
6. Install the DIMM [E] into the slot [F] as shown.
7. Connect the harness [G] at CN412 on the scanner IPU and CN312 on the main control board.
8. Reassemble the machine.

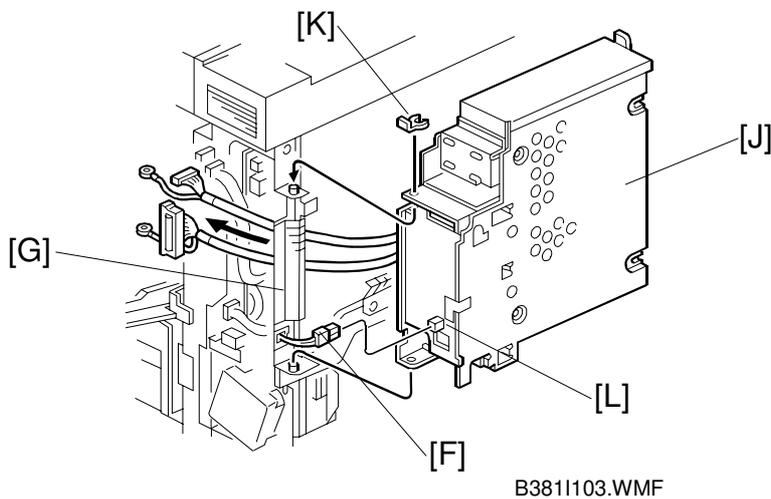
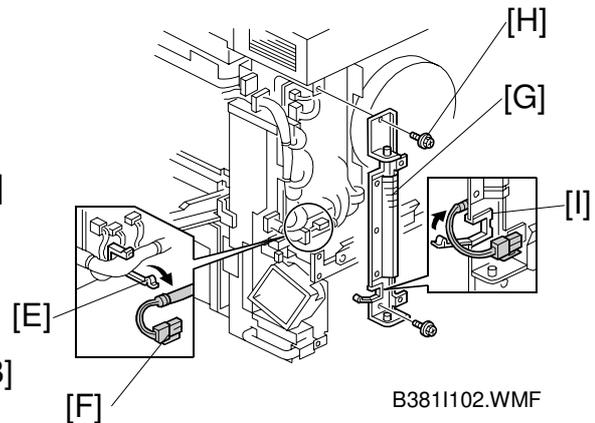
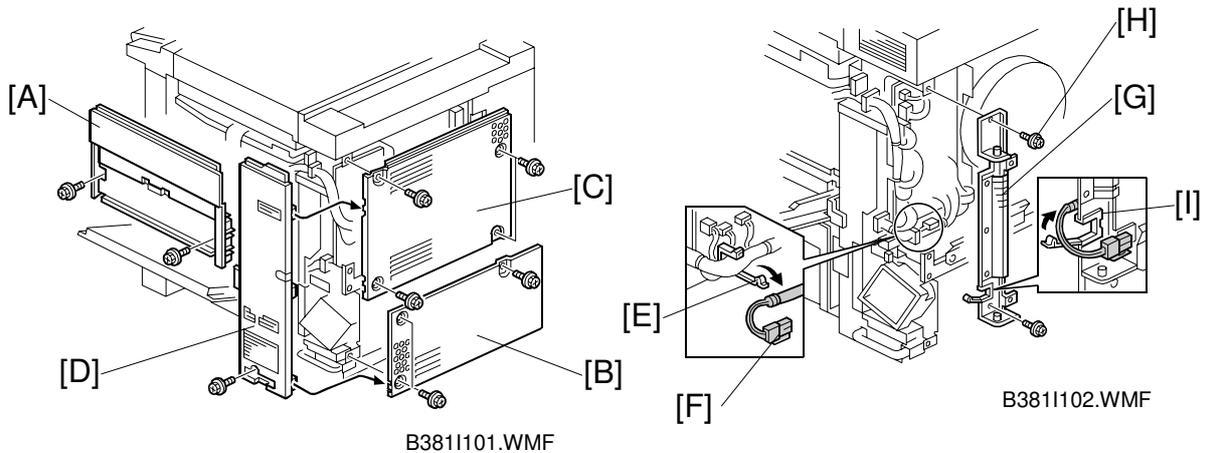
3.5 CONTROLLER INTERFACE (B381)

3.5.1 ACCESSORY CHECK

Check the quantity and condition of the accessories in the box with the following list:

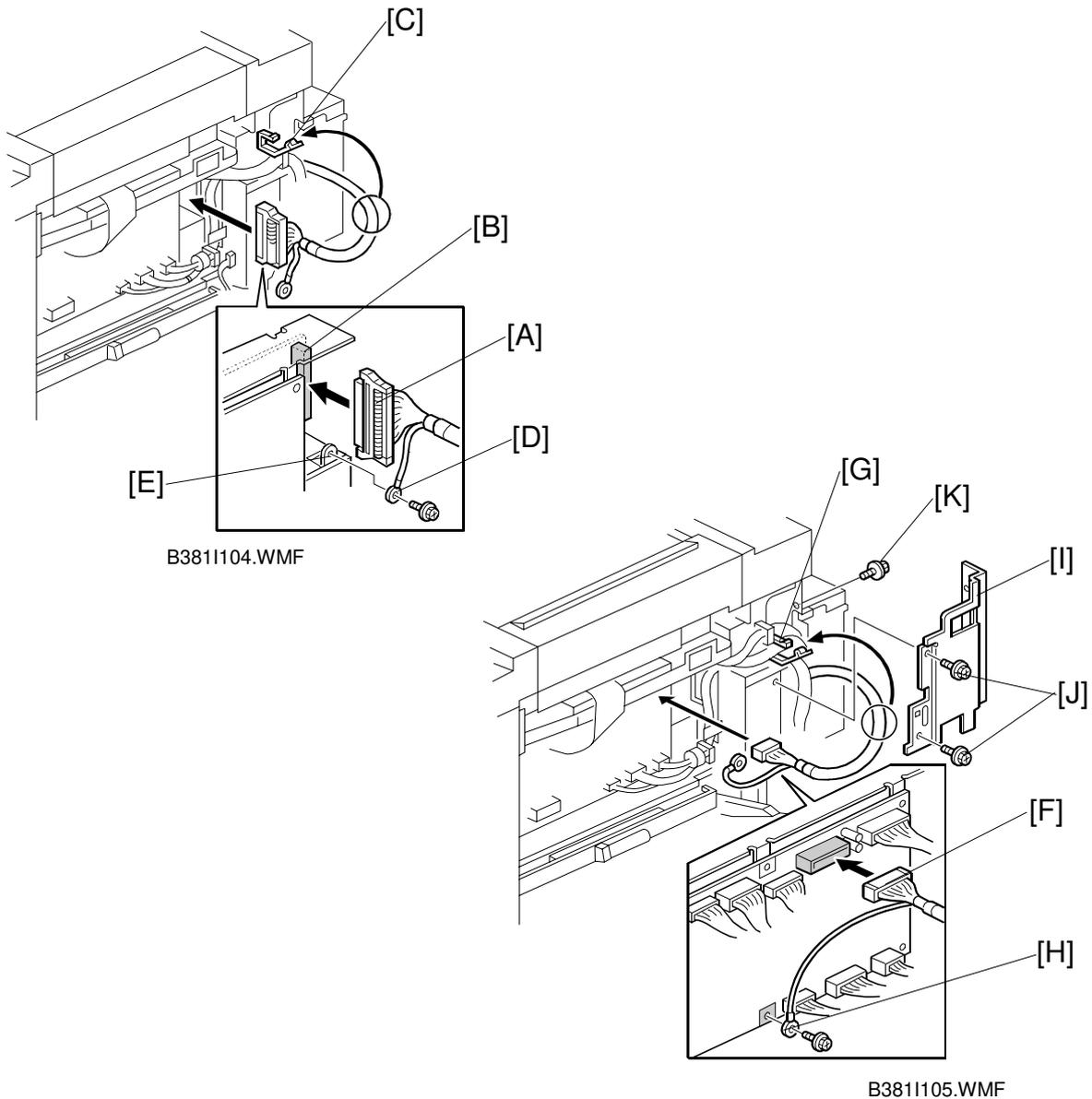
Description	Q'ty
1. I/F Unit	1
2. I/F Bracket	1
3. Harness Side Plate	1
4. Cover Bracket	1
5. I/F Cover	1
6. Screw (M3x6).....	1
7. Screw (M4x6).....	8
8. Screw (M4x6).....	4
9. Screw with washer	2
10. Snap Ring	1
11. Clamp	1
12. Installation Procedure (-17 only)	1



3.5.2 INSTALLATION**⚠ CAUTION**

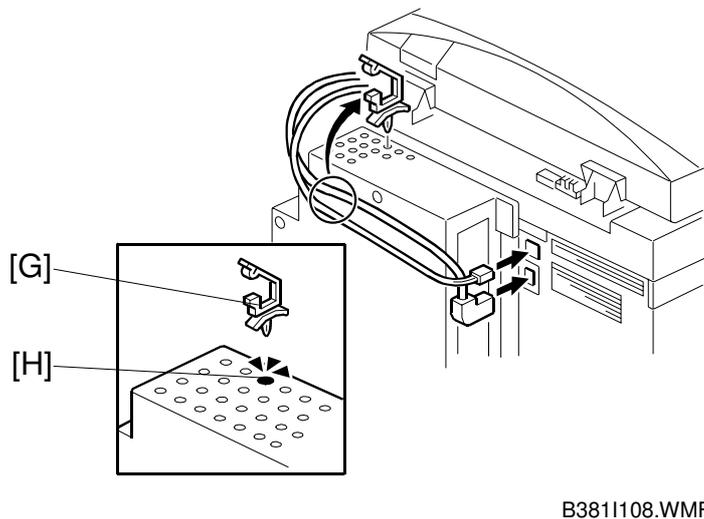
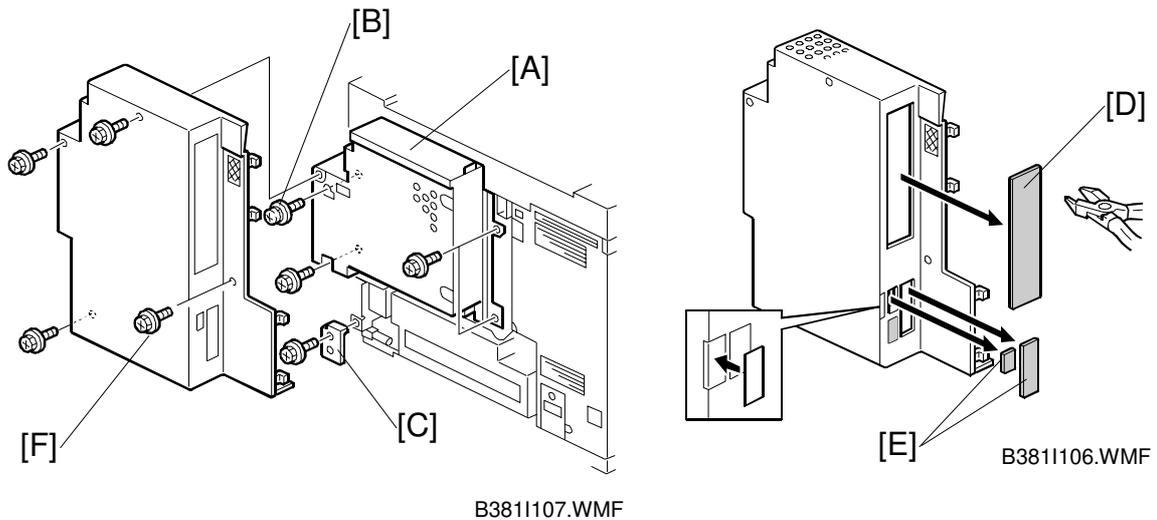
Unplug the copier power cord before starting the following procedure.

1. Remove the four covers below in the following order.
 - * Right upper cover [A] (2 screws)
 - * Rear lower cover [B] (3 screws)
 - * Rear upper cover [C] (4 screws)
 - * Right rear cover [D] (1 screw)
2. Open the clamp [E] and pull out the power supply harness [F], then close the clamp.
3. Install the I/F bracket [G] on the right rear side of the copier (1 screw and 1 screw with washer [H]). Then, feed the power supply harness through the clamp [I].
4. Attach the I/F unit [J] to the I/F bracket [G] (1 snap ring [K]).
5. Connect the power supply harness [F] to the power supply board [L].



Installation

6. Connect the 100-pin shield cable [A] to the LD main board [B] (1 clamp [C]) and secure the grounding wire [D] to the bracket [E] (1 screw).
7. Connect the I/F harness [F] to CN305 on the main board and clamp the I/F harness as shown (1 clamp [G]). Remove the screw [H] securing the main board and secure both the main board and the grounding wire with this screw.
NOTE: Route the harnesses as shown so that the right upper cover can be properly installed at a later step.
8. Install the harness shield plate [I] (2 M4 x 6 screw [J] and 1 M3 x 6 screw [K]).
NOTE: Make sure that any harnesses are not caught between the shield plate [I] and machine frame.



9. Attach the I/F unit [A] to the copier (3 screws, 1 screw with washer [B]).
10. Install the cover bracket [C] (1 screw).
11. Cut off and remove the cap [D] for the printer controller and/or caps [E] for the fax unit if installing those options. (Refer to the installation procedure of each option for the details.)
12. Install the I/F cover [F] (4 screws).
13. Install the harness clamp [G] on the I/F cover if the ADF is installed. (The size of the hole [H] marked in the illustration is slightly bigger than other holes.) Then, attach the ADF harnesses to this clamp. This is to prevent the ADF harnesses from being caught in between the I/F unit and copier when opening and closing the I/F unit.

4. SERVICE TABLES

4.1 SERVICE PROGRAM (SP) MODES

4.1.1 HOW TO ENTER SP MODE

Follow the procedure shown below to enter SP mode.



- 1) Press the clear modes key and enter 107.
- 2) Then hold down the clear/stop key for more than 3 seconds.

A service program number is composed of first, second, and third level numbers (Class 1, Class 2, and Class 3). Class 1 is 1 digit and the other classes are 3 digits. You can enter the complete 7-digit number with the numeric keypad and the enter key to display an SP mode menu directly. You can also use the selection keys under the LCD to change the class and to select a menu item.

Reference

Use the  key when making a copy in an SP mode. To return to SP mode after making a copy, press the  key again.

4.2 SP MODE TYPES

The SP modes for this copier are divided into the following seven groups:

1. Paper feed/transport/fusing
2. Drum unit
3. Process control
4. Scanner
5. Operating mode/system
6. Peripheral
7. Logged data
8. Special mode set-up

4.3 SP MODE TABLE

The following tables show the SP modes of A258/259/260 and B017/018 copiers. In the tables, you can see which SP modes are applicable for which products.

A/B: Applicable for both A258/259/260 and B017/018 copiers

A/-: Applicable only for A258/259/260 copiers

-/B: Applicable only for B017/018 copiers

The following symbols are used in the SP mode tables.

- (FA): Factory setting
(The data may be adjusted from the default setting at the factory. Refer to the factory setting sheets enclosed.)
- DFU: Design/ Factory Used only
Do not touch the SP mode in the field.
- (1st): 1st sided copy
- (2nd): 2nd sided copy
- H: Hot or Heat roller
- P: Pressure roller
- H: High humidity condition
- L: Low humidity condition
- Dev.: Development

Each SP mode is explained by the following manner.

[Adjustable range / Default setting / step / Yes or No (printed in SP7-902/903)]

If any data is different between A258/259/260 and B017/018 copiers, the data for each copier is described separately as shown below.

A: [Range / Default / Step / Y or N]

B: [Range / Default / Step / Y or N]

An asterisk (*) in the right hand side of the mode number column means that this mode is stored in the NVRAM. If you do a RAM reset, all these SP modes will be reset to their default value.

SP1-XXX (Feed)

1	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]
001	Leading edge registration			Adjusts the leading edge registration by changing the registration ON timing.
	01	Normal Paper	A/B *	All: [-5.0 to 5.0 mm / <u>0.0</u> (FA) / 0.1 step / Y]
	02	OHP	A/B *	
	03	Thick	A/B *	
	04	2/3 Speed	A/- *	
	05	ACS/Black	-/B *	
002	Side-to-side registration			Adjusts the side-to-side registration by changing the laser main scan start position.
	01	By-pass	A/B *	All: [-5.0 to 5.0 mm / <u>0.0</u> (FA) / 0.1 step / Y]
	02	Tray 1	A/B *	
	03	Tray 2	A/B *	
	04	Tray 3	A/B *	All: [-5.0 to 5.0 mm / <u>0.0</u> (FA) / 0.1 step / Y]
	05	Tray 4	A/B *	
	06	Duplex (2nd)	A/B *	
003	Paper feed timing			Adjusts the amount of paper buckle at the registration roller by changing the relay clutch OFF timing.
	01	By-pass (Normal)	A/B *	[-5.0 to 5.0 mm / <u>0.0</u> / 0.1 step / Y]
	02	Tray	A/B *	A: [-5.0 to 5.0 mm / <u>0.0</u> / 0.1 step / Y] B: [-5.0 to 5.0 mm / <u>-1.5</u> / 0.1 step / Y]
	03	By-pass (OHP)	A/B *	[-5.0 to 5.0 mm / <u>0.0</u> / 0.1 step / Y]
	04	By-pass (Thick)	A/B *	[-5.0 to 7.0 mm / <u>2.0</u> / 0.1 step / Y]
	05	Duplex (2nd)	A/B *	A: [-5.0 to 5.0 mm / <u>0.0</u> / 0.1 step / Y] B: [-6.5 to 3.5 mm / <u>-1.5</u> / 0.1 step / Y]
101	00	Oil end sensor	A/B *	Specifies whether the oil end sensor is activated. [0 or 1 / <u>1</u> / - / Y] 0: Not activated, 1: Activated
104	00	Fusing control	A/B *	Selects the fusing temperature control mode. <u>The main switch needs to be turned off and on when the setting is changed.</u> [0 or 1 / <u>1</u> / - / Y] 0: Phase control, 1: ON/OFF control
105	Fusing temperature			Sets the temperature for each condition.
	Hot Roller / Heat Roller			
	01	H: Idling (1st)	A/B *	A: [100 to 200 °C / <u>163</u> / 1 step / Y] B: [100 to 200 °C / <u>173</u> / 1 step / Y]
	02	H: Standby (1st)	A/B *	A: [100 to 200 °C / <u>165</u> / 1 step / Y]
	03	H: Copy (1st) Normal FC	A/B *	B: [100 to 200 °C / <u>175</u> / 1 step / Y]
	04	H: Copy (1st) Normal 1C	A/B *	[100 to 200 °C / <u>160</u> / 1 step / Y]
	05	H: Copy (1st) OHP/Thick FC	A/B *	A: [100 to 200 °C / <u>160</u> / 1 step / Y] B: [100 to 200 °C / <u>170</u> / 1 step / Y]
	06	H: Copy (1st) OHP/Thick 1C	A/B *	[100 to 200 °C / <u>150</u> / 1 step / Y]
	Pressure Roller			
07	P: Standby (1st)	A/B *	[100 to 200 °C / <u>150</u> / 1 step / Y]	

Service
Tables

1	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]	
105	08	P: Copy (1st) Norma FC	A/B *		
	09	P: Copy (1st) Normal 1C	A/B *	A: [100 to 200 °C / <u>150</u> / 1 step / Y] B: [100 to 200 °C / <u>100</u> / 1 step / Y]	
	10	P: Copy (1st) OHP/Thick FC	A/B *	[100 to 200 °C / <u>150</u> / 1 step / Y]	
	11	P: Copy (1st) OHP/Thick 1C	A/B *		
	Hot/Heat Roller				
	12	H: Copy (2nd) Standby	A/B *	A: [100 to 200 °C / <u>165</u> / 1 step / Y]	
	13	H: Copy (2nd) Normal FC	A/B *	B: [100 to 200 °C / <u>175</u> / 1 step / Y]	
	14	H: Copy (2nd) Normal 1C	A/B *	[100 to 200 °C / <u>160</u> / 1 step / Y]	
	15	H: Copy (2nd) OHP/Thick FC	A/B *	A: [100 to 200 °C / <u>160</u> / 1 step / Y] B: [100 to 200 °C / <u>170</u> / 1 step / Y]	
	16	H: Copy (2nd) OHP/Thick 1C	A/B *	[100 to 200 °C / <u>150</u> / 1 step / Y]	
	Pressure Roller				
	17	P: Copy (2nd) Standby	A/B *	[100 to 200 °C / <u>150</u> / 1 step / Y]	
	18	P: Copy (2nd) Normal FC	A/B *		
	19	P: Copy (2nd) Normal 1C	A/B *	A: [100 to 200 °C / <u>150</u> / 1 step / Y] B: [100 to 200 °C / <u>100</u> / 1 step / Y]	
	20	P: Copy (2nd) OHP/Thick FC	A/B *	[100 to 200 °C / <u>150</u> / 1 step / Y]	
	21	P: Copy (2nd) OHP/Thick 1C	A/B *		
	106	Fusing temperature display			Displays the temperature in °C.
		01	Pressure roller	A/B	-
		02	Hot/Heat roller	A/B	-
	108	00	Fusing unit set	A/B *	Turns fusing unit detection on and off. [0 or 1 / <u>0</u> / - / N] 0: Detection / 1: No detection
	109	00	Fusing NIP	A/B	Place an OHP sheet, and set the data '1', then, press the Start key to start feeding. Machine automatically makes NIP bands on the OHP sheet.
801	Motor speed			Adjusts the motor speed.	
	01	Fusing (standard)	A/B *	A: [-1.0 to 1.0% / <u>0.0</u> / 0.1 step / N] DFU B: [-5.0 to 5.0% / <u>-1.0</u> / 0.1 step / N] DFU	
	02	Paper feed (standard)	A/B *	[-1.0 to 1.0% / <u>0.1</u> / 0.1 step / N] DFU	
	03	Drum (standard)	A/B *	A: [-1.0 to 1.0% / <u>-0.8</u> / 0.1 step / N] DFU B: [-1.0 to 1.0% / <u>0.0</u> / 0.1 step / N] DFU	
	04	Fusing (half)	A/B *	A: [-1.0 to 1.0% / <u>0.0</u> / 0.1 step / N] DFU B: [-5.0 to 5.0% / <u>-1.0</u> / 0.1 step / N] DFU	
	05	Paper feed (half)	A/B *	[-1.0 to 1.0% / <u>0.1</u> / 0.1 step / N] DFU	
	06	Drum (half)	A/B *	A: [-1.0 to 1.0% / <u>-0.8</u> / 0.1 step / N] DFU B: [-1.0 to 1.0% / <u>0.0</u> / 0.1 step / N] DFU	

1	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]	
	801	07	Fusing (2/3)	A/-	*
08		Paper feed (2/3)	A/-	*	[-1.0 to 1.0% / <u>0.1</u> / 0.1 step / N] DFU
09		Drum (2/3)	A/-	*	[-1.0 to 1.0% / <u>-0.8</u> / 0.1 step / N] DFU
901	Fence position			Adjusts the fence stop position for the duplex unit.	
	01	Side fence	A/B	*	[-5.0 to 5.0 mm / <u>0.0</u> / 0.1 step / Y]
	02	End fence	A/B	*	

SP2-XXX (Drum)

2	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]	
	101	Blank margin			Adjusts the blank margin in the sub-scan and main scan directions.
Sub-scan					
01		Leading edge Normal	A/B	*	[-4.0 to 4.0 mm / <u>0.0</u> (FA) / 0.1 step / Y]
02		Leading edge Thick	A/B	*	
04		Leading edge OHP	A/B	*	
05		Trailing edge Normal	A/B	*	[-3.0 to 10.0 mm / <u>0.0</u> (FA) / 0.1 step / Y]
06		Trailing edge Thick	A/B	*	
08		Trailing edge OHP	A/B	*	
Main scan					
09		Front edge	A/B	*	[-2.0 to 5.0 mm / <u>0.0</u> (FA) / 0.1 step / Y]
10		Rear edge	A/B	*	
11		Trailing edge Duplex (1st)	A/B	*	[-3.0 to 10.0 mm / <u>0.0</u> (FA) / 0.1 step / Y]
12		Trailing edge Duplex (2nd)	A/B	*	
111	00	Fax printer gamma	-/B	*	Adjusts the printer gamma for fax mode. [1 to 255 / <u>192</u> / 1 step / N]
112	Main-scan magnification			Adjusts the magnification in the main-scan direction.	
	01	Copy / Copy & Print	A/B	*	[-1.00 to 1.00% / <u>0.0</u> (FA) / 0.01 step / Y]
	02	Print / Fax	A/B	*	
113	Sub-scan magnification			Adjusts the magnification in the sub-scan direction.	
	01	Copy	A/-	*	[-1.0 to 1.0% / <u>0.0</u> (FA) / 0.1 step / Y] DFU For copy mode, maintain the factory settings. For sub-scan magnification, use SP4-008 to adjust the scanner motor speed.

Service Tables

2	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]
113	02	Print	A/- *	<p>[-1.0 to 1.0% / <u>0.0</u> (FA) / 0.1 step / Y]</p> <p>To use this SP mode, do the following: Print the trim pattern using pattern 1 in SP5-955-018. Then check that the margins on the trim pattern are as follows: Lead edge: 5mm (target) +/- 2mm Trailing edge: 2mm (target) +2mm/-1.5mm Side (target): 1.5mm Side (specification): 2+/- 2mm</p> <p>Adjust the magnification in the sub-scan direction first using SP2-113-02. Then print the trim pattern again. Adjust the magnification in the main scan direction with SP2-112-02.</p> <p>Adjust SP2-113-02 (sub-scan) first and print the trim pattern again before adjusting SP2-112-02 (main scan), because SP2-113-02 also affects the main scan magnification.</p> <p>NOTE: Do not adjust SP2-113-002 by more than +/- 0.5% at any one time.</p>
203	ID sensor dev. potential			Sets the initial or correction value of the development potential for the ID sensor, or displays the potential value.
Initial value				
01	[K] Initial	A/B	*	[0 to 300V / <u>110</u> / 1 step / Y] DFU
02	[C] Initial	A/B	*	[0 to 300V / <u>150</u> / 1 step / Y] DFU
03	[M] Initial	A/B	*	
04	[Y] Initial	A/B	*	
Correction value				
05	[K] Correction	A/B	*	All: [-20 to 20 V / <u>0</u> / 1 step / Y]
06	[C] Correction	A/B	*	Adjusts the toner concentration.
07	[M] Correction	A/B	*	Negative value: Increases toner concentration
08	[Y] Correction	A/B	*	Positive value: Decreases toner concentration
Display				
09	[K] Display	A/B		
10	[C] Display	A/B		
11	[M] Display	A/B		
12	[Y] Display	A/B		
13	Potential correction select	A/B	*	<p>[0 to 2 / <u>2</u> / 1 step / Y] DFU</p> <p>0: Deactivates the potential correction 1: Activates the potential correction (SP2-203-01 to 4) 2: Activates the potential correction based on value calculated during process control.</p>
204	ID sensor dev. potential correction			Sets the correction threshold (development gamma, upper and lower limits of development potential).
Dev. gamma threshold				
01	[K]	A/B	*	<p>A: [0.0 to 5.0 / <u>1.9</u> / 0.1 step / N] DFU B: [0.0 to 5.0 / <u>2.2</u> / 0.1 step / N] DFU</p>

2	Mode No. (Class 1, 2 and 3)				Function [Range / Default / Step / Y or N (print)]
204	02	[C]	A/B	*	A: [0.0 to 5.0 / <u>1.8</u> / 0.1 step / N] DFU
	03	[M]	A/B	*	B: [0.0 to 5.0 / <u>2.0</u> / 0.1 step / N] DFU
	04	[Y]	A/B	*	
	Dev. potential upper limit				
	05	[K]	A/B	*	A: [0 to 300 V / <u>120</u> / 1 step / N] DFU B: [0 to 300 V / <u>90</u> / 1 step / N] DFU
	06	[C]	A/B	*	A: [0 to 300 V / <u>190</u> / 1 step / N] DFU
	07	[M]	A/B	*	B: [0 to 300 V / <u>150</u> / 1 step / N] DFU
	08	[Y]	A/B	*	
	Dev. potential lower limit				
	09	[K]	A/B	*	A: [0 to 300 V / <u>100</u> / 1 step / N] DFU B: [0 to 300 V / <u>70</u> / 1 step / N] DFU
	10	[C]	A/B	*	A: [0 to 300 V / <u>160</u> / 1 step / N] DFU
	11	[M]	A/B	*	B: [0 to 300 V / <u>130</u> / 1 step / N] DFU
12	[Y]	A/B	*		
207	Forced toner supply				Forces toner to be supplied based on the SP2-208 setting.
	01	[K]	A/B		[0 or 1 / <u>0</u> / - / N]
	02	[C]	A/B		0: OFF, 1: ON
	03	[M]	A/B		When selecting '1', the development unit of selected color moves to the development position.
	04	[Y]	A/B		
208	Toner supply amount				Specifies the amount of toner supplied in each mode.
	Forced toner supply amount				
	01	[K] Forced toner	A/B	*	[1 to 50 times / <u>5</u> / 1 step / N]
	02	[C] Forced toner	A/B	*	Sets the number of forced toner supply operations.
	03	[M] Forced toner	A/B	*	
	04	[Y] Forced toner	A/B	*	
	Fixed supply mode				
	05	[K] Fixed supply	A/B	*	[0 to 100% / <u>5</u> / 1 step / N]
	06	[C] Fixed supply	A/B	*	Sets the toner supply rate used when the toner supply method (SP2-208-09) is set to '0' (fixed supply mode).
	07	[M] Fixed supply	A/B	*	
08	[Y] Fixed supply	A/B	*		
09	Toner supply method	A/B		[0 to 2 / <u>2</u> / 1 / N] 0: Fixed supply, 1: Proportional control supply (Not available for A258/259/260/B017/018), 2: Fuzzy control supply. Do not set to '1'.	
212	Toner near end threshold				Changes the threshold of toner near end detection.
	01	[K]	A/B	*	[0.000 to 1.000 mg/cm ² / <u>0.05</u> / 0.001 step / N] DFU
	02	[Color]	A/B	*	[0.000 to 1.000 mg/cm ² / <u>0.00</u> / 0.001 step / N] DFU
225	Developer setup				Performs developer initialization and forced process control self-check for the selected color, and displays the operation result.

Service Tables

2	Mode No. (Class 1, 2 and 3)			Function
				[Range / <u>Default</u> / Step / Y or N (print)]
225	01	[K]	A/B	[0 or 1 / - / - / N]
	02	[C]	A/B	0: OFF, 1: ON Do this at installation or after changing the developer. The operation result is displayed in SP3-964. (0: failure, 1: success).
	03	[M]	A/B	
	04	[Y]	A/B	
	05	[All color]	A/B	
	06	[CMY]	A/B	
301	ITB bias			Adjusts the image transfer belt (ITB) bias for each mode. <i>Normally, do not adjust these settings, except in response to specific problems as directed by technical support staff.</i>
	01	4C - 1st	A/B *	A: [300 to 3000 V / <u>1700</u> / 1 step / Y] B: [0 to 32 / <u>9</u> / 1 step / Y]
	02	4C - 2nd	A/B *	A: [300 to 3000 V / <u>1800</u> / 1 step / Y] B: [0 to 32 / <u>9</u> / 1 step / Y]
	03	4C - 3rd	A/B *	A: [300 to 3000 V / <u>1900</u> / 1 step / Y] B: [0 to 32 / <u>9</u> / 1 step / Y]
	04	4C - 4th	A/B *	A: [300 to 3000 V / <u>2000</u> / 1 step / Y] B: [0 to 32 / <u>9</u> / 1 step / Y]
	05	2C - 1st	A/B *	A: [300 to 3000 V / <u>1700</u> / 1 step / Y] B: [0 to 32 / <u>9</u> / 1 step / Y]
	06	2C - 2nd	A/B *	A: [300 to 3000 V / <u>1800</u> / 1 step / Y] B: [0 to 32 / <u>9</u> / 1 step / Y]
	07	3C - 1st	A/B *	A: [300 to 3000 V / <u>1700</u> / 1 step / Y] B: [0 to 32 / <u>9</u> / 1 step / Y]
	08	3C - 2nd	A/B *	A: [300 to 3000 V / <u>1800</u> / 1 step / Y] B: [0 to 32 / <u>9</u> / 1 step / Y]
	09	3C - 3rd	A/B *	A: [300 to 3000 V / <u>1900</u> / 1 step / Y] B: [0 to 32 / <u>9</u> / 1 step / Y]
	10	1C - 4th	A/B *	A: [300 to 3000 V / <u>1700</u> / 1 step / Y] B: [0 to 32 / <u>16</u> / 1 step / Y]
	11	Between images	A/B *	A: [300 to 3000 V / <u>1700</u> / 1 step / Y] B: [0 to 32 / <u>20</u> / 1 step / Y]
	12	Image - area (half)	A/B *	A: [300 to 3000 V / <u>300</u> / 1 step / Y] B: [0 to 32 / <u>3</u> / 1 step / Y]
	13	4C - 1st (2/3)	A/- *	[300 to 3000 V / <u>1000</u> / 1 step / Y]
	14	4C - 2nd (2/3)	A/- *	[300 to 3000 V / <u>1100</u> / 1 step / Y]
	15	4C - 3rd (2/3)	A/- *	[300 to 3000 V / <u>1200</u> / 1 step / Y]
	16	4C - 4th (2/3)	A/- *	[300 to 3000 V / <u>1300</u> / 1 step / Y]
	17	2C - 1st (2/3)	A/- *	[300 to 3000 V / <u>1200</u> / 1 step / Y]
	18	2C - 2nd (2/3)	A/- *	[300 to 3000 V / <u>1300</u> / 1 step / Y]
	19	3C - 1st (2/3)	A/- *	[300 to 3000 V / <u>1100</u> / 1 step / Y]
	20	3C - 2nd (2/3)	A/- *	[300 to 3000 V / <u>1200</u> / 1 step / Y]
21	3C - 3rd (2/3)	A/- *	[300 to 3000 V / <u>1300</u> / 1 step / Y]	

2	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]
301	22	1C - 4th (2/3)	A/- *	[300 to 3000 V / <u>1200</u> / 1 step / Y]
	23	Between images (2/3)	A/- *	[300 to 3000 V / <u>1700</u> / 1 step / Y]
	24	Bias correction	A/B *	A: [0 or 1 / <u>0</u> / - / N] B: [0 or 1 / <u>1</u> / - / N] 0: ON, 1: OFF
	25	Non image area (half)	A/B *	A: [300 to 3000 V / <u>1700</u> / 1 step / N] B: [0 to 32 / <u>13</u> / 1 step / Y]
	40	VD correction	-/B *	Specifies the correction value to the ITB bias for the development potential (VD). [0 to 2.5 / <u>1.0</u> / 0.1 step / Y]
	41	Leading edge 1C	-/B *	Specifies the correction value to the ITB bias of the leading edge.
	42	Leading edge 2C/3C/4C	-/B *	[-20 to 20 / <u>6.0</u> / 0.1 step / Y]
310	PTR bias			Specifies the paper transfer roller (PTR) bias settings for each mode.
	01	Environment SW	A/B *	[0 to 3 / <u>1</u> / 1 step / N] 0: No environment switching (normal) 1: Conditions depend on the humidity sensor 2: No environment switching (low humidity) 3: No environment switching (high humidity) When selecting 0, 1, or 3, the transfer bias will not be compensated by conditions detected by the humidity sensor, the fixed correction value set in SP2-316 will be applied to the bias.
	02	Normal 1C	A/B *	A: [1 to 50 uA / <u>10</u> / 1 step / Y] B: [1 to 50 uA / <u>16</u> / 1 step / Y]
	03	Normal 2C	A/B *	A: [1 to 50 uA / <u>18</u> / 1 step / Y]
	04	Normal 3C	A/B *	B: [1 to 50 uA / <u>20</u> / 1 step / Y]
	05	Normal 4C	A/B *	
	06	Thick 1C	A/B *	[1 to 50 uA / <u>8</u> / 1 step / Y]
	07	Thick 2C	A/B *	[1 to 50 uA / <u>10</u> / 1 step / Y]
	08	Thick 3C	A/B *	
	09	Thick 4C	A/B *	
	10	OHP 1C	A/B *	A: [1 to 50 uA / <u>8</u> / 1 step / Y] B: [1 to 50 uA / <u>9</u> / 1 step / Y]
	11	OHP 2C	A/B *	A: [1 to 50 uA / <u>10</u> / 1 step / Y]
	12	OFP 3C	A/B *	B: [1 to 50 uA / <u>11</u> / 1 step / Y]
	13	OHP 4C	A/B *	
	14	2/3 1C	A/- *	[1 to 50 uA / <u>10</u> / 1 step / Y]
	15	2/3 2C	A/- *	[1 to 50 uA / <u>18</u> / 1 step / Y]
	16	2/3 3C	A/- *	
	17	2/3 4C	A/- *	
	18	Normal 1C (2nd)	A/B *	[1 to 50 uA / <u>12</u> / 1 step / Y]
	19	Normal 2C (2nd)	A/B *	A: [1 to 50 uA / <u>15</u> / 1 step / Y]
	20	Normal 3C (2nd)	A/B *	B: [1 to 50 uA / <u>21</u> / 1 step / Y]
21	Normal 4C (2nd)	A/B *		

Service Tables

2	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]	
310	22	Thick 1C (2nd)	A/B	*	A: [1 to 50 uA / <u>7</u> / 1 step / Y] B: [1 to 50 uA / <u>8</u> / 1 step / Y]
	23	Thick 2C (2nd)	A/B	*	A: [1 to 50 uA / <u>9</u> / 1 step / Y]
	24	Thick 3C (2nd)	A/B	*	B: [1 to 50 uA / <u>10</u> / 1 step / Y]
	25	Thick 4C (2nd)	A/B	*	
	26	2/3 1C (2nd)	A/-	*	[1 to 50 uA / <u>10</u> / 1 step / Y]
	27	2/3 2C (2nd)	A/-	*	[1 to 50 uA / <u>15</u> / 1 step / Y]
	28	2/3 3C (2nd)	A/-	*	
	29	2/3 4C (2nd)	A/-	*	
311	01	Forced belt cleaning	A/B		Lubricates the image transfer belt. Do this when a partially blank printout occurs. [0 to 1 / <u>0</u> / - / N] 0: OFF, 1:ON
313	PTR paper size correction				Specifies the correction value for the paper transfer roller (PTR) bias depending on the size of paper. Adjusts only if there are problems with transferring a particular paper type, or in response to field problems as directed by technical support staff. (S): Sideways, (L): Lengthwise
	01	Normal LT(S) or larger	A/B	*	[10 to 400% / <u>100</u> / 1 step / N]
	02	Normal B4 or larger	A/B	*	A: [10 to 400% / <u>100</u> / 1 step / N] B: [10 to 400% / <u>150</u> / 1 step / N]
	03	Normal A4(L) or larger	A/B	*	[10 to 400% / <u>200</u> / 1 step / N]
	04	Normal less than A4(L)	A/B	*	[10 to 400% / <u>250</u> / 1 step / N]
	05	Thick LT(S) or larger	A/B	*	[10 to 400% / <u>100</u> / 1 step / N]
	06	Thick B4 or larger	A/B	*	A: [10 to 400% / <u>100</u> / 1 step / N] B: [10 to 400% / <u>150</u> / 1 step / N]
	07	Thick A4(L) or larger	A/B	*	[10 to 400% / <u>250</u> / 1 step / N]
	08	Thick less than A4(L)	A/B	*	[10 to 400% / <u>300</u> / 1 step / N]
	09	OHP LT(S) or larger	A/B	*	[10 to 400% / <u>100</u> / 1 step / N]
	10	OHP B4 or larger	A/B	*	A: [10 to 400% / <u>100</u> / 1 step / N] B: [10 to 400% / <u>150</u> / 1 step / N]
	11	OHP A4(L) or larger	A/B	*	[10 to 400% / <u>270</u> / 1 step / N]
	12	OHP less than A4(L)	A/B	*	
314	PTR - leading edge				Specifies the correction value for the paper transfer roller (PTR) bias for the leading edge area depending on the paper type and mode. Adjusts only if there are problems with transferring a particular paper type, or in response to field problems as directed by technical support staff.
	01	Normal 1C	A/B	*	[-20 to 40 uA / <u>0</u> / 1 step / Y]
	02	Normal 2C	A/B	*	
	03	Normal 3C	A/B	*	
	04	Normal 4C	A/B	*	
	05	Thick 1C	A/B	*	[-20 to 40 uA / <u>3</u> / 1 step / Y]
	06	Thick 2C	A/B	*	[-20 to 40 uA / <u>0</u> / 1 step / Y]
	07	Thick 3C	A/B	*	

2	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]	
314	08	Thick 4C	A/B *	[-20 to 40 uA / <u>0</u> / 1 step / Y]	
	09	OHP 1C	A/B *	[-20 to 40 uA / <u>0</u> / 1 step / Y]	
	10	OHP 2C	A/B *		
	11	OHP 3C	A/B *		
	12	OHP 4C	A/B *		
	13	2/3 1C	A/- *		
	14	2/3 2C	A/- *		
	15	2/3 3C	A/- *		
	16	2/3 4C	A/- *		
	17	Normal 1C (2nd)	A/B *		
	18	Normal 2C (2nd)	A/B *	[-20 to 40 uA / <u>2</u> / 1 step / Y]	
	19	Normal 3C (2nd)	A/B *		
	20	Normal 4C (2nd)	A/B *		
	21	Thick 1C (2nd)	A/B *	[-20 to 40 uA / <u>4</u> / 1 step / Y]	
	22	Thick 2C (2nd)	A/B *		
	23	Thick 3C (2nd)	A/B *		
	24	Thick 4C (2nd)	A/B *		
	25	2/3 1C (2nd)	A/- *	[-20 to 40 uA / <u>0</u> / 1 step / Y]	
	26	2/3 2C (2nd)	A/- *		
	27	2/3 3C (2nd)	A/- *		
	28	2/3 4C (2nd)	A/- *		
	315	PTR - trailing edge			Specifies the correction value for the paper transfer roller (PTR) bias for the trailing edge area depending on the paper type and mode. Adjusts only if there are problems with transferring a particular paper type, or in response to field problems as directed by technical support staff.
		01	Normal 1C	A/B *	A: [-20 to 40 uA / <u>-1</u> / 1 step / Y] B: [-20 to 40 uA / <u>-8</u> / 1 step / Y]
		02	Normal 2C	A/B *	A: [-20 to 40 uA / <u>-1</u> / 1 step / Y]
		03	Normal 3C	A/B *	B: [-20 to 40 uA / <u>-10</u> / 1 step / Y]
		04	Normal 4C	A/B *	
		05	Thick 1C	A/B *	[-20 to 40 uA / <u>-1</u> / 1 step / Y]
		06	Thick 2C	A/B *	
07		Thick 3C	A/B *		
08		Thick 4C	A/B *		
09		OHP 1C	A/B *		
10		OHP 2C	A/B *		
11		OHP 3C	A/B *		
12		OHP 4C	A/B *		
13		2/3 1C	A/- *		
14		2/3 2C	A/- *		
15		2/3 3C	A/- *		
16		2/3 4C	A/- *		
17	Normal 1C (2nd)	A/B *	A: [-20 to 40 uA / <u>-1</u> / 1 step / Y] B: [-20 to 40 uA / <u>-8</u> / 1 step / Y]		

Service Tables

2	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]
315	18	Normal 2C (2nd)	A/B *	A: [-20 to 40 uA / <u>-1</u> / 1 step / Y] B: [-20 to 40 uA / <u>-10</u> / 1 step / Y]
	19	Normal 3C (2nd)	A/B *	
	20	Normal 4C (2nd)	A/B *	
	21	Thick 1C (2nd)	A/B *	[-20 to 40 uA / <u>-1</u> / 1 step / Y]
	22	Thick 2C (2nd)	A/B *	
	23	Thick 3C (2nd)	A/B *	
	24	Thick 4C (2nd)	A/B *	
	25	2/3 1C (2nd)	A/- *	
	26	2/3 2C (2nd)	A/- *	
	27	2/3 3C (2nd)	A/- *	
	28	2/3 4C (2nd)	A/- *	
316	PTR - environment			
	01	L Normal 1C	A/B *	A: [10 to 400% / <u>100</u> / 1 / N] B: [10 to 400% / <u>75</u> / 1 / N]
	02	L Normal 4C	A/B *	A: [10 to 400% / <u>89</u> / 1 / N] B: [10 to 400% / <u>100</u> / 1 / N]
	03	L Thick 1C	A/B *	[10 to 400% / <u>100</u> / 1 / N]
	04	L Thick 4C	A/B *	
	05	L OHP 1C	A/B *	A: [10 to 400% / <u>75</u> / 1 / N] B: [10 to 400% / <u>115</u> / 1 / N]
	06	L OHP 4C	A/B *	A: [10 to 400% / <u>70</u> / 1 / N] B: [10 to 400% / <u>115</u> / 1 / N]
	07	L Normal 1C (2/3)	A/- *	[10 to 400% / <u>100</u> / 1 / N]
	08	L Normal 4C (2/3)	A/- *	[10 to 400% / <u>89</u> / 1 / N]
	09	L Normal 1C (2nd)	A/B *	A: [10 to 400% / <u>79</u> / 1 / N] B: [10 to 400% / <u>100</u> / 1 / N]
	10	L Normal 4C (2nd)	A/B *	A: [10 to 400% / <u>70</u> / 1 / N] B: [10 to 400% / <u>90</u> / 1 / N] for EU version B: [10 to 400% / <u>115</u> / 1 / N] for others
	11	L Thick 1C (2nd)	A/B *	[10 to 400% / <u>100</u> / 1 / N]
	12	L Thick 4C (2nd)	A/B *	
	13	L Normal 1C (2/3) (2nd)	A/- *	[10 to 400% / <u>95</u> / 1 / N]
	14	L Normal 4C (2/3) (2nd)	A/- *	[10 to 400% / <u>70</u> / 1 / N]
	21	H Normal 1C	A/B *	A: [10 to 400% / <u>100</u> / 1 / N]
	22	H Normal 4C	A/B *	B: [10 to 400% / <u>115</u> / 1 / N]
	23	H Thick 1C	A/B *	[10 to 400% / <u>100</u> / 1 / N]
	24	H Thick 4C	A/B *	
	25	H OHP 1C	A/B *	A: [10 to 400% / <u>125</u> / 1 / N] B: [10 to 400% / <u>115</u> / 1 / N]

2	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]
316	26	H OHP 4C	A/B *	A: [10 to 400% / <u>100</u> / 1 / N] B: [10 to 400% / <u>115</u> / 1 / N]
	27	H Normal 1C (2/3)	A/- *	[10 to 400% / <u>100</u> / 1 / N]
	28	H Normal 4C (2/3)	A/- *	
	29	H Normal 1C (2nd)	A/B *	
	30	H Normal 4C (2nd)	A/B *	
	31	H Thick 1C (2nd)	A/B *	
	32	H Thick 4C (2nd)	A/B *	
	33	H Normal 1C (2/3) (2nd)	A/- *	
	34	H Normal 4C (2/3) (2nd)	A/- *	
	35	L Normal 1C Trailing	-/B *	[10 to 400% / <u>67</u> / 1 / N]
	36	L Normal 4C Trailing	-/B *	[10 to 400% / <u>53</u> / 1 / N]
	37	L Normal 1C (2nd) Trailing	-/B *	[10 to 400% / <u>59</u> / 1 / N]
	38	L Normal 4C (2nd) Trailing	-/B *	[10 to 400% / <u>48</u> / 1 / N]
	802	00	Forced charger cleaning	-/B
803	Charge cleaning setting			
	01	Auto cleaning ON/OFF	-/B *	Specifies when auto cleaning is performed. [0 to 2 / <u>2</u> / 1 step / Y] 0: Deactivate 1: Acts in the morning 2: Acts at the timing set in SP2-803-002
	02	Development count	-/B *	Sets the development counter. When the counter reaches the set value, auto cleaning is performed before the interval or time process control self check is executed. [0 to 80 K developments / <u>1.0</u> / 0.1 step / Y] 0: Deactivate
	03	Operation time	-/B *	Sets the operation time counter. When the counter reaches the set value, auto cleaning is performed before the interval or time process control self check is executed. [0 to 999 hours / <u>0</u> / 1 step / Y] 0: Deactivate
912	Temp. & Hum. display			Displays the temperature and humidity detected by the humidity sensor.
	01	Temperature	A/B	[- °C / - / 0.1 step / Y]
	02	Humidity (relative)	A/B	[- % / - / 0.1 step / Y]
	03	Humidity (absolute)	-/B	[- / - / 0.1 step / Y]
913	00	Toner overflow sensor	A/B *	Enables/disables the toner overflow sensor. [0 or 1 / <u>1</u> / - / Y] 0: OFF, 1: ON

2	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]	
920	00	Printer mode	A/-	*	Specifies the resolution when printing test patterns. [0 or 1 / <u>0</u> / - / N] 0: 400 dpi, 1: 600 dpi
951	00	Toner end detection	A/B	*	Enables/disables the toner end detection for all colors. [0 or 1 / 0 / - / N] 0: ON, 1: OFF
953	Maximum toner supply ratio				Adjusts the maximum toner supply ratio in the fuzzy supply mode.
	01	[K]	A/B	*	[0 to 100% / <u>100</u> / 1 step / Y]
	02	[Color]	A/B	*	[0 to 100% / <u>100</u> / 1 step / Y]
955	00	Toner end detection	A/B	*	Specifies the method for determining the number of copies, which can be made between toner near end and toner end. [0 or 1 / <u>0</u> / - / N] 0: Pixel count and number of pages 1: Number of pages only
999	00	ITB cleaning release	A/B		Releases the image transfer belt (ITB) cleaning blade and entrance seal from the belt by turning on the fusing motor and ITB cleaning clutch.

SP3-XXX (Process)

3	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]	
103	Vsp display				Displays Vsp measured by the ID sensor.
	01	[K]	A/B		All: [-V / - / 0.01 step / Y]
	02	[C]	A/B		
	03	[M]	A/B		
	04	[Y]	A/B		
107	Vsg displays				Displays Vsg measure by the ID sensor.
	01	[K]	A/B		All: [-V / - / 0.01 step / Y]
	02	[Color]	A/B		
111	00	Residual voltage display	A/B		Displays the residual voltage on the drum measure by the potential sensor. [-V / - / 1 step / Y]
121	Development gamma display				Displays the development gamma.
	01	[K]	A/B		
	02	[C]	A/B		
	03	[M]	A/B		
	04	[Y]	A/B		
122	Vk display				Displays the Vk value.
	01	[K]	A/B		
	02	[C]	A/B		
	03	[M]	A/B		
	04	[Y]	A/B		

3	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]
125	00	Process control method	A/B *	Specifies the process control method. A: [0 to 2 / <u>0</u> / 1 step / Y] B: [0 or 1 / <u>0</u> / - / Y] 0: Enables process control 1: Fixed (VG/VB/VL values are all fixed.) 2: Enables process control in both copy/print modes '2' is only available for A258/259/260 models. When installing a controller, the data should be changed to '2'. If not, the machine will not perform the self-check for print mode.
126	01	Forced self-check	A/B	Performs the forced self-check. [0 or 1 / <u>0</u> / - / N] 0: - , 1: Execute Whenever performing forced self-check, check the result in SP 3-975.
127	Max. M/A (process control)			Adjusts the toner M/A target that is used for the process control gamma correction.
	01	[K]	A/B *	[0.5 to 1.5 mg/cm2 / <u>0.7</u> / 0.001 / Y] DFU
	02	[Color]	A/B *	
128	00	TD auto correction	A/B *	Enables/disables the toner density automatic correction mode during the self-check. A: [0 to 1 / <u>0</u> / - / N] DFU 0: ON, 1: OFF B: [0 to 3 / <u>3</u> / - / N] DFU 0: Perform at initial and forced process control self-check 1: Disable 2: Perform at initial, forced, and interval process control self-check 3: Perform at interval process control self-check
129	Max. M/A (ID sensor)			Adjusts the toner M/A target of the ID sensor pattern.
	01	[K]	A/B *	[0.5 to 1.5 mg/cm2 / <u>0.3</u> / 0.001 / Y] DFU
	02	[Color]	A/B *	[0.5 to 1.5 mg/cm2 / <u>0.4</u> / 0.001 / Y] DFU
130	TD auto correction setting			Specifies the number of copies to consume toner for toner density correction in the initial or interval process control self-check.
	01	Initial self check	-/B *	[0 to 50 copies / <u>10</u> / 1 step / Y]
	02	Interval self check	-/B *	[0 to 50 copies / <u>5</u> / 1 step / Y]
	03	Table limit setting	-/B *	Enables/disables the limit of adjustable range in the potential table. [0 or 1 / <u>0</u> / - / Y] 0: Limit 1: No limit
902	Pointer table display			Displays the pointer table (VD/VB/VL) number selected during the latest self-check.
	01	[K]	A/B	All: [1 to 20 / - / 1 step / Y]

Service Tables

3	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]
	902	02	[C]	A/B
	03	[M]	A/B	
	04	[Y]	A/B	
907	M/A (ID sensor) display			Displays the M/A of the ID sensor most recently detected.
	01	[K]	A/B	All: [- mg/cm2 / - / 0.001 step / Y]
	02	[C]	A/B	
	03	[M]	A/B	
	04	[Y]	A/B	
964	00	Dev. initialization result	A/B	Displays the result of developer initialization. [0 to 999 / - / 1 step / Y] 0: Success Others : Failure See the troubleshooting section for details.
972	00	Self-check interval (H)	A/-	* Adjusts the time interval of timed process control self-check. [0 to 24 hours / <u>6</u> / 1 step / Y] 0: Disables the timed process control self-check.
	Self-check interval			Adjusts the time interval of initial and timed process control self check.
	01	Timed self check	-/B	* Adjusts the time interval of times process control self-check. [0 to 24 hours / <u>6</u> / 1 step / Y] 0: Disable
	02	Initial self check	-/B	* Adjusts the time interval of initial process control self-check. [0 to 24 hours / <u>0</u> / 1 step / Y] 0: Disable Initial self-check will start when the time reaches the set value and if machine is not operated for the time set in SP 3-972-003.
	03	Non-operation time	-/B	* Adjusts the non-operation time. [0 to 24 hours / <u>0</u> / 1 step / Y] 0: Disable
973	00	Self-check interval (P)	A/B	* Adjust the page interval of interval process control self-check. A: [0 to 200 pages / <u>150</u> / 1 step / Y] B: [0 to 500 pages / <u>150</u> / 1 step / Y] 0: Disable
974	Max. M/A (Image process)			Adjusts the maximum toner M/A during the image processing.
	01	[K]	A/B	* [0.5 to 1.5 mg/cm2 / <u>0.7</u> / 0.001 / Y] DFU
	02	[Color]	A/B	*
975	00	Self-check result	A/B	Displays the self-check result. [0 to 999 / - / 1 step / Y] 0: Success Others: Failure See the troubleshooting section for details.

3	Mode No. (Class 1, 2 and 3)			Function
				[Range / <u>Default</u> / Step / Y or N (print)]
980	00	Charge corona fan	A/B *	Specifies the ON timing of the charge corona fan. [0 or 1 / <u>0</u> / - / Y] 0: Fan stays on. 1: Fan turns on when the drum motor turns on or when the machine returns from energy saver mode. The fan turns off 30 seconds after the drum motor turns off or when the machine enters energy saver mode.



SP4-XXX (Scanner)

4	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]
008	00	Sub-scan magnification	A/B *	Adjusts the magnification in the sub-scan direction by changing the scanner motor speed. A: [-1.0 to 1.0 % / <u>0</u> / 0.1 step / Y] B: [-0.9 to 0.9 % / <u>0</u> / 0.1 step / Y]
010	00	Leading edge regist.	A/B *	Adjusts the leading edge registration by changing the laser exposure start timing in the sub-scan direction. A: [-5.0 to 5.0 mm / <u>0</u> / 0.1 step / Y] B: [-4.0 to 4.0 mm / <u>0</u> / 0.1 step / Y]
011	00	Side-to-side regist.	A/B *	Adjusts the side-to-side registration by changing the laser exposure start timing in the main scan direction. A: [-6.0 to 6.0 mm / <u>0</u> / 0.1 step / Y] B: [-2.5 to 2.5 mm / <u>0</u> / 0.1 step / Y]
012	Blank margin			Sets the blank margin at each side for erasing the original shadow caused by the gap between the original and scale.
	01	Rear	A/B *	All: [0 to 3.0 mm / <u>0</u> / 0.1 step / N]
	02	Front	A/B *	
	03	Left	A/B *	
	04	Right	A/B *	
013	Scanner free run			Performs the scanner free run in the full size mode with the exposure lamp ON or OFF.
	01	Lamp ON	A/B	All: [0 or 1 / - / - / N]
	02	Lamp OFF	A/B	0: Stop, 1: Start
205	00	ADS level (B/W mode)	-/B *	Adjusts the background level in ADS/B&W copy mode. [0 to 50 / <u>18</u> / 1 step / N] Increasing: Background density becomes lighter. Decreasing: Background density becomes darker.
301	00	APS operation test	A/B	Shows the width of the original detected by the original width and length sensors.
303	00	APS minimum size	A/B *	Specifies the minimum original size (A5 or HLT portrait) when all the original width sensor outputs are OFF [0 or 1 / 0 / - / N] 0: No detection, 1: A5/HLT NOTE: This is not applicable for A258/259/260 copiers.

4	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]
501	01	[K] Text	A/B *	All: [0 to 50 / <u>5</u> / 1 step / Y] DFU Do not change the data in the field. Adjust the manual gamma for the image quality adjustment. The image quality can be adjusted only by changing the manual gamma.
	02	[C] Text	A/B *	
	03	[M] Text	A/B *	
	04	[Y] Text	A/B *	
	05	[K] Photo	A/B *	
	06	[C] Photo	A/B *	
	07	[M] Photo	A/B *	
	08	[Y] Photo	A/B *	
502	ACC target (Printer)			Adjusts the ACC targets for text and photo mode in print mode. All: [0 to 50 / <u>5</u> / 1 step / Y] DFU Do not change the data in the field. Adjust the manual gamma for the image quality adjustment. The image quality can be adjusted only by changing the manual gamma.
	01	[K] Text	A/B *	
	02	[C] Text	A/B *	
	03	[M] Text	A/B *	
	04	[Y] Text	A/B *	
	05	[K] Photo	A/B *	
	06	[C] Photo	A/B *	
	07	[M] Photo	A/B *	
505	ACC Correction (Highlight)			Adjusts the ACC target for highlight areas to correct the differences between machines. All: [-128 to 127 / <u>0</u> (FA) / 1 step / N] DFU Only when replacing SBU (lens block with CCD), set the data printed on the data sheet enclosed with the service part.
	01	[K]	A/B *	
	02	[C]	A/B *	
	03	[M]	A/B *	
	04	[Y]	A/B *	
506	ACC Correction (Shadow)			Adjusts the ACC target for shadow areas to correct the differences between machines. All: [-128 to 127 / <u>0</u> (FA) / 1 step / N] DFU Only when replacing SBU (lens block with CCD), set the data printed on the data sheet enclosed with the service part.
	01	[K]	A/B *	
	02	[C]	A/B *	
	03	[M]	A/B *	
	04	[Y]	A/B *	
904	IPU board test			Tests the scanner IPU board. Performs write/read check for each ASIC. [0 to 0x17 / - / - / N] 0: OK, Others: Defective Performs test for functions such as shading, picture elements correction, color conversion, image separation, and magnification. [0 to 0x2A / - / - / N] 0: OK, Others: Defective
	01	Test 1	A/B	
	02	Test 2	A/B	

4	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]
905	00	Dither selection	-/B *	Selects the dither pattern for copying or for test print. [0 to 255 / 0 / 1 step / N] 0: Default setting Letter/Photo 1: RC-200-like dither (170 lines/inch) Photo 2: RC-210-like dither (2 bit mode) Photo 16: 1x1 dither (applied to whole image) Letter 32: 1x1 dither (applied only to letters/lines) Letter 64: 2x2 dither Photo 128: 2x2 dither (less than 33% reduction) Photo 255: 1x1 dither Letter/Photo NOTE: When you change the data from the default setting, copies are made by using the selected dither pattern.
907	00	VPU test pattern	A/B *	Selects the mode to print the test pattern out. The analog video ASIC makes test patterns 1 to 5. [0 to 5 / 0 / 1 step / N] 0: CCD output 1: Black pattern 2: White pattern 3: 16-gradation pattern 4: 4-dot grid pattern 5: 2-dot grid pattern
910	Copy gamma - Letter [K]			Adjusts the black printer gamma for letter mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B *	
	03	S (Offset)	A/B *	
	04	IDmax (Offset)	A/B *	
	05	H (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	06	M (Option)	A/B *	
	07	S (Option)	A/B *	
08	IDmax (Option)	A/B *		
911	Copy gamma - Letter [C]			Adjusts the cyan printer gamma for letter mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B *	
	03	S (Offset)	A/B *	
	04	IDmax (Offset)	A/B *	
	05	H (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	06	M (Option)	A/B *	
	07	S (Option)	A/B *	
08	IDmax (Option)	A/B *		
912	Copy gamma - Letter [M]			Adjusts the magenta printer gamma for letter mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y]

4	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]
912	02	M (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	03	S (Offset)	A/B *	
	04	IDmax (Offset)	A/B *	
	05	H (Option)	A/B *	
	06	M (Option)	A/B *	
	07	S (Option)	A/B *	
	08	IDmax (Option)	A/B *	
913	Copy gamma - Letter [Y]			Adjusts the yellow printer gamma for letter mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B *	
	03	S (Offset)	A/B *	
	04	IDmax (Offset)	A/B *	
	05	H (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	06	M (Option)	A/B *	
	07	S (Option)	A/B *	
914	Copy gamma - Letter [SC/K]			Adjusts the black printer gamma for letter (single color) mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B *	
	03	S (Offset)	A/B *	
	04	IDmax (Offset)	A/B *	
	05	H (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	06	M (Option)	A/B *	
	07	S (Option)	A/B *	
915	Copy gamma - Photo [K]			Adjusts the black printer gamma for photo mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B *	
	03	S (Offset)	A/B *	
	04	IDmax (Offset)	A/B *	
	05	H (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	06	M (Option)	A/B *	
	07	S (Option)	A/B *	
916	Copy gamma - Photo [C]			Adjusts the cyan printer gamma for photo mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B *	
	03	S (Offset)	A/B *	

4	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]
916	04	IDmax (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	05	H (Option)	A/B *	
	06	M (Option)	A/B *	
	07	S (Option)	A/B *	
	08	IDmax (Option)	A/B *	
917	Copy gamma - Photo [M]			Adjusts the magenta printer gamma for photo if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B *	
	03	S (Offset)	A/B *	
	04	IDmax (Offset)	A/B *	
	05	H (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	06	M (Option)	A/B *	
	07	S (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
08	IDmax (Option)	A/B *		
918	Copy gamma - Photo [Y]			Adjusts the yellow printer gamma for photo mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B *	
	03	S (Offset)	A/B *	
	04	IDmax (Offset)	A/B *	
	05	H (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	06	M (Option)	A/B *	
	07	S (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
08	IDmax (Option)	A/B *		
919	Print gamma - [K]			Adjusts the black printer gamma in print mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B *	
	03	S (Offset)	A/B *	
	04	IDmax (Offset)	A/B *	
	05	H (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	06	M (Option)	A/B *	
	07	S (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
08	IDmax (Option)	A/B *		
920	Print gamma - [C]			Adjusts the cyan printer gamma in print mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B *	
	03	S (Offset)	A/B *	
	04	IDmax (Offset)	A/B *	
	05	H (Option)	A/B *	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
06	M (Option)	A/B *		

4	Mode No. (Class 1, 2 and 3)				Function
					[Range / <u>Default</u> / Step / Y or N (print)]
920	07	S (Option)	A/B	*	
	08	IDmax (Option)	A/B	*	
921	Print gamma - [M]				Adjusts the magenta printer gamma in print mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B	*	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B	*	
	03	S (Offset)	A/B	*	
	04	IDmax (Offset)	A/B	*	
	05	H (Option)	A/B	*	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	06	M (Option)	A/B	*	
	07	S (Option)	A/B	*	
08	IDmax (Option)	A/B	*		
922	Print gamma - [Y]				Adjusts the yellow printer gamma in print mode if the results of ACC are not satisfactory. H: Highlight, M: Middle, S: Shadow
	01	H (Offset)	A/B	*	All: [0 to 30 / <u>15</u> / 1 step / Y]
	02	M (Offset)	A/B	*	
	03	S (Offset)	A/B	*	
	04	IDmax (Offset)	A/B	*	
	05	H (Option)	A/B	*	All: [0 to 30 / <u>15</u> / 1 step / Y] DFU
	06	M (Option)	A/B	*	
	07	S (Option)	A/B	*	
08	IDmax (Option)	A/B	*		
932	Main scan dot position correction				Adjusts the left and right ends of the red and blue scan lines to align them with the green scan line.
	01	[R] Left	A/B	*	All: [0 to 9 / <u>5</u> / 1 step / N]
	02	[R] Right	A/B	*	
	03	[B] Left	A/B	*	
	04	[B] Right	A/B	*	
980	FPU reference setting				Adjusts or displays the reference value used in the A/D converter for RGB signals in the scanner analog processing circuit when the FPU is used.
	01	[R] Positive	A/-	*	All: [0 to 255 / <u>133</u> / 1 step / N] DFU
	02	[G] Positive	A/-	*	
	03	[B] Positive	A/-	*	
	04	[R] Negative	A/-	*	
	05	[G] Negative	A/-	*	
	06	[B] Negative	A/-	*	
981	FPU white level target				Shows or sets the target level of the reference white level for positive and negative films when the FPU is used.
	01	Positive	A/-	*	All: [0 to 1023 / <u>568</u> / 1 step / N] DFU
	02	Negative	A/-	*	

SP5-XXX (Mode)

5		Mode No. (Class 1, 2 and 3)		Function [Range / <u>Default</u> / Step / Y or N (print)]	
001	00	Operation panel all on	A/B		Turns on all the indicators to test the operation panel display functions. [0 or 1 / <u>0</u> / - / N] 0: Normal display, 1: All on
009	Operation panel setting				Specifies the display language and paper size.
	01	Language selection	A/B	*	[0 to 15 / <u>1</u> / 1 step / N] 0: Japanese 1: English 2: French 3: German 4: Spanish 5: Italian 6: Portuguese 7: Dutch 8: Danish 9: Swedish 10: Norwegian 11: Czech 12: Polish 13: Russian 14: Brazilian 15: Taiwan Chinese
	02	Paper size detection	A/B	*	[0 or 1 / <u>0</u> (EU) or 1 (NA) / - / N] 0: Metric, 1: Inches This affects the available magnification ratios and the unit that is displayed when inputting values for directional size magnification. Available paper sizes and other features are not affected.
104	00	A3/DLT double count	A/B	*	Enable/disable the double count for A3/DLT paper size. [0 or 1 / <u>0</u> / - / N] 0: Normal count, 1: Double count
113	00	Key card / Coin lock	A/B	*	Specifies the type of accounting option. [0 to 3 / <u>0</u> / 1 step / N] 0: None 1: Key card (Japan only) 2: Key counter 3: Coin lock (Japan only)
114	00	Account mode setup	A/B	*	Specifies which color mode(s) can be accessible for key counter or user code mode. BW: Black and white S: Single color T: Twin color FC: Full color [1 to 15 / <u>15</u> / 1 step / N] 1: BW 2: S 3: BW/S 4: T 5: BW/T 6: S/T 7: BW/S/T 8: FC 9: BW/FC 10: S/FC 11: BW/S 12: T/FC 13: BW/T/FC 14: S/T/FC 15: BW/S/T/FC
120	00	Key counter clear	A/B	*	Specifies whether the current mode is cleared or not when the key counter is removed. [0 or 1 / <u>1</u> / - / N] 0: Not cleared, 1: Cleared
121	00	Key card count-up timing	A/B	*	Specifies the timing when the counter is counted up. [0 or 1 / <u>1</u> / - / N] 0: Paper feed-in, 1: Paper feed-out

Service Tables

5	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]	
126	00	F size detection	A/B	*	Specifies which original size the machine detects when the APS sensors detect F size. [0 to 2 / <u>0</u> / 1 step / N] 0: F4 (8 1/2" x 13"), 1: F(8"x13"), 2: Folio(8 1/4"x13")
127	Coin lock - feature prohibition				Specifies whether APS or ACS is disabled or enabled.
	01	APS	A/B	*	All: [0 or 1 / <u>0</u> / - / N] (Japan only)
	02	ACS	A/B	*	0: Disabled, 1: Enabled
128	00	User code + coin lock	A/B	*	Specifies whether both user code and coin lock can be used. [0 or 1 / 0 / - / N] (Japan only) 0: One of them, 1: Both
410	00	User code pass clear	A/B		Resets the password for the user code. Use this when the user forgets it. Selects '1' to clear the password.
501	00	PM counter set	A/B	*	Sets the PM counter interval. [0 to 999999 / <u>60000</u> / 1 step / N]
504	00	Jam alarm set	A/B	*	Sets the jam alarm interval. [0 to 3 / <u>3</u> / 1 step / N] (Japan only) 0: Not used, 1: 250 sheets, 2: 500 sheets, 3: 1,000 sheets
505	00	SC alarm set	A/B	*	Sets the SC alarm interval. [0 to 3 / <u>10</u> / 1 step / N] (Japan only) 0: Not used, 1: 250 sheets, 2: 500 sheets, 3: 1,000 sheets
507	Supply alarm set				Enable/disable the supply alarm.
	01	Toner end	A/B	*	All: [0 or 1 / <u>0</u> / - / N] (Japan only)
	02	Copy count	A/B	*	0: OFF, 1:ON
	03	Staple	A/B	*	
	131	A2	A/B	*	
	132	A3	A/B	*	
	133	A4	A/B	*	
	134	A5	A/B	*	
	140	B3	A/B	*	
	141	B4	A/B	*	
	142	B5	A/B	*	
	143	B6	A/B	*	
	160	DLT	A/B	*	
	164	LG	A/B	*	
166	LT	A/B	*		
508	00	CC auto call	A/B	*	Enable/disable CC auto call. [0 or 1 / <u>0</u> / - / N] (Japan only) 0: OFF, 1:ON
609	00	Ink-jet mode	A/B	*	Selects the type of printers to simulate the color. [7 to 9 / 7 / 1 step / N] DFU This mode can be selected in the User Tool.

5	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]
610	ACC factory setting			Resets the factory settings or overwrites the current value onto the factory settings.
	04	Recall	A/B	[0 or 1 / <u>0</u> / - / N] 0: -, 1: Recall
	05	Overwrite	A/B	[0 or 1 / <u>0</u> / - / N] 0: -, 1: Overwrite
611	Color ratio in 2C mode			Specifies the color ratio contained in the color (2C mode).
	01	[C] Blue	A/B *	[0 to 100% / <u>90</u> / 1 step / N]
	02	[M] Blue	A/B *	[0 to 100% / <u>80</u> / 1 step / N]
	03	[C] Green	A/B *	[0 to 100% / <u>90</u> / 1 step / N]
	04	[Y] Green	A/B *	[0 to 100% / <u>80</u> / 1 step / N]
	05	[M] Red	A/B *	[0 to 100% / <u>100</u> / 1 step / N]
	06	[Y] Red	A/B *	[0 to 100% / <u>80</u> / 1 step / N]
612	00	Scanner gamma selection	A/B *	Changes the color correction coefficient for the text/photo, text, and photo modes. [0 to 2 / <u>0</u> / 1 step / N] DFU
801	01	NV-RAM clear	A/B	Resets the NV-RAM to the factory settings except for the machine serial number, counter values, counting method. Selects '1' to clear the NV-RAM.
802	System free run			Performs the free run
	01	Printer	A/B	All: [0 or 1 / <u>0</u> / - / N]
	02	System	A/B	0: Stop, 1: Start
803	xx	Input check	A/B	Refer to 'Service Tables - Input Check'.
804	xx	Output check	A/B	Refer to 'Service Tables - Output Check'.
810	00	SC Reset	A/B	Resets a type A service call condition, which is caused by the fusing section. Selects '1' to reset the SC condition. After resetting the SC code, the main switch has to be turned off and on.
811	00	Serial Number	A/B *	Displays the serial number.
812	00	Service Tel. No.	A/B *	Inputs the telephone number of the service representative. This number is displayed when a service call condition occurs.
816	00	RDS ON/OFF	A/B *	Enables RDS function when the RDS system is connected. Sets this SP to '1' to enable RDS.
817	00	Maintenance time	A/B	Sends the starting and finishing time of maintenance to the RDS center. 1: Start, 2: Finish
824	00	NV-RAM upload	A/B	Uploads the data from the NV-RAM to the flash ROMs on the main control board. Selects '1' to upload the data or press "ON" key.
825	00	NV-RAM download	A/B	Download the data uploaded to the flash ROMs to the NV-RAM. Selects '1' to download the data or press "ON" key.

Service Tables

5	Mode No. (Class 1, 2 and 3)			Function [Range / Default / Step / Y or N (print)]
827	Program download			Downloads the program from the flash ROM (IC) card to the main control / IPU board.
	00	Main program	A/-	Flash ROM (IC) card to the main control board
	01	Main program	-/B	Selects '1' to download the program.
	02	Scanner program	-/B	Flash ROM (IC) card to the IPU board Selects '1' to download the program.
955	Printer Test Pattern			Selects the test pattern.
	01	LD PM setup	A/B	* [0 to 255 / <u>128</u> / 1 step / N]
	02	16 grayscale 1	A/B	* [0 to 255 / <u>17</u> / 1 step / N]
	03	16 grayscale 2	A/B	* [0 to 255 / <u>34</u> / 1 step / N]
	04	16 grayscale 3	A/B	* [0 to 255 / <u>51</u> / 1 step / N]
	05	16 grayscale 4	A/B	* [0 to 255 / <u>68</u> / 1 step / N]
	06	16 grayscale 5	A/B	* [0 to 255 / <u>85</u> / 1 step / N]
	07	16 grayscale 6	A/B	* [0 to 255 / <u>102</u> / 1 step / N]
	08	16 grayscale 7	A/B	* [0 to 255 / <u>119</u> / 1 step / N]
	09	16 grayscale 8	A/B	* [0 to 255 / <u>136</u> / 1 step / N]
	10	16 grayscale 9	A/B	* [0 to 255 / <u>153</u> / 1 step / N]
	11	16 grayscale 10	A/B	* [0 to 255 / <u>170</u> / 1 step / N]
	12	16 grayscale 11	A/B	* [0 to 255 / <u>187</u> / 1 step / N]
	13	16 grayscale 12	A/B	* [0 to 255 / <u>204</u> / 1 step / N]
	14	16 grayscale 13	A/B	* [0 to 255 / <u>221</u> / 1 step / N]
	15	16 grayscale 14	A/B	* [0 to 255 / <u>238</u> / 1 step / N]
	16	16 grayscale 15	A/B	* [0 to 255 / <u>255</u> / 1 step / N]
	17	16 grayscale 16	A/B	* [0 to 255 / <u>128</u> / 1 step / N]
	18	Pattern selection	A/B	* 0: No pattern 1: Print margin pattern 2: Print out all fonts 3: 1dot/line grid pattern 4: Belt pattern 5: 16gradation with blank 6: Solid 7: 1 dot pattern (2x2) 8: 1 dot pattern (4x4) 9: 1 dot sub-scan line 10: 2 dot sub-scan line 11: 1 dot main scan line 12: 2 dot main scan line 13: Color patch 14: Grid pattern with scanner image 15: 2 dot line grid pattern 16: 16-gradation pattern 17: 256-gradation pattern
963	00	Polygon mirror motor off	A/B	* Sets the interval from the time the last page is exited until the polygon mirror motor stops. This is done when the copier enters the standby state after completing a job. Keep this at '30' to prevent the motor from wearing out too early. If the user complains of noise set it to '0'. The motor will stop immediately after the job. [0 to 60 seconds / <u>30</u> / 1 step / N]

5	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]	
979	02	SC condition disable	A/B	*	Disables the self-diagnostic function. Selects '1' to disable the self-diagnostics.

SP6-XXX (Peripherals)

6	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]	
006	ADF registration (A)			Adjusts the side-to-side or vertical registration by changing the scanning position for ARDF.	
	01	Side-to Side	A/B	*	[-3.0 to 3.0 mm / <u>0.0</u> / 0.1 step / N]
	02	Vertical (1st) Thin	A/B	*	[-15 to 15 / <u>0</u> / 1 step / N]
	03	Vertical (1st) Thick	A/B	*	
	04	Vertical (2nd) Thick	A/B	*	
102	00	Sorter/Stack Limit	A/B	*	Enables or disables the limitation on the number of sheets that can be stacked in the sorter. [0 or 1 / 1 / - / N] 0: Disable, 1: Enable NOTE: This limit can be disabled if user requests, but user has to make sure that jams do not occur.
104	00	Staple limit		*	Enables or disables the limitation on the number of sheets that can be stapled. [0 or 1 / 1 / - / N] 0: Disable, 1: Enable NOTE: This limit can be disabled if user requests, but user has to make sure that jams do not occur
107	00	Sorter free run	A/B		Executes the sorter free run mode.

Service
Tables

SP7-XXX (Logging)

7	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]	
008	00	Counter (D)	A/B	*	Specifies the counting method, development count or copy count. [1 or 2 / <u>1</u> / - / N] 1: Development counter, 2: Copy counter NOTE: This setting only can be changed once at installation (before the counted value is negative).
202	Development counter (D)			Displays the total number of developments in each color and grand total.	
	01	Total	A/B	*	[0 to 9999999 / <u>0</u> / 1 step / N]
	02	[K]	A/B	*	
	03	[C]	A/B	*	
	04	[M]	A/B	*	
	05	[Y]	A/B	*	

7	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]
203	PM counter (image) (D)			Displays the number of developments made on each component related to the image development section.
	01	Drum	A/B	*
	02	Image transfer belt (ITB)	A/B	*
	03	Filter (scanner)	A/B	*
	04	Filter (charge)	A/B	*
	05	Filter (exhaust)	A/B	*
	06	PCC wire	A/B	*
	07	Charge wire	A/B	*
	08	Charge grid	A/B	*
	09	Charge cleaner	-/B	*
207	PM counter (cleaning) (D)			Displays the number of developments or copies made on each component related to the cleaning section.
	01	Blade (Drum)	A/B	*
	02	Brush (Drum)	A/B	*
	03	Lubricant (Drum)	A/B	*
	04	Brush (ITB)	A/B	*
	05	Lubricant (ITB)	A/B	*
	06	Blade (PTR) Dev.	A/B	*
	07	Blade (PTR) Copy	A/B	*
	08	Lubricant (PTR) Dev.	A/B	*
	09	Lubricant (PTR) Copy	A/B	*
	12	Blade (ITB)	A/B	*
210	PM counter (fusing) (D)			Displays the number of developments or copies made on each component related to the fusing section.
	01	Hot roller Copy	A/B	*
	02	Hot roller Dev.	A/B	*
	03	Pressure roller Copy	A/B	*
	04	Pressure roller Dev.	A/B	*
	05	Oil supply pad Copy	A/B	*
	06	Oil supply pad Dev.	A/B	*
	07	Oil blade Copy	A/B	*
	08	Oil blade Dev.	A/B	*
	09	Cleaning blade Copy	A/B	*
	10	Cleaning blade Dev.	A/B	*
	15	Cleaning pad Copy	A/B	*
	16	Cleaning pad Dev.	A/B	*
	17	Fusing belt Copy	-/B	*
	18	Fusing belt Dev.	-/B	*
	19	Tension roller Copy	-/B	*
	20	Tension roller Dev.	-/B	*
401	00	SC counter (D)	A/B	*
				Displays the total number of SCs detected.

7	Mode No. (Class 1, 2 and 3)				Function [Range / Default / Step / Y or N (print)]
402	SC history (D)				Displays the 10 most recently detected SCs.
	01	Latest	A/B	*	[0 to 65535 / <u>0</u> / 1 step / N]
	02	Latest -1	A/B	*	
	03	Latest -2	A/B	*	
	04	Latest -3	A/B	*	
	05	Latest -4	A/B	*	
	06	Latest -5	A/B	*	
	07	Latest -6	A/B	*	
	08	Latest -7	A/B	*	
	09	Latest -8	A/B	*	
	10	Latest -9	A/B	*	
502	01	Total paper jam (D)		A/B *	Displays the total number of paper jams. [0 to 65535 / <u>0</u> / 1 step / N]
503	01	Total original jam (D)		A/B *	Displays the total number of original jams. [0 to 65535 / <u>0</u> / 1 step / N]
504	Paper jam counter (D)				Displays the number of paper jams at each location.
	01	Initial jam	A/B	*	[0 to 65535 / <u>0</u> / 1 step / N]
	02	Tray 1	A/B	*	
	03	Tray 2	A/B	*	
	04	Tray 3	A/B	*	
	05	Tray 4	A/B	*	
	06	Duplex entrance	A/B	*	
	07	Duplex feed	A/B	*	
	08	Relay roller	A/B	*	
	09	Registration roller	A/B	*	
	10	Paper transfer	A/B	*	
	11	Fusing	A/B	*	
	12	Paper exit	A/B	*	
	13	Duplex exit	A/B	*	
	14	Sorter	A/B	*	
	15	Staple	A/B	*	
	16	Proof tray	A/B	*	
505	Original jam counter (D)				Displays the number of original jams at each location.
	01	Feed	A/B	*	[0 to 65535 / <u>0</u> / 1 step / N]
	02	Exit	A/B	*	
801	ROM version (D)				Displays the firmware version
	01	Main	A/B		
	02	Scanner IPU	A/B		
	03	IDU	A/-		
	04	ADF	A/B		
	05	Sorter	A/B		
	06	Paper tray unit	A/B		
	07	FPU	A/-		

Service
Tables

7	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]	
803	01	PM counter (D)	A/B	*	Displays the current value of the PM counter. [0 to 9999999 / <u>0</u> / 1 step / N]
804	PM counter clear				Resets PM counters for 1 PM parts counters, 2 PM parts counters, or PM counter to zero.
	01	All clear (1PM)	A/B		1: Clear
	02	All clear (2PM)	A/B		
	03	All clear (PM counter)	A/B		
807	00	SC/Jam counter clear	A/B		Resets SC and jam counters to zero. 1: Clear
808	00	Clear all counters	A/B		Resets all counters to zero, except for the PM counter
809	Logging data print				Prints the lists of counters.
	01	Logging counter	A/B		1: Print
	02	SC/Jam history	A/B		
	03	Operation counter	A/B		
	04	All pages	A/B		
810	00	Copy counter clear	A/B		Resets copy counter to zero. 1: Clear
816	00	Tray counter clear	A/B		Resets copy counters for each tray to zero. 1: Clear
818	Development counter clear				Resets the development counter to zero.
	01	[K]	A/B		1: Clear
	02	[C]	A/B		
	03	[M]	A/B		
	04	[Y]	A/B		
819	00	Paper size counter clear	A/B		Resets the copy counters by paper size to zero. 1: Clear
825	00	Total counter reset	A/B		Resets the total counter value to zero if the counter is negative value. 1: Clear
902	00	Print non-default data	A/B		Prints a list of data that have been changed from their defaults. 1: Print
903	00	Print all data	A/B		Prints lists of all printable data in SP mode. 1: Print
904	Print gamma setting				Prints the gamma setting in copy or print mode.
	01	Copy mode	A/B		1: Print
	02	Print mode	A/B		
905	00	Print PM counter	A/B		Prints the PM counter values. 1: Print
910	PM counter (Separation)				Displays the number of copies or development made for the paper separation corona wire.
	01	Separation wire Copy	A/B	*	[0 to 9999999 / <u>0</u> / 1 step / N]
	02	Separation wire Dev.	A/B	*	

7	Mode No. (Class 1, 2 and 3)				Function [Range / <u>Default</u> / Step / Y or N (print)]
911	PM counter (duplex)				Displays the number of copies or development made on rollers
	01	Separation roller Copy	A/B	*	[0 to 9999999 / <u>0</u> / 1 step / N]
	02	Separation roller Dev.	A/B	*	
	03	Feed roller Copy	A/B	*	
	04	Feed roller Dev.	A/B	*	
912	01	PM counter (exposure)	A/B	*	Displays the number of development made. [0 to 9999999 / <u>0</u> / 1 step / N]

SP8-XXX (Special Mode)

8	Mode No. (Class 1, 2 and 3)				Function [Range / <u>Default</u> / Step / Y or N (print)]	
111 211 311	Leading registration SP1				Adjust the leading edge registration for the paper type selected for special operation modes.	
	Leading registration SP2					
	Leading registration SP3					
	01	Normal	A/B	*		All: [-5.0 to 5.0 mm / <u>0.0</u> / 0.1 step / Y]
113 213 313	Paper feed timing SP1				Adjusts the amount of paper buckle at the registration roller for special operation modes.	
	Paper feed timing SP2					
	Paper feed timing SP3					
	01	By-pass	A/B	*		[-5.0 to 5.0 mm / <u>0.0</u> / 0.1 step / Y]
	02	Paper trays	A/B	*		
115 215 315	Fusing temperature SP1				Set the temperature of each condition for special operation modes.	
	Fusing temperature SP2					
	Fusing temperature SP3					
	02	H: Standby (1st)	A/B	*		A: [100 to 200 °C / <u>165</u> / 1 step / N]
	03	H: Copy (1st) Norma FC	A/B	*		B: [-20 to 20 °C / <u>0</u> / 1 step / N]
	04	H: Copy (1st) Normal 1C	A/B	*		A: [100 to 200 °C / <u>160</u> / 1 step / N] B: [-20 to 20 °C / <u>0</u> / 1 step / N]
124 224 324	00	PTR AC ON/OFF SP1	-B	*	Turns off or on the AC component applied to the paper separation. [0 or 1 / <u>1</u> / - / N] 0: OFF, 1: ON	
		PTR AC ON/OFF SP2				
		PTR AC ON/OFF SP3				
129 229 329	00	ITB leading edge SP1	-B	*	Specifies the correction value for the image transfer belt (ITB) bias for the leading edge area in special operation modes. [-20.0 to 20.0 / <u>6.0</u> / 0.1 step / N]	
	ITB leading edge SP2					
	ITB leading edge SP3					

8	Mode No. (Class 1, 2 and 3)			Function [Range / <u>Default</u> / Step / Y or N (print)]
130 230 330	PTR bias SP1 PTR bias SP2 PTR bias SP3			Specifies the paper transfer roller (PTR) bias settings for special operation modes.
130				
02	Normal [1C]	A/B	*	A: [1 to 50 uA / <u>10</u> / 1 step / N] B: [1 to 50 uA / <u>16</u> / 1 step / N]
05	Normal [4C]	A/B	*	A: [1 to 50 uA / <u>18</u> / 1 step / N] B: [1 to 50 uA / <u>20</u> / 1 step / N]
18	Normal [1C] (2nd)	A/B	*	A: [1 to 50 uA / <u>10</u> / 1 step / N] B: [1 to 50 uA / <u>18</u> / 1 step / N]
21	Normal [4C] (2nd)	A/B	*	A: [1 to 50 uA / <u>15</u> / 1 step / N] B: [1 to 50 uA / <u>22</u> / 1 step / N]
230				
02	Normal [1C]	A/B	*	A: [1 to 50 uA / <u>15</u> / 1 step / N] B: [1 to 50 uA / <u>8</u> / 1 step / N]
05	Normal [4C]	A/B	*	A: [1 to 50 uA / <u>15</u> / 1 step / N] B: [1 to 50 uA / <u>10</u> / 1 step / N]
18	Normal [1C] (2nd)	A/B	*	A: [1 to 50 uA / <u>10</u> / 1 step / N] B: [1 to 50 uA / <u>8</u> / 1 step / N]
21	Normal [4C] (2nd)	A/B	*	A: [1 to 50 uA / <u>10</u> / 1 step / N] B: [1 to 50 uA / <u>10</u> / 1 step / N]
330				
02	Normal [1C]	A/B	*	A: [1 to 50 uA / / 1 step / N] B: [1 to 50 uA / <u>10</u> / 1 step / N]
05	Normal [4C]	A/B	*	A: [1 to 50 uA / / 1 step / N] B: [1 to 50 uA / <u>18</u> / 1 step / N]
18	Normal [1C] (2nd)	A/B	*	A: [1 to 50 uA / / 1 step / N] B: [1 to 50 uA / <u>12</u> / 1 step / N]
21	Normal [4C] (2nd)	A/B	*	A: [1 to 50 uA / / 1 step / N] B: [1 to 50 uA / <u>15</u> / 1 step / N]
134 234 334	PTR leading edge SP1 PTR leading edge SP2 PTR leading edge SP3			Specifies the correction value for the paper transfer roller (PTR) bias for the leading edge area depending on the paper type and mode for special operation modes.
134				
01	Normal 1C	A/B	*	[-20 to 40 uA / <u>0</u> / 1 step / N]
04	Normal 4C	A/B	*	
17	Normal 1C (2nd)	A/B	*	
20	Normal 4C (2nd)	A/B	*	[-20 to 40 uA / <u>2</u> / 1 step / N]
234				
01	Normal 1C	A/B	*	[-20 to 40 uA / <u>0</u> / 1 step / N]
04	Normal 4C	A/B	*	
17	Normal 1C (2nd)	A/B	*	
20	Normal 4C (2nd)	A/B	*	[-20 to 40 uA / <u>4</u> / 1 step / N]
330				
01	Normal 1C	A/B	*	[-20 to 40 uA / <u>0</u> / 1 step / N]
04	Normal 4C	A/B	*	[-20 to 40 uA / <u>0</u> / 1 step / N]

8	Mode No. (Class 1, 2 and 3)				Function
	[Range / <u>Default</u> / Step / Y or N (print)]				
134	17	Normal 1C (2nd)	A/B	*	[-20 to 40 uA / <u>0</u> / 1 step / N]
234 334	20	Normal 4C (2nd)	A/B	*	[-20 to 40 uA / <u>2</u> / 1 step / N]
135 235 335	PTR trailing edge SP1 PTR trailing edge SP2 PTR trailing edge SP3			Specifies the correction value for the paper transfer roller (PTR) bias for the trailing edge area depending on the paper type and mode for special operation modes.	
	01	Normal 1C	A/B	*	A: [-20 to 40 uA / <u>0</u> / 1 step / N]
	04	Normal 4C	A/B	*	B: [-20 to 40 uA / <u>-1</u> / 1 step / N]
	17	Normal 1C (2nd)	A/B	*	
	20	Normal 4C (2nd)	A/B	*	
136 236 336	PTR environment SP1 PTR environment SP2 PTR environment SP3			Specifies the correction value for the paper transfer roller (PTR) bias depending on the humidity for special operation modes.	
	136				
	01	L Normal 1C	A/B	*	[10 to 400 % / <u>75</u> / 1 step / N]
	02	L Normal 4C	A/B	*	[10 to 400 % / <u>100</u> / 1 step / N]
	05	H Normal 1C	A/B	*	[10 to 400 % / <u>115</u> / 1 step / N]
	06	H Normal 4C	A/B	*	
	33	L Normal 1C (2nd)	A/B	*	
	34	L Normal 4C (2nd)	A/B	*	
	37	H Normal 1C (2nd)	A/B	*	[10 to 400 % / <u>100</u> / 1 step / N]
	38	H Normal 4C (2nd)	A/B	*	
	236, 336				
	01	L Normal 1C	A/B	*	[10 to 400 % / <u>100</u> / 1 step / N]
	02	L Normal 4C	A/B	*	
	05	H Normal 1C	A/B	*	
	06	H Normal 4C	A/B	*	
	33	L Normal 1C (2nd)	A/B	*	
	34	L Normal 4C (2nd)	A/B	*	
	37	H Normal 1C (2nd)	A/B	*	
	38	H Normal 4C (2nd)	A/B	*	

Service
Tables

4.4 SP MODE ADDITIONAL NOTES

4.4.1 SP5-804 OUTPUT CHECK

A258/B018 (1=ON, 0=OFF) A259/A260/B017 (ON, OFF)

No. for Class 3	Load Name	Actual Display	A258/A259/A260	B017/B018
001	Drum motor, standard speed, forward	DRUM MT 1ST CW	○	○
002	Drum motor, half speed, forward	DRUM MT 2ND CW	○	○
003	Drum motor, standard speed, backward	DRUM MT 1ST CCW	○	○
004	Drum motor, 2/3 speed	DRUM MT 3RD CW	○	○
005	Fusing motor, standard speed	FUSER MT 1ST	○	○
006	Fusing motor, half speed	FUSER MT 2ND	○	○
007	Fusing motor, 2/3 speed	FUSER MT 3RD	○	○
008	Paper feed motor, standard speed	PAPER FEED MT 1ST	○	○
009	Paper feed motor, half speed	PAPER FEED MT 2ND	○	○
010	Paper feed motor, 2/3 speed	PAPER FEED MT 3RD	○	○
012	Charge corona cleaner motor, forward		-	○
013	Charge corona cleaner motor, reverse		-	○
014	High voltage supply board: T1 PCC	PCC BS	○	○
015	Quenching Lamp	QL	○	○
016	Charge corona/grid	MAIN GC	○	○
017	Development bias AC	DEV BS AC	○	○
018	Development bias DC	DEV BS DC	○	○
019	Development bias AC + DC	DEV BS AC DC	○	○
021	ID sensor LED	P SEN LED	○	○
022	Development clutch	DEV CL	○	○
023	Paper transfer positioning clutch	P TRNS SET CL	○	○
024	Fusing clutch	FUSER CL	○	○
025	Toner supply motor	TONER ADD MT	○	○
026	Revolver current during rotation	REV CRNT ROTA	○	○
027	Revolver current during development	REV CRNT DEV	○	○
028	Revolver current during standby	REV CRNT WAIT	○	○
029	Revolver 90-degree rotation	REV MT 90	○	○
030	Revolver 45-degree rotation	REV MT 45	○	○
035	Belt transfer bias	B TRNS BS	○	○
036	Belt cleaning clutch	BELT CLN SET CL	○	○
037	Lubricant brush clutch	SWEEP SET CL	○	○
041	Paper transfer bias	P TRNS BS	○	○
043	Polygon motor	PLY MT 600DPI	○	○
044	Power relay	PRT POWER RELAY	○	○
045	Fusing roller heater	FUSER UPPER HT	○	○
046	Pressure roller heater	FUSER LOWER HT	○	○
047	Rear cooling fan motor	MC FAN	○	○
048	Transport fan motor	PF FAN	○	○
049	Main exhaust fan motor	EXH FAN	○	○

No. for Class 3	Load Name	Actual Display	A258/A259/A260	B017/B018
050	Fusing fan motor, high speed	FUSER FAN H SPD	○	○
051	Fusing fan motor, half speed	FUSER FAN L SPD	○	○
053	Charge corona fan motor	PLY FAN	○	○
056	Development cooling fan motor	DEV EXIT FAN H SPD	-	○
057	Development cooling fan motor	DEV EXIT FAN L SPD	-	○
058	ITB unit release solenoid	TRNS FEED CL	-	○
059	By-pass feed clutch	PF MAN CL	○	○
060	By-pass pick-up solenoid	PICK UP MAN SOL	○	○
063	1st tray paper feed clutch	PF 1ST CL	○	○
064		PICK UP 1ST SOL		
066	2nd tray paper feed clutch	PF 2ND CL	○	○
069	3rd tray paper feed clutch	PF 3RD CL	○	○
072	4th tray paper feed clutch	PF 4TH CL	○	○
075	1st tray lift motor, forward	TRAY UP 1ST MT UP	○	○
076	1st tray lift motor, backward	TRAY UP 1ST MT DOWN	○	○
077	2nd tray lift motor, forward	TRAY UP 2ND MT UP	○	○
078	2nd tray lift motor, backward	TRAY UP 2ND MT DOWN	○	○
079	3rd tray lift motor, forward	TRAY UP 3RD MT UP	○	○
080	3rd tray lift motor, backward	TRAY UP 3RD MT DOWN	○	○
081	4th tray lift motor, forward	TRAY UP 4TH MT UP	○	○
082	4th tray lift motor, backward	TRAY UP 4TH MT DOWN	○	○
086	Registration clutch	REG CL	○	○
087	Relay clutch	PF MID CL	○	○
088	Junction gate solenoid	SEP SOL	○	○
089	Duplex feed motor, forward, standard speed	DPLX FEED MT CW	○	○
090	Duplex feed motor, forward, 2/3speed	DPLX FEED MT 2P3CW	○	○
091	Duplex feed motor, backward, standard speed	DPLX FEED MT CCW	○	○
092	Duplex feed motor, backward, 2/3 speed	DPLX FEED MT 2P3CCW	○	○
093	Duplex side fence jogger motor, forward	DPLX SF MT CW	○	○
094	Duplex side fence jogger motor, backward	DPLX SF MT CCW	○	○
095	Duplex end fence jogger motor, forward	DPLX EF MT CW	○	○
096	Duplex end fence jogger motor, backward	DPLX EF MT CCW	○	○
097	PSU fan motor	EXHAUST FAN	○	○
100	Optics cooling fan motor	SCN FAN0	○	○
101	Scanner exhaust fan motor	SCN FAN1	○	○
104	Scanner motor	SCN REIGI OFF	○	○
105	Exposure lamp	SCN SP LAMP	○	○
106	Power relay : scanner	SCN PWR RELAY	○	○
107	FPU lamp	SCN SP FPU LAMP	○	○

Service Tables

No. for Class 3	Load Name	Actual Display	A258/A259/A260	B017/B018
120	Sorter main motor	SS PROOF MT	○	○
124	Bin lift motor	SS BIN LIFT MT	○ SRC	○ SRC
127	Grip motor	SS CHACK MT	○,SR	○,SR
129	Stapler motor	SS STAPLER MT	○,SR	○,SR
131	Jogger motor	SS JOGGER MT	○,SR	○,SR
132	Tray shift motor	SS SIFT MT	○,C	○,C
133	Junction gate solenoid	SS JOGGER MT	○,C	○,C
134	2-bin gate solenoid	SS 2BIN SOL	○,C	○,C
135	3-bin gate solenoid	SS 3BIN SOL	○,C	○,C
150	ADF feed-in motor, forward	ADF IMOTOR F	○	○
151	ADF feed-in motor, backward	ADF IMOTOR R	○	○
152	ADF belt drive motor, forward	ADF BMOTOR F	○	○
153	ADF belt drive motor, backward	ADF BMOTOR R	○	○
154	ADF feed-out motor, forward	ADF OMOTER F	○	○
155	ADF inverter solenoid	ADF SOL	○	○
156	ADF display LED	ADF LED DIS	○	○

S : 10-BIN SORTER	R : 20-BIN SORTER	C : 3-BIN SORTER
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4.4.2 SP5-803 INPUT CHECK

Printer

No. for Class 3	Sensor/Switch Name	Actual Display	Condition	
001	Drum motor lock	SEN DRUM MT LOCK		0 (Lock)
002	Fusing motor lock	SEN FUSER M LOCK		0 (Lock)
003	Paper feed motor lock	SEN PF MT LOCK		0 (Lock)
006	Polygon mirror motor lock	SEN PLY MT LOCK	1 (Lock)	
009	Toner cartridge	SEN T CARTRIGE		0 (Set)
010	Toner end	SEN TE		0 (End)
011	Paper transfer home position	SEN BERT MARK	1 (Contact)	0 (Release)
012	Belt cleaning home position	SEN BTCLN POSTN	1 (Release)	0 (Contact)
013	Used toner	SEN DUST TONER	1 (Full)	0 (Adequate)
014	1st tray upper limit	SEN TRAY1 UP	1 (ON)	
015	2nd tray upper limit	SEN TRAY2 UP	1 (ON)	
016	3rd tray upper limit	SEN TRAY3 UP	1 (ON)	
017	4th tray upper limit	SEN TRAY4 UP	1 (ON)	
019	2nd vertical transport	SEN PAPER TX2		0 (PE)
020	3rd vertical transport	SEN PAPER TX3		0 (PE)
021	4th vertical transport	SEN PAPER TX4		0 (PE)
022	Relay	SEN PAPER TX1	1 (PE)	
023	1st tray paper end	SEN TRAY1 PE		0 (PE)
024	2nd tray paper end	SEN TRAY2 PE	1 (PE)	
025	3rd tray paper end	SEN TRAY3 PE	1 (PE)	

No. for Class 3	Sensor/Switch Name	Actual Display	Condition	
026	4th tray paper end	SEN TRAY4 PE	1 (PE)	
027	By-pass feed paper end	SEN MANFEED PE		0 (PE)
038	By-pass paper width detection SW 1	SEN SIZ SW MAN 1	1 (ON)	
039	By-pass paper width detection SW 2	SEN SIZ SW MAN 2	1 (ON)	
040	By-pass paper width detection SW 3	SEN SIZ SW MAN 3	1 (ON)	
041	By-pass paper width detection SW 4	SEN SIZ SW MAN 4	1 (ON)	
043		SEN TRAY1 STACK		
047	Paper height sensor 1	SEN STACK SW 1 1	1 (ON)	
048	Paper height sensor 2	SEN STACK SW 1 2	1 (ON)	
049	Paper tray detector switch	SEN TRAY1 SET		0 (Set)
051	By-pass feed table switch	SEN MANNFEED SET	1 (Open)	
052	Registration	SEN REGIST		0 (PE)
053	Duplex unit side fence jogger home position	SEN DPLX SIDE HP		0 (HP)
054	Duplex unit end fence jogger home position	SEN DPLX END HP		0 (HP)
055	Duplex entrance	SEN DPLX IN	1 (PE)	
056	Duplex turn	SEN DPLX RVS		0 (PE)
057	Duplex paper end	SEN DPLX PE		0 (PE)
058	Duplex unit set	SEN DPLX SET		0 (Set)
059	Paper exit	SEN FUSER EXIT	1 (PE)	
060	Fusing oil end	SEN OIL END		0 (End)
061		SEN FUSER DPLX		
062	Front door switch	SEN FRONT DOOR		0 (Open)
063	Vertical transport switch	SEN BANK DOOR		0 (Open)
064	Transport Sensor (Paper Tray Unit)	SEN BANK DOOR2		
065	Paper exit door	SEN EXIT DOOR		0 (Open)
066	PCC leak	SEN PCC LEAK		0 (Leak)
067	Separation charge corona leak	SEN SEP CHG LEAK		0 (Leak)
068	Charge corona leak	SEN MAIN CH LEAK		0 (Leak)
072	Key counter	SEN KEY COUNTER		0 (OK)
073	Key card	SEN KEY CARD		0 (OK)
074	Counter check 1	SEN ELC CHECK1		0 (Check)
075	Counter check 2	SEN TOTAL CNT2		0 (Check)
076	2nd tray detector switch	SEN TRAY2 SET	1 (Set)	
077	3rd tray detector switch	SEN TRAY3 SET SEN	1 (Set)	
078	4th tray detector switch	SEN TRAY4 SET SEN	1 (Set)	

Service
Tables

Scanner

No. for Class 3	Sensor/Switch Name	Actual Display	Condition
100	Scanner home position	HOME SENCER	1 (Set)
101	Platen cover position	ATSUBAN SENSER	1 (Set)

Sorter

No. for Class 3	Name	Actual Display	Sorter type	Condition
120	Entry	SEN SS ENTER SEN	C	1 (Paper empty)
121	Proof (1 bin paper exit)	SEN SS PROOF EX SEN	C	0 (Paper empty)
122	Entry (2-bin paper exit)	SEN SS ENTRY SEN	SRC	0 (Paper empty)
123	Bin (3-bin paper exit)	SEN SS PAPER EXST SEN	SRC	0 (Paper empty)
124	Bin home (lift lower limit)	SEN SS BIN HP SEN	SRC	1 (HP)
125	Bin rotation	SEN SS BIN ROTA SEN	SR	1 (HP)
126		SEN SS RF OPEN SEN		
127		SEN SS RF CLOSE SEN		
128	Jogger home (shift position)	SEN SS JOGGER HP SEN	SRC	1 (HP)
129	Grip home	SEN SS CHACK MOVE HP	SR	1 (HP)
130		SEN SS STPL MOVE HP		
131	Stapler home	SEN SS STPL MOVE HP	SR	1 (HP)
132	Stapler end	SEN SS STPL END SEN	SR	1 (Stapler end)
133	Stapler paper	SEN SS PAPER BIND SEN	SRC	0 (Paper empty)
134	Door safety switch	SEN SS DOOR OPEN SEN	SRC	1 (Open)
135	Encoder	SEN SS ENCORDER SEN	SR	0 (Normal)
136	Inverter	SEN SS REVERS SEN	C	0 (Paper empty)
137		SEN SS CHACK HP		

S : 10-BIN SORTER	R : 20-BIN SORTER	C : 3-BIN SORTER
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ARDF

No. for Class 3	Name	Actual Display	Condition	
138		SEN SS STPL UNIT SET		
139		SEN SS STPL PUT SEN		
140		SEN SS STPL PULL SEN		
150	Width small	ADF_SIZE_SMALL	1 (ON)	
151	Width medium	ADF_SIZE_MIDDLE	1 (ON)	
152	Width large	ADF_SIZE_LARGE	1 (ON)	
153	Registration	ADF_REGIST_SEN	1 (Paper present)	
154	Paper exit	ADF_OUT_SEN	1 (Paper present)	
155	Lift-up	ADF_LIFT_SEN	1 (Set)	
156	APS	ADF_APS_SEN		0
157	Paper feed cover	ADF_ICVR_SEN		0 (Open)
158	Paper exit cover	ADF_OCVR_SEN		0 (Open)

4.4.3 SP5-955-018 TEST PATTERN SELECTION

Setting Value	Pattern Name (A258/A259/A260)	Pattern Name(B017/B018)
1	Print margin pattern	←Same
2	Print out all fonts	←Same
3	1 dot/line grid pattern	←Same
4	Belt pattern	←Same
5	16-gradation with blank	←Same
6	Solid	←Same
7	1 dot pattern (2x2)	←Same
8	1 dot pattern (4x4)	←Same
9	1 dot sub-scan line	←Same
10	2 dot sub-scan line	←Same
11	1 dot main scan line	←Same
12	2 dot main scan line	←Same
13	Color patch at trailing edge	←Same
14	Grid pattern with scanner image	←Same
15	2 dot line grid pattern	←Same
16	16-gradation pattern	16-gradation pattern with blank
17	256-gradation pattern	←Same

4.4.4 5-955-001 LD_PWM (DOT, LINE)

Defines the LD value for dots and lines on the following test patterns: SP5-955-018: 1-4, 6-15

4.4.5 5-955-002 TO 5-955-016 LD_PWM (16-GRADATION)

Defines the LD values for the 16 –gradations printed on test patterns SP5-955-018: 5, 16.

Setting Value	Pattern Name (A258/A259/A260)
002	1/15 (for the second grade)
003	2/15 (for the third grade)
004	3/15 (for the fourth grade)
005	4/15 (for the fifth grade)
006	5/15 (for the sixth grade)
007	6/15 (for the seventh grade)
008	7/15 (for the eighth grade)
009	8/15 (for the ninth grade)
010	9/15 (for the tenth grade)
011	10/15 (for the eleventh grade)
012	11/15 (for the twelfth grade)
013	12/15 (for the thirteenth grade)
014	13/15 (for the fourteenth grade)
015	14/15 (for the fifteenth grade)
016	14/15 (for the fifteenth grade)

4.4.6 5-995-017 LD_PWM (COLOR PATCHES)

Defines the LD value for the color patch at the trailing edge of the test pattern (for SP5-955-018: 13)



4.5 USER TOOL

4.5.1 USER TOOL MENU (A258/A259/A260)

System settings

Menu	
Panel Tone	
Ready/Tone	
Copy Count Display	
System Reset	
Function Reset	
Control Panel Off	
Auto Timer	
Tray Paper Size	_____
Tray Priority	
Auto Tray Switch	
Interleave Print	
Output Tray Prio. (For 3-bin sorter only)	
Display Contrast	
3 Side Full Bleed	
Bypass Custom Size	
Key Operator Tools	Key Op. Access
	Program KeyOpCode
AOF (Keep it on)	_____

COPY FEATURES

Menu			
General Features	APS Priority	_____	
	ADS Priority (FC)		
	ADS Prio. (B&K/SC)		
	Orig. Mode Priority		
	Orig. Type Priority		
	Col. Mode Priority		
	Photo Type (Auto)		
	Copy Reset		
	Max. Copy Q'ty		
	Original Tone		
	Margin Adjustment		
	Set User Ratio		
	Initial Mode Set		
	Key Operator Tools		Accessible Modes
			Counter Reset
	Clear Code & Counter		
	Program User Code		
	Chg/Del User Code		
	Counter List Print		
Image Adjustment	A.D.S. (FC)	_____	
	A.D.S. (B&K/SC)		
	A.C.S. Priority		
	Color Sensitivity		
	Auto Color Cal.		
	IJ Printer Select		
ADF/Sorter	SADF Auto Reset	_____	
	Thin Paper Mode		
	ADF Mixed Sizes		
	ADF Auto Paper Select		
	FC Copy Sorting		
	Auto Sort Mode		
Set Favorite keys	_____	_____	
Special Modes	_____	_____	

Service Tables

4.5.2 USER TOOL MENU (B017)

System settings

Menu
Function Priority
Panel Tone
Ready/Tone
Auto Timer
Control Panel Off Timer
Control Panel Off Level
System Reset Timer (Printer option required)
Function Reset Timer (Printer option required)
Tray Paper Size
Paper Tray Priority
Auto Tray Switching
3 Side Full Bleed
By-pass Tray Custom Size
Interleave Print (Printer option required)
Interleave Priority
Copy Count Display
Display Color Setting
Key Operator Tools
AOF (Keep it on)
Output Tray (For 3-bin Sorter only)

COPY FEATURES

Menu			
General Features	APS Priority	_____	
	ADS Priority (FC/Twin)		
	ADS Priority (B&K/SC)		
	Original Type Priority		
	Color Priority		
	Special Original Priority		
	Photo Type (Auto Text/Photo)		
	Photo Type		
	Copy Reset Timer		
	Maximum Copy Quality		
	Tone: Original on Platen		
	Front Side Margin Adjustment		
	Back Side Margin Adjustment		
	1→2 Duplex Auto Margin Adjustment		
	Magnification Setting		
	Initial Mode Setting		
	Show Editor Grid (option)		
	Area Shape Priority (option)		
	B & W Copy Default		
	Image Rotation		
Priority Tray for FC			
Key Operator Tools		Accessible Modes	
		User Code Setting	Program
			Change
			Clear
			Delete All
		Counter Manager	Counter List Print
			Reset Counters
Delete All			
Image Adjustment	Background Density of A.D.S. (FC & Twin)	_____	
	A.C.S. Priority		
	Color Sensitivity		
	Inkjet Output Mode Setting		
Duplex/ ADF/Sorter	Duplex Tray Auto Clear	_____	
	SADF Auto Reset Timer		
	ADF Thin Paper		
	ADF Mixed Sizes		
	ADF Auto Paper Select		
	Full Color Copy Sorting		
	Auto Sort Mode		
Special Mode Program(s)	Special Mode	_____	

Service Tables

AUTO COLOR CALIBRATION

Menu
Copy Mode
Printer Mode

4.5.3 USER TOOL MENU (B018)

System settings

Menu	
Panel Tone	
Ready/Tone	
Copy Count Display	
System Reset	
Function Reset	
Control Panel Off	
Auto Timer	
Tray Paper Size	
Tray Priority	
Auto Tray Switch	
Interleave Print	
Output Tray (For 3-bin Sorter only)	
Display Contrast	
3 Side Full Bleed	
By-pass Custom Size	
Control Panel Off Level	
Key Operator Tools	Key Operator Access
	Program Key Operator Code
	AOF (Keep it on.)

COPY FEATURES

Menu											
General Features	APS Priority										
	ADS Priority (FC)										
	ADS Priority (B&K / SC)										
	Original Mode Priority										
	Original Type Priority										
	Color Mode Priority										
	Photo Type (Auto)	_____									
	Photo Type (Photo)										
	Copy Reset										
	Maximum Copy Quality										
	Original Tone										
	Margin Adjustment										
	Set User Ratio										
	Initial Mode Set										
	Key Operator Tools	<table border="1"> <tr><td>Accessible Modes</td></tr> <tr><td>Counter Reset</td></tr> <tr><td>Clear Code & Counter</td></tr> <tr><td>Program User Code</td></tr> <tr> <td>Change / Delete User Code</td> <td>Change Delete</td> </tr> <tr><td>Counter List Print</td></tr> <tr><td>Priority Tray FC</td></tr> <tr><td>B & W Default: Text</td></tr> <tr><td>Image Rotation</td></tr> </table>	Accessible Modes	Counter Reset	Clear Code & Counter	Program User Code	Change / Delete User Code	Change Delete	Counter List Print	Priority Tray FC	B & W Default: Text
Accessible Modes											
Counter Reset											
Clear Code & Counter											
Program User Code											
Change / Delete User Code	Change Delete										
Counter List Print											
Priority Tray FC											
B & W Default: Text											
Image Rotation											
Image Adjustment	A.D.S. (FC)										
	A.D.S. (B & W / SC)										
	A.C.S. Priority										
	Color Sensitivity	_____									
	Auto Color Calibration										
	Inkjet Output Mode Setting										
ADF/Sorter	SADF Auto Reset										
	Thin Paper Mode										
	ADF Mixed Sizes										
	ADF Auto Paper Select	_____									
	Full Color Copy Sorting										
	Auto Sort Mode										
Set Favorite Keys	_____	_____									
Special Mode	_____	_____									

Service Tables

4.6 TP/SW/LED/FUSE (A258/A259/A260)

4.6.1 MAIN CONTROL BOARD TEST POINTS

TP No.	Signal	Description	Stand-by (V)	Remarks	TP Implementation
TP101	GND	Ground	0 to 5.0		Yes
TP102	GND	Ground	0 to 5.0		Yes
TP103	X-	TP X-axis ground terminal	0 to 5.0		Yes
TP104	X+	TP X-axis power terminal	0 to 5.0	In the press sense mode, held at the VCC level when released and lowered to 3V or lower when pressed.	Yes
TP105	Y-	TP Y-axis ground terminal	0 to 5.0		Yes
TP106	Y+	TP Y-axis power terminal	0 to 5.0		Yes
TP109	XCK	LCD data shift lock	0 to 5.0	Data is shifted into the X driver on the falling edge of this clock.	Yes
TP110	LP	LCD latch pulse output terminal	0 to 5.0	Data is latched into the driver's shift register to turn on the Y driver for that line on the falling edge of this signal.	Yes
TP111	YD	LCD Y driver frame start signal	0 to 5.0		Yes
TP124	/DME	Identifies the end of IPU image transfer during area processing.	0 to 5.0	Hardware-asserted at the end of transfer and disasserted when the register is written under software control. Active L	Yes
TP130	GND	Ground	0		Yes
TP131	/RESET	Open-drain bi-directional signal that serves as the external device reset output from the CPU and as the hardware reset input from the reset IC.	0 to 5.0	Active L	Yes
TP134	/FGATE	Input terminal for /BFGATE interrupts from the write control board	0 to 5.0	Active L	Yes
TP137	BLTPTN	Transfer belt mark input signal	0 to 5.0	Active H	Yes
TP138	/DSACK1	Hand-shake signal for 16-bit devices	0 to 5.0	Indicates that the CPU is ready for completing the bus cycle. Active L	Yes
TP141	/DSACK0	Hand-shake signal for 8-bit devices	0 to 5.0	Indicates that the CPU is ready for completing the bus cycle. Active L	Yes
TP143	GND	Ground	0		Yes
TP148	CLK	System clock output to external devices	0 to 5.0	Set to 19.6608 MHz when the CPU is started.	Yes
TP153	/AS	Asserted while a valid address is present on the address bus.	0 to 5.0	Active L	Yes

TP No.	Signal	Description	Stand-by (V)	Remarks	TP Implementation
TP154	UPHT_TH	Analog input from the fusing thermistor (upper)	0 to 5.0		Yes
TP155	/IACK	Used to get an interrupt vector.	0 to 5.0	Active L	Yes
TP156	LWHT_TH	Analog input from the fusing thermistor (lower)	0 to 5.0		Yes
TP157	FB_T2	Feedback sense terminal for the secondary transfer bias	0 to 5.0		Yes
TP158	FB_T1	Feedback sense terminal for the primary transfer bias	0 to 5.0		Yes
TP160	FB_G	Feedback sense terminal for the grid bias	0 to 5.0		Yes
TP162	FB_C	Feedback sense terminal for the charge corona unit bias	0 to 5.0		Yes
TP167	FB_BDC	Feed back sense terminal for the development bias (DC)	0 to 5.0		Yes
TP168	HUM	Humidity sensor analog input	0 to 5.0		Yes
TP170	/Z_CROSS	Zero-cross interrupt input	0 to 5.0	Active L	Yes
TP172	TMP	Temperature sensor analog input	0 to 5.0		Yes
TP173	P_SEN2	Density sensor color output	0 to 5.0		Yes
TP174	P_SEN1	Density sensor black output	0 to 5.0		Yes
TP176	V_SEN	Potential sensor analog input	0 to 5.0		Yes
TP178	ENGY	Enable signal for transition to the Energy Star mode	0 to 5.0	Active H	Yes
TP182	ANGND	Analog ground	0		Yes
TP185	GND	Ground	0		Yes
TP186	+5V	+5V	5.0		Yes
TP187	GND	Ground	0		Yes

Service Tables

4.6.2 SCANNER IPU BOARD TEST POINTS

TP No.	Signal	Description	Stand-by(V)	Remarks	TP Implementation
TP01	GND	Ground	0		Yes
TP02	IFGATEL	Frame gate signal	0 to 3.3	Active L	No
TP03	GND	Ground	0		Yes
TP04	ILSYNCL	Line Sync. signal	0 to 3.3	Active L	No
TP07	GND	Ground	0		Yes
TP09	AGND	Analog ground	0		No
TP10	AGND	Analog ground	0		No
TP13	AGND	Analog ground	0		No
TP14	+5VA	Analog +5V power source	5.0		No
TP15	AGND	Analog ground	0		No
TP17	+12VA	Analog +12V power source	12.0		No
TP20	Vpeak	Samples and holds the image's background level.	3.0 to 4.0		No
TP21	+5V	5V power source	5.0		No
TP22	GND	Ground	0		Yes
TP23	GND	Ground	0		Yes

4.6.3 LD MAIN CONTROL BOARD TEST POINTS

TP No.	Signal	Description	Stand-by(V)	Remarks	TP Implementation
TP601	GND	Ground	0		No
TP602	LDON	Shortening this terminal to ground causes the LD to stay on in full mode during the polygon ON period.	0 to 5.0	Active L	No
TP603	XWD7	Least significant bit of the LD control image data (1/8 bits)	5	Active L	No
TP604	LDCLK	LD control pixel clock used to latch data.	5	Active H	No
TP605	LDLVL	Defines the LD control reference voltage. 0 to 2V, normally 1V.	0 to 2.0	Normally held at 1V. Active H	No
TP606	BTRIG	Belt mark signal. Set when a transfer belt mark is sensed.	0 to 5.0	Set high when a transfer belt mark is sensed.	No
TP607	XPM	PMSYNC. Line sync. signal.	0 to 5.0	Approx. 407.05 μ s. Active L	No
TP608	XWFG	WFGATE. Externally referenced frame sync. signal. Controlled by the scanner in the copy mode and by the controller in the print mode.	0 to 5.0	Under control of the scanner in the copy mode and of the controller in the print mode. Active L	No
TP609	XBFG	BFGATE. Write frame sync. signal. Set by a belt mark or software trigger. Source signal for XSFG.	0 to 5.0	Triggered by a belt mark or software trigger. Source signal for XSFG. Active L	No
TP610	GND	Ground	0		No
TP611	XSLS	SLSYNC. Scanner or controller line sync signal.	0 to 5.0	Active L	No
TP612	XSFG	SFGATE. Scanner or controller frame sync. signal.	0 to 5.0	Active L	No

4.6.4 I/O CONTROL BOARD TEST POINTS

TP No.	Signal	Description	Stand-by(V)	Remarks	TP Implementation
TP201	RP_SEN2	Paper height sensor signal 1 (right)	0 to 5.0	Shade "H"	No
TP202	RP_SEN1	Paper height sensor signal 2 (left)	0 to 5.0	Shade "H"	No
TP203	T2_SEN	Secondary transfer unit contact/release sensor signal	0 to 5.0	Contact "H"	No
TP204	XFEED_PE	Paper tray (single side) paper end sensor signal	0 to 5.0	Paper end "L"	No
TP205	XMID_SEN	Middle sensor signal	0 to 5.0	Detect a paper "L"	No
TP206	FUD_SEN	Paper tray lift sensor signal	0 to 5.0	Upper position "H"	No
TP207	IMP_CLK	Drum motor speed control clock	0 to 5.0		No
TP208	PWM_T2	Secondary transfer high-voltage output control signal	0 to 5.0		No
TP209	PWM_T1	Primary transfer high-voltage output control signal	0 to 5.0		No
TP210	BLTPTN	Belt mark sensor signal	0 to 5.0	Mark sensed = "H"	No
TP211	XREV_HP	Revolver HP sensor signal	0 to 5.0	Home position = "H"	No
TP212	XRGT_SEN	Registration sensor signal	0 to 5.0	Paper present = "L"	No
TP213	AGND	Power ground	0		Yes
TP214	RM_A	Revolver phase excitation signal	0 to 5.0	4 1/phase excitation signals	No
TP215	FEED_CLK	Paper feed motor speed control clock	0 to 5.0		No
TP216	XIORST	I/O expander reset signal	0 to 5.0	Reset = "L"	No
TP217	IOCLK	Address/data bus clock	0 to 5.0		No
TP218	XST	Address/data bus start signal	0 to 5.0		No
TP219	DIR	Data bus direction control signal	0 to 5.0		No
TP220	FB_T2	Secondary transfer high-voltage feedback voltage	0 to 5.0		No
TP221	FB_T1	Primary transfer high-voltage output control signal	0 to 5.0		No
TP222	HUM_SEN	Humidity sensor output	0 to 5.0		No
TP223	TMP_SEN	Temperature sensor output	0 to 5.0		No
TP224	FB_C	Charge corona output feedback voltage	0 to 5.0		No
TP225	V_SEN	Potential sensor output	0 to 5.0		No
TP226	FB_G	Grid output feedback voltage	0 to 5.0		No
TP227	P_SEN1	Black density output	0 to 5.0		No
TP228	FB_BDC	Development bias feedback voltage	0 to 5.0		No
TP229	P_SEN2	Color (cyan, magenta, yellow) density output	0 to 5.0		No
TP230	LWHT_TH	Pressure roller thermistor output	0 to 5.0		No
TP231	UPHT_TH	Hot roller thermistor output	0 to 5.0		No
TP232	CGNDA	Analog signal ground	0		Yes
TP233	CGND	Digital signal ground	0		Yes
TP234	PWM_BDC	Development bias voltage control signal	0 to 5.0		No
TP235	FUS_CLK	Fusing motor speed control signal	0 to 5.0		No

Service Tables

TP No.	Signal	Description	Stand-by(V)	Remarks	TP Implementation
TP236	PWM_C	Charge corona current control signal	0 to 5.0		No
TP237	PWM_G	Grid voltage control signal	0 to 5.0		No
TP239	VCC2A	Analog +5V power source	5.0		Yes
TP240	VCC2	Digital +5V power source	5.0		Yes
TP241	AGND	Power ground	0		Yes
TP242	VAA2	+24V power source	24.0		Yes
TP243	VCA	+12V power source	12.0		Yes
TP244	VCB	-12V power source	-12.0		Yes
TP245	CGNDA	Analog signal ground	0		Yes
TP247	CGND	Digital signal ground	0		Yes
TP248	XEXIT_SEN	Paper exit sensor signal	0 to 5.0	Paper present = "L"	No
TP249	XFUS_FAN	Fusing fan ON/OFF signal	0 to 24.0	ON = "L"	No
TP250	XZ_CROSS	Zero-cross signal	0 to 5.0	Zero-cross section = "L"	No
TP251	ENGY_ON	Energy Star sleep signal ON/OFF signal	0 to 5.0	Sleep mode = "H"	No
TP252	PLED	ID sensor LED luminous quantity control voltage	0 to 5.0		No
TP254	BC_SEN	Belt cleaning blade contact/release sensor	0 to 5.0	Contact = "H"	No
TP256	XDEV_CL	Development clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP257	XDUP_SOL	Duplex solenoid o ON/OFF signal	0 to 24.0	ON = "L"	No
TP258	XT_CNT2	Total counter 2 count signal	0 to 24.0	1 count = 1 L pulse	No
TP259	XKCOUNT	Key counter count signal	0 to 24.0	1 count = 1 L pulse	No
TP260	XBPF_CL	By-pass paper feed clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP263	XCH_FAN	Charge corona fan ON/OFF signal	0 to 24.0	ON = "L"	No
TP264	XQL	QL ON/OFF signal	0 to 24.0	ON = "L"	No
TP265	XT_CNT1	Total counter 1 count signal	0 to 24.0	1 count = 1 L pulse	No
TP266	XT_MTR	Toner supply motor ON/OFF signal	0 to 24.0	ON = "L"	No
TP267	XRA_PRT	Fusing/pressure roller lamp power relay ON/OFF signal	0 to 24.0	ON = "L"	No
TP268	XTRG_D	Separation charge corona unit output ON/OFF signal	0 to 24.0	ON = "L"	No
TP269	RM_I08A	Revolver motor current 0.8 A drive signal	0 to 5.0	0.8 A = "H"	No
TP270	RM_I15A	Revolver motor current 1.5 A drive signal	0 to 5.0	1.5 A = "H"	No
TP271	XIMP_TRG	Drum motor ON/OFF signal	0 to 5.0	ON = "L"	No
TP272	XTRG_PCC	PCC output ON/OFF signal	0 to 24.0	ON = "L"	No
TP273	XTRG_BAC	Development bias AC component ON/OFF signal	0 to 24.0	ON = "L"	No
TP274	FUMTR-	Tray lift motor down signal	0 to 24.0	Down = "H"	No
TP275	XTRP_FAN	Transport fan ON/OFF signal	0 to 24.0	ON = "L"	No
TP278	XRGT_CL	Registration clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP279	XMID_CL	Relay clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP280	XEXU_FAN	Exhaust fan ON/OFF signal	0 to 24.0	ON = "L"	No
TP281	FUMTR+	Tray lift motor up signal	0 to 24.0	Upper Position "H"	No
TP282	XSWP_CL	Sweeper clutch ON/OFF signal	0 to 24.0	ON = "L"	No

TP No.	Signal	Description	Stand-by(V)	Remarks	TP Implementation
TP283	XFUS_CL	Fusing clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP284	XBC_CL	Belt cleaning clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP285	XFEED_CL	Paper feed clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP286	XT2_CL	Secondary transfer contact/release clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP287	XIMP_CW	Drum motor forward/backward control signal	0 to 5.0	Forward = "L"	No
TP288	XFEED_TRG	Paper feed motor ON/OFF signal	0 to 5.0	ON = "L"	No
TP289	XFUS_TRG	Fusing motor ON/OFF signal	0 to 5.0	ON = "L"	No
TP290	XFDOPEN	Front door open sensor signal	0 to 5.0	Open = "L"	No
TP291	XFEEDOPEN	Vertical transport door open sensor signal	0 to 5.0	Open = "L"	No
TP292	XEXITOPEN	Paper exit door open sensor signal	0 to 5.0	Open = "L"	No
TP293	XLEAK_D	Separation charge corona unit leak sensor signal	0 to 5.0	Leak = "L"	No
TP294	XLEAK_PCC	PCC leak sensor signal	0 to 5.0	Leak = "L"	No
TP295	XIMP_LOCK	Drum motor lock state sensor signal	0 to 5.0	Lock = "L"	No
TP296	XBPF SIZE0	By-pass paper width sensor signal (bit 0)	0 to 5.0		No
TP297	XFEED_LOCK	Paper feed motor lock state sensor signal	0 to 5.0	Lock = "L"	No
TP301	XBPF SIZE3	By-pass paper width sensor signal (bit 3)	0 to 5.0		No
TP302	XBPF SIZE2	By-pass paper width sensor signal (bit 2)	0 to 5.0		No
TP303	XBPF SIZE1	By-pass paper width sensor signal (bit 1)	0 to 5.0		No
TP306	XOILEND	Oil end sensor signal	0 to 5.0	Oil end = "L"	No
TP308	XFUS_LOCK	Fusing motor lock state sensor signal	0 to 5.0	Lock = "L"	No
TP309	XRA_SCN	Lamp regulator power relay	0 to 24.0	ON = "L"	No
TP310	XLWHT_TRG	Pressure roller lamp ON/OFF signal	0 to 24.0	ON = "L"	No
TP311	XUPHT_TRG	Fusing lamp ON/OFF signal	0 to 24.0	ON = "L"	No
TP312	XBPF_SOL	By-pass clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP313	XEXU_FAN2	Exhaust fan 2 ON/OFF signal	0 to 24.0	ON = "L"	No

4.6.5 SWITCH SPECIFICATIONS

Scanner IPU Board

No.	Description	Remarks
SW2		
SW2-1	1 scan	
SW2-2	Motor excitation off	
SW2-3	Lamp on	
SW2-4	Free-running	
SW2--5	IPU input select	ON: External image input OFF: Scanner image input
SW2--6	Not used.	

4.6.6 LED SPECIFICATIONS

No.	Function Outline	Remarks
Main control board		
LED105	Flashes if the board is starting.	
SCN_IPU board		
LED1	First NG due to black level O/E difference correction error	Turns on and off repeatedly at 400 ms intervals.
	Second NG due to black level O/E difference correction error	Turns on and off repeatedly at 1.6 s intervals.
LED2	First NG due to black level correction error	Turns on and off repeatedly at 400 ms intervals.
	Second NG due to black level correction error	Turns on and off repeatedly at 1.6 s intervals.
LED3	NG due to white level correction error	Turns on and off repeatedly at 400 ms intervals.
LED4	Flashes while the CPU is running.	
LED5	Flashes while image signal is being sent to the LD unit.	
LED6	Flashes while FGATE is active (scanning).	

4.6.7 FUSE SPECIFICATIONS

PSU (US model)

FUSE No.	Rating	Use	Replaceable	Vendor Name	Model No.	R Parts No.
FU101	15A 125/250Vac	AC input main fuse	Yes	SOC CORP or LITTELFUSE INC	CES6-15AN1 or 314015	11070629
FU102	8A 125/250Vac	PSU AC input fuse	Yes	SOC CORP or LITTELFUSE INC	ULTSC-8AN1 or 237008(MB000)	11070393
FU103	3.15A 125Vac	AC output dehumidification heater fuse	No	WICKMANN- WERKE GMBH	K19396/3.15A or K19374/3.15A	(11070724)
FU1	4A 125/250Vac	Vaa(+24) output fuse	Yes	SOC CORP or LITTELFUSE INC	ULTSC-4AN1 or 237004(MB000)	11070390
FU2	4A 125/250Vac	Vaa(+24) output fuse	Yes	SOC CORP or LITTELFUSE INC	ULTSC-4AN1 or 237004(MB000)	11070390
FU3	4A 125/250Vac	Vaa(+24) output fuse	Yes	SOC CORP or LITTELFUSE INC	ULTSC-4AN1 or 237004(MB000)	11070390
FU4	4A 125/250Vac	Vaa(+24) output fuse	Yes	SOC CORP or LITTELFUSE INC	ULTSC-4AN1 or 237004(MB000)	11070390
FU31	3.15A 125Vac	+5V safety regulation compliant protective fuse	No	WICKMANN- WERKE GMBH	K19396/3.15A or K19374/3.15A	(11070724)
FU71	2A 125Vac	-12V safety regulation compliant protective fuse	No	WICKMANN- WERKE GMBH	K19374/2A or K19396/2A	(11070713)
FU81	3.15A 125Vac	+12/+15V safety regulation compliant fuse	No	WICKMANN- WERKE GMBH	K19396/3.15A or K19374/3.15A	(11070724)
FU83	2A 125/250Vac	Vcd(+15V) output fuse	Yes	SOC CORP or LITTELFUSE INC	ULTSC-2AN1 or 237002(MB000)	11070388

Service
Tables

When one of the fuses below blows, the machine indicates the following conditions:

- FU101: The machine does not work. The PSU does not supply any power to the electrical components.
- FU102: The machine does not work. The PSU supplies power only to the anti-condensation heaters.
- FU1, FU2: The machine displays that the front door is opened.
- FU3: The machine displays SC101 (Exposure Lamp Error).
- FU4: One of the peripheral devices will not run (a paper jam or paper empty condition is displayed).
- FU83: The machine displays SC171 (Black Level Correction Error).

PSU (European/Asian Model)

FUSE No.	Rating	Use	Replaceable	Vendor Name	Model No.	R Parts No.
FU102	5A 125/250Vac	PSU AC input fuse	Yes	LITTELFUSE INC or BUSSMANN	215005 or A505-5A	11070879
FU103	2A 125Vac/ 250V	AC output dehumidification heater fuse	No	WICKMANN- WERKE GMBH	K19372/2A	(11070621)
FU1	4A 125/250Vac	Vaa(+24) output fuse	Yes	SOC CORP or LITTELFUSE INC	UL-ET-4A or 218004 (MB000)	11070921
FU2	4A 125/250Vac	Vaa(+24) output fuse	Yes	SOC CORP or LITTELFUSE INC	UL-ET-4A or 218004 (MB000)	11070921
FU3	4A 125/250Vac	Vaa(+24) output fuse	Yes	SOC CORP or LITTELFUSE INC	UL-ET-4A or 218004 (MB000)	11070921
FU4	4A 125/250Vac	Vaa(+24) output fuse	Yes	SOC CORP or LITTELFUSE INC	UL-ET-4A or 218004 (MB000)	11070921
FU31	2A 125Vac/ 250V	+5V safety regulation compliant protective fuse	No	WICKMANN- WERKE GMBH	K19370/2A	(11070658)
FU71	2A 125Vac/ 250V	-12V safety regulation compliant protective fuse	No	WICKMANN- WERKE GMBH	K19372/2A	(11070621)
FU81	3.15A 125Vac/ 250V	+12/+15V safety regulation compliant fuse	No	WICKMANN- WERKE GMBH	K19372/3.15A	(11070622)
FU83	2A 125/250Vac	Vcd(+15V) output fuse	Yes	SOC CORP or LITTELFUSE INC	UL-ET-2A or 218002 (MB000)	11070936

When one of the fuses below blows, the machine indicates the following conditions:

- FU102: The machine does not work. The PSU supplies power only to the anti-condensation heaters.
- FU1, FU2: The machine displays that the front door is opened.
- FU3: The machine displays SC101 (Exposure Lamp Error).
- FU4: One of the peripheral devices will not run (a paper jam or paper empty condition is displayed).
- FU83: The machine displays SC171 (Black Level Correction Error).

4.7 TP/SW/LED/FUSE (B017/B018)

4.7.1 MAIN CONTROL BOARD TEST POINTS

TP No.	Signal	Description	Stand-byft (V)	Remarks	TP Implementation
TP102	GND	Ground	0 to 5.0		Yes
TP130	GND	Ground	0		Yes
TP143	GND	Ground	0		Yes
TP154	UPHT_TH	Analog input from the fusing thermistor (upper)	0 to 5.0		Yes
TP156	LWHT_TH	Analog input from the fusing thermistor (lower)	0 to 5.0		Yes
TP157	FB_T2	Feedback sense terminal for the secondary transfer bias	0 to 5.0		Yes
TP158	FB_T1	Feedback sense terminal for the primary transfer bias	0 to 5.0		Yes
TP160	FB_G	Feedback sense terminal for the grid bias	0 to 5.0		Yes
TP162	FB_C	Feedback sense terminal for the charge corona unit bias	0 to 5.0		Yes
TP167	FB_BDC	Feed back sense terminal for the development bias (DC)	0 to 5.0		Yes
TP168	HUM	Humidity sensor analog input	0 to 5.0		Yes
TP170	/Z_CROSS	Zero-cross interrupt input	0 to 5.0	Active L	Yes
TP172	TMP	Temperature sensor analog input	0 to 5.0		Yes
TP173	P_SEN2	Density sensor color output	0 to 5.0		Yes
TP174	P_SEN1	Density sensor black output	0 to 5.0		Yes
TP176	V_SEN	Potential sensor analog input	0 to 5.0		Yes
TP178	ENGY	Enable signal for transition to the Energy Star mode	0 to 5.0	Active H	Yes
TP182	ANGND	Analog ground	0		Yes
TP185	GND	Ground	0		Yes
TP186	+5V	+5V	5.0		Yes
TP187	GND	Ground	0		Yes

Service
Tables

4.7.2 SCANNER IPU BOARD TEST POINTS

TP No.	Signal	Description	Stand-by(V)	TP Implementation
TP01	GND	Ground	0	Yes
TP02	GND	Ground	0	Yes
TP03	3.3V	+3.3V power source	3.3	No
TP04	2.5V	+2.5V power source	2.5	No
TP07	GND	Ground	0	Yes
TP08	+5VA	+5V power source	0	No
TP15	GND	Ground	0	No
TP16	+5V	+5V power source	0	Yes
TP23	+12VA	+12V power source	5.0	No
TP24	GND	Ground	0	Yes
TP31	GND	Ground	0	Yes

4.7.3 LD MAIN CONTROL BOARD TEST POINTS

TP No.	Signal	Description	Stand-by(V)	Remarks	TP Implementation
TP2	XDP2	Laser synchronization detector 2	0 to 5.0	Active L	No
TP3	GND	Ground	0		No
TP4	GND	Ground	0		No
TP5	LDLVL	Defines the LD control reference voltage. 0 to 2V, normally 1V.	0 to 2.0	Normally held at 1V. Active H	No
TP6	XDP1	Laser synchronization detector 1	0 to 5.0	Active L	No
TP7	LDON	Shortening this terminal to ground causes the LD to stay on in full mode during the polygon mirror motor ON period.	0 to 5.0	Active L	No
TP9	GND	Ground	0		No
TP13	+5V	+5V power source	5		No
TP14	+2.5V	+2.5V power source	2.5		No
TP15	GND	Ground	0		No
TP16	+3.3V	+3.3V power source	3.3		No
TP18	GND	Ground	0		No
TP19	GND	Ground	0		No
TP20	GND	Ground	0		No

4.7.4 I/O CONTROL BOARD TEST POINTS

TP No.	Signal	Description	Stand-by(V)	Remarks	TP Implementation
TP201	AGND	Power ground	0		Yes
TP202	TMP_SEN	Temperature sensor output	0 to 5.0		No
TP203	HUM_SEN	Humidity sensor output	0 to 5.0		No
TP204	FUMTR+	Tray lift motor up signal	0 to 24.0	Upper Position "H"	No
TP205	FUMTR-	Tray lift motor down signal	0 to 24.0	Down = "H"	No
TP206	XFEED_LOCK	Paper feed motor lock state sensor signal	0 to 5.0	Lock = "L"	No
TP207	XLEAK_D	Separation charge corona unit leak sensor signal	0 to 5.0	Leak = "L"	No
TP208	FB_T2	Secondary transfer high-voltage feedback voltage	0 to 5.0		No
TP209	FB_T1	Primary transfer high-voltage output control signal	0 to 5.0		No
TP210	PWM_T1	Primary transfer high-voltage output control signal	0 to 5.0		No
TP211	PWM_T2	Secondary transfer high-voltage output control signal	0 to 5.0		No
TP212	XLEAK_PCC	PCC leak sensor signal	0 to 5.0	Leak = "L"	No
TP213	T2_SEN	Secondary transfer unit contact/release sensor signal	0 to 5.0	Contact "H"	No
TP214	RP_SEN1	Paper height sensor signal 2 (left)	0 to 5.0	Shade "H"	No
TP215	RP_SEN2	Paper height sensor signal 1 (right)	0 to 5.0	Shade "H"	No
TP216	XTRP_FAN	Transport fan ON/OFF signal	0 to 24.0	ON = "L"	No
TP217	XT2_CL	Secondary transfer contact/release clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP218	XBPF_CL	By-pass paper feed clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP219	XKCOUNT	Key counter count signal	0 to 24.0	1 count = 1 L pulse	No
TP220	XT_CNT1	Total counter 1 count signal	0 to 24.0	1 count = 1 L pulse	No
TP221	XT_CNT2	Total counter 2 count signal	0 to 24.0	1 count = 1 L pulse	No
TP222	XKCRDCNT	–	–	–	–
TP223	XTRG_D	Separation charge corona unit output ON/OFF signal	0 to 24.0	ON = "L"	No
TP224	XTRG_PCC	PCC output ON/OFF signal	0 to 24.0	ON = "L"	No
TP225	IMP_CLK	Drum motor speed control clock	0 to 5.0		No
TP226	XIMP_TRG	Drum motor ON/OFF signal	0 to 5.0	ON = "L"	No
TP227	XRGT_CL	Registration clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP228	XMID_CL	Relay clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP229	XIMP_CW	Drum motor forward/backward control signal	0 to 5.0	Forward = "L"	No
TP230	XFEED_CL	Paper feed clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP231	XEXU_FAN	Exhaust fan ON/OFF signal	0 to 24.0	ON = "L"	No
TP232	XRGT_SEN	Registration sensor signal	0 to 5.0	Paper present = "L"	No
TP233	BLTPTN	Belt mark sensor signal	0 to 5.0	Mark sensed = "H"	No
TP234	FEED_CLK	–	–	–	No
TP235	VCC2A	Analog +5V power source	5.0		Yes
TP236	XFEED_TRG	Paper feed motor ON/OFF signal	0 to 5.0	ON = "L"	No

Service Tables

TP No.	Signal	Description	Stand-by(V)	Remarks	TP Implementation
TP237	XBPF SIZE2	By-pass paper width sensor signal (bit 2)	0 to 5.0		No
TP238	XBPF SIZE0	By-pass paper width sensor signal (bit 0)	0 to 5.0		No
TP239	XIMP_LOCK	Drum motor lock state sensor signal	0 to 5.0	Lock = "L"	No
TP240	XBPF SIZE3	By-pass paper width sensor signal (bit 3)	0 to 5.0		No
TP241	XBPF SIZE1	By-pass paper width sensor signal (bit 1)	0 to 5.0		No
TP242	XFEED_PE	Paper tray (single side) paper end sensor signal	0 to 5.0	Paper end "L"	No
TP243	XMID_SEN	Middle sensor signal	0 to 5.0	Detect a paper "L"	No
TP244	FUD_SEN	Paper tray lift sensor signal	0 to 5.0	Upper position "H"	No
TP245	XIORXT	–	–	–	No
TP246	IOCLK	–	–	–	No
TP247	XST	–	–	–	No
TP248	ENGY_ON	Energy Star sleep signal ON/OFF signal	0 to 5.0	Sleep mode = "H"	No
TP249	RM_A	Revolver phase excitation signal	0 to 5.0	4 1/phase excitation signals	No
TP250	XREV_HP	Revolver HP sensor signal	0 to 5.0	Home position = "H"	No
TP251	CGND	Digital signal ground	0		Yes
TP252	DIR	Data bus direction control signal	0 to 5.0		No
TP253	XEXIT_SEN	Paper exit sensor signal	0 to 5.0	Paper present = "L"	No
TP254	XOILEND	Oil end sensor signal	0 to 5.0	Oil end = "L"	No
TP255	XFEEDOPEN	Vertical transport door open sensor signal	0 to 5.0	Open = "L"	No
TP256	XCHMT_LOCK	Chart cleaner motor lock state sensor signal	0 to 5.0	Lock = "L"	No
TP257	XFDOPEN	Front door open sensor signal	0 to 5.0	Open = "L"	No
TP258	XEXITOPEN	Paper exit door open sensor signal	0 to 5.0	Open = "L"	No
TP259	P_SEN1	Black density output	0 to 5.0		No
TP260	P_SEN2	Color (cyan, magenta, yellow) density output	0 to 5.0		No
TP261	MDHT_TH	–	–	–	No
TP262	UPHT_TH	Heat roller thermistor output	0 to 5.0		No
TP263	LWHT_TH	Pressure roller thermistor output	0 to 5.0		No
TP264	V_SEN	Potential sensor output	0 to 5.0		No
TP265	FB_BDC	Development bias feedback voltage	0 to 5.0		No
TP266	FB_G	Grid output feedback voltage	0 to 5.0		No
TP267	FB_C	Charge corona output feedback voltage	0 to 5.0		No
TP268	PC_I	–	–	–	No
TP269	CGNDA	Analog signal ground	0		Yes
TP270	XTRG_BAC	Development bias AC component ON/OFF signal	0 to 24.0	ON = "L"	No
TP271	XFUS_LOCK	Fusing motor lock state sensor signal	0 to 5.0	Lock = "L"	No

TP No.	Signal	Description	Stand-by(V)	Remarks	TP Implementation
TP272	XRA_PRT	Fusing/pressure roller lamp power relay ON/OFF signal	0 to 24.0	ON = "L"	No
TP273	PWM_BDC	Development bias voltage control signal	0 to 5.0		No
TP274	PWM_G	Grid voltage control signal	0 to 5.0		No
TP275	PWM_C	Charge corona current control signal	0 to 5.0		No
TP276	XFUS_TRG	Fusing motor ON/OFF signal	0 to 5.0	ON = "L"	No
TP277	FUS_CLK	–	–	–	No
TP278	BC_SEN	Belt cleaning blade contact/release sensor	0 to 5.0	Contact = "H"	No
TP280	XPSU_FAN	PSU fan ON/OFF signal	0 to 24.0	ON = "L"	
TP281	CGND	Digital signal ground	0		Yes
TP282	VCC2	Digital +5V power source	5.0		Yes
TP283	VAA2	+24V power source	24.0		Yes
TP284	XBPF_SOL	By-pass clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP285	XEXU_FAN2	Exhaust fan 2 ON/OFF signal	0 to 24.0	ON = "L"	No
TP286	CGNDA	Digital signal ground	0		No
TP287	XT_MTR	Toner supply motor ON/OFF signal	0 to 24.0	ON = "L"	No
TP289	PLED	ID sensor LED luminous quantity control voltage	0 to 5.0		No
TP290	AGND	Power ground	0		Yes
TP291	XFUS_FAN	Fusing fan ON/OFF signal	0 to 24.0	ON = "L"	No
TP292	XFUS_CL	Fusing clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP293	XDEV_CL	Development clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP294	XPLM_FAN	Polygonal mirror motor fan ON/OFF signal	0 to 24.0	ON = "L"	No
TP295	VCB	-12V power source	-12.0		Yes
TP296	VCA	+12V power source	12.0		Yes
TP297	XSWP_CL	Sweeper clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP298	XBC_CL	Belt cleaning clutch ON/OFF signal	0 to 24.0	ON = "L"	No
TP299	XDUP_SOL	Duplex solenoid o ON/OFF signal	0 to 24.0	ON = "L"	No
TP300	XCL_FAN	Rear lower cooling ON/OFF signal	0 to 24.0	ON = "L"	No
TP301	XZ_CROSS	Zero-cross signal	0 to 5.0	Zero-cross section = "L"	No
TP302	XUPHT_TRG	Fusing lamp ON/OFF signal	0 to 24.0	ON = "L"	No
TP303	XLWHT_TRG	Pressure roller lamp ON/OFF signal	0 to 24.0	ON = "L"	No
TP304	XRA_SCN	Lamp regulator power relay	0 to 24.0	ON = "L"	No
TP305	XQL	QL ON/OFF signal	0 to 24.0	ON = "L"	No
TP306	XCH_FAN	Charge corona fan ON/OFF signal	0 to 24.0	ON = "L"	No
TP307	RM_I15A	Revolver motor current 1.5 A drive signal	0 to 5.0	1.5 A = "H"	No
TP300		Rear lower cooling fan ON/OFF signal	0 to 24.0	ON = "L"	
TP308	CH_MT-	Charge cleaner motor back signal	0 to 24.0	ON = "H"	No
TP309	XFUS_SEN	Fusing unit set signal	0 to 5.0	Set = "L"	No
TP310	XCH_FAN	Charge corona fan ON/OFF signal	0 to 24.0	ON = "L"	No
TP311	RM_I08A	Revolver motor current 0.8 A drive signal	0 to 5.0	0.8 A = "H"	No
TP312	CH_MT+	Charge cleaner motor forward signal	0 to 24.0	ON = "H"	No

4.7.5 SWITCHES

No.	Description	Remarks	
Main Control Board			
SW101	1	Factory use only	Should be OFF
	2	Factory use only	Should be OFF
SW102	1	Designer use only	Should be OFF
	2	Designer use only	Should be OFF
	3	Designer use only	Should be OFF
	4	Designer use only	Should be OFF
SW103	Japanese market only	Should be "0"	
Scanner IPU Board			
SW1	Designer use only	Should be OFF	
SW2	1	1 scan	
	2	Motor excitation off	
	3	Lamp on	
	4	Free-running	
	5	Designer use only	Should be OFF
	6	Designer use only	Should be OFF
IO Control Board			
SW1	Japanese market only	Should be OFF	

4.7.6 LED SPECIFICATIONS

No.	Function Outline	Remarks
Main control board		
LED101	Blinking : Normal ON or OFF: Abnormal	
LED102	Designer use only	
LED103	Designer use only	
LED104	Designer use only	
LED105	Designer use only	
SCN_IPU board		
LED1	Designer use only	
LED2	Designer use only	
LED3	Blinking when IDU works normally.	
LED4	Designer use only	
LED5	Designer use only	
LED6	Designer use only	
LED7	Designer use only	Normally OFF
LED8	Blinking : Normal ON/or OFF : Abnormal	
LED9	Designer use only	Normally OFF
LED10	Designer use only	Normally OFF

4.7.7 FUSE SPECIFICATIONS

PSU

FUSE No.	Rating		Use	Symptom when turn on the main power switch
	US	EU/Asia		
FU101	15A 125/250Vac	-	AC input main fuse	No response
FU102	8A 125/250Vac	5A 125/250Vac	PSU AC input fuse	No response
FU103	3.15A 125Vac	2A 125Vac/ 250V	Anti-condensation heater fuse	Heater does not work
FU1	4A 125/250Vac	4A 125/250Vac	Vaa(+24) output fuse (IOB)	"Front Door Open" is displayed.
FU2	4A 125/250Vac	4A 125/250Vac	Vaa(+24) output fuse (IOB)	"Front Door Open" is displayed.
FU3	4A 125/250Vac	4A 125/250Vac	Vaa(+24) output fuse (Scanner Motor Drive Board and Scanner IPU Board)	SC101 is displayed.
FU4	4A 125/250Vac	4A 125/250Vac	Vaa (+24) output fuse for the peripherals.	One of the peripheral devices will not run (a paper jam or paper empty condition is displayed).
FU31	3.15A 125Vac	2A 125Vac/250V	+5V safety regulation compliant protective fuse	
FU71	2A 125Vac	2A 125Vac/250V	Vcb(-12V) safety regulation compliant protective fuse (Scanner Moter Drive Board)	
FU81	3.15A 125Vac	3.15A 125Vac/250V	Vca(+12)/Vcd(+15V) safety regulation compliant fuse (Scanner Motor Drive Board and Scanner IPU Board)	
FU83	2A 125/250Vac	2A 125/250Vac	Vcd(+15V) output fuse (Scanner IPU Board)	SC171 is displayed

5. PREVENTIVE MAINTENANCE

5.1 PM PROCEDURES

5.1.1 PM-RELATED COUNTERS

The major PM related counters available in the SP modes are summarized below. After performing a PM procedure, clear the PM counters.

SP7-803 (Show PM Counter)

SP7-803-001: Counter for preventive maintenance

SP7-804 (Clear PM Counter)

SP7-804-001: Counters for 60 kD preventive maintenance parts

SP7-804-002: Counters for 120 kD preventive maintenance parts

SP7-804-003: Clears 7-803-001

SP7-202 (Show Development Counters)

Shows the number of times each color has been developed.

SP7-202-001: Total

SP7-202-002: Black

SP7-202-003: Cyan

SP7-202-004: Magenta

SP7-202-005: Yellow

SP7-818 (Clear Development Counters)

Clears the development counters indicated in SP7-202.

SP7-818-001: Black

SP7-818-002: Cyan

SP7-818-003: Magenta

SP7-818-004: Yellow

SP7-203 (Show Image Production Counters)

Shows the usage of major components by number of images produced.

SP7-207 (Show Cleaning Counters)

Shows the number of uses of the cleaning-related parts.

SP7-210 (Show Fusing Counters)

Shows the number of uses of the fusing related parts

SP 7-910 (Paper Separation Corona Counters)

Shows the number of uses of the separation corona

SP 7-911 (Duplex Tray Counters)

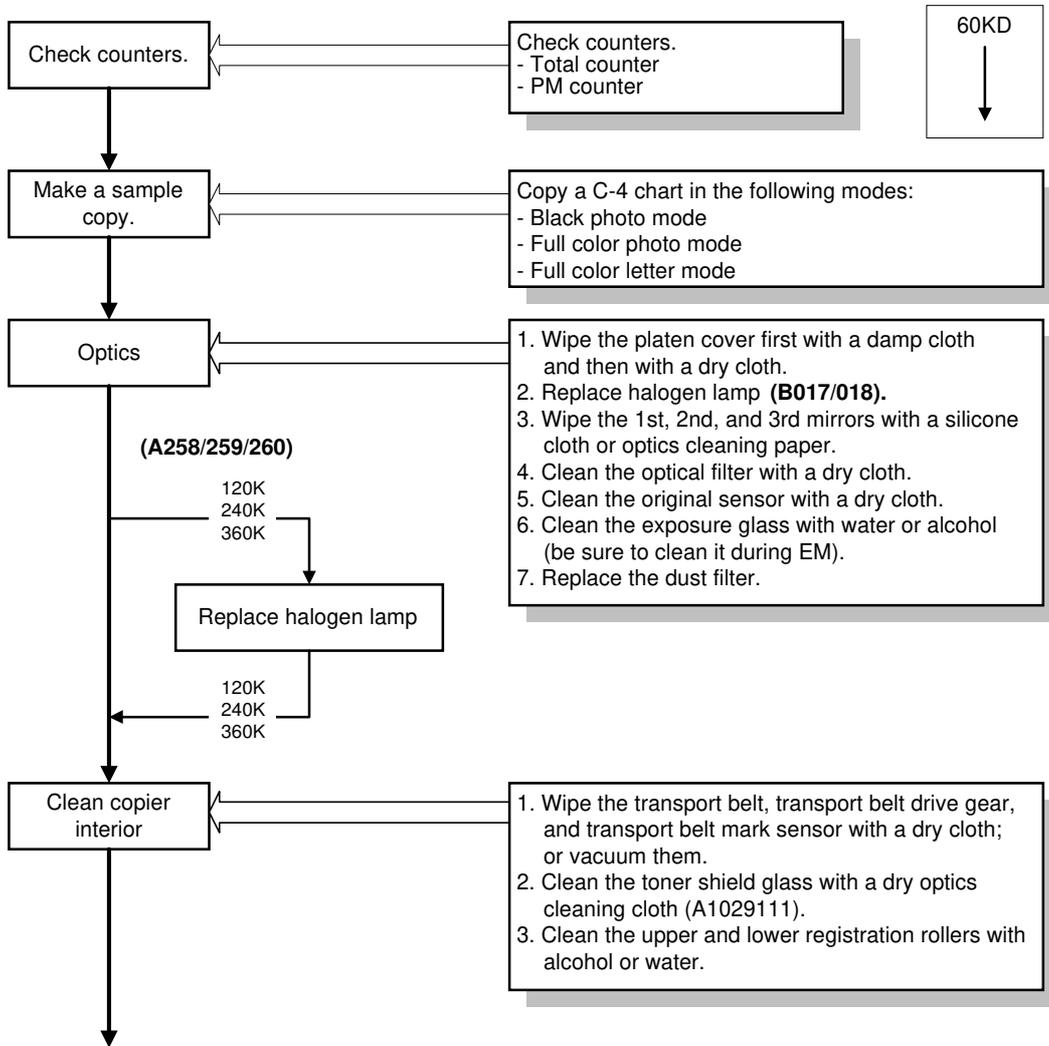
Shows the number of uses of the duplex tray related parts

SP 7-912 (Exposure Lamp Counter)

Shows the number of uses of the exposure lamp

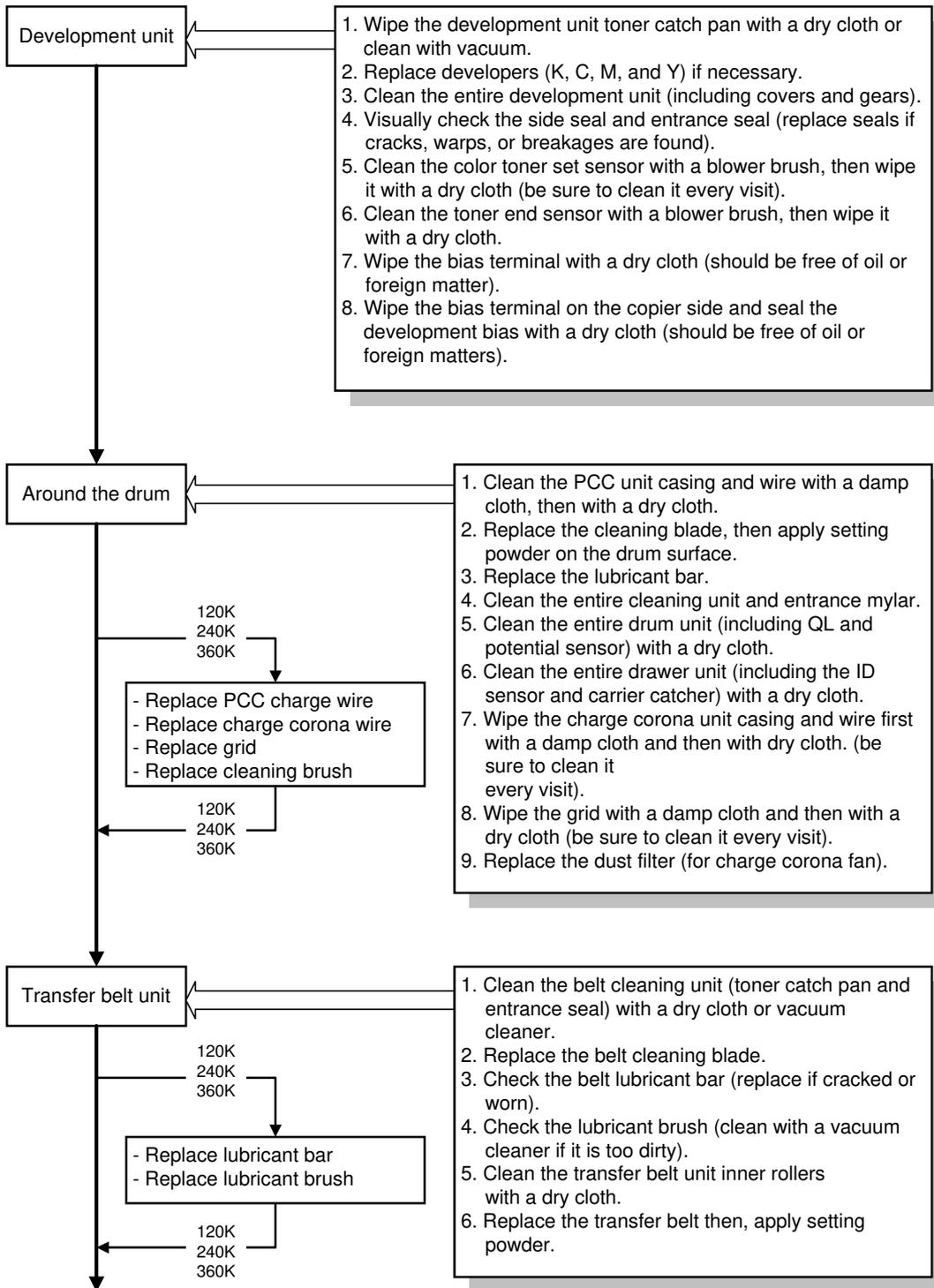
5.1.2 REGULAR PREVENTIVE MAINTENANCE FLOW DIAGRAM

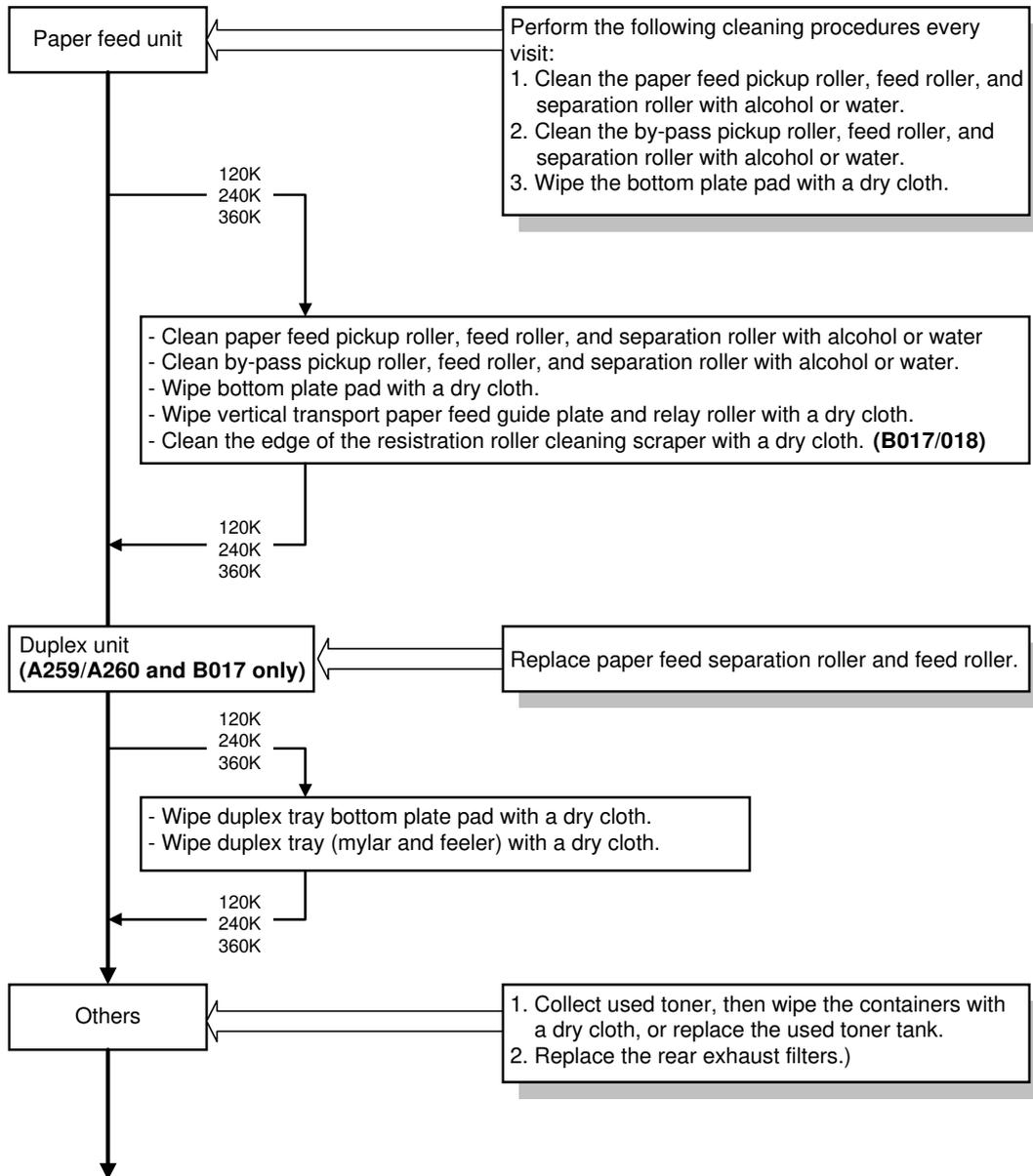
NOTE: The procedure that you use to replace the developer and the drum depends on the developer combination and the drum being replaced (See 6-6 Development Unit)



Preventive Maintenance

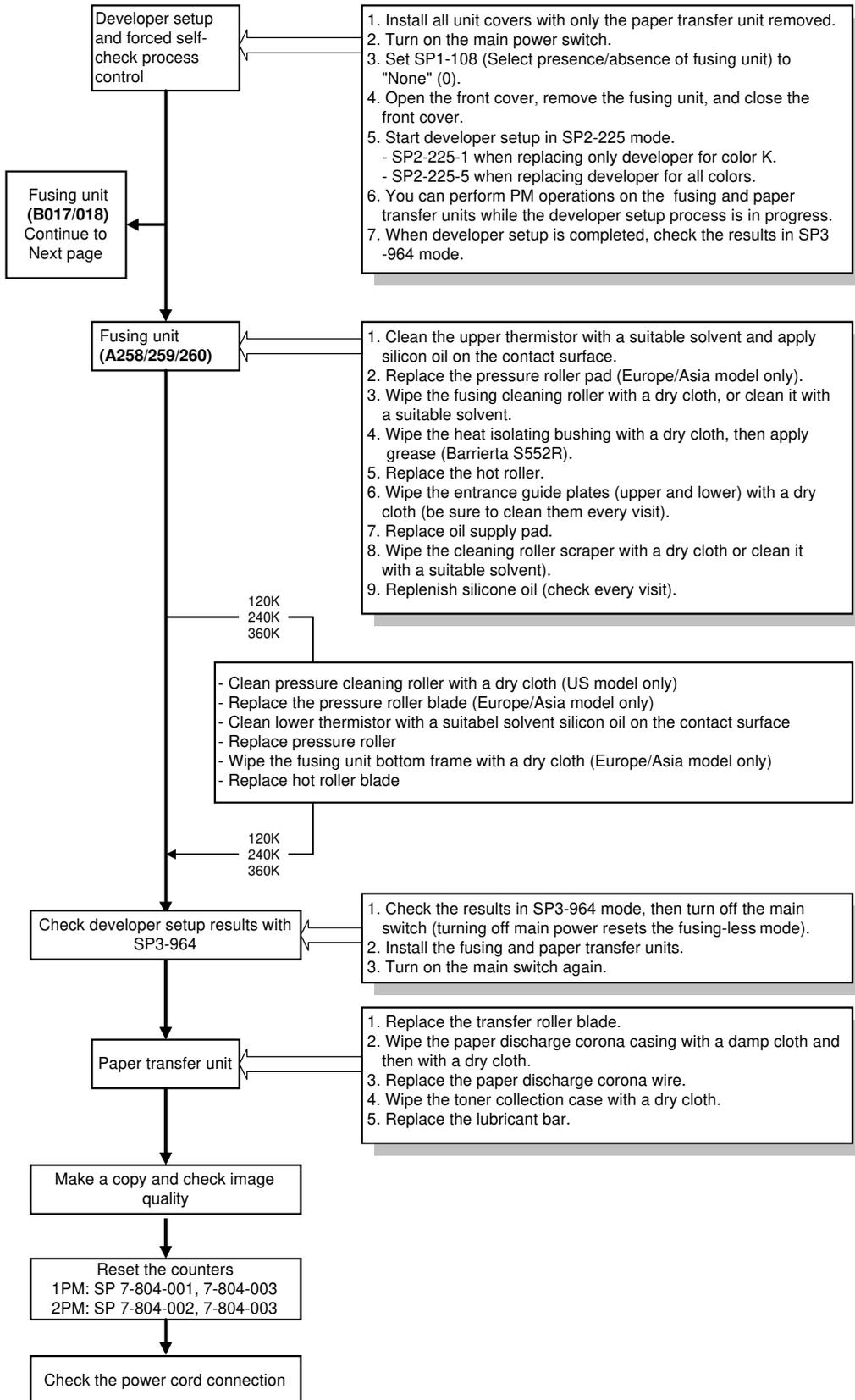
B017P500.WMF

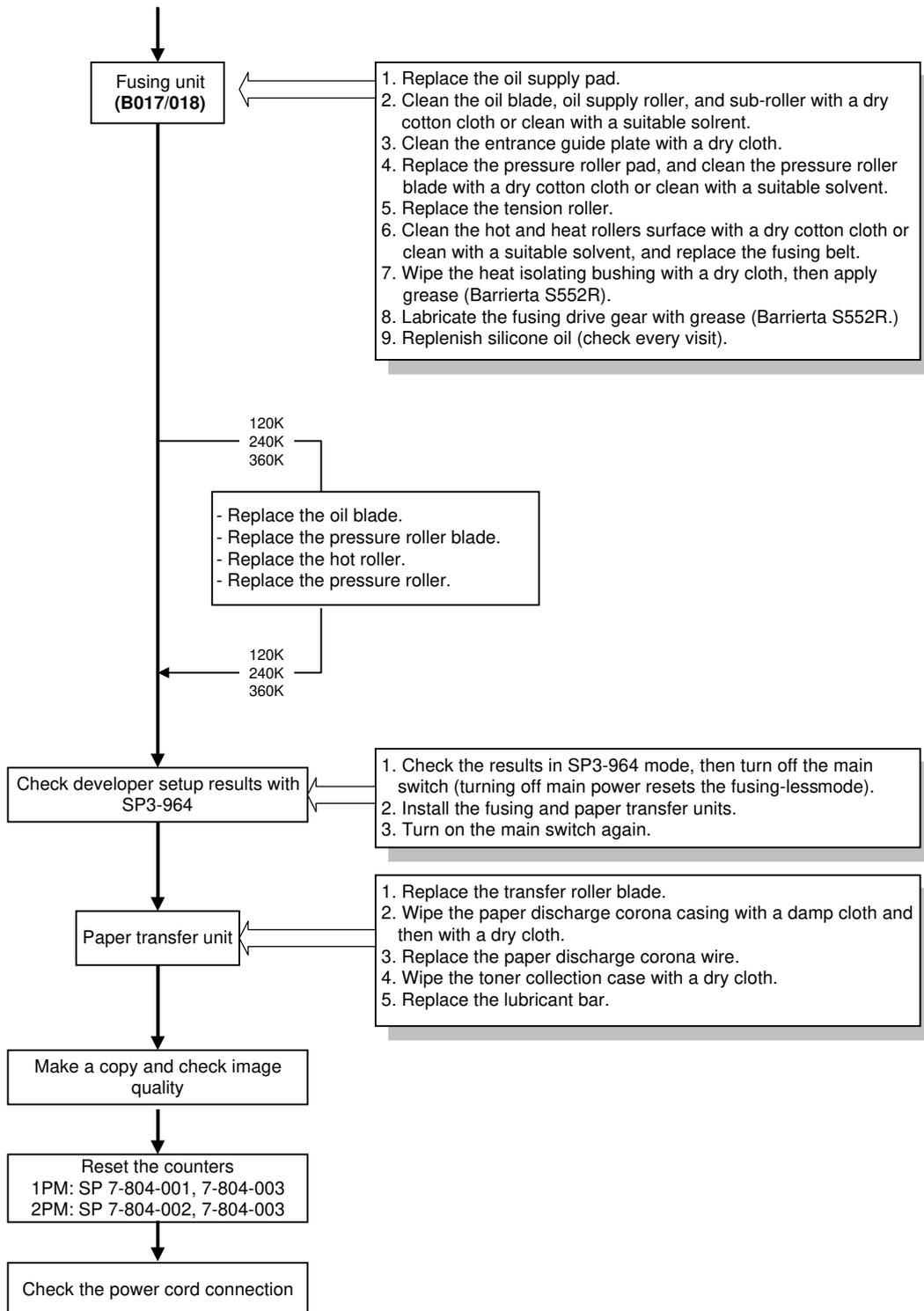




Preventive
Maintenance

B017P502.WMF





Preventive Maintenance

5.2 REGULAR PM ITEMS

Regular PM items: To be performed every 60,000 developments in accordance with the following table.

Regular PM Table

NOTE: To wipe off toner, use a dry cloth. If toner is mixed with alcohol, it solidifies.

○: Inspect △: Lubricate □: Replace ●: Clean ▲: Adjust

Block	PM item	EM	Schedule						Remarks
			60	120	180	240	300	360	
			kD	kD	kD	kD	kD	kD	
Scanner unit	1st, 2nd, and 3rd mirrors		●	●	●	●	●	●	Wipe with a silicone cloth or optics cleaning paper. Use a cleaning tool (P/N H5159353) to clean the 1st mirror.
	Optical filter		●	●	●	●	●	●	Clean using blow brush
	Original sensor		●	●	●	●	●	●	Wipe with a dry cloth.
	Halogen lamp (A258/259/260)			□		□		□	
	Halogen lamp (B017/018)			□		□		□	
	Exposure glass	●	●	●	●	●	●	●	Clean with water or alcohol.
	Platen cover	●	●	●	●	●	●	●	Wipe first with a damp cloth and then with a dry cloth.
	Dust filter			□		□		□	
Transport	Transport belt, transport belt drive gear, transfer belt mark sensor		●	●	●	●	●	●	Wipe with a dry cloth or clean with a vacuum cleaner.
	Toner shield glass		●	●	●	●	●	●	Wipe with a dry optics cleaning cloth (A0129111).
	Upper/lower registration rollers		●	●	●	●	●	●	Clean with water or alcohol.
	Registration roller cleaning mylar		●	●	●	●	●	●	Clean the edge of mylar with a dry cloth.

Block	PM item	EM	Schedule						Remarks
			60	120	180	240	300	360	
			kD	kD	kD	kD	kD	kD	
Development unit	Development unit toner catch pan		●	●	●	●	●	●	Wipe with a dry cloth or clean with a vacuum cleaner.
	Developer (K)								Developer life is 60 kD.
	Developer (C, M, Y)								Developer life is 45 kD for each color. Replace the three colors at the same time.
	Development unit (including covers and gears)		●	●	●	●	●	●	Cover: wipe with a dry cloth. Gear: Clean with a blower brush.
	Side seal/entrance seal		○	○	○	○	○	○	Visually check. Replace if cracks, warps, or breakage are found.
	Color toner set sensor	●	●	●	●	●	●	●	Clean with a blower brush, then wipe with a dry cloth.
	Toner end sensor		●	●	●	●	●	●	Clean with a blower brush, then wipe with a dry cloth.
	Bias terminal on the development unit.		●	●	●	●	●	●	Wipe with a dry cloth (should be free of oil or foreign matters).
	Bias terminal on the copier/seal-development bias.		●	●	●	●	●	●	Wipe with a dry cotton cloth (should be free of oil or foreign matters).
Around drum	PCC		●	●	●	●	●	●	Wipe with a dry cloth.
	PCC wire		●	□	●	□	●	□	Wipe with a dry cloth.
	Cleaning blade		□	□	□	□	□	□	When replacing, apply setting powder.
	Lubricant bar		□	□	□	□	□	□	
	Cleaning brush			□		□		□	
	Cleaning unit and entrance mylar		●	●	●	●	●	●	Clean with a blower brush or wipe with a dry cloth.
	Drum unit (including QL and potential sensor)		●	●	●	●	●	●	Wipe with a dry cloth.
	Drawer unit (including ID sensor and carrier catcher)		●	●	●	●	●	●	Wipe with a dry cloth.
	Charge corona unit casing	●	●	●	●	●	●	●	Wipe with a dry cloth.
	Charge corona wire	●	●	□	●	□	●	□	Wipe with a damp cloth, then with a dry cloth.
	Charge corona grid	●	●	□	●	□	●	□	Wipe with a damp cloth, then with a dry cloth.
	Dust filter		□	□	□	□	□	□	

Preventive Maintenance



Block	PM item	EM	Schedule						Remarks
			60	120	180	240	300	360	
			kD	kD	kD	kD	kD	kD	
Transfer belt unit	Belt cleaning unit (toner catch pan and entrance seal)		●	●	●	●	●	●	Wipe with a dry cloth or clean with a vacuum cleaner.
	Belt cleaning blade		□	□	□	□	□	□	
	Belt lubricant bar		○	□	○	□	○	□	Replace when worn or cracked.
	Lubricant brush		○	□	○	□	○	□	Clean with a vacuum cleaner if it is too dirty.
	Transfer belt unit rollers		●	●	●	●	●	●	Wipe with a dry cloth.
	Transfer belt		□	□	□	□	□	□	Apply setting powder when replacing.
Paper feed unit	Paper pick-up roller, paper feed roller, paper separation roller	●		●		●		●	Clean with alcohol or water.
	By-pass pick-up roller, by-pass feed roller, by-pass separation roller	●		●		●		●	Clean with alcohol or water.
	Bottom plate pad	●		●		●		●	Wipe with a dry cloth.
	Vertical transport guide plate			●		●		●	Wipe with a dry cloth.
	Relay roller			●		●		●	Wipe with a dry cloth.
	Registration roller cleaning scraper (B017/018)		●	●	●	●	●	●	Wipe with a dry cloth.
Others	Used toner tank		● / □	Empty and clean with a dry cloth, or replace the tank.					
	Exhaust filter		□	□	□	□	□	□	

Block	PM item	EM	Schedule						Remarks
			60	120	180	240	300	360	
			kD	kD	kD	kD	kD	kD	
Fusing unit (A258/259/260)	Pressure cleaning roller			●		●		●	Wipe with a dry cotton cloth. (US model only)
	Pressure roller blade			□		□		□	Europe/Asia model only
	Pressure roller pad		□	□	□	□	□	□	Europe/Asia model only
	Fusing unit bottom frame			●		●		●	Wipe with a dry cloth Europe/Asia model only
	Upper thermistor		●	●	●	●	●	●	Clean with a suitable solvent and apply silicone oil over the contact surface.
	Lower thermistor			●		●		●	Clean with a suitable solvent and apply silicone oil to the contact surface.
	Pressure roller			□		□		□	
	Fusing cleaning roller		●	●	●	●	●	●	Wipe with a dry cotton cloth or clean with a suitable solvent.
	Heat isolating bushing		Δ	Δ	Δ	Δ	Δ	Δ	Wipe with a dry cotton cloth, then apply grease (Barrierta S552R).
	Hot roller		□	□	□	□	□	□	
	Entrance guide plates (upper and lower)	●	●	●	●	●	●	●	Wipe with a dry cloth.
	Hot roller blade			□		□		□	
	Oil supply pad		□	□	□	□	□	□	
	Cleaning roller scraper		●	●	●	●	●	●	Wipe with a dry cotton cloth or clean with a suitable solvent.
	Silicone oil	○	Δ	Δ	Δ	Δ	Δ	Δ	After removing paper dust precipitated in the oil tank with a pipette, supply silicone oil.

Preventive Maintenance

Block	PM item	EM	Schedule						Remarks
			60	120	180	240	300	360	
			kD	kD	kD	kD	kD	kD	
Fusing unit (B017/018)	Entrance guide plates (upper and lower)	●	●	●	●	●	●	●	Wipe with a dry cloth.
	Oil supply roller and sub-roller		●	●	●	●	●	●	Wipe with a dry cotton cloth or clean with a suitable solvent.
	Oil supply pad		□	□	□	□	□	□	
	Oil Blade		●	□	●	□	●	□	Wipe with a dry cotton cloth or clean with a suitable solvent.
	Heat roller		●	●	●	●	●	●	Wipe with a dry cotton cloth or clean with a suitable solvent.
	Fusing belt		□	□	□	□	□	□	
	Hot roller			□		□		□	
	Tension roller		□	□	□	□	□	□	
	Pressure roller			□		□		□	
	Pressure roller pad		□	□	□	□	□	□	
	Pressure roller blade		●	□	●	□	●	□	Wipe with a dry cotton cloth or clean with a suitable solvent.
	Heat isolating bushing		△	△	△	△	△	△	Wipe with a dry cotton cloth, then apply grease (Barrierta S552R).
	Fusing belt thermistor		●	●	●	●	●	●	Clean with a suitable solvent and apply silicone oil to the contact surface.
	Pressure roller thermistor			●		●		●	Clean with a suitable solvent and apply silicone oil to the contact surface.
	Fusing unit bottom frame			●		●		●	Wipe with a dry cloth.
	Pick-off pawls		●	●	●	●	●	●	Wipe with a dry cotton cloth or clean with a suitable solvent.
	Silicone oil	○	△	△	△	△	△	△	After removing paper dust precipitated in the oil tank with a pipette, add silicone oil.
Fusing drive gear		△	△	△	△	△	△	Apply grease (Barrierta S552R)	
Paper transfer unit	Transfer roller blade		□	□	□	□	□	□	
	Paper discharge corona casing		●	●	●	●	●	●	Wipe with a dry cloth.
	Paper discharge corona wire		□	□	□	□	□	□	
	Toner collection case		●	●	●	●	●	●	Wipe with a dry cloth.
	Lubricant bar		□	□	□	□	□	□	

Block	PM item	EM	Schedule						Remarks
			60	120	180	240	300	360	
			kD	kD	kD	kD	kD	kD	
Duplex unit	Paper feed separation roller		<input type="checkbox"/>						
	Paper feed roller		<input type="checkbox"/>						
	Duplex tray bottom plate pad	●		●		●		●	Wipe with a dry cloth.
	Duplex trays (mylar and feeler)	●		●		●		●	Wipe with a dry cloth.

Preventive Maintenance

○: Inspect △: Lubricate □: Replace ●: Clean

Block	PM Item		60	120	180	240	300	360	Action Post-maintenance action
			kD	kD	kD	kD	kD	kD	
Paper Tray Unit	Paper feed roller: Feed						□		Clean each paper tray with a dry or damp cloth (cotton cloth). Guideline: Every 200,000 normal sheets
	Pick-up roller						□		Each paper tray Guideline: Every 200,000 normal sheets
	Paper separation roller						□		Each paper tray Guideline: Every 200,000 normal sheets
	Relay rollers						●		Clean each paper tray with a dry or damp cloth (cotton cloth). Guideline: Every 200,000 normal sheets
	Transport drive roller						●		Clean each paper tray with a dry or damp cloth (cotton cloth). Guideline: Every 200,000 normal sheets
	Paper tray bottom plate						●		Clean each paper tray with a dry or damp cloth (cotton cloth). Guideline: Every 200,000 normal sheets
	Relay clutch						○		Guideline: Every 200,000 normal sheets
	Paper feed clutch						○		Check each paper tray. Guideline: Every 200,000 normal sheets
ARDF	Transport belt	●		□		□		□	Wipe with a damp cotton cloth. Guideline: Every 80,000 normal sheets
	Separation belt	●		□		□		□	Wipe with a damp cotton cloth. Guideline: Every 80,000 normal sheets
	Separation roller	●		□		□		□	Wipe with a damp cotton cloth. Guideline: Every 80,000 normal sheets
	Registration sensor			●		●		●	Clean with a blower brush. Guideline: Every 80,000 normal sheets
	Size sensor			●		●		●	Clean with a blower brush. Guideline: Every 80,000 normal sheets
	Paper exist sensor			●		●		●	Clean with a blower brush. Guideline: Every 80,000 normal sheets

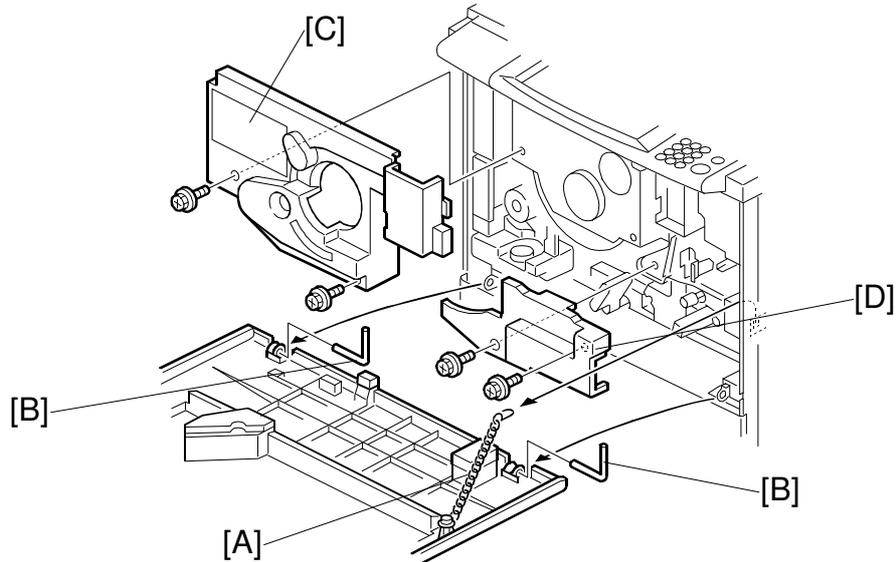
Block	PM Item								Action Post-maintenance action
		60	120	180	240	300	360		
		kD	kD	kD	kD	kD	kD		
20 Bins Sorter	Transport roller	●							Clean with alcohol or cotton cloth if stained.
	Follower roller	●							Clean with alcohol or cotton cloth if stained.
	Bin	●							Clean with alcohol or cotton cloth if stained.
	Bin/stapler sensor	●							Clean with a blower brush
	Bearing	Δ							Lubricate if abnormal sound is heard (resin grease, G-501).
	Bin slider, spiral or helical, guide groove	Δ							Lubricate if abnormal sound is heard (resin grease, G-501).
	Stapler	○							Stapler life: 100,000 staples
10 Bins Sorter	Transport roller	○							Clean with alcohol or cotton cloth if contaminated.
	Follower roller	○							Clean with alcohol or cotton cloth if contaminated.
	Bin	○							Clean with alcohol or cotton cloth if contaminated.
	Entrance, bin, and stapler sensors	○							Clean with a blower brush.
	Bin slider section	○							Lubricate if abnormal sound is heard (resin grease, G-501).
	Bearing	○							Lubricate if abnormal sound is heard (silicone oil or Launa oil).
	Stapler	○							
3 Bins Sorter	Transport roller	●							Clean with alcohol or cotton cloth if stained.
	Follower roller	●							Clean with alcohol or cotton cloth if stained.
	Reflection type sensor	●							Clean with a blower brush
	Bearing	Δ							Lubricate if abnormal sound is heard (silicone oil or Launa oil).
	Follower roller	Δ							Lubricate if abnormal sound is heard (silicone oil or Launa oil).
	Worm, worm wheel	Δ							Lubricate if abnormal sound is heard (resin grease, G-501).

Preventive Maintenance

6. REPLACEMENT AND ADJUSTMENT

6.1 COVERS, FANS, AND FILTERS

6.1.1 FRONT, INNER, AND INNER TRANSFER COVERS

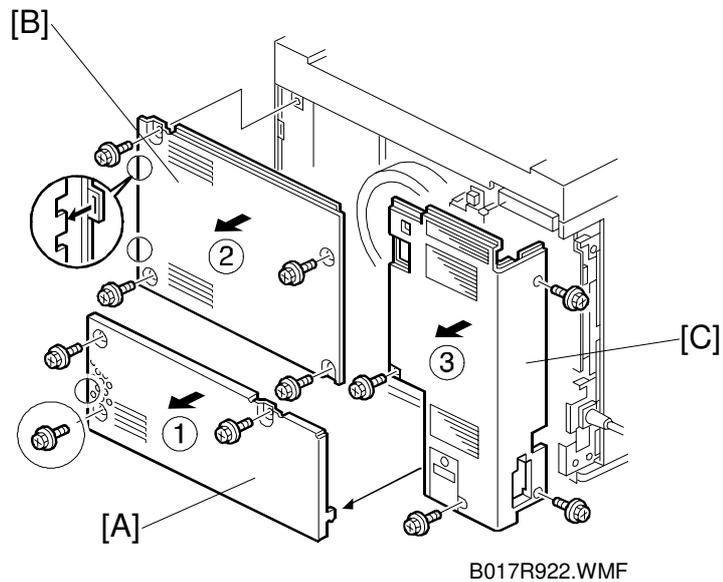


B017R901.WMF

1. Remove the chain [A] from the hook.
2. Remove the pins [B] (two) from the hinges.
3. Remove the front cover.
4. Remove the inner cover [C] (2 screws).
5. Remove the inner transfer cover [D] (2 screws).

Replacement
Adjustment

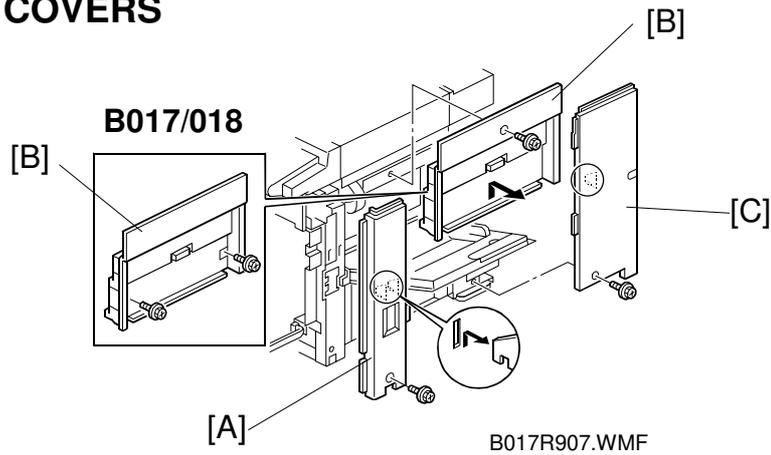
6.1.2 REAR COVERS



NOTE: When removing the covers, follow the step order. When installing the covers, follow the removal procedure in reverse.

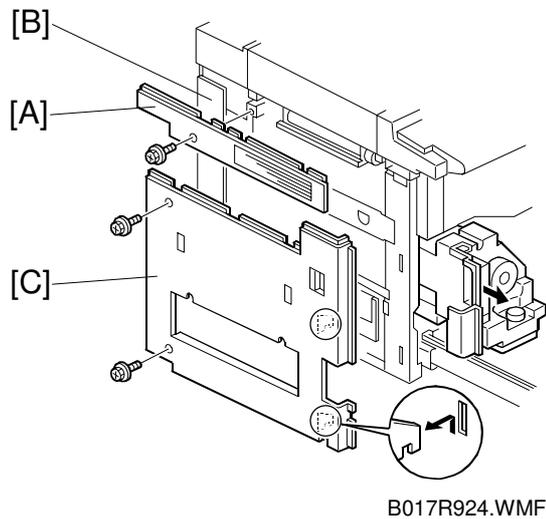
1. Remove the used toner cover [A] (3 screws).
2. Remove the rear cover [B] (4 screws).
3. Remove the left rear cover [C] (3 screws, 1 connector).

6.1.3 RIGHT COVERS



1. Open the front cover and the by-pass feed table.
2. Remove the right front cover [A] (1 screw).
3. Remove the right cover [B] (1 or 2 screws).
4. Remove the used toner and rear covers (see "Rear Covers").
5. Remove the right rear cover [C] (1 screw).

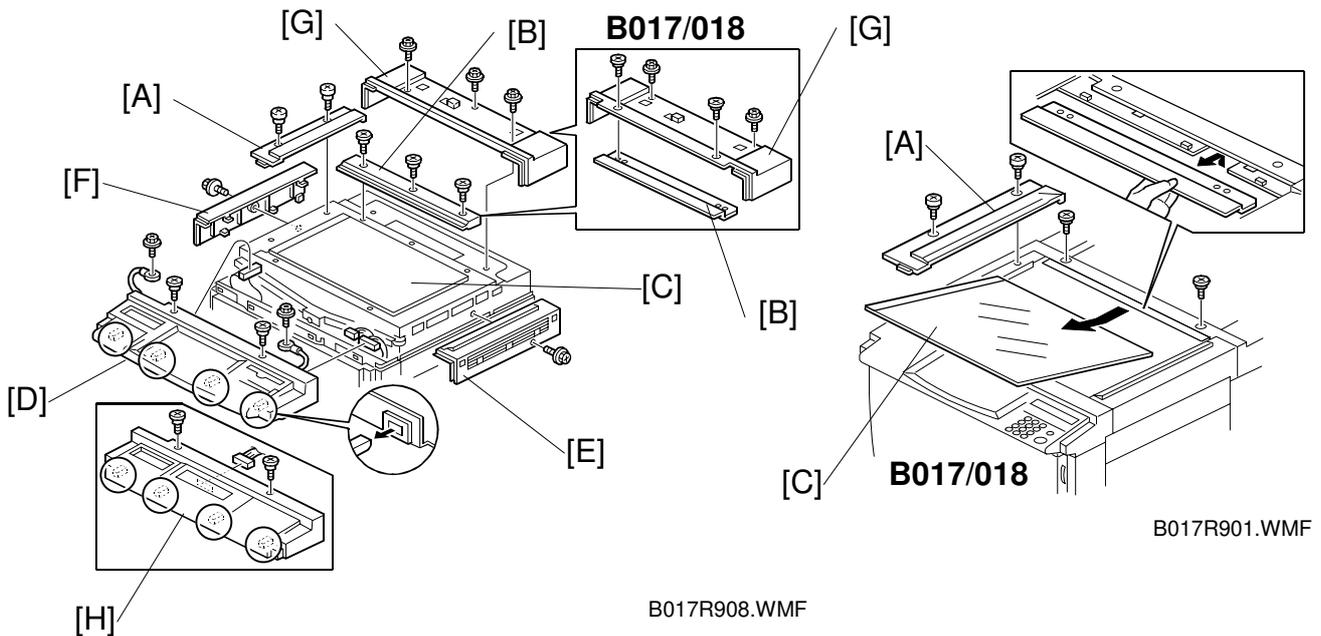
6.1.4 LEFT COVERS



1. Remove the left center cover [A] (1 screw).
2. Open the front cover and pull out the fusing unit slightly.
3. Remove the left rear cover [B] (see "Rear Covers").
4. Remove the left cover [C] (2 screws).

Replacement
Adjustment

6.1.5 EXPOSURE GLASS



1. Remove the left scale [A] (2 screws).
2. **A258/259/260 only:** Remove the rear scale [B] (3 screws).
B017/018 only: Remove two screws securing the rear scale [B].

3. Remove the exposure glass [C].

NOTE: When reinstalling the exposure glass, ensure that the white plate faces down and to the left.

6.1.6 OPERATION PANEL

– **A258/B018 only** –

1. Remove the operation panel [H] (2 screws and 1 connector).

– **A259/A260/B017 only** –

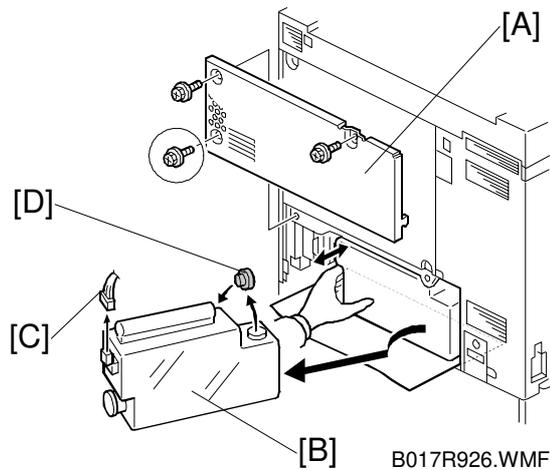
1. Remove the operation panel [D] (2 screws, 2 grounding wires, and 3 connectors).

NOTE: Perform the touch panel calibration procedure after replacing the operation panel (see "Touch Panel Calibration").

6.1.7 UPPER COVERS

1. Remove the upper right cover [E] (1 screw).
2. Remove the upper left cover [F] (1 screw).
3. Remove the upper rear cover [G] (2 or 3 screws).

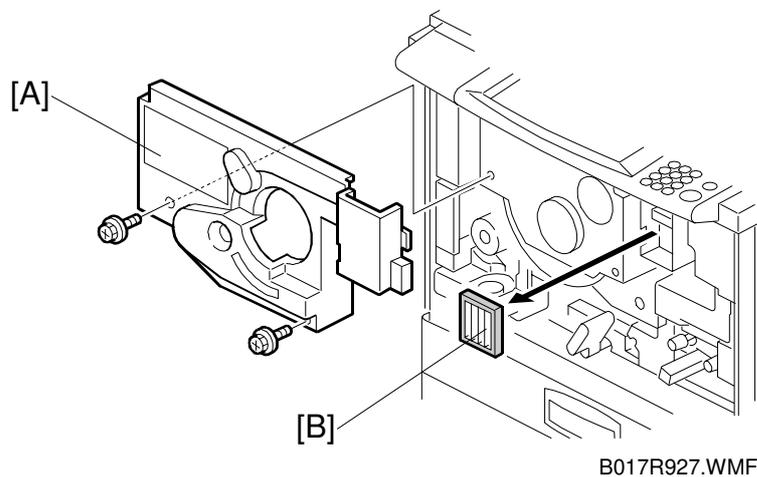
6.1.8 USED TONER TANK



NOTE: Place a mat on the floor to keep the floor clean before doing this procedure.

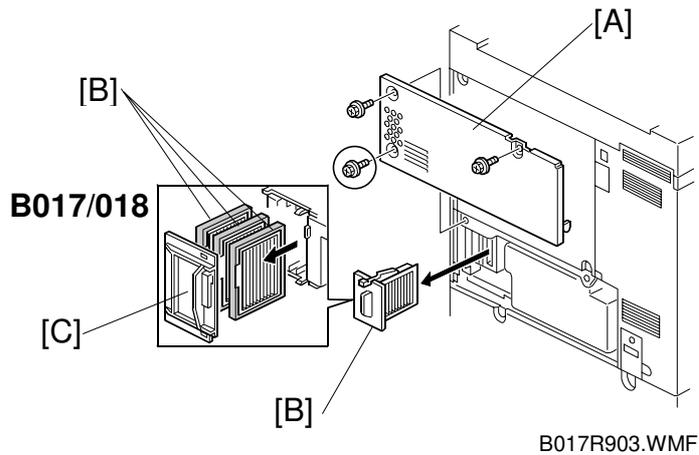
1. Remove the used toner cover [A] (3 screws).
2. Pull out the used toner tank [B].
3. Disconnect the cable [C] and remove the cap [D].

6.1.9 CHARGE CORONA FAN FILTER



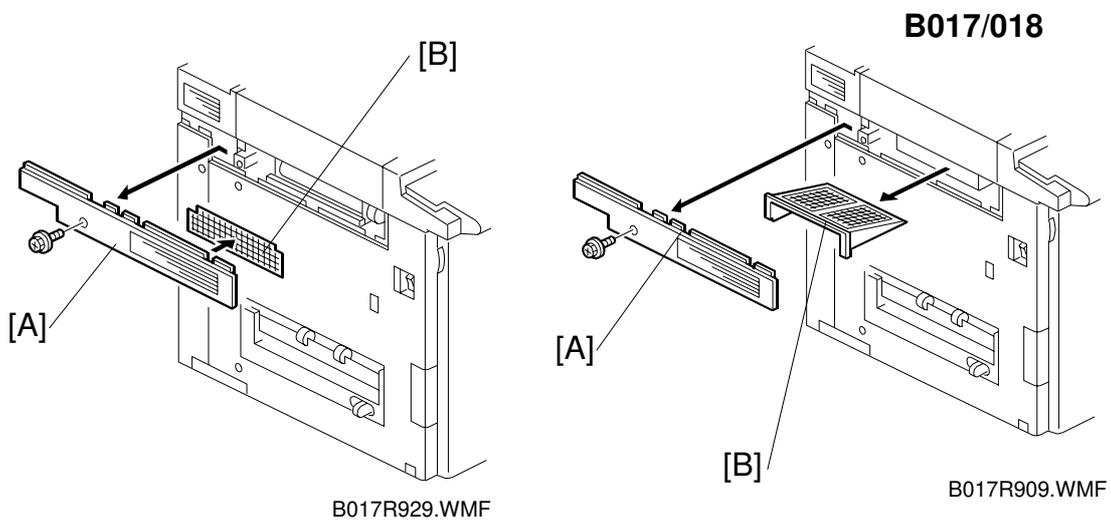
1. Remove the inner cover [A] (2 screws).
2. Pull out the charge corona fan filter [B].

6.1.10 MAIN EXHAUST FAN FILTER

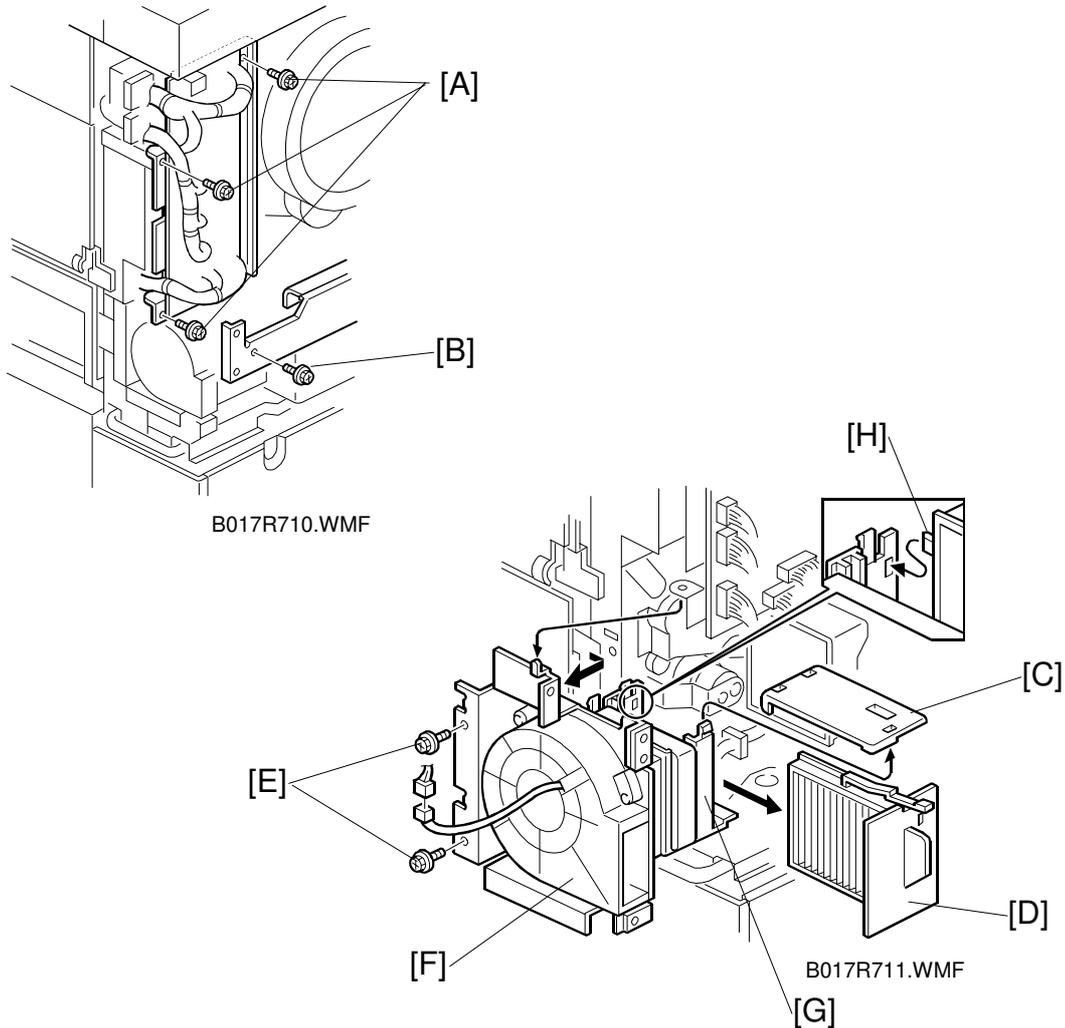


1. Remove the used toner cover [A] (3 screws).
2. **A250/259/260 only:** Pull out the main exhaust fan filter [B].
B017/018/only: Remove the filter cover [C] and pull out the main exhaust fan filter(s) [B].

6.1.11 SCANNER EXHAUST FAN FILTERS



1. Remove the left center cover [A] (1 screw).
2. Remove the scanner exhaust fan filter [B].

6.1.12 MAIN EXHAUST FAN (A258/259/260)

NOTE: Place a mat on the floor to keep the floor clean before doing this procedure.

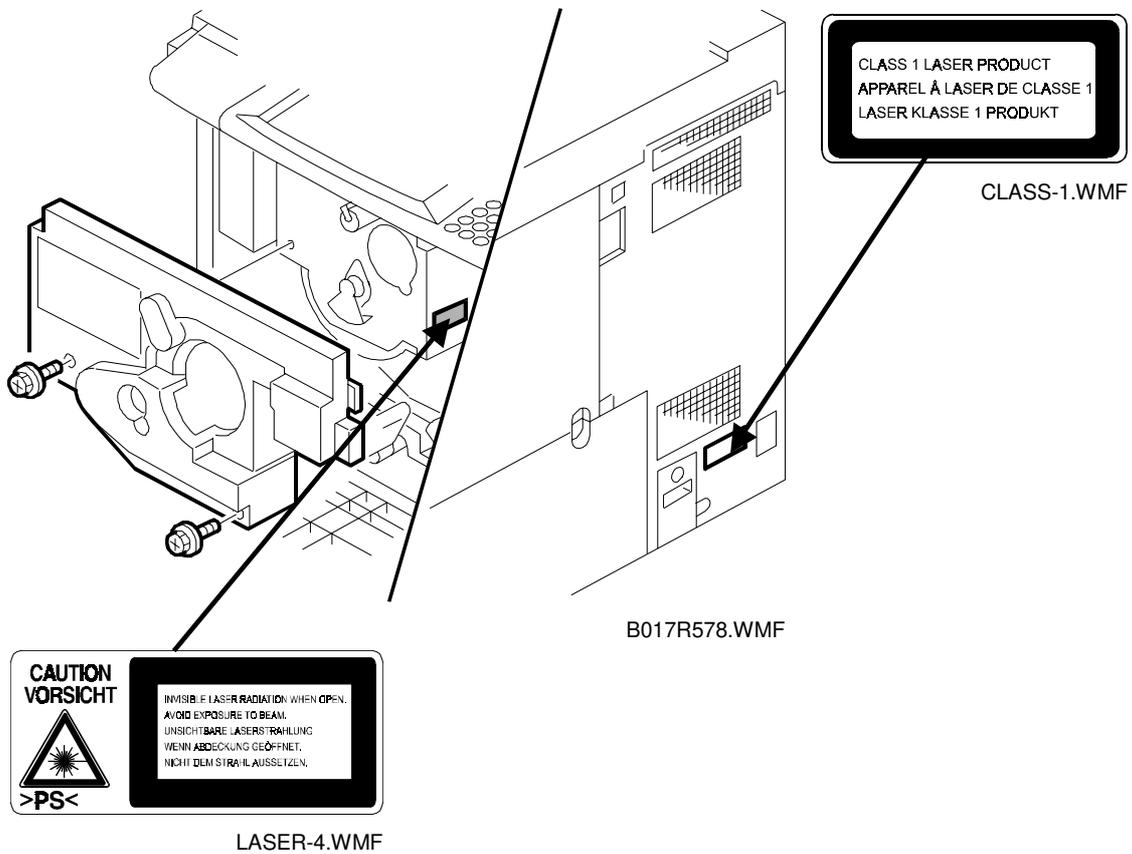
1. Remove the used toner rear cover and rear cover (see "Rear Covers").
2. Remove the right rear cover (see "Right Covers").
3. Remove three mounting screws [A] from the I/O control board.
4. Remove the mounting screw [B] from the rear cover bracket.
5. Remove the main exhaust fan filter top cover [C] (1 claw) and the main exhaust fan filter [D].
6. Remove the main exhaust fan mounting (2 screws [E]) and remove the main exhaust fan [F] with the main exhaust fan dust filter bracket [G] (while disengaging two connectors, one for the fan and one for the temperature/humidity sensor, and the duct opening claw [H]).

6.2 DRUM UNIT

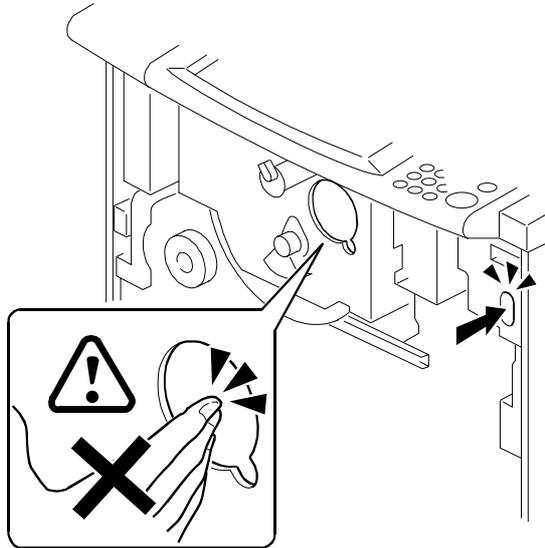
⚠ WARNING
Turn off the power and unplug the machine before attempting any of the procedures in this section. Laser beams can seriously damage your eyes.

CAUTION DECAL LOCATIONS

Two caution decals are located as shown below.



⚠ DANGER
Be sure to turn off the main switch and disconnect the power plug from the power outlet before attempting any disassembly or adjustment of the laser unit. This copier uses a class 1 laser beam with a wavelength of 780 nm and an output of 15 mW. The laser can seriously damage your eyes.

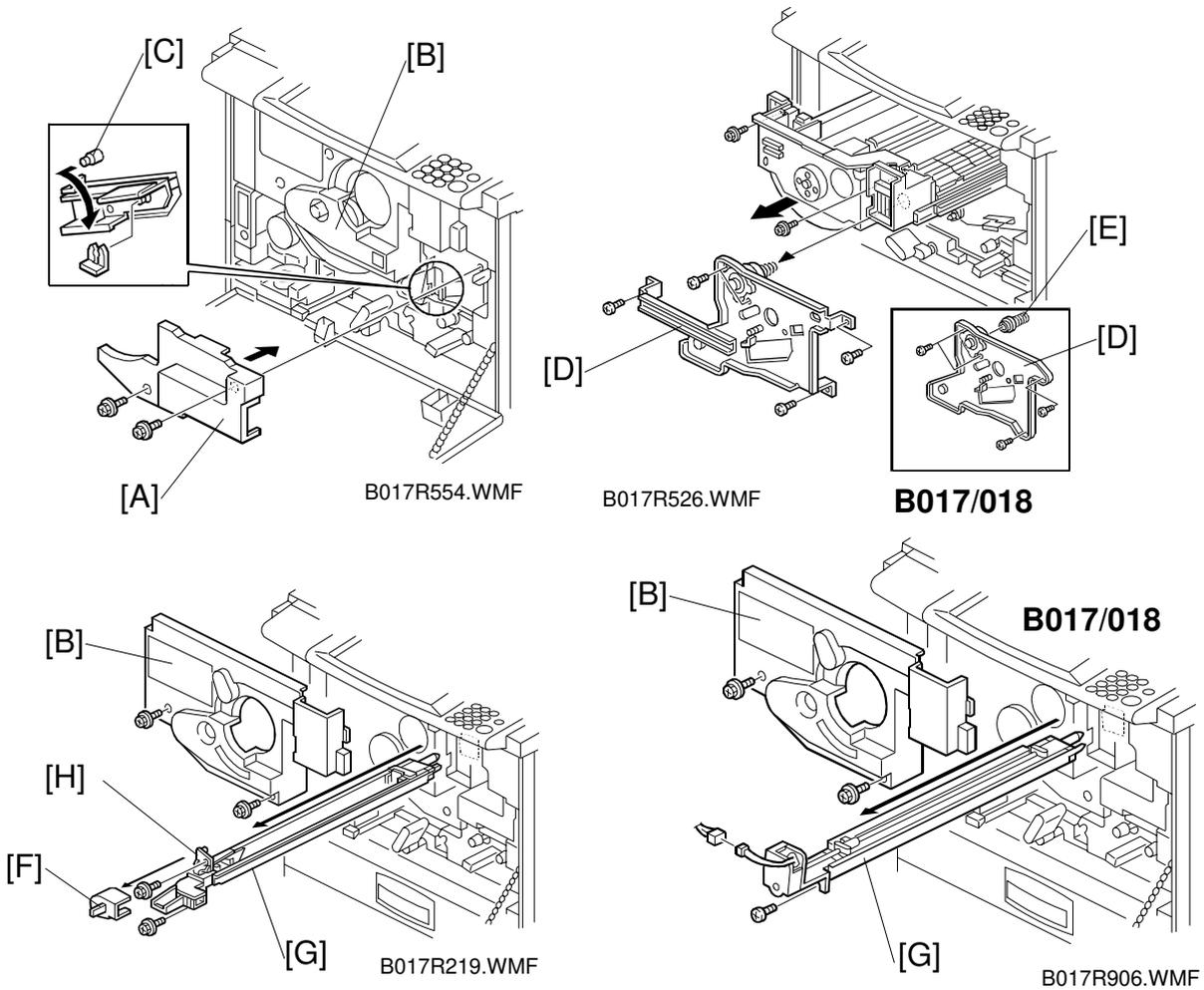
⚠ CAUTION

B017R310.WMF

DO NOT TOUCH the revolver unit, the toner cartridge, the toner end sensor, or the toner cartridge sensor, while the front door switch is actuated. This is because the revolver might rotate automatically due to a timed process control self check, or if the start key is pressed.

To disable the timed process control self check, SP 3-972 should be 0. The default is 6 (hours). If you change this SP mode setting, you should reset it to 6 after finishing your work.

6.2.1 PULLING OUT THE REVOLVER/DRUM DRAWER

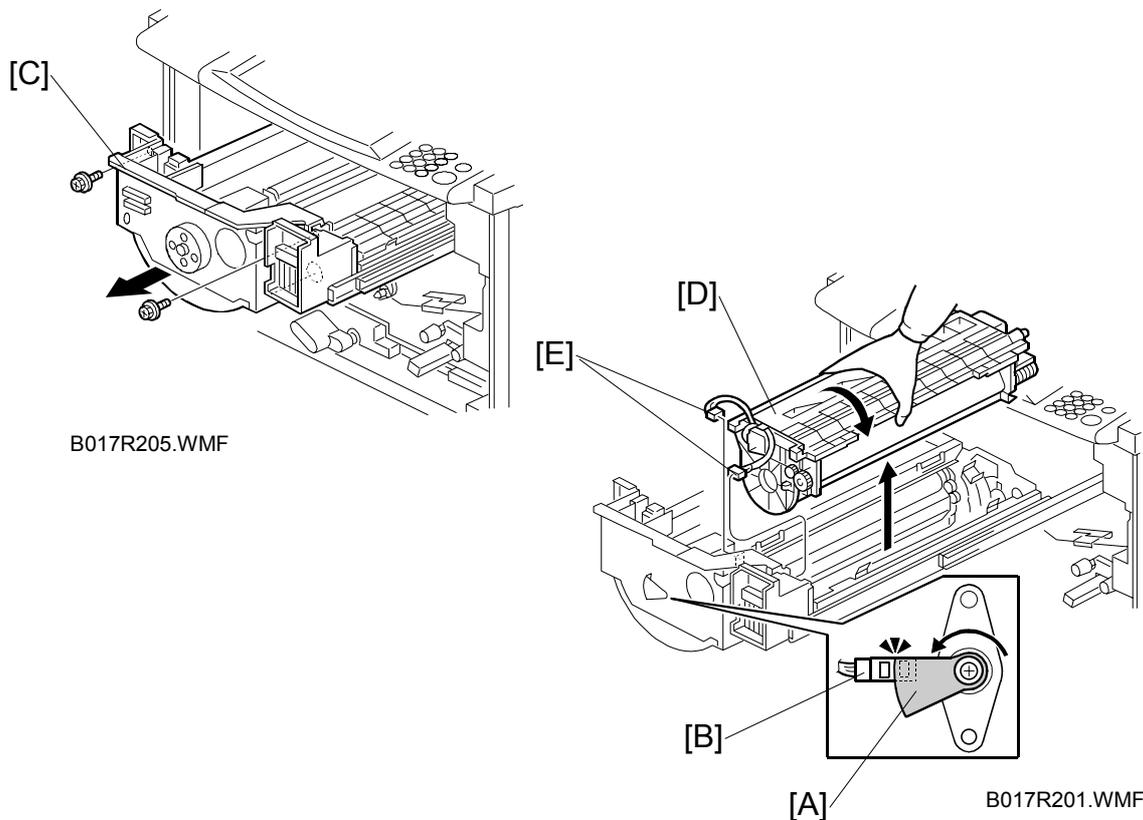


NOTE: Place a mat on the floor to keep the floor clean before performing these procedures.

1. Remove the following covers in the indicated order (see "Covers, Fans, and Filters"):
 - 1) Front cover
 - 2) Inner transfer cover [A]
 - 3) Inner cover [B] (See "Charge Corona Fan Filter Removal".)
2. Release the transfer belt tension [C] (1 clamp) and remove the transfer belt stay [D] (5 screws or 4 screws and spring holder [E]).

NOTE: The spring holder will drop out when the drawer unit is pulled out if you forget to remove it in this step.
3. **A258/259/260 only:** Remove the charge duct cover [F] and the charge corona unit [G] with the corona cleaner [H] (2 screws).

B017/018 only: Remove the charge corona unit [G] (1 screw, 1 connector).



4. Rotate the sensor actuator [A] so that the upper edge of sensor actuator aligns the sensor as shown.

NOTE: 1) Before removing or installing the drum unit, rotate the drawer unit in counterclockwise so that the upper edge of sensor actuator [A] aligns the sensor [B] as shown. This keeps the development sleeve away from the development position and prevents the drum from damage.

2) The revolver unit rotates counterclockwise. Do NOT try to turn it in the other direction.

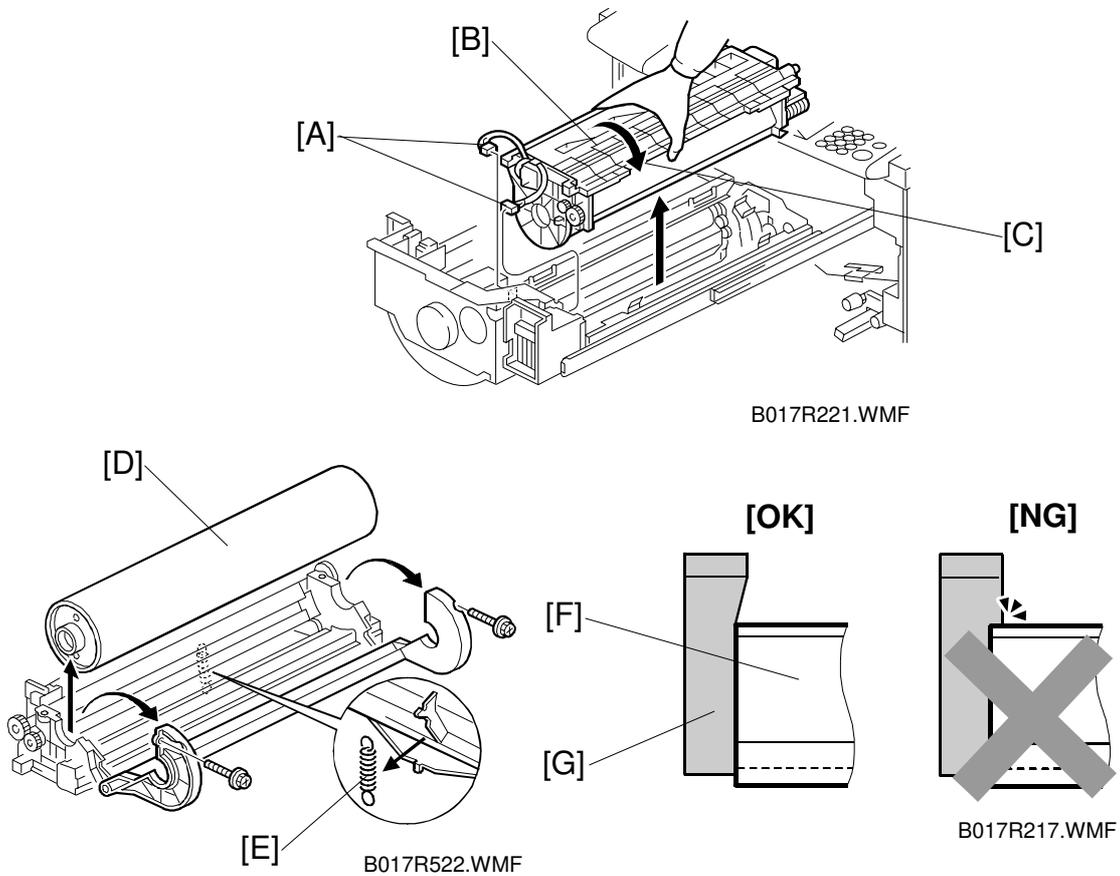


5. Pull out the drawer unit [C] (2 screws).

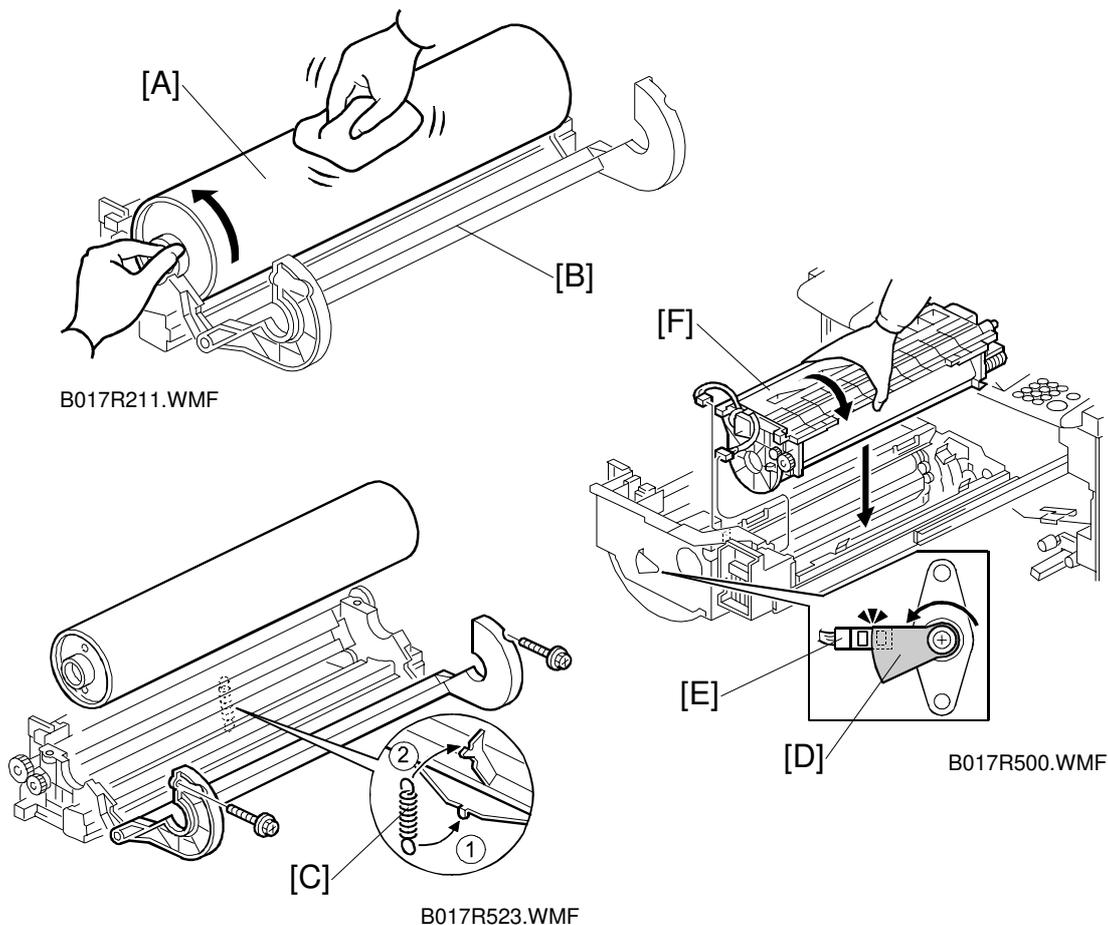
NOTE: 1) After pulling out the drawer unit, pull out the drum unit [D] (2 connectors [E]) and shield the drum unit from light with a black sheet or 5 (or more) white sheets of paper.

2) If the drawer unit is left out, the drum is exposed to light. This may cause optical fatigue, resulting in image anomalies (see "Troubleshooting – Drum Light Fatigue"). Therefore after pulling out the drawer unit, remove the drum unit (2 connectors) and cover it with a black sheet or 5 (or more) white sheets of paper.

6.2.2 DRUM REPLACEMENT

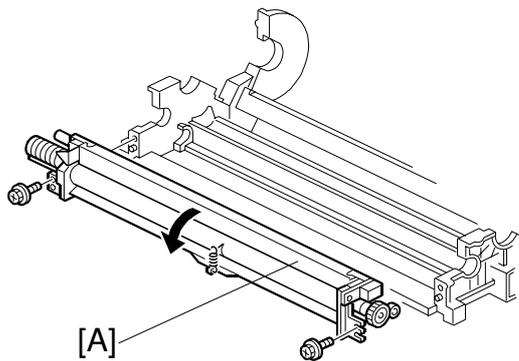


1. Remove the connectors [A] (2) and lift out the drum unit [B].
2. Turn the drum unit upside down, so that it rests as shown in the bottom left diagram, and remove the 2 screws.
NOTE: When placing the drum unit in the work area, it is important to turn it upside down while removing it as shown [C]. This prevents toner spillage.
3. Open the drum unit and remove the drum [D].
4. Release the cleaning blade pressure (1 spring [E]).
NOTE: Make sure that the front and rear ends of the blade [F] do not rest over the cleaning unit side seals [G].

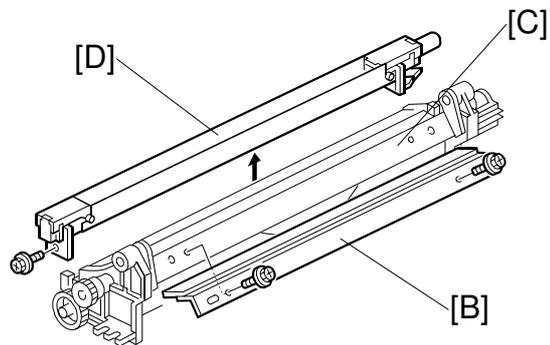


5. Install the new drum [A] and apply setting power [B] to the entire drum surface (2 screws).
NOTE: Be sure to apply the setting powder over the entire drum. This prevents the cleaning blade from catching on the drum surface.
6. Hook the cleaning blade pressure spring [C] at the bottom (①) first then the top (②), to prevent the spring from being deformed.
7. Rotate the drum forward two or three times to settle the setting power between the drum surface and cleaning blade by applying pressure to the cleaning blade.
NOTE: Do not touch the drum more than 10 mm from either edge.
8. Make sure that the upper edge of sensor actuator [D] aligns the sensor [E] as shown.
9. Install the drum [F] unit in the reverse order of disassembly.
NOTE: After replacing the drum, be sure to perform the process control self-check on the new drum. See 6.6.3. "Post Developer Collection Procedure" for instructions.

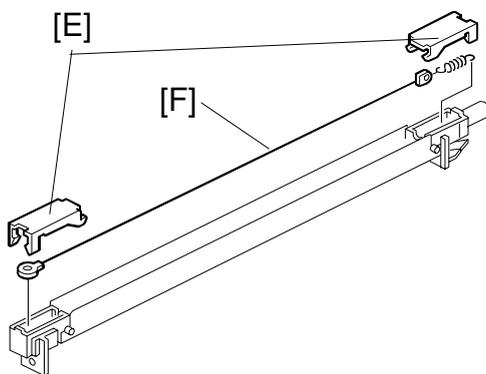
6.2.3 CLEANING BLADE AND PCC WIRE REPLACEMENT



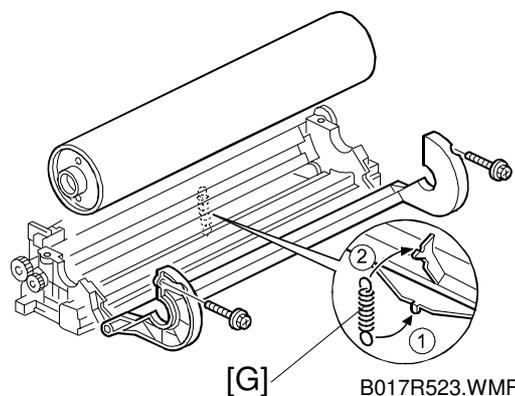
B017R213.WMF



B017R216.WMF



B017R210.WMF

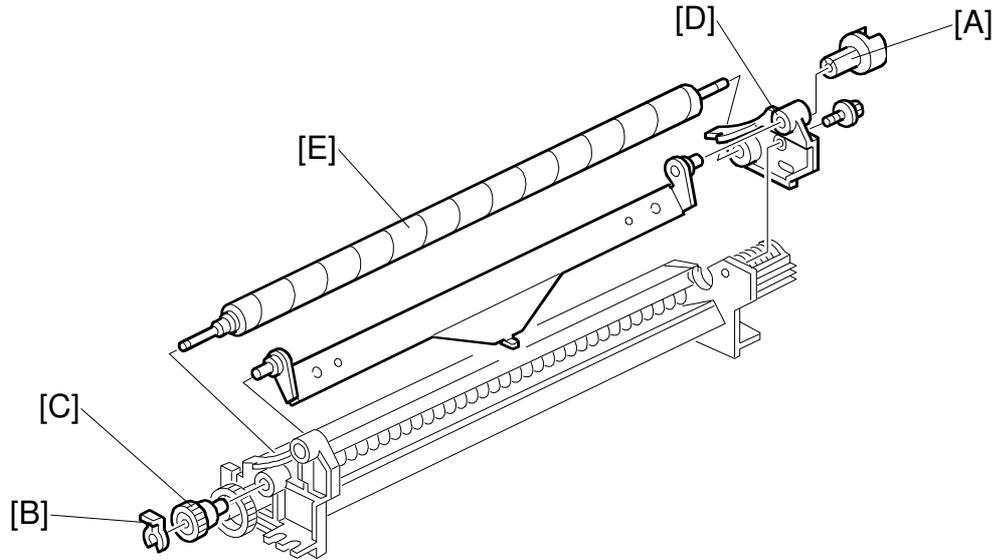


B017R523.WMF

1. Remove the drum unit and the drum (see “Drum Replacement”).
2. Remove the cleaning unit [A] from the drum unit (2 screws).
3. Remove the cleaning blade [B] from the cleaning unit [C] (2 screws, 1 spring) and install the new blade (2 screws, do not attach the spring yet).
NOTE: Apply setting powder to the drum surface after replacing the cleaning blade. Be sure to apply the setting powder over the entire drum. This prevents the cleaning blade from catching on the drum surface.
4. Remove the PCC [D] from the cleaning unit (1 screw).
5. Remove the front and rear end blocks [E] from the PCC.
6. Replace the PCC wire [F].
7. Assemble the drum unit in the reverse order of disassembly.

- NOTE:**
- 1) Make sure that the front and rear ends of the cleaning blade do not rest over the cleaning unit side seal; then hook the cleaning blade pressure spring [G] after installing the cleaning unit and drum to maintain the cleaning blade in the correct position.
 - 2) After replacing the drum or the cleaning blade, rotate the drum forward two or three times to settle the setting powder between the drum surface and the cleaning blade.

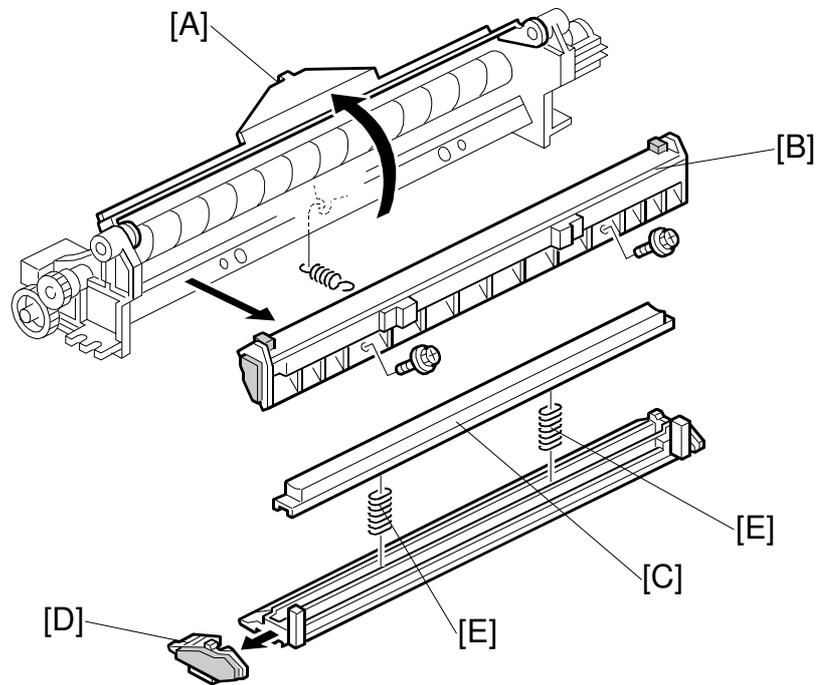
6.2.4 CLEANING BRUSH REPLACEMENT



B017R212.WMF

1. Remove the drum unit and the drum. (see “Drum Replacement”).
2. Remove the cleaning unit from the drum unit (2 screws) (see “Cleaning Blade and PCC Wire Replacement”).
3. Remove the coupling gear [A] from the rear of the cleaning unit (1 hook).
4. Remove the snap ring [B] and gear [C] securing the front side.
5. By pushing the front end of the brush shaft towards the rear, remove the rear panel [D] from the cleaning unit, then remove the cleaning brush [E] (1 screw).

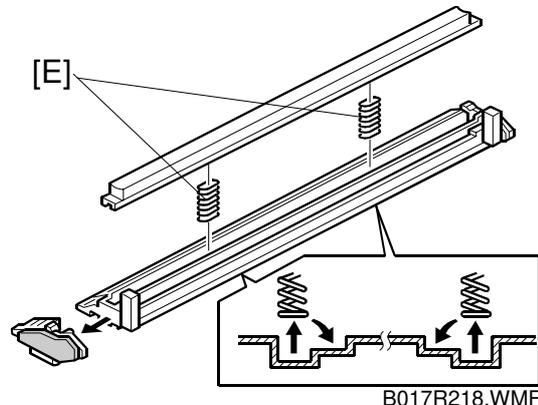
6.2.5 LUBRICANT BAR REPLACEMENT



B017R208.WMF

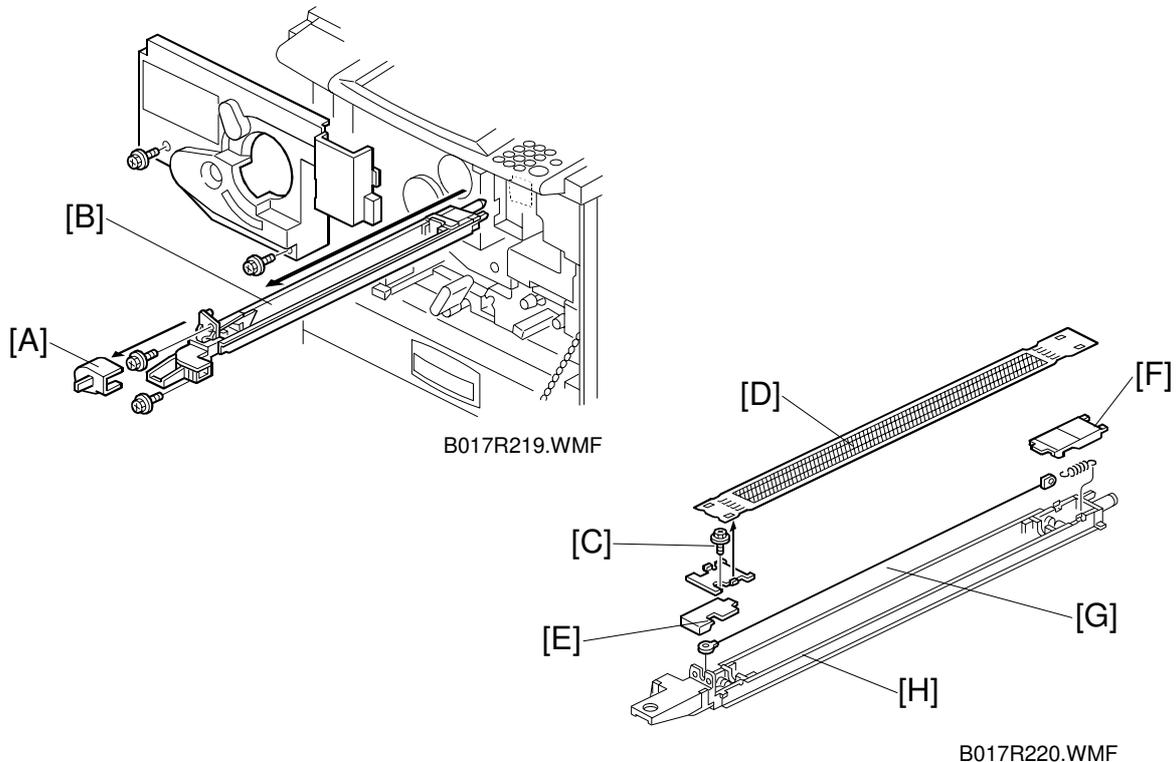
1. Remove the drum unit and the drum.
2. Remove the cleaning unit from the drum unit (2 screws) (see “Cleaning Blade and PCC Wire Replacement”).
3. Remove the cleaning blade (see “Cleaning Blade and PCC Wire Replacement”).
4. Remove the lubricant holder [B] (2 screws).
5. Slide out the front end of the holder [D] and remove the lubricant bar [C].

NOTE: The lubricant bar springs [E] can be installed in two positions. When installing a new lubricant bar, place the springs in the deeper position. If cleaning problem should occur. Change the position of the springs to compensate for the wear of the lubricant bar.



B017R218.WMF

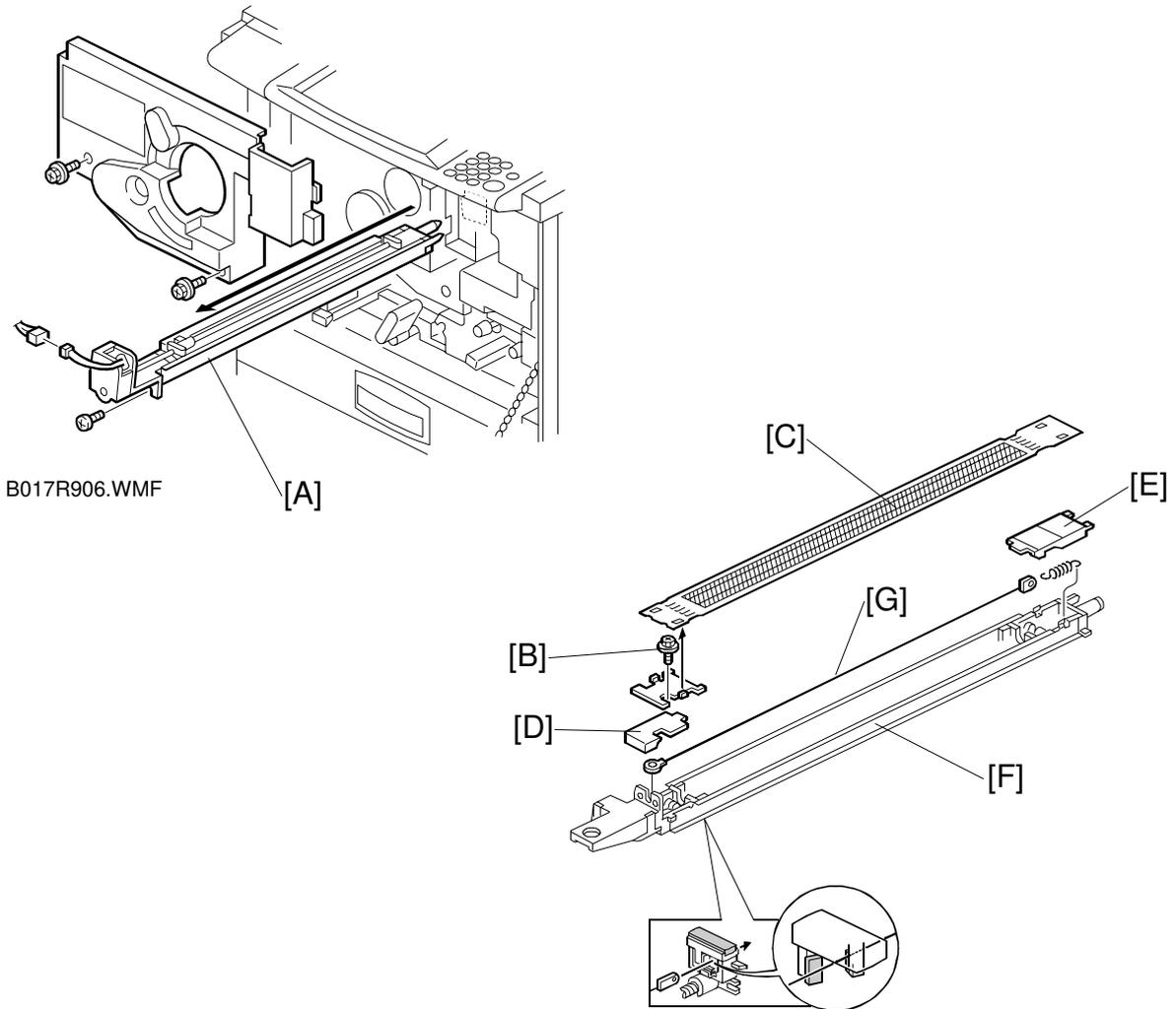
6.2.6 CHARGE CORONA GRID AND WIRE REPLACEMENT (A258/259/260)



1. Remove the charge corona duct cover [A].
2. Remove the charge corona unit [B] with the corona cleaner (2 screws).
3. Replace the grid.
 - 1) Unscrew the screw [C] (1 screw).
 - 2) Remove the grid [D] and replace it.
4. Remove the corona wire.
 - 1) Remove the front [E] and rear end [F] covers from the corona unit [H].
 - 2) Replace the corona wire [G].

NOTE: 1) Do NOT touch the corona wire directly. Skin oils can damage the corona wire over time, causing uneven charging.
 2) Do NOT bend the corona wire. If the wire is bent, it will not discharge uniformly. This causes uneven charging.
 3) Put both ends of the corona wire in the end block slots.
 4) Replace the front end block cover first. If the rear end block cover is replaced before the front cover, the corona wire may catch on the corona wire case slot. This may damage the wire.

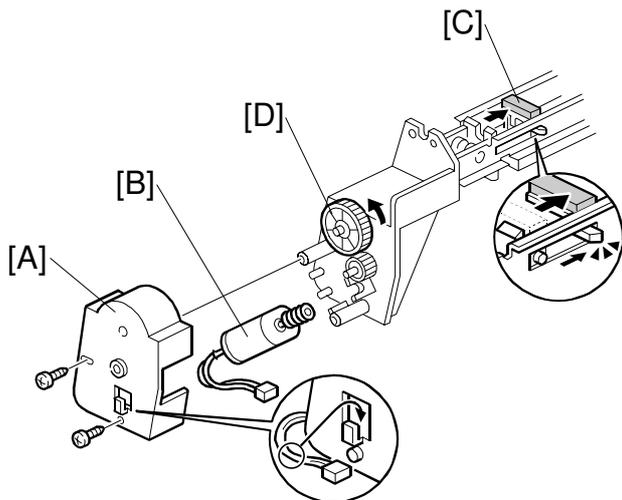
6.2.7 CHARGE CORONA GRID, WIRE AND WIRE CLEANER REPLACEMENT (B017/018)



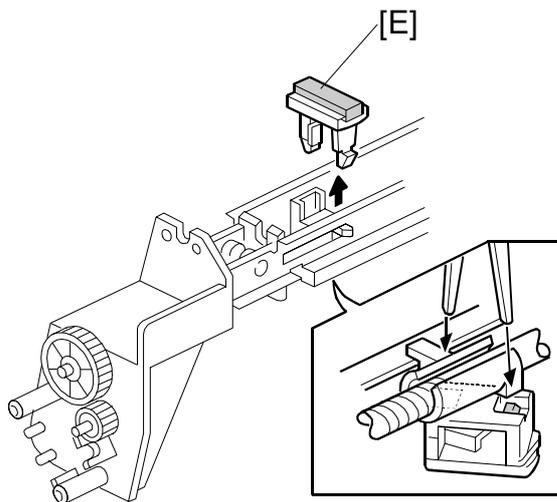
B017R906.WMF

B017R512.WMF

1. Remove the charge corona unit [A] (1 screw, 1 connector).
2. Replace the grid.
 - 1) Unscrew the screw [B] (1 screw).
 - 2) Remove the grid [C] and replace it.
3. Remove the corona wire.
 - 1) Remove the front [D] and rear end [E] covers from the corona unit [F].
 - 2) Replace the corona wire [G].



B017R202.WMF



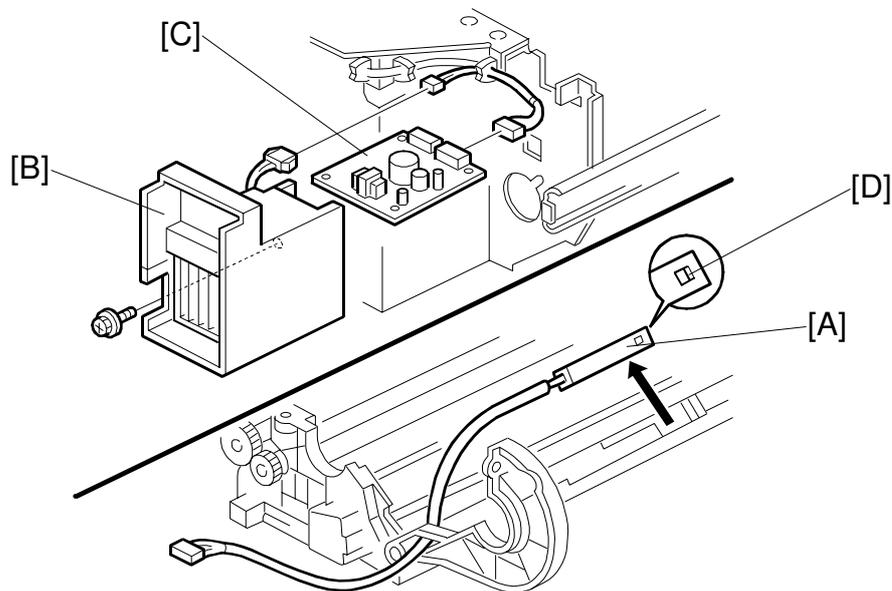
B017R203.WMF

4. Remove the corona wire cleaner.
 - 1) Remove the motor cover [A] and motor [B] (2 screws).
 - 2) Move the wire cleaner unit [C], by rotating the gear [D].
 - 3) Unhook the wire cleaner [E] and replace it.

- NOTE:**
- 1) Do NOT touch the corona wire directly. Skin oils can damage the corona wire over time, causing uneven charging.
 - 2) Do NOT bend the corona wire. If the wire is bent, it will not discharge uniformly. This causes uneven charging.
 - 3) Put both ends of the corona wire in the end block slots.
 - 4) Replace the front end block cover first. If the rear end block cover is replaced before the front cover, the coronal wire may catch on the corona wire case slot. This may damage the wire.

Replacement
Adjustment

6.2.8 POTENTIAL SENSOR REPLACEMENT



B017R206.WMF

NOTE: The potential sensor consists of a sensor element and a control board. You must replace both the sensor and the control board at the same time.

The sensor is very sensitive. Make sure that the sensor [A] does not fall off or is not subject to shock in any way. Handle it carefully and gently.

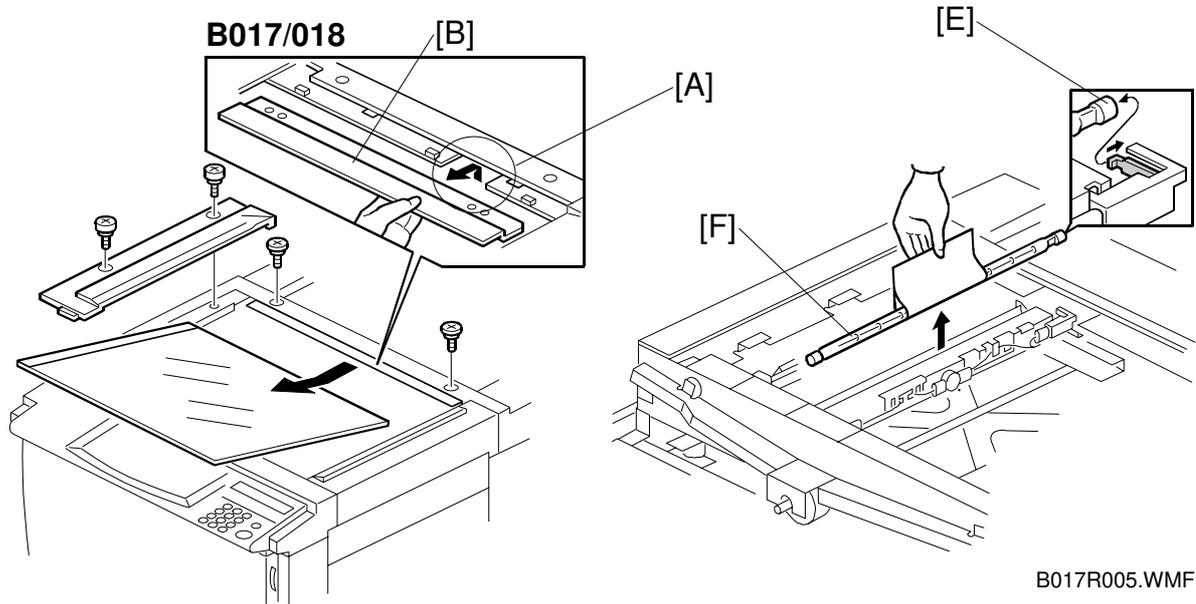
The setting powder is applied to the drum in the drum unit. If the powder goes into the sensor through the window [D] or accumulates around the window, it may cause the sensor to incorrectly detect the drum potential. Make sure that the setting powder is applied to the drum before the drum is set in the drum unit.

If the potential sensor is not set correctly when installing the sensor in the drum unit, an error such as 20*, 41* or SC387 will result during the process control self-check. The window of the sensor should be in position as shown above.

1. Remove the drum (see "Drum Replacement").
2. Replace the potential sensor [A].
3. Remove the charge corona fan [B] from the drawer unit (1 screw, 1 connector).
4. Replace the potential sensor control board [C] (1 connector).

6.3 SCANNER UNIT

6.3.1 EXPOSURE LAMP REPLACEMENT



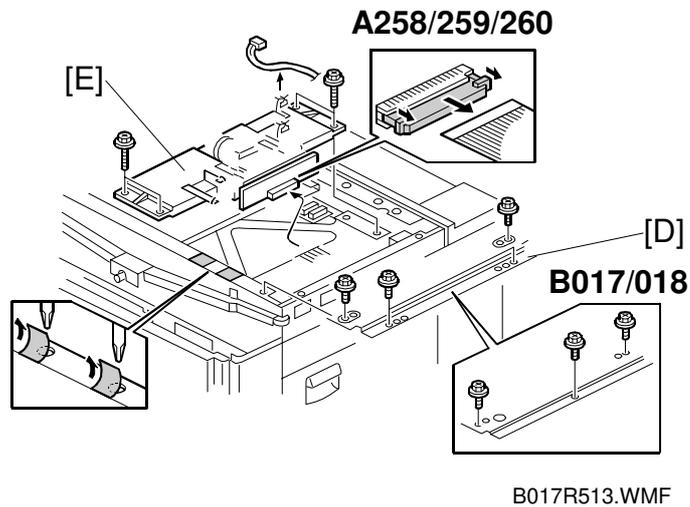
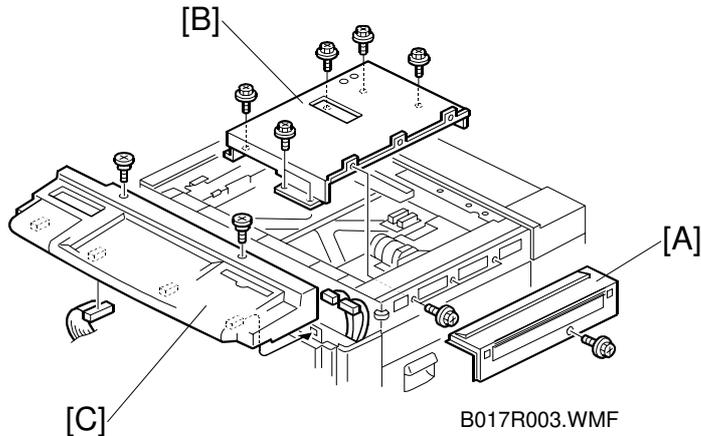
B017R901.WMF

B017R005.WMF

1. Remove the exposure glass (see “Covers, Fans, and Filters”).
 2. **B017/018 only:** Place your hand underneath the cutout [A] and remove the rear scale [B] by slightly pushing the scale up.
NOTE: When reinstalling the rear scale, make sure that it is properly set in the original position. (The positioning holes [C] on the rear scale should be set in the projections [D].)
 3. Move the first scanner next to the opening in the frame.
 4. Push the exposure lamp terminal [E] in the direction shown, and remove the lamp [F].
 5. Install the new lamp in the reverse order of disassembly.
NOTE: Do NOT touch the glass surface of the new lamp.
- Ask the user to do the ACC procedure after replacing the lamp.

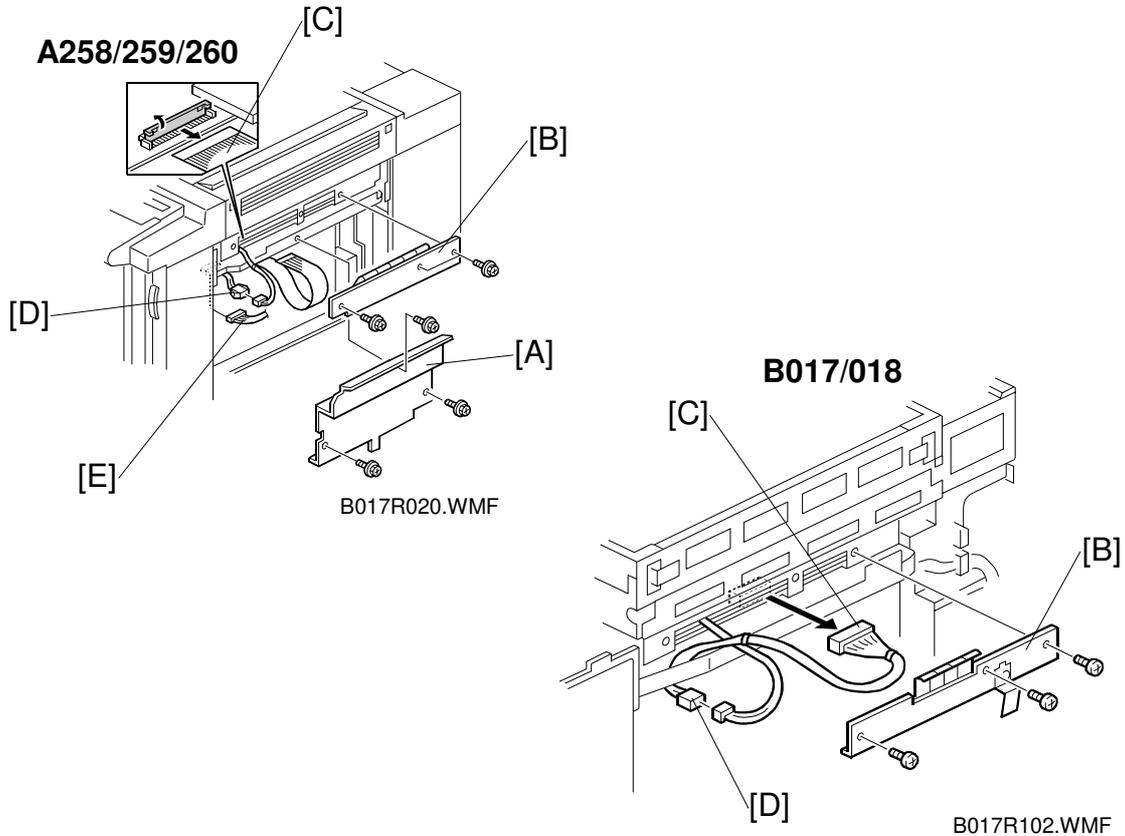
Replacement
Adjustment

6.3.2 SBU REPLACEMENT

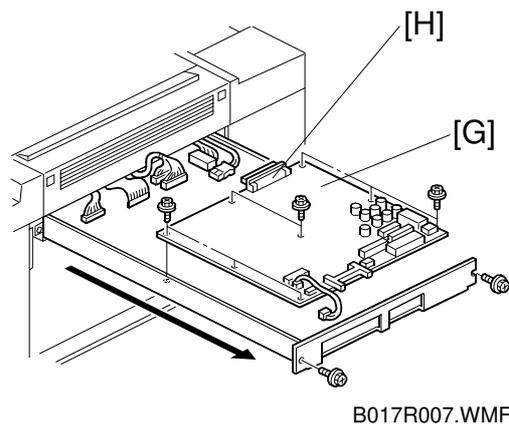
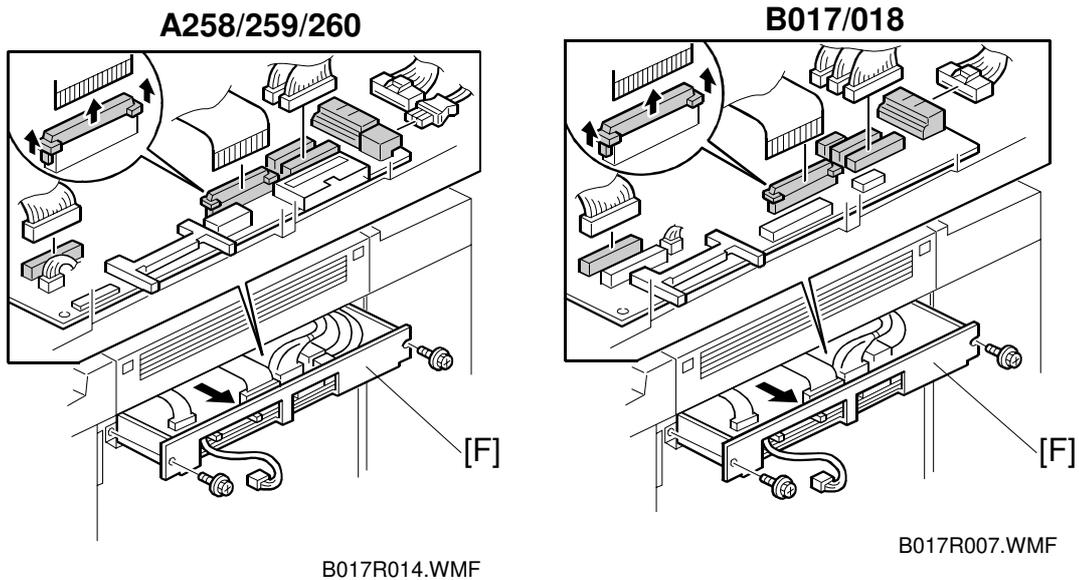


1. Remove the exposure glass (see Covers, Fans, and Filters).
2. Remove the upper right cover [A] (see Covers, Fans, and Filters).
3. Remove the scanner inner cover [B] (9 screws or 7 screws).
4. Remove the operation panel [C] (see Covers, Fans, and Filters).
5. Remove the upper right stay [D] (4 screws or 3 screws).
6. Disconnect the SBU [E] and APS sensor connectors.
7. Remove the SBU [E] (4 screws).
8. **B017/018 only:** Change the data for ACC correction (SP4-505 and 506) according to the data sheet enclosed with the SBU.
9. Do the user mode ACC procedure. If necessary adjust the KCMY color balance.

6.3.3 SCANNER IPU BOARD REPLACEMENT

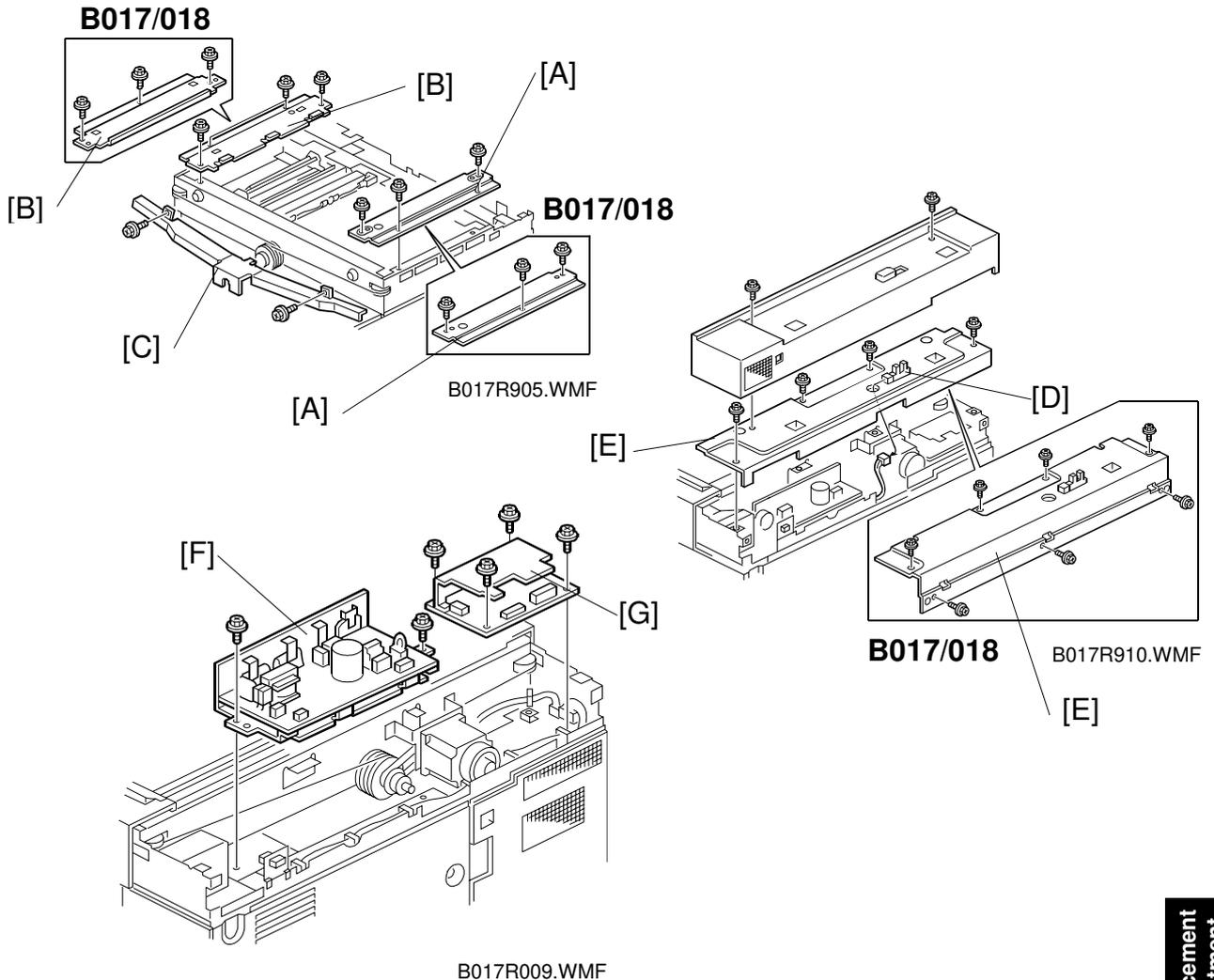


1. Remove the right cover (see section 6.1).
 2. **A259/A260 only:** Remove the shield plate [A] (3 screws).
 3. Remove the Flash ROM card cover [B] (3 screws).
 4. **A258/259/260 only:** Disconnect the LD flat cable [C] and connector [D]. (also disconnect CN312 [E] on the main control board for A260.)
NOTE: Open the connector of the LD flat cable carefully by using a small blade screw driver. When the connector is opened by hand, it breaks easily.
- B017/B018 only:** Disconnect the two connectors [C, D]. (Also disconnect CN312 [E] on the main control board for B017 equipped with the edit option.)



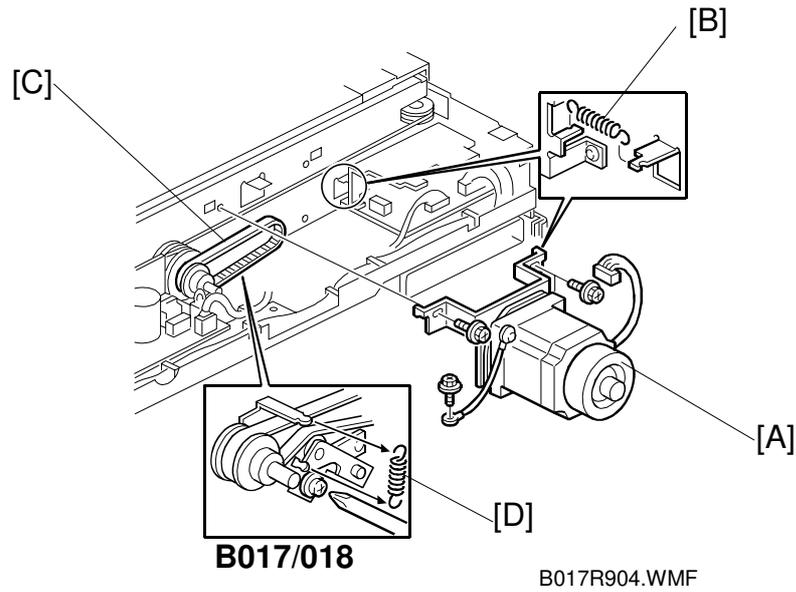
5. Pull out the IPU base slightly [F] (2 screws).
6. **A258/259/260 only:** Disconnect CN404, CN407, and CN408 on the scanner IPU board (3 connectors). Then, pull out the IPU base further and unplug 6 more connectors.
7. **A258/259/260 only:** Pull the IPU base [F] completely out and unscrew the 8 screws on the scanner IPU board [G].
B017/018 only: Disconnect 6 connectors and pull the IPU base [F] completely out and remove the scanner IPU board (8 screws).
8. **A258/259/260 only:** Take out the scanner IPU board [G] while turning it toward you, and disconnect the IDU connector [H].

6.3.4 SCANNER WIRE/SCANNER MOTOR REPLACEMENT



Replacement
Adjustment

1. Remove the exposure glass and the exterior covers.
2. Remove the upper right stay [A] and the upper left stay [B] (4 screws each or 3 screws each).
3. **A258/259/260 only:** To change the front scanner wire: Remove the wire cover [C] (2 screws).
4. To change the rear scanner wire: Do the following.
 - a) Disconnect the platen cover position sensor [D] and remove the platen cover frame [E] (4 screws).
 - b) Remove the lamp regulator [F] (2 screws, 3 connectors) and scanner drive board [G] (4 screws, 3 connectors).

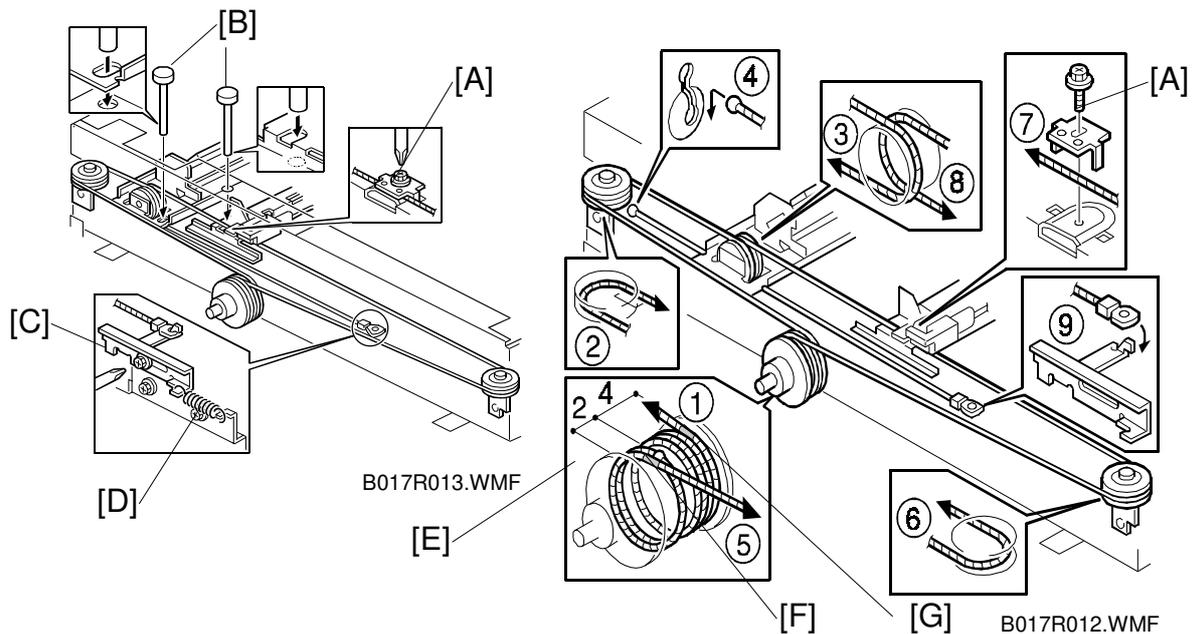


5. **A258/259/260 only:** Remove the scanner motor [A] (1 connectors, 1 ground wire, 4 screws, 1 tension spring [B], 1 timing belt [C]).

NOTE: When reinstalling the scanner motor, pull the timing belt taut with the tension spring.

B017/018 only: Loosen the fixing screw of the tension bracket [D] and remove the tension spring [B], then remove the grounding wire and the scanner motor [A] (4 screws, 1 timing belt [C]).

NOTE: After reinstalling the scanner motor, hook the tension spring, then fix the tension bracket.



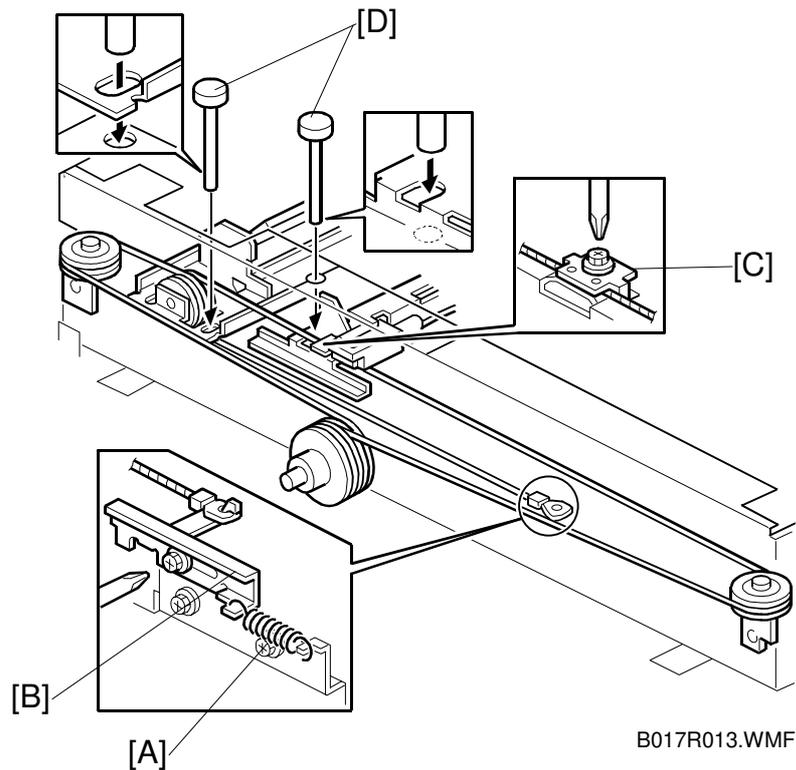
- A258/259/260 only -

6. Loosen the wire clamp screw [A] and remove the scanner wire. Then loosen the clamp screw on the side where the wire will not be replaced.
7. Route the new scanner wire as shown. Take care to thread the wire on the pulley the correct way round. One end of wire has a ball attached to it, and the other end has a ring.
 - 1) Secure the first and second carriages on the scanner with 4 scanner locking pins [B] (2 on each side).

NOTE: The correct scanner locking position is such that the scanner locking pins slide out smoothly.
 - 2) Loosen the wire tension bracket retaining screw [C] and remove the spring [D] then secure the tension bracket retaining screw temporarily.
 - 3) Place the ball located at the center of the wire in the groove on the pulley (①) and wind the wire the number of turns shown in the drawing on the right [E].

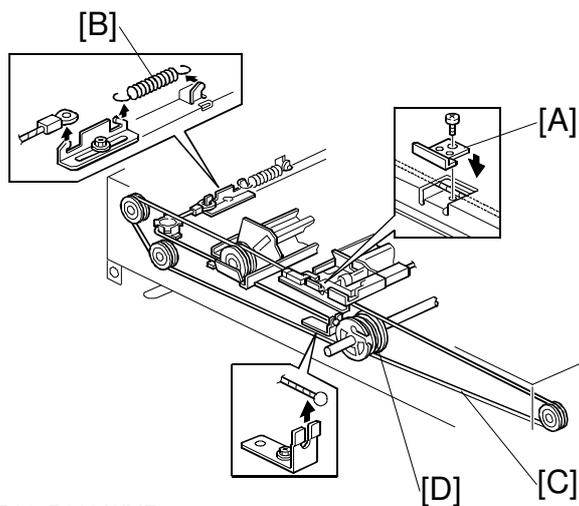
NOTE: Winding procedure: Wind two turns outward (clockwise) from the ball at the center of the wire (up to the red mark [F]), then 4 turns inward (counterclockwise) (up to the black mark [G]). Wind a total of 7 turns including the one for the center ball.
 - 4) Route the end of the wire that has the ball through the pulleys as shown (② and ③), then fit the ball into the slot in the frame (④).
 - 5) Route the end of the wire that has the ring through the pulleys as shown (⑤, ⑥, ⑦, and ⑧), then hook the ring onto the wire tension bracket (⑨).

Replacement
Adjustment

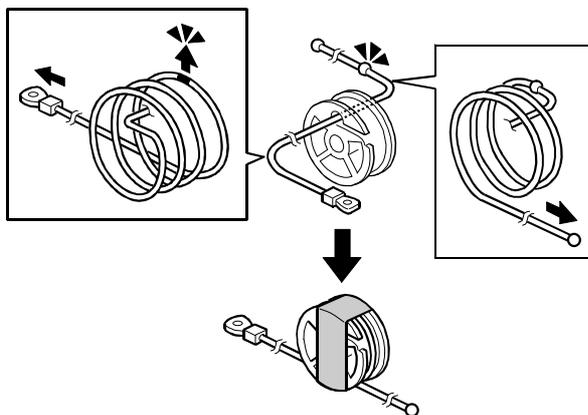


8. Hook the spring [A] onto the wire tension bracket [B], then loosen and retighten the screw permanently.
9. Secure the wire with the scanner wire clamp [C].
10. Remove the scanner locking pins [D].
11. Replace all the parts removed earlier, except for those removed in step 1.
12. After tensioning the wire by executing a scanner free run (SP mode 4-013-001), reset the scanner locking pins [D]. If the pins do not properly fit into the holes, loosen and reset the scanner wire clamp [C] so that the pins properly fit into the holes.
13. Replace the parts removed in step 1.

– B017/018 only –



B017R016.WMF



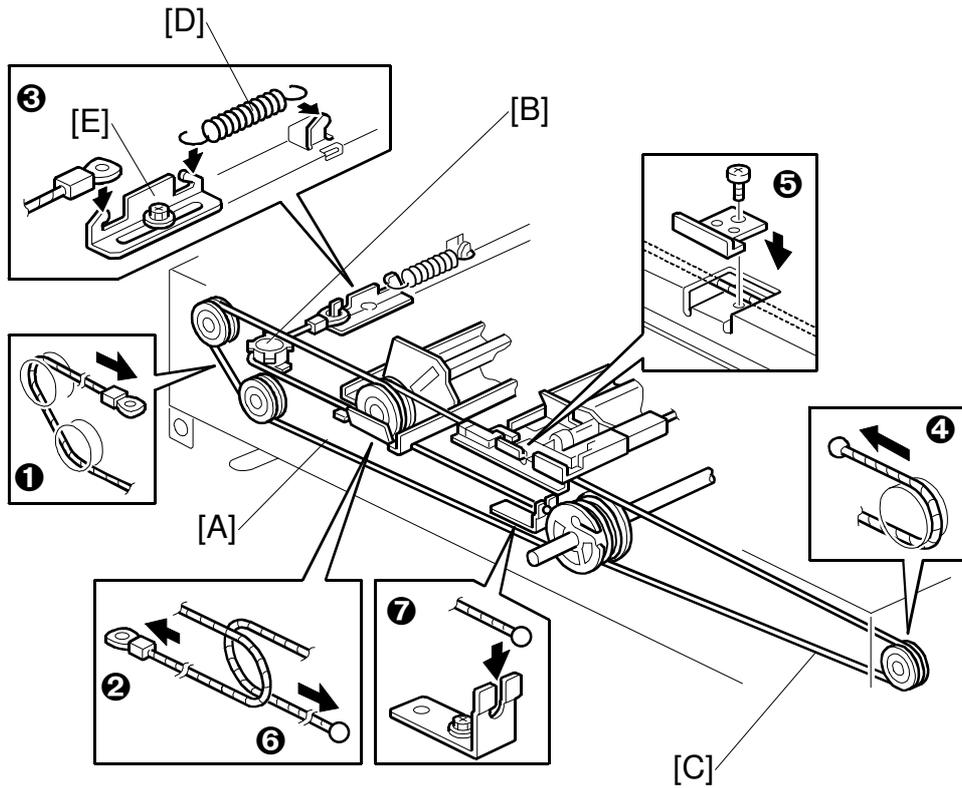
B017R001.WMF

Replacement Adjustment

6. Remove the front (7 screws) and rear (6 screws) scanner brackets.
7. Remove the wire clamp [A] and release the wire tension spring [B] (1 screw each). Then remove the wire clamp on side where the wire will not be replaced.
8. Remove the scanner wire [C].
9. Remove the Allen screw from the wire pulley [D].
10. Route the new scanner wire.

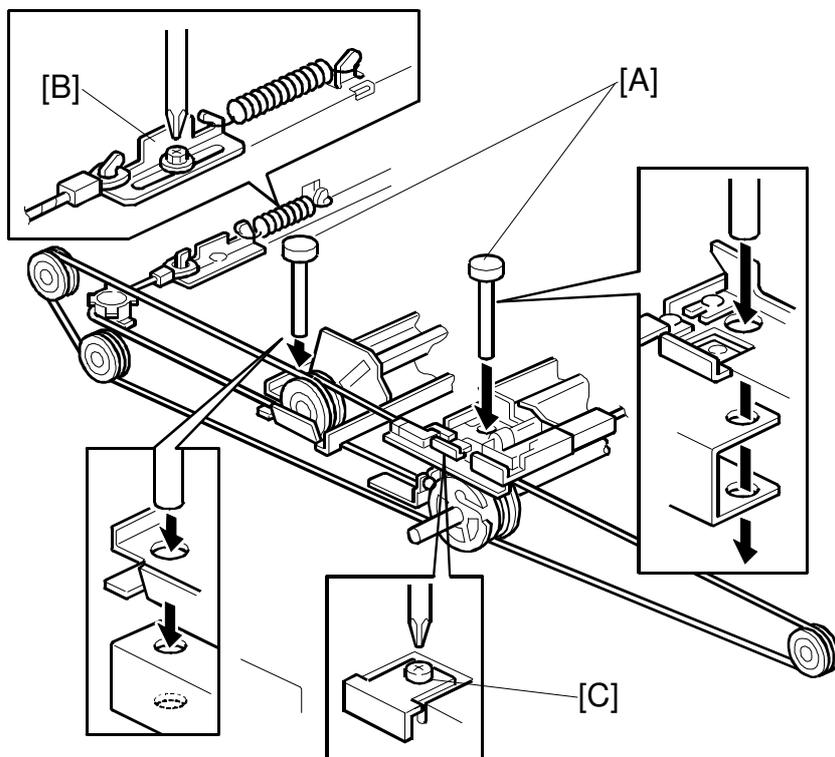
Take care to thread the wire on the pulley the correct way round. One end of wire has a ball attached to it, and the other end has a ring.

 - 1) Lead the wire through the pulley hole and place the ball located at the middle of the wire in the groove on the pulley.
 - 2) Wind the wire the number of turns and fix the wire with tape shown in the drawing.



B017R002.WMF

- 3) Route the end of the wire [A] that has the hook through the pulleys as shown (1, 2 and [B]), then hook the ring onto the wire tension bracket (3).
 - 4) Route the end of the wire [C] that has the ball through the pulleys as shown (4, 5, and 6), then hook the ball onto the bracket (7).
11. Hook the spring [D] onto the wire tension bracket [E].

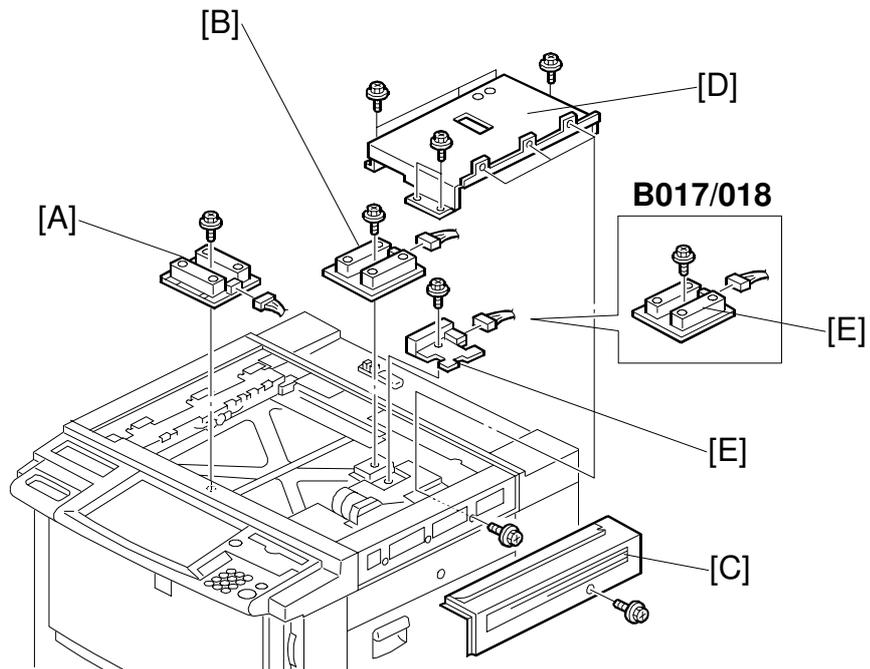


B017R004.WMF

12. Secure the first and second carriages on the scanner with a scanner locking pins [A] (2 on each side).
NOTE: The correct scanner locking position is such that the scanner locking pins slide out smoothly.
13. Secure the wire tension bracket [B] and the wire with the scanner wire clamp [C] (1 screw each).
14. Remove the scanner locking pins.
15. After tensioning the wire by executing a scanner free run (SP mode 4-013-001), reset the scanner locking pins. If the pins do not properly fit into the holes, loosen and reset the scanner wire clamp.

Replacement
Adjustment

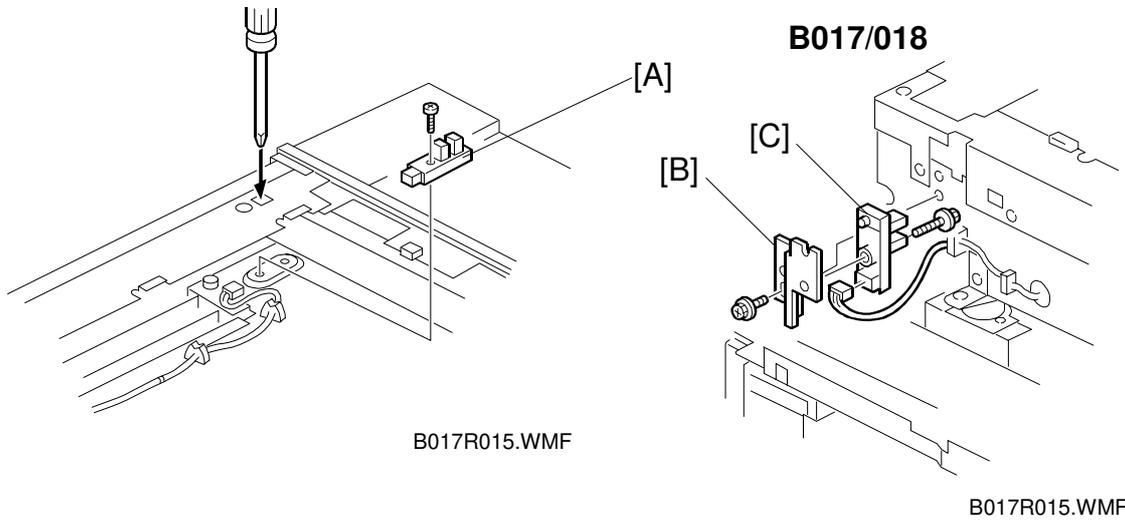
6.3.5 APS SENSORS



B017R514.WMF

1. Remove the exposure glass.
2. **A258/259/260 only:** Replace the APS sensors [A, B] (1 screw and 1 connector each)
B017/018 only: Replace the APS sensor [A] (1 screw and 1 connector).
3. Remove the upper right cover [C] (1 screw) and the scanner inner cover [D] (9 screws or 7 screws).
4. **A258/259/260 only:** Remove the APS sensor [E] (1 screw and 1 connector).
B017/018 only: Remove the APS sensors [E, B] (1 screw, 1 connector each).

6.3.6 SCANNER HP SENSOR



- A258/259/260 only -

1. Remove the exposure glass (see section 6.1.).
2. Remove the upper left cover (see section 6.1.).
3. Remove the scanner HP sensor [A] (1 screw, 1 connector).

- B017/018 only -

1. Remove the operation panel (see section 6.1.).
2. Remove the sensor bracket [B] (1 screw, 1 connector).
3. Remove the scanner HP sensor [C] (1 screw).

Replacement
Adjustment

6.4 COPY IMAGE ADJUSTMENT

6.4.1 PRINTER GAMMA ADJUSTMENT

Setting the KCMY standard values

Use the auto color calibration function (see the Operating Instructions).

Gamma Data Print Out

Use SP 7-904 to print the current printer gamma settings for copier and printer mode.

SP 7-904-1 prints a list for copier mode. SP 7-904-2 prints a list for printer mode.

NOTE: This list cannot be printed on paper shorter than A4/LT length.

KCMY color balance adjustment

The printer gamma curve created during the auto color calibration can be modified using SP mode. Use only the offset adjustments.

NOTE: Do not use the 'option' adjustments.

The greater the value of low ID, middle ID, high ID, and ID max, the higher the density is.

Low ID	Levels 2 through 5 in the C4 chart 10-level scale
Middle ID	Levels 3 through 7 in the C4 chart 10-level scale
High ID	Levels 6 through 9 in the C4 chart 10-level scale
IDmax	Level 10 in the C4 chart 10-level scale (affects the entire range of image density)

SP7-904 (printer gamma printout) can be used to print the current values.

There are three adjustable modes:

- Text mode
- Photo mode
- B/W text mode

Also, there are separate adjustments for copier and printer mode.

Copy mode

		K	C	M	Y
Text mode	Low ID	4-910-001	4-911-001	4-912-001	4-913-001
	Middle ID	4-910-002	4-911-002	4-912-002	4-913-002
	High ID	4-910-003	4-911-003	4-912-003	4-913-003
	IDmax	4-910-004	4-911-004	4-912-004	4-913-004
Photo mode	Low ID	4-915-001	4-916-001	4-917-001	4-918-001
	Middle ID	4-915-002	4-916-002	4-917-002	4-918-002
	High ID	4-915-003	4-916-003	4-917-003	4-918-003
	IDmax	4-915-004	4-916-004	4-917-004	4-918-004
B/W text mode	Low ID	4-914-001			
	Middle ID	4-914-002			
	High ID	4-914-003			
	IDmax	4-914-004			

Printer mode

		K	C	M	Y
Text mode and photo mode	Low ID	4-919-001	4-920-001	4-921-001	4-922-001
	Middle ID	4-919-002	4-920-002	4-921-002	4-922-002
	High ID	4-919-003	4-920-003	4-921-003	4-922-003
	IDmax	4-919-004	4-920-004	4-921-004	4-922-004

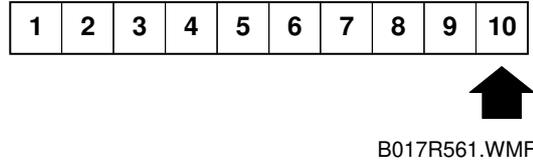
Adjustment procedure

1. Copy a C-4 chart in text mode. Compare the copy with the chart.
2. Enter SP mode.
3. Open SP 4-XX-X for text mode (see the above tables for the SP numbers).
4. Adjust the offset values until the copy quality conforms to the standard. (The diagrams at the end of this procedure explain the ID ranges affected by each setting.)
5. Copy a C-4 chart in photo mode. Compare the copy with the chart.
6. Open SP 4-XX-X for photo mode (see the above tables for the SP numbers).
7. Adjust the offset values until the copy quality conforms to the standard.
8. Copy the C-4 chart in auto text/photo mode.
9. Examine the photo part (lower half of the image) on the C-4 chart. Compare the copy with the chart. Proceed to the next step if color displacement errors are found. Terminate the adjustment if the check proves normal.
10. Adjust the offset for low ID within the range of +_2.

Standard Copy Quality

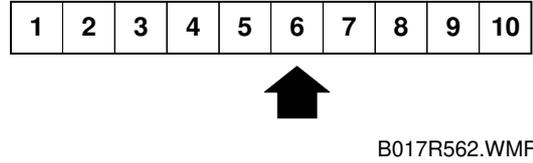
IDmax: (K, C, M, and Y)

Adjust the offset value so that the density of level 10 matches the C-4 chart.



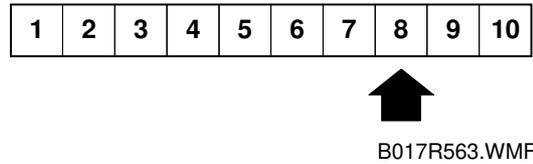
Middle ID: (K, C, M, and Y)

Adjust the offset value so that the density of level 6 matches the C-4 chart.



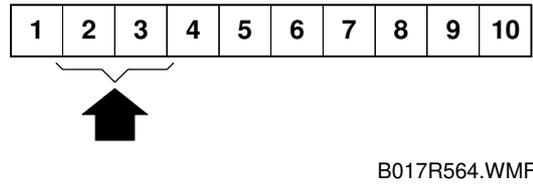
High ID: (K, C, M, and Y)

Adjust the offset value so that the density of level 8 matches the C-4 chart.



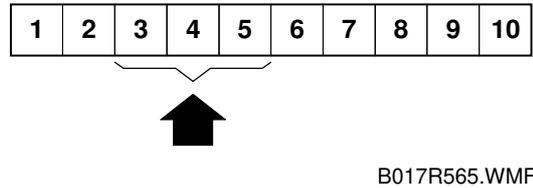
Low ID: (K, C, M, and Y)

Adjust the offset value so that level 2 is just visible in the copy image and the density of level 3 matches the C-4 chart.



K Low ID: (C, M, and Y) – Do for photo mode only

Adjust the offset value so that the color balance of black scale levels 3 through 5 in the copy is seen as gray.



6.4.2 ACC TARGET ADJUSTMENT

The ACC targets can be adjusted with SP 4-501 and 4-502. However, do not adjust the ACC targets. When the SBU is replaced, the ACC targets need to be readjusted since output from the CCD varies from SBU to SBU. This adjustment can be done by manual printer gamma adjustment instead of ACC target adjustment.

If the ACC result needs to be customized for users, adjust the manual printer gamma.

Both the ACC targets (SP4-501 and 502) and manual printer gamma change the image quality. It may be difficult to achieve proper image quality when adjusting the settings in both ACC targets and manual printer gamma.

6.4.3 MAIN SCAN DOT POSITION CORRECTION

NOTE: Before adjusting the scanner, adjust the printer registration.

1. Enter the SP mode and open SP4-010 and SP4-011.
2. Check that each value corresponds to the factory-set value.
3. Press the Interrupt key and copy the C-4 chart in the full-color photo mode.

NOTE: Be sure to copy in the photo mode. This is because color displacement cannot be checked properly in text mode .

4. Check the yellow and cyan vertical lines. (Use a Magnification Scope to do this.) If they exactly overwrite the black line at the edges of the copy, exit the SP mode to end the adjustment. If the yellow and cyan lines significantly extend beyond the black line, proceed to the next step.
5. Press the Interrupt key to return to the SP mode and open SP4-932. Compare the current values against the table.

4-932-001	Dot correction R left edge
4-932-002	Dot correction R right edge
4-932-003	Dot correction B left edge
4-932-004	Dot correction B right edge

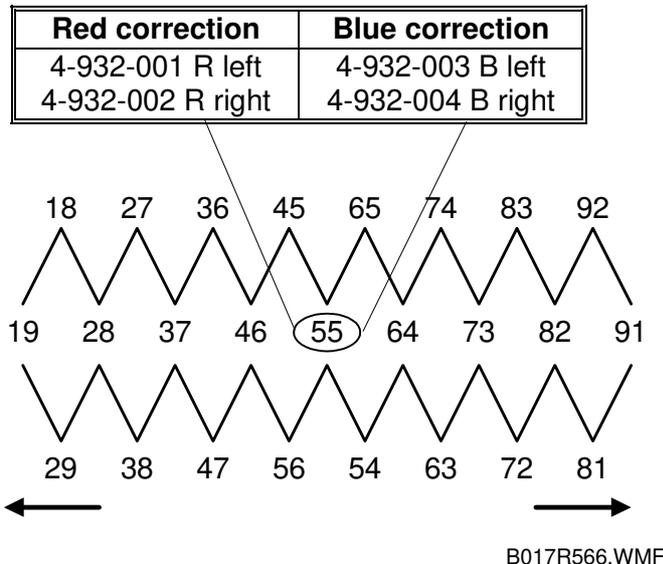
6. Referring to the diagram lower down the page, change the values in accordance with the following rules:

Case 1. When the yellow line is to the left of the black line, and the cyan line is to the right of the black line.

- If the edges of the yellow and cyan lines deviate evenly from the black line, select the value in the middle row that is immediately to the left of the current value.
- If the cyan line's edge is farther from the black line than the yellow line's edge, select the value in the top row that is immediately to the left of the current value.
- If the yellow line's edge is the farther from the black line than the cyan line's edge, select the value in the bottom row that is immediately to the left of the current value.

Case 2. When the cyan line is to the left of the black line, and the yellow line is to the right of the black line.

- If the edges of the yellow and cyan lines deviate evenly from the black line, select the value in the middle row that is immediately to the right of the current value.
- If the cyan line's edge is the farther from the black line than the yellow line's edge, select the value in the top row that is immediately to the right of the current value.
- If the yellow line's edge is the farther from the black line than the cyan line's edge, select the value in the bottom row that is immediately to the right of the current value.



Replacement Adjustment

In the above diagram:

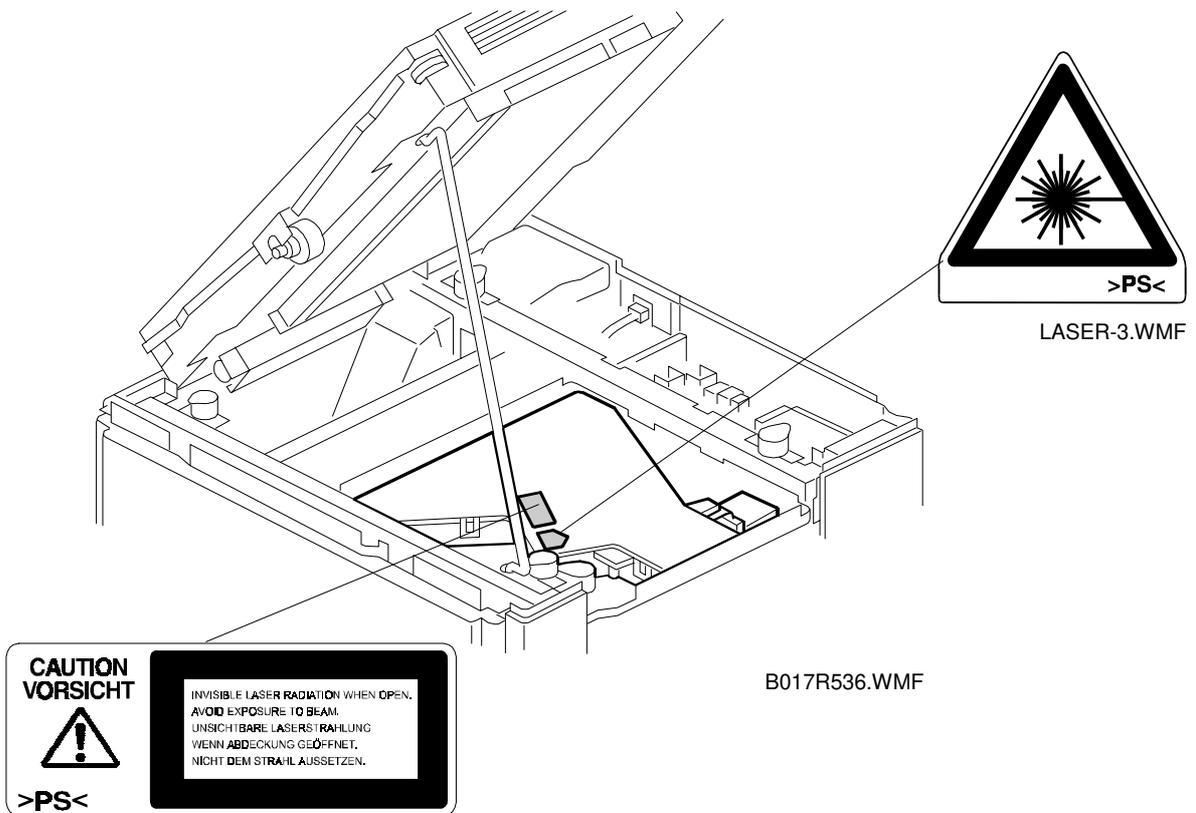
- The first digit represents the value of the red correction (4-932-001: R left, 4-932-002: R right)
- The second digit represents the value of the blue correction (4-932-003: B left, 4-932-004: B right)

6.5 LASER OPTICS SECTION

 WARNING
Turn off the power and unplug the machine before attempting any of the procedures in this section. Laser beams can seriously damage your eyes.

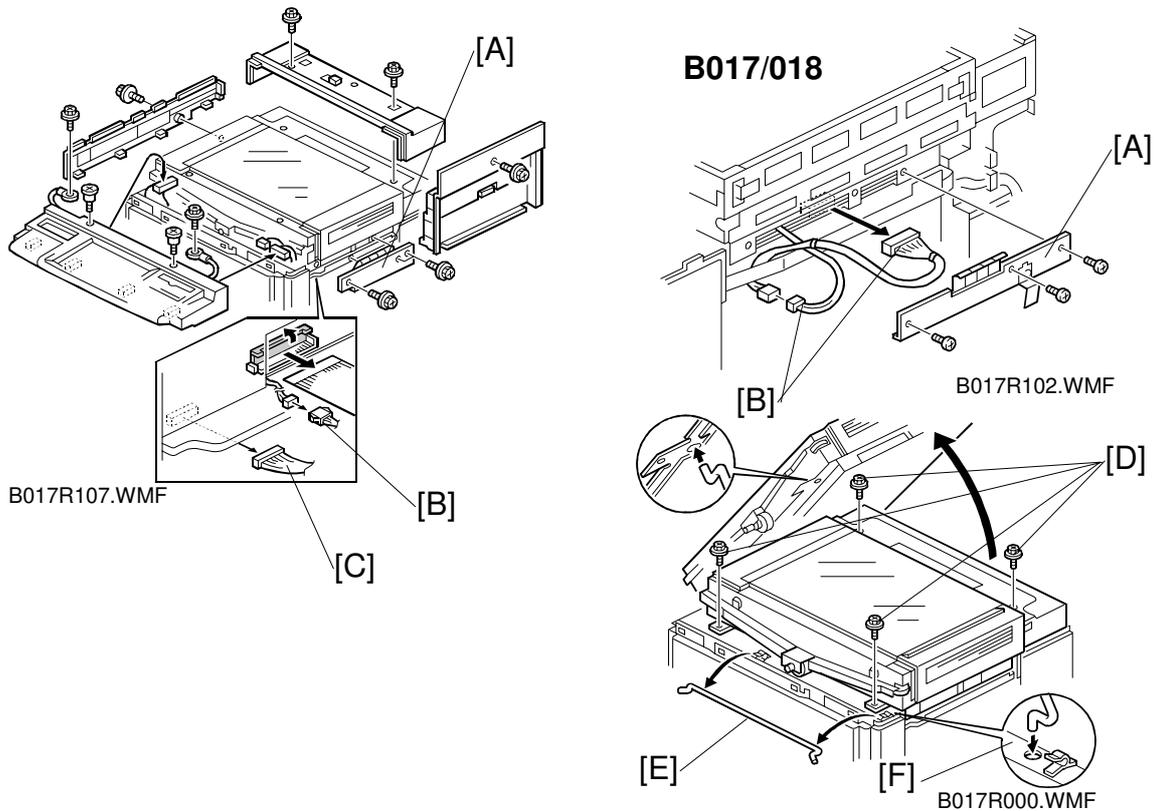
CAUTION DECAL LOCATIONS

Two caution decals are located in the laser section as shown below.



 DANGER
Be sure to turn off the main switch and disconnect the power plug from the power outlet before attempting any disassembly or adjustment of the laser unit. This copier uses a class 3B laser beam with a wavelength of 780 nm and an output of 15 mW. The laser can seriously damage your eyes.

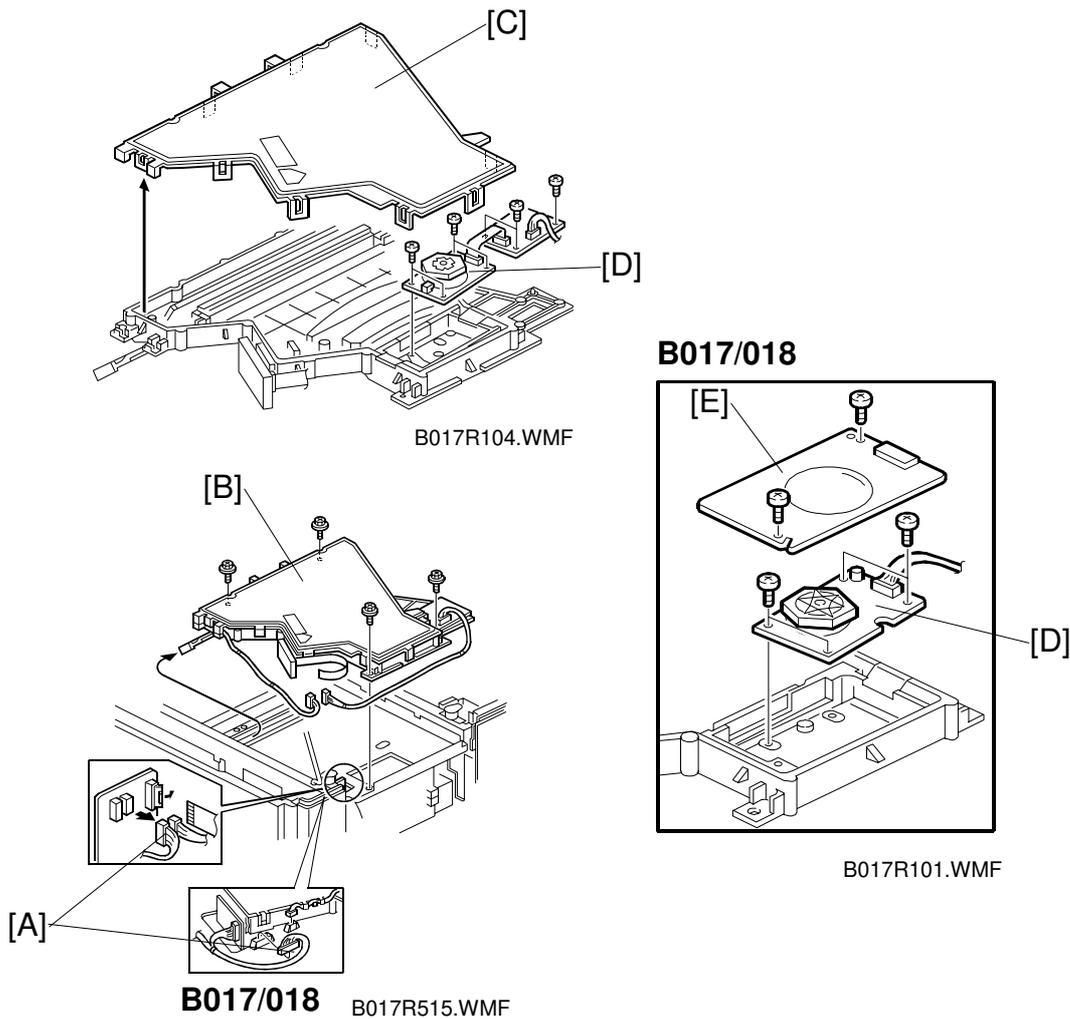
6.5.1 POLYGON MIRROR MOTOR REPLACEMENT



1. Remove the following covers (see "Covers, Fans, and Filters").
 - Right cover (1 screw)
 - Operation panel
 - A259/260: 2 screws, 3 connectors, and 2 grounding wires (2 screws).
 - A258: 2 screws, and 1 grounding wire (Europe only)
 - B017/018: 2 screws, 3 connectors, and 2 grounding wires (2 screws).
 - Upper rear cover (3 screws)
 - Upper left cover (1 screw)
2. Remove the IC card cover [A] (3 screws).
3. Disconnect 2 connectors [B].
4. **A260/B017 equipped with edit only:** Disconnect connector [C] (CN312).
5. Unscrew the scanner clamp screws [D] (4 screws).
6. Remove the support rod [E].
7. Tilt the scanner and set the support rod as shown [F].

Replacement
Adjustment

⚠ CAUTION
 Do not remove the support rod while the scanner unit is tilted.
 Disengagement of the support bar may cause the scanner unit to fall down.

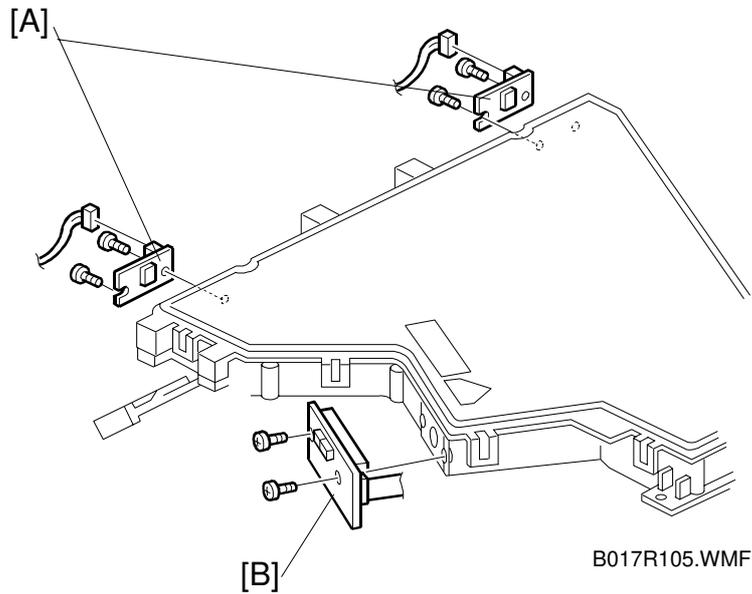


8. Disconnect connectors [A] (3 connectors or 2 connectors).
9. Remove the optical housing unit [B] (4 screws).
10. Remove the optical housing cover [C] (10 hooks).
11. **A258/259/260 only:** Remove the polygon mirror motor [D] (4 screws and 1 connector).
- B017/018 only:** Remove the motor cover [E] (2 screws) and the polygon mirror motor [D] (2 screws, 1 connector).

⚠ CAUTION

1. **Do NOT attempt to trigger the LD with the optical housing cover open.**
2. **After reassembly, make sure that the optical housing cover is closed completely.**

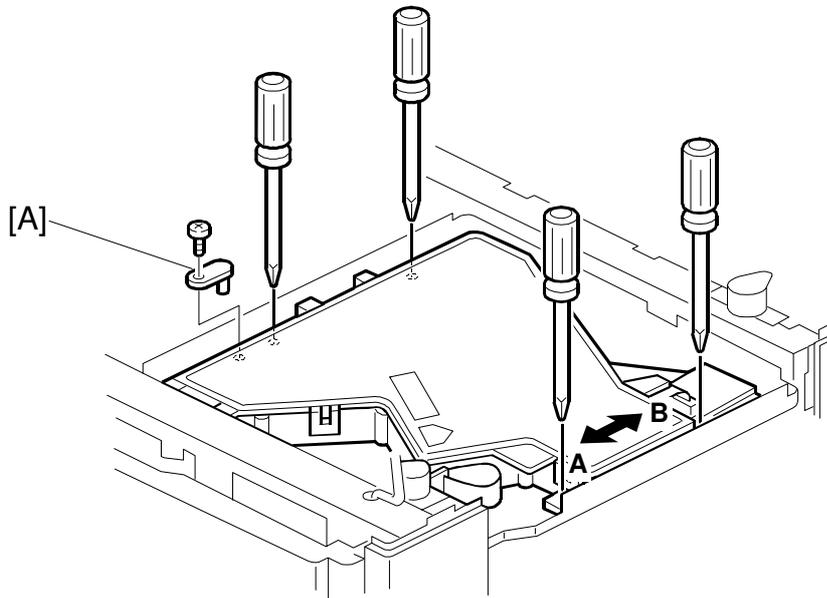
6.5.2 LASER SYNCHRONIZING DETECTOR BOARD AND LD UNIT REPLACEMENT



1. Remove the optical housing unit (see "Polygon Mirror Motor Replacement").
2. Replace the laser synchronizing detector boards [A] (2 screws and 1 connector each).
3. Replace the LD unit [B] (2 screws and 1 connector).

Replacement
Adjustment

6.5.3 SQUARENESS ADJUSTMENT

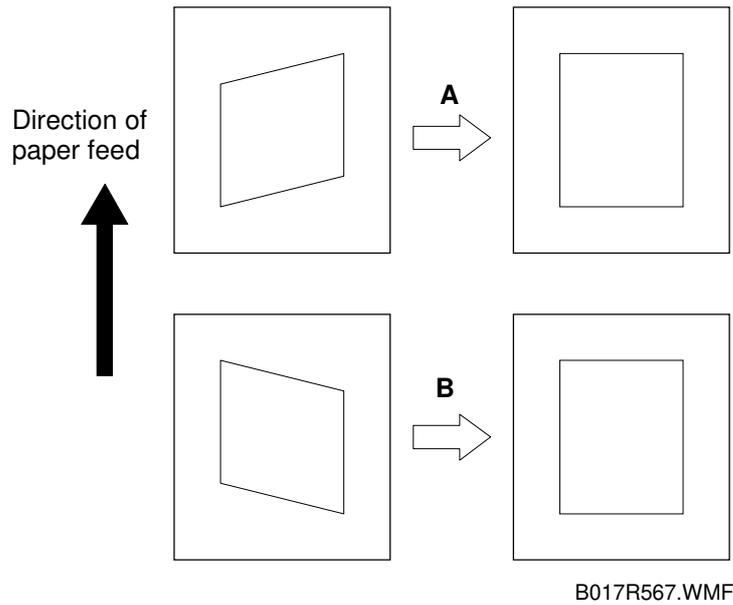


B017R111.WMF

This procedure finely adjusts the image obliqueness caused by the laser unit.

NOTE: This procedure is used to finely adjust the inclination of horizontal lines in the image (across the page) by turning the laser unit, which tilts the scanning line of the laser beam.

1. Print the SP mode test pattern number 1 of SP5-955-018 and measure the inclination of the horizontal lines on the printout in relation to the normal position.
NOTE: When the laser unit is not squared, lines in the horizontal scanning direction are inclined and lines in the feed direction (vertical lines) stand upright.
2. Loosen the four screws securing the optical housing unit.
3. Remove the pin [A] at the front left side of the optical housing unit.
4. Turn the optical housing unit in the direction of arrow A or arrow B, depending on the inclination of the lines in the horizontal scanning direction you measured (see the diagram on the following page for guidelines).
5. Tighten the screws again (4 screws).



Turning in the direction of arrow A: This tilts horizontal lines in the image clockwise.

Turning in the direction of arrow B: This tilts horizontal lines in the image counterclockwise.

Amount of inclination:

The inclination of horizontal lines on the image is almost equal to the angle by which the scanner unit is turned.

Standard value:

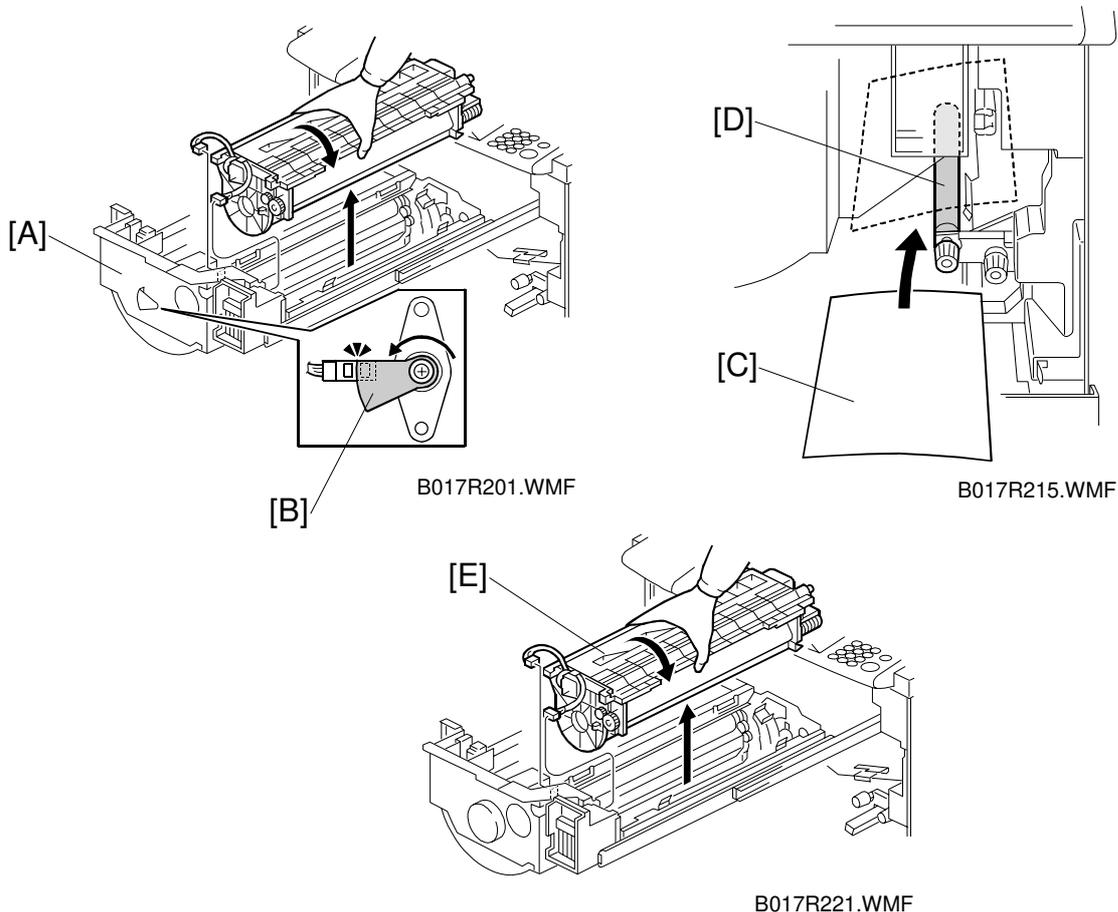
The amount of inclination for a 240 mm scanning line must not be more than 0.5 mm.

Replacement
Adjustment

6.6 DEVELOPMENT UNIT

6.6.1 REPLACING THE DEVELOPER

Developer Collection Procedure



NOTE: Place a protective sheet on the floor. Take care not to spill developer on the customer's floor.



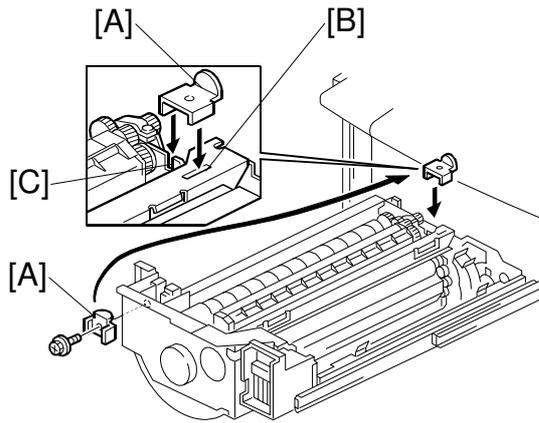
1. Remove the left and right inner covers, transfer belt stay, and charge corona unit, then pull out the drawer unit [A] (2 screws).

NOTE: 1) Before drawing out the drawer unit, rotate the sensor actuator [B] so that the upper edge of sensor actuator aligns the sensor.

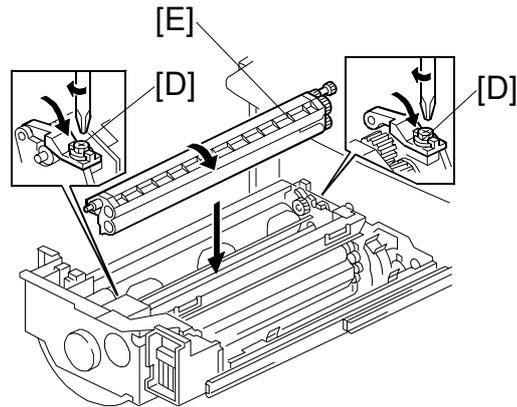
- 2) Before drawing out the drawer unit when there is no transfer belt unit, place a sheet of paper [C] on the registration roller [D]. This is required because toner will spill from the rear end of the toner collection coil for the drum onto the registration roller.

2. Remove the drum unit [E] (2 connectors) and cover the drum with paper.

NOTE: Cover the drum with a sheet of black paper or 5 or more sheets of white paper. Otherwise, the drum will be exposed to light, subjecting the drum to optical fatigue (see "Troubleshooting – Drum Light Fatigue").



B017R301.WMF



B017R302.WMF

3. Remove the left revolver stopper [A] from its storage location on the drawer unit (1 screw) and fit it into the slot [B] at the rear of the revolver side panel and in the notch [C] on the drawer unit stay.

⚠ CAUTION

If you do not install the revolver stopper before removing the development unit, the revolver may rotate, causing permanent damage to the development unit or its holder.

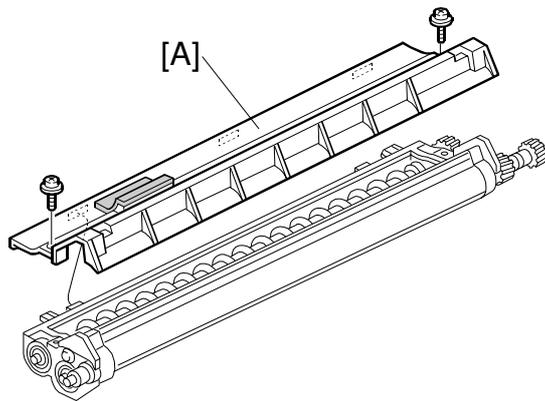
4. Open the locks [D] at both ends of the development unit [E] (1 screw each) and remove the development unit [E].

NOTE: When attaching and detaching the development unit, be sure to turn it in the direction shown in the diagram. Turning the development unit in the wrong direction may cause developer to spill from the toner hopper.

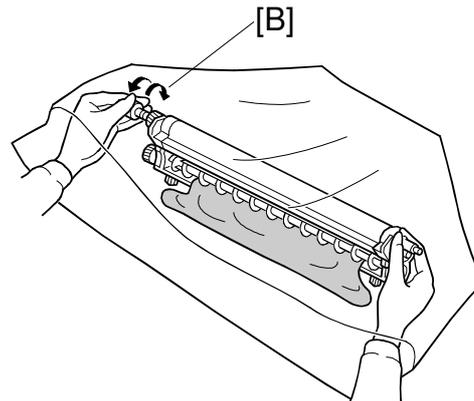
⚠ CAUTION

Remove the development units one color at a time (never remove two or more development units from the revolver at the same time). Removing two or more development units at the same time may upset the balance of the revolver. This will cause the revolver to revolve by itself, catching, hitting or trapping your fingers inside the unit.

Replacement
Adjustment

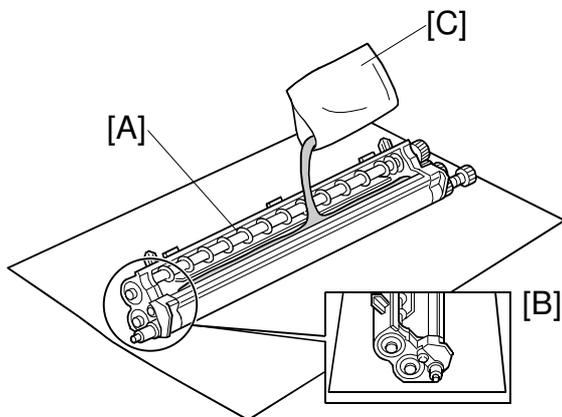


B017R303.WMF

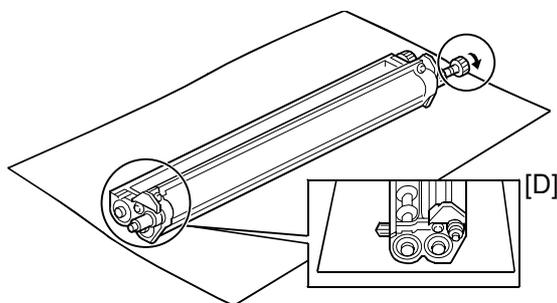


B017R307.WMF

5. Remove the developer cover [A] (2 screws).
6. Hold the development unit upside down in the developer collection bag, then rotate the sleeve in the forward direction [B] to collect the developer.
NOTE: When rotating the sleeve in the forward direction, keep the sleeve side facing up so that the developer will not be scooped up onto the sleeve.
7. Repeat the forward rotation/collection cycle until developer does not appear on the sleeve.
8. Rotate the sleeve in the opposite direction, then hold the development unit upside down again to collect the developer attached to the sleeve surface.

Installing New Developer

B017R306.WMF



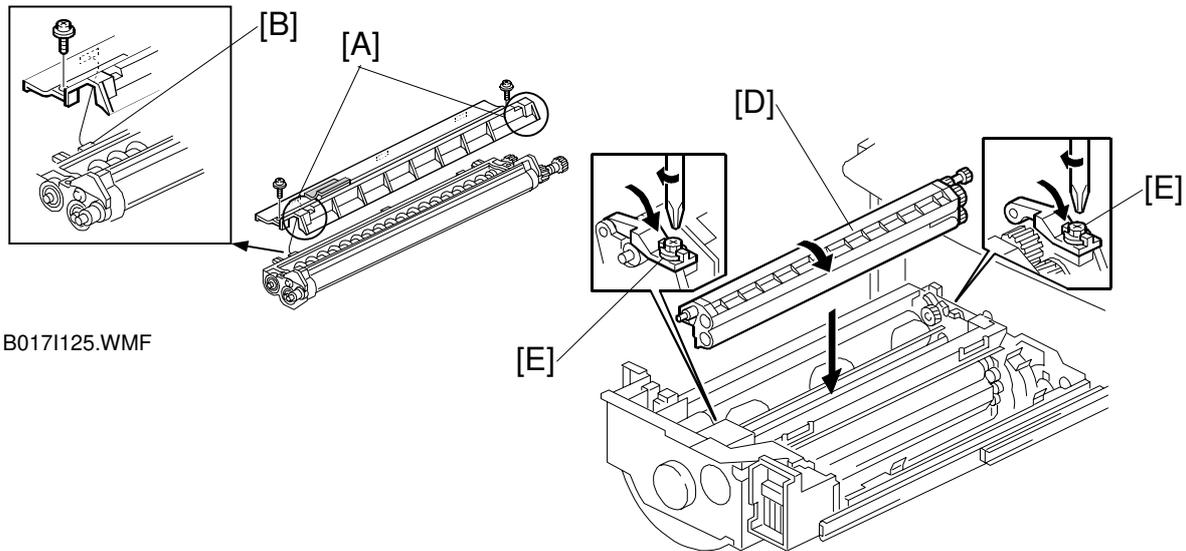
B017R309.WMF

1. Place the development unit [A] in the developer installation position [B] and pour in 1 bag (380 g) of developer [C].
NOTE: 1) When installing new developer, place the development unit on a flat space.
 2) When pouring developer, fill up the space between the development roller and the first auger first. Then fill up the space between the two augers. This speeds the agitation of the developer and prepares it for use more quickly.
2. Place the development unit in the developer scoop-up position [D]. Check that the developer is not flowing out of the development unit casing while rotating the sleeve in the forward direction.

 Replacement
Adjustment

⚠ CAUTION

1. If the developer is not installed on a flat place, the development unit casing may bend and cause developer to fall when the sleeve is rotated. If this occurs, remove and reinstall the developer.
2. Do not rotate the development sleeve in the reverse direction.



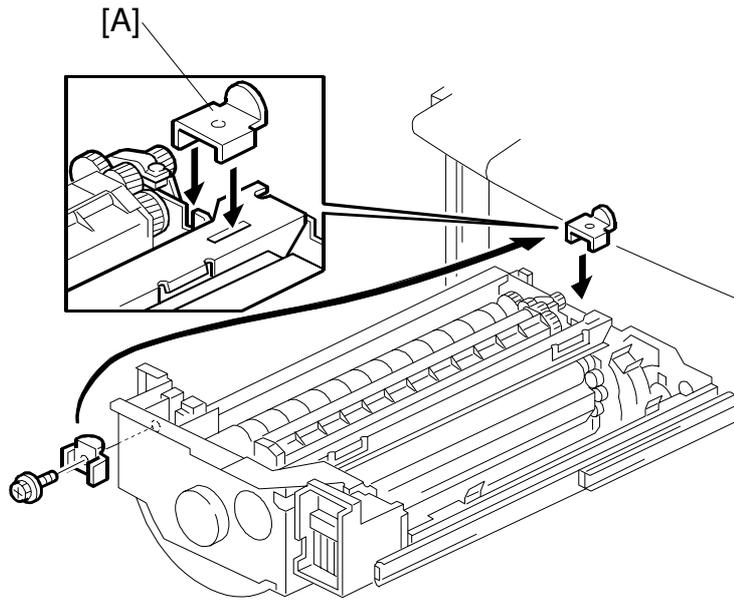
B0171125.WMF

B017R302.WMF

3. Set the developer cover by pressing the both sides [A] and make sure that the projections [B] are properly set into 3 cutouts [C] on the development unit; then, fix the cover (2 screws).
4. Put the development unit [D] in the drawer unit (2 lock screws [E]).

⚠ CAUTION

1. When replacing the developer cover and development unit, do not apply excessive force to the center of the development unit. The doctor gap will bend, altering the developer scooping efficiency.
2. When replacing the developer cover, first press both ends of the cover to confirm that the cover is properly set, and then secure it with the screws. If the ends of the cover are not properly set, developer may fall from the gap.
3. When installing the development unit in the drawer unit, hold the front and rear end of the development unit. Holding the center of the development unit may cause the development unit casing to bend, and developer may spill. If this occurs, remove then reinstall the developer.
4. Make sure that the developer locks (forward and rear) are secured with screws before rotating the revolver. This protects the developer assembly and locks from damage.
5. Tighten the developer lock screws firmly. Loose lock screws will cause the PG (Photoconductor Gap) to fluctuate.



B017R301.WMF

5. Remove the revolver stopper [A], rotate the revolver to the next color, then follow the developer installation procedure from step 1.

NOTE: The revolver unit rotates counterclockwise. Do NOT try to turn it in the other direction.

⚠ CAUTION

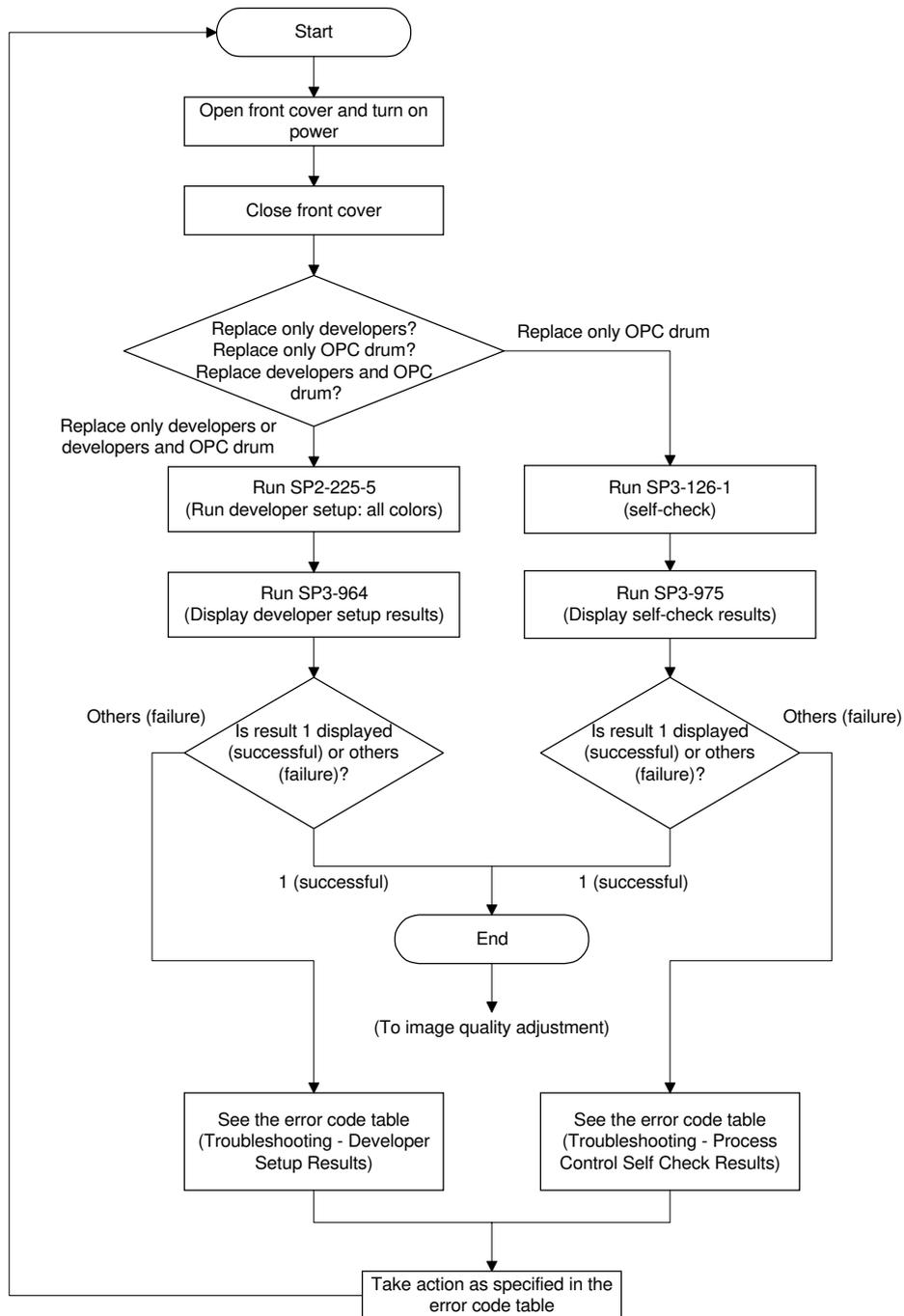
If you do not install the revolver stopper before removing the development unit, the revolver may rotate, causing permanent damage to the development unit or its holder.

Replacement
Adjustment

6.6.2 POST DEVELOPER COLLECTION PROCEDURE

Follow the procedure in the flow chart shown below during the post developer collection procedure.

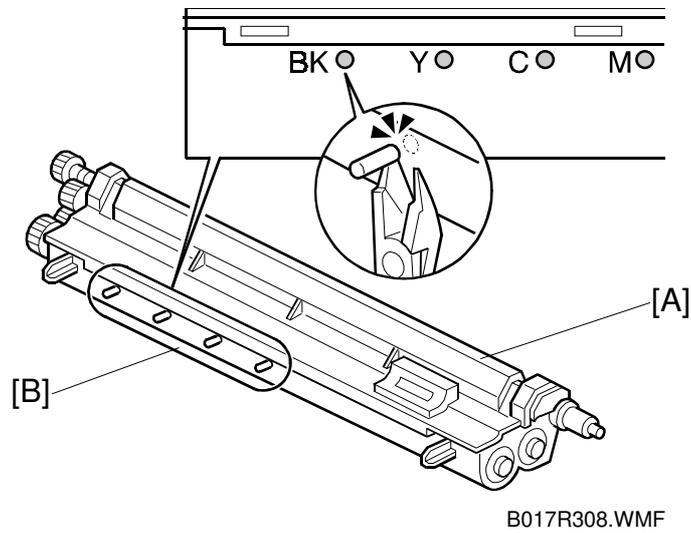
Also use this flowchart after replacing the drum.



B017R560.WMF

After the end, adjust the image quality. (Do the user mode ACC procedure. If necessary adjust the ACC targets and/or the KCMY color balance.)

6.6.3 DEVELOPMENT UNIT REPLACEMENT

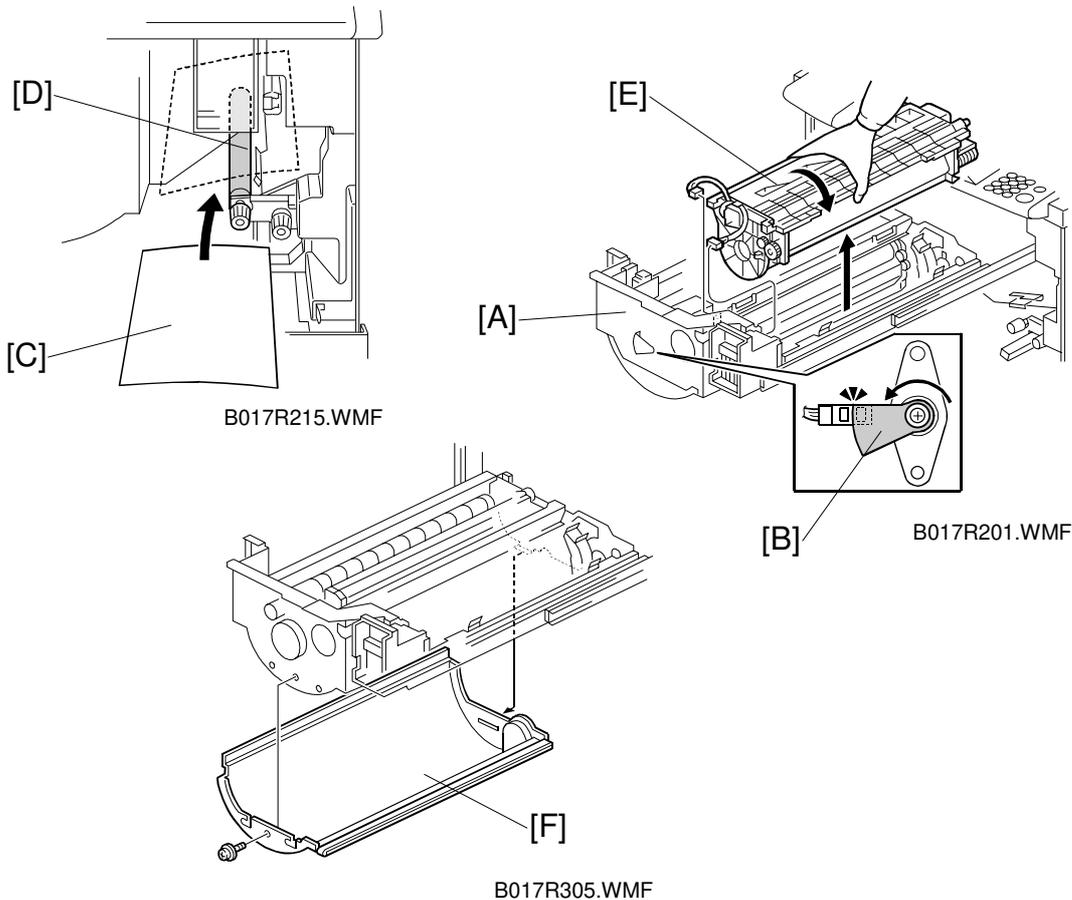


The development unit [A] service part is the same for each of the KYCM colors. Each unit has four pins.

When replacing a development unit, cut off one of the pins [B].

For example, when installing a new development unit for black, cut off the pin marked Bk.

6.6.4 TONER COLLECTION TRAY CLEANING



NOTE: Place a protective sheet on the floor. Take care not to spill developer on the customer's floor.



1. Remove the left and right inner covers, transfer belt stay, and charge corona unit, then pull out the drawer unit [A] (2 screws).

NOTE: 1) Before drawing out the drawer unit, rotate the sensor actuator [B] so that the upper edge of sensor actuator aligns the sensor.

- 2) Before drawing out the drawer unit when there is no transfer belt unit, place a sheet of paper [C] on the registration roller [D]. This is required because toner will spill from the rear end of the toner collection coil for the drum onto the registration roller.

2. Remove the drum unit [E] (2 connectors) and cover the drum with paper.

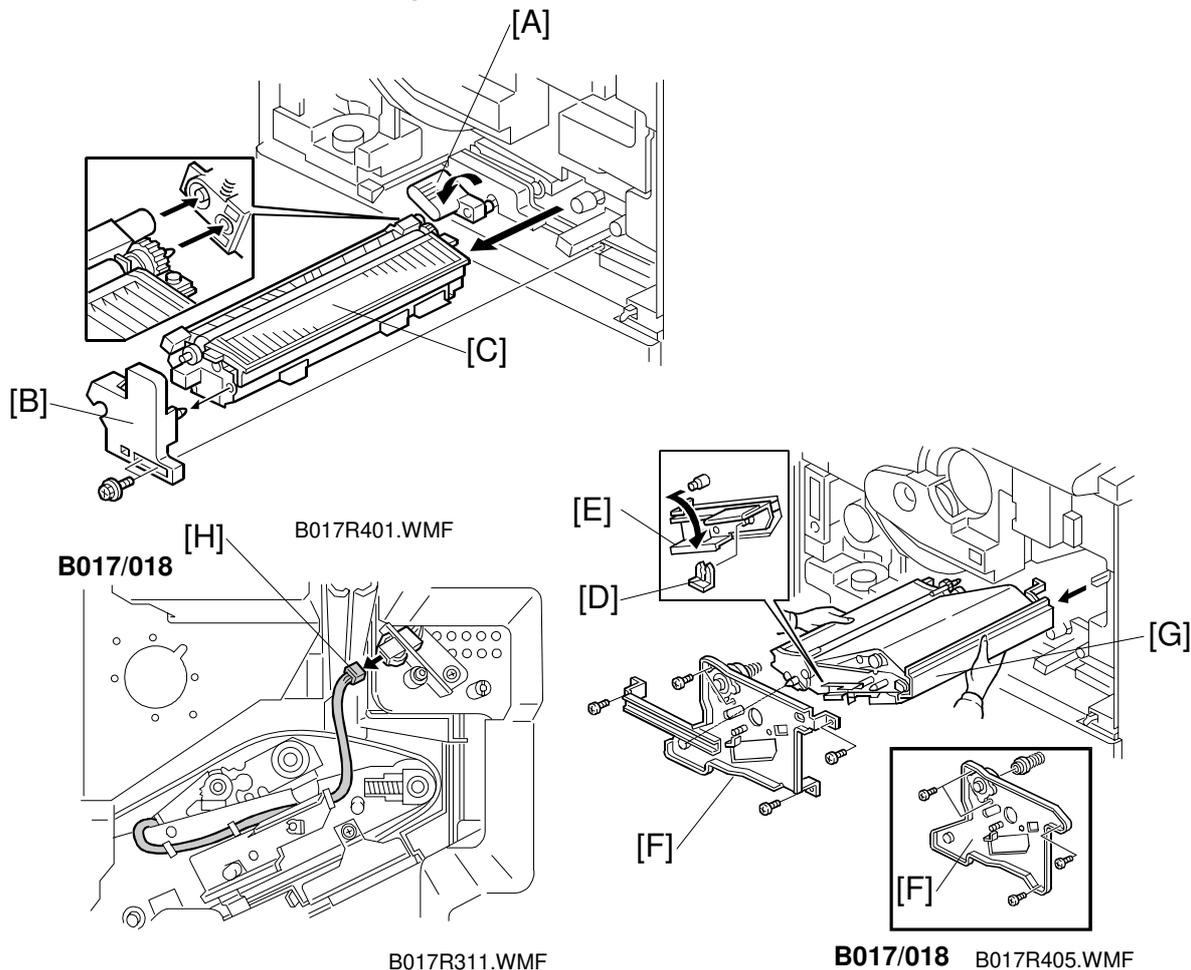
NOTE: Cover the drum with a sheet of black paper or 5 or more sheets of white paper. Otherwise, the drum will be exposed to light, subjecting it drum to optical fatigue (see "Troubleshooting – Drum Light Fatigue").

3. Remove the toner collection tray [F] (2 screws) and clean it.

6.7 TRANSFER BELT UNIT

6.7.1 TRANSFER BELT SECTION

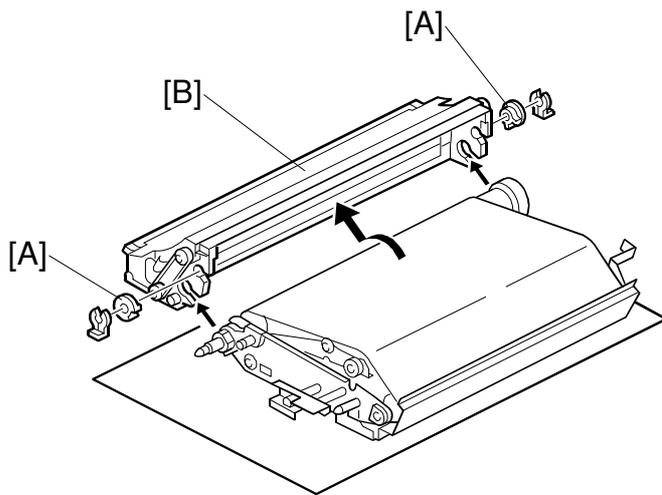
Transfer Belt and Cleaning Unit



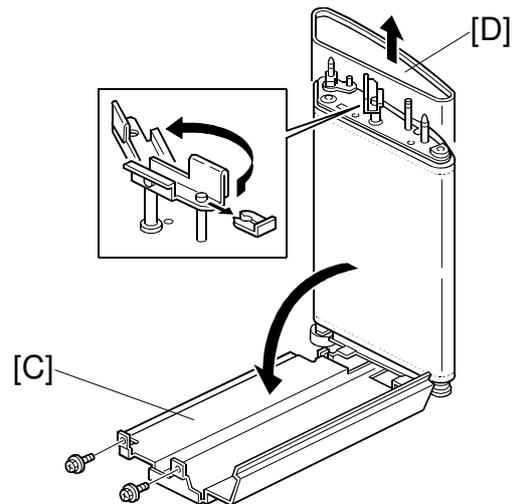
Replacement
Adjustment

NOTE: Take care not to get the customer site dirty. Put down a floor mat before removing the cleaning unit.

1. Remove the right inner cover (2 screws).
2. Turn the transport release lever [A].
3. Remove the paper transfer unit positioning stay [B] (2 screws) and pull out the paper transfer unit [C].
4. Remove the snap ring [D] and set the belt tension release lever to the "Transfer Belt Unit Install/Uninstall" [E]. Then put the snap ring back on.
5. **A258/259/260 only:** Remove the transfer belt stay [F] (5 screws) and pull out the transfer belt unit [G].
B017/018 only: Remove the transfer belt stay [F] (4 screws and spring holder) and disconnect the connector [H]. Then pull out the transfer belt unit [G].



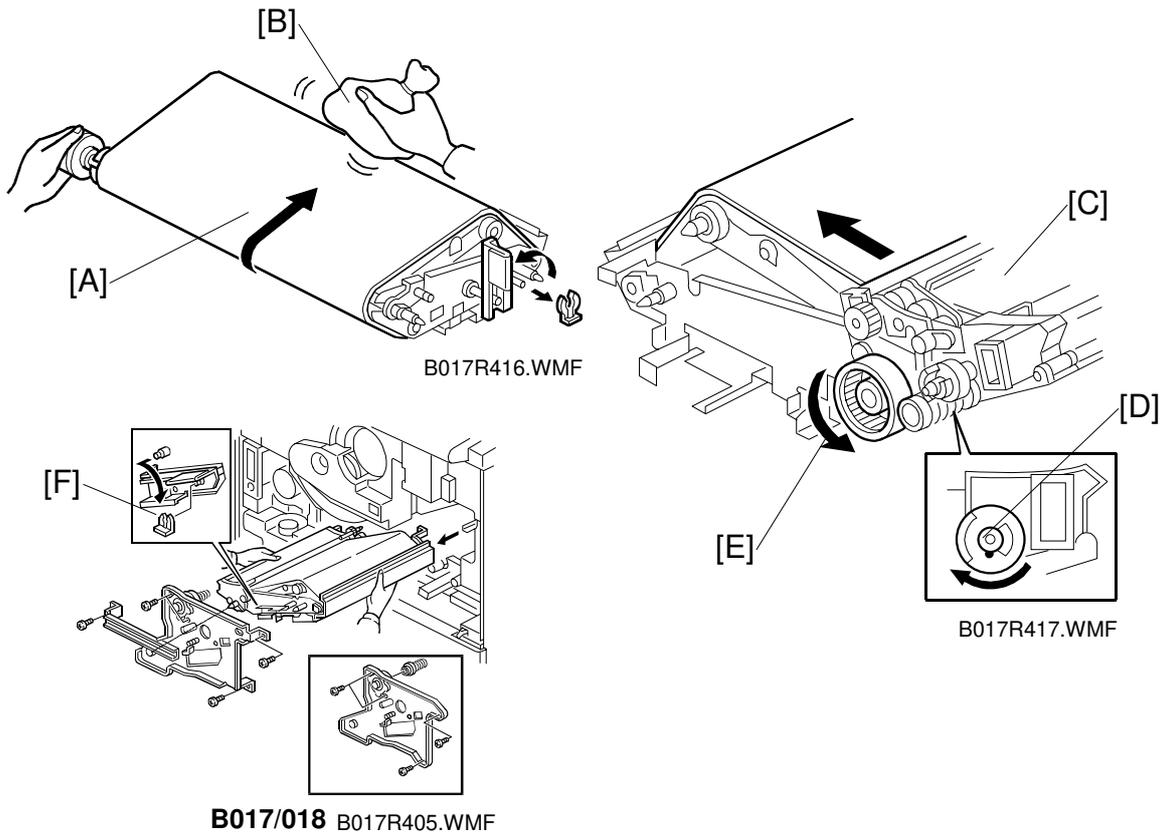
B017R406.WMF



B017R407.WMF

6. Remove the cleaning unit retainers [A] from the cleaning unit (2 snap rings) and remove the cleaning unit [B].
7. Lift up the belt unit and detach the upper part of the transfer belt bracket (2 screws). Lower the bracket [C], as shown.
8. Turn the belt tension release lever in the direction shown, to set it to the "Transfer Belt Replacement" position.
9. Pull and turn the transfer belt [D], to remove it.

NOTE: 1) Hold the transfer belt at its edge. Never touch the belt surface. Any dirt on the belt might cause poor copy quality.
 2) After removing the transfer belt, clean each roller with water or alcohol. When using alcohol, set the rollers aside for about 10 minutes to dry. If alcohol remains on the rollers when the belt is replaced, the rollers may adhere to the belt.

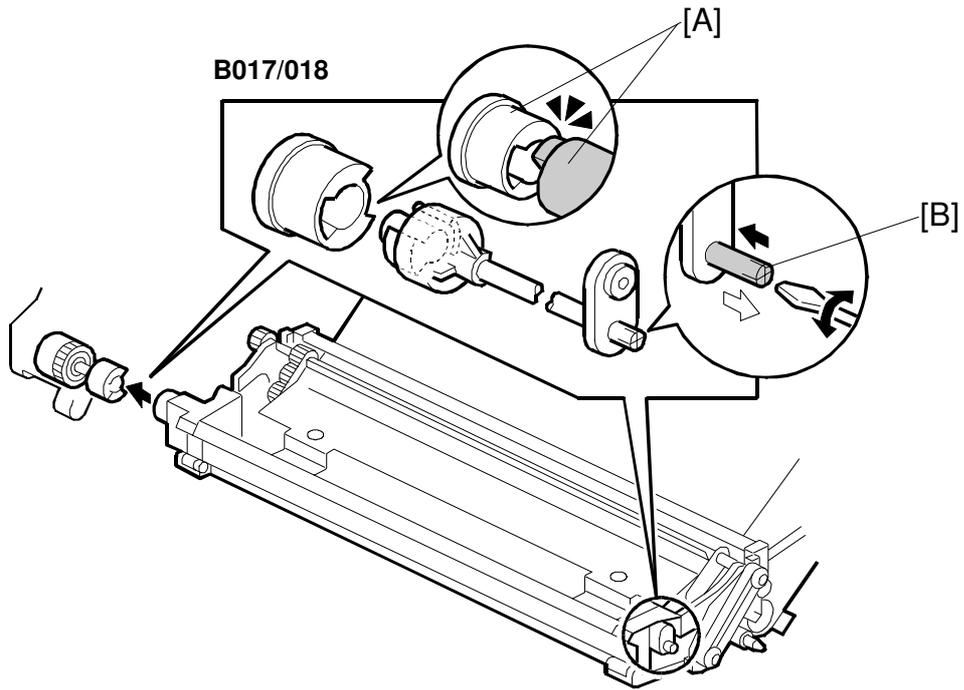


10. Replace the transfer belt and reset the transfer belt bracket.
NOTE: When installing a new transfer belt, make sure that the belt rims at both ends are past the ends of the roller.
11. Turn the transfer belt release lever in the direction shown above [A], and apply setting powder [B] to the entire belt surface, before putting back the cleaning unit [C].
12. Attach the cleaning unit to the transfer belt unit and turn the joint section of the cleaning unit [D] in the direction shown above, to pressurize the blade.
13. After pressurizing the blade, rotate the belt one turn in the direction shown above [E] to orient the belt with the blade.
NOTE: Failure to execute steps 11 to 13 may cause the belt to catch on the blade. This will cause the LCD to display SC452 (transfer belt home position detection error) or the blade bracket may become bent.
14. Set the belt tension release lever to the "Transfer Belt Release Position [F]" and reinstall the transfer belt unit.

Replacement
Adjustment

Hint for reinstalling the transfer belt unit.

When installing the transfer belt unit, hold it up with one hand underneath at the rear and slide it in along the rails. If it is not held up, it will not engage the coupling gears properly.



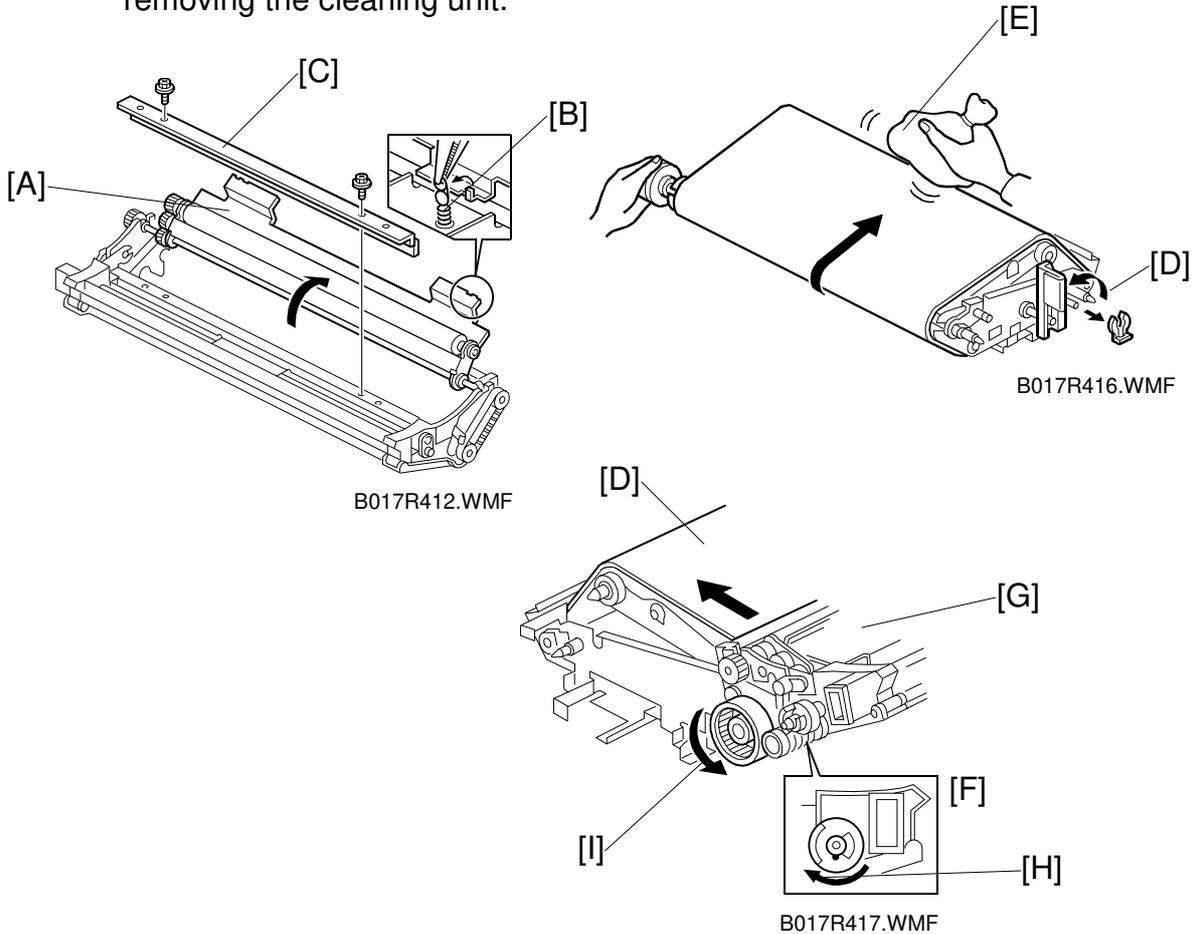
B017D517.WMF

B017/018 only:

NOTE: If the couplings [A] are not properly engaged, this may cause SC457 (ITB cleaning unit position error) when the power is on. When they are not properly engaged, the shaft [B] moves outward as shown by white arrow. Rotating the shaft with a screwdriver can properly connect the couplings.

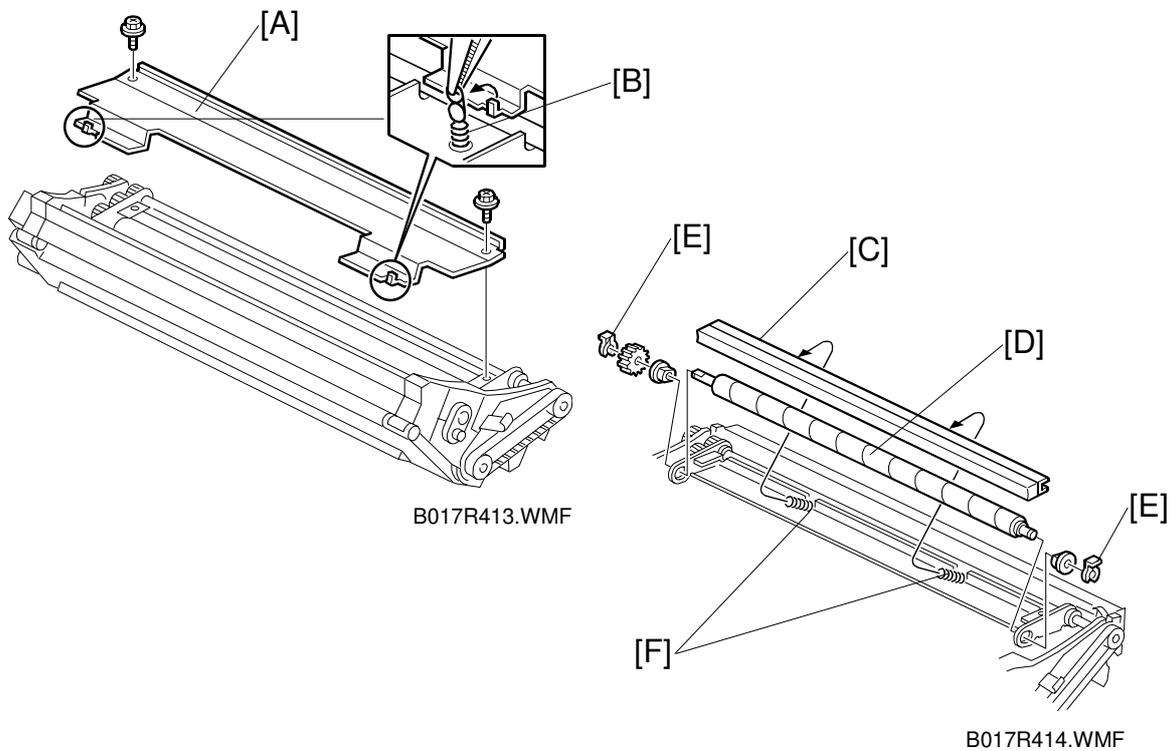
Cleaning Blade Replacement

NOTE: Take care not to get the customer site dirty. Put down a floor mat before removing the cleaning unit.



1. Turn the lubricant bracket [A] as shown (unhook 2 springs [B] at both ends).
2. Remove the blade [C] (2 screws).
NOTE: Do not touch the rubber area of the blade.
3. After replacing the blade, turn the transfer belt release lever [D] in the direction shown, and apply setting powder [E] to the entire belt surface, before installing the cleaning unit.
4. Attach the cleaning unit to the transfer belt unit and turn the joint section [F] of the cleaning unit [G] in the direction shown above [H], to pressurize the blade.
5. After pressurizing the blade, rotate the belt one turn in the direction shown above [I], to orient the belt with the blade.
NOTE: Failure to execute steps 3 to 5 may cause the belt to catch on the blade. This will cause the LCD to display SC452 (transfer belt home position detection error) or the blade bracket may become bent.

Replacement Adjustment

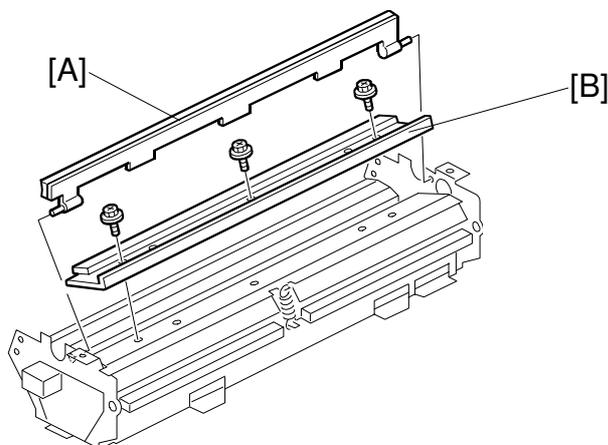
Lubricant Bar and Lubricant Brush Replacement

1. Remove the lubricant bracket [A] (2 screws and 2 springs [B]).
2. Remove the lubricant bar [C].
3. Remove the lubricant brush [D] (2 snap-rings [E], 2 bearings, and 1 gear).

NOTE: When reinstalling the lubricant bar, make sure that the springs [F] are set properly.

6.7.2 PAPER TRANSFER UNIT

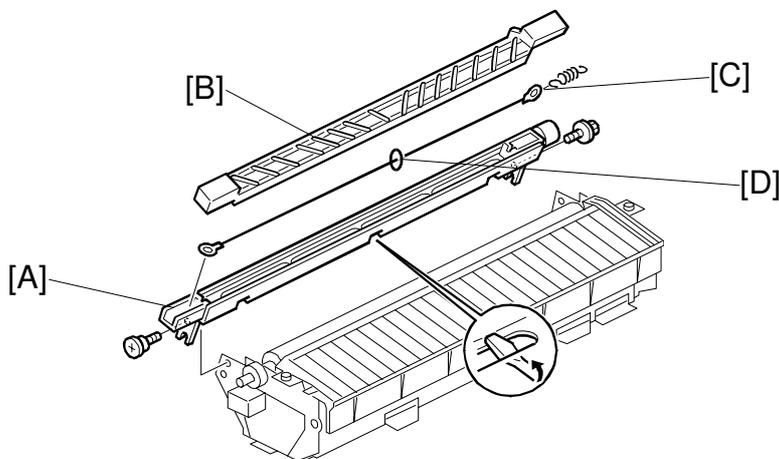
Lubricant Bar And Blade Replacement



B017R403.WMF

1. Remove the paper transfer guide plate (2 screws or 1 screw, 1 stepping screw).
2. Remove the lubricant bar [A].
3. Remove the blade [B] (3 screws).

Paper Separation Corona Wire Replacement

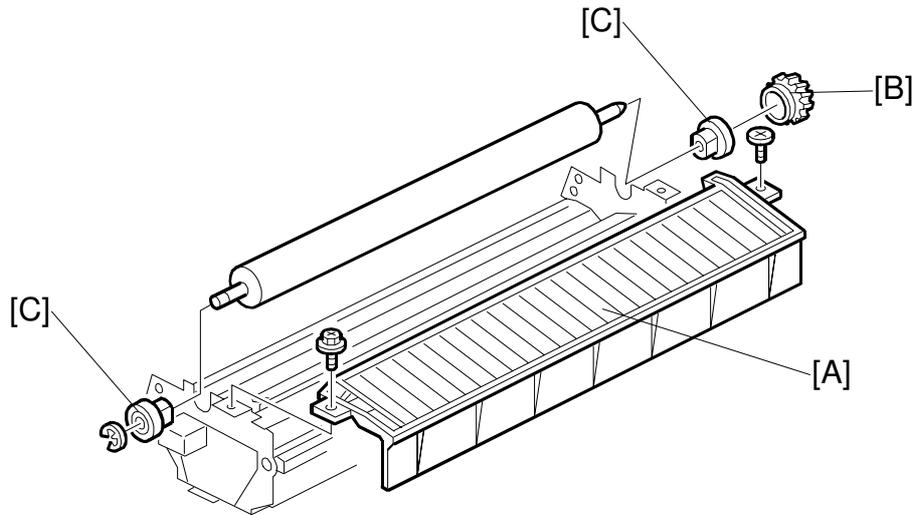


B017R404.WMF

1. Remove the paper separation corona unit [A] (2 screws).
2. Remove the paper separation corona guide [B].
3. Remove the corona wire [C] (1 spring).

NOTE: 1) When reinstalling the corona wire, make sure to reinstall the ring [D] in the middle of the corona wire.
 2) Make sure the corona wire is properly set in place in the V-shaped notch at the rear.

 Replacement
Adjustment

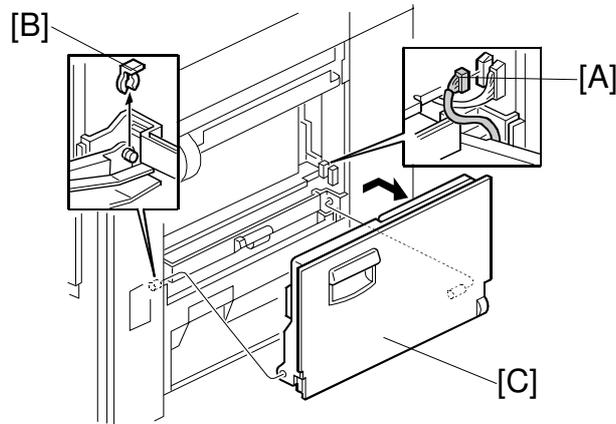
Transfer Roller Replacement

B017R402.WMF

1. Remove the paper transfer guide plate [A] (2 screws) and paper separation corona unit (2 screws).
2. Remove the drive gear [B].
3. Remove the front and rear bearings [C] (1 E-ring each).

6.8 PAPER FEED AND REGISTRATION SECTION

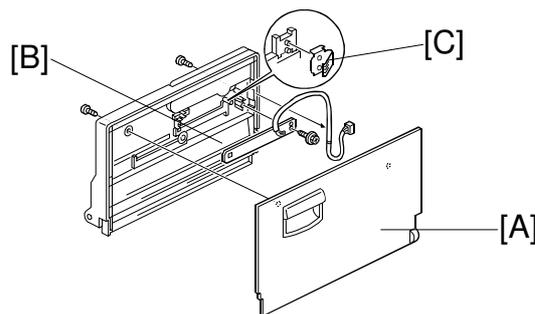
6.8.1 BY-PASS FEED TABLE REMOVAL



B017R701.WMF

1. Remove the right cover (see "Covers, Fans, and Filters").
2. Disconnect the connector [A].
3. Remove the front snap ring [B].
4. Tilt the by-pass feed table [C] by about 20 degrees, then remove it by pushing it toward the rear.

6.8.2 BY-PASS PAPER WIDTH DETECTION BOARD REPLACEMENT

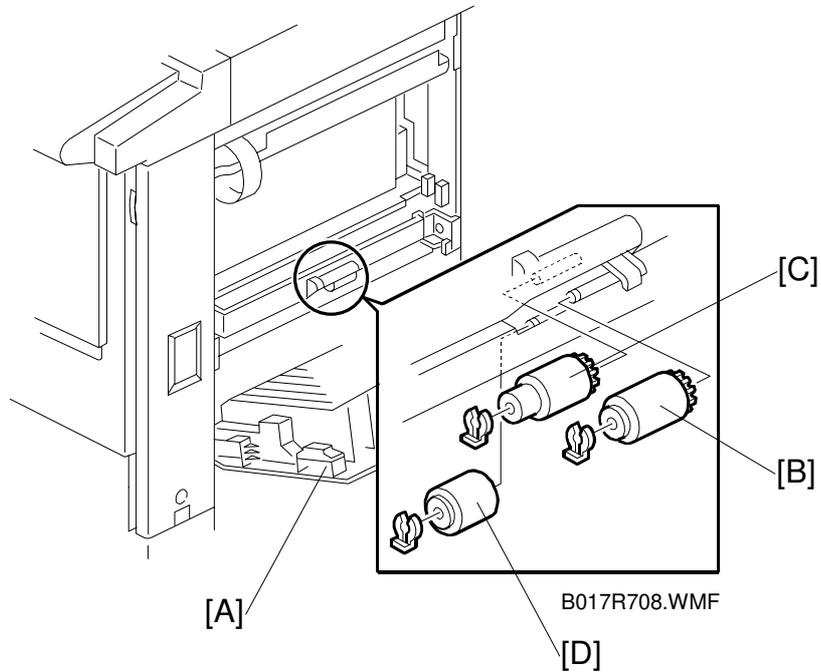


B017R702.WMF

1. Remove the by-pass feed table.
 2. Remove the by-pass feed cover [A] (2 screws).
 3. Remove the by-pass feed paper width detection board [B] (1 screw).
- NOTE:** When installing the board, take care not to bend the terminal plate [C].

Replacement
Adjustment

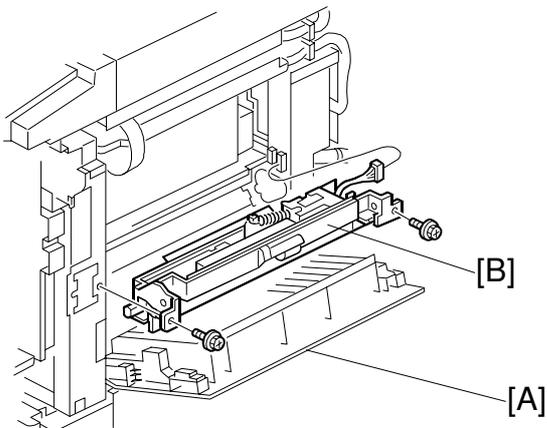
6.8.3 BY-PASS FEED, PICK-UP AND SEPARATION ROLLERS, AND TORQUE LIMITER REPLACEMENT



1. Remove the by-pass feed table.
2. Open the vertical transport door [A].
3. Remove the snap rings and replace the rollers.

NOTE: Clean the pick-up [B], feed [C], and separation rollers [D] with a moistened cloth.

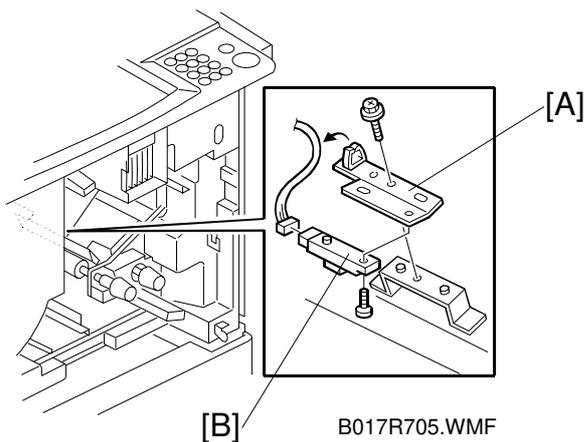
6.8.4 BY-PASS FEED UNIT REPLACEMENT



B017R703.WMF

1. Remove the following covers (see "Covers, Fans, and Filters"):
 - Right front cover
 - Right cover
 - Right rear cover
2. Open the vertical transport door [A].
3. Remove the by-pass feed table (1 connector, 1 snap ring).
4. Remove the by-pass feed unit [B] (2 screws and 1 connector).

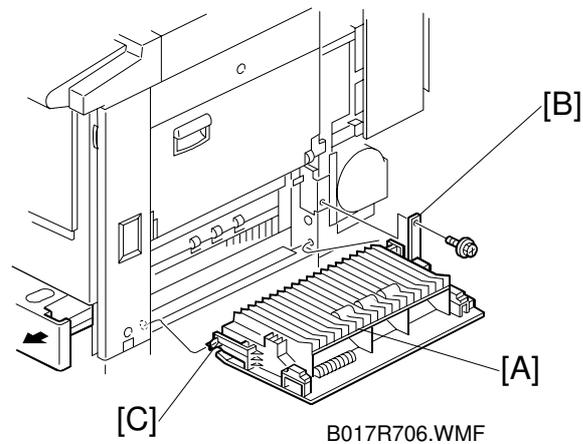
6.8.5 REGISTRATION SENSOR REPLACEMENT



B017R705.WMF

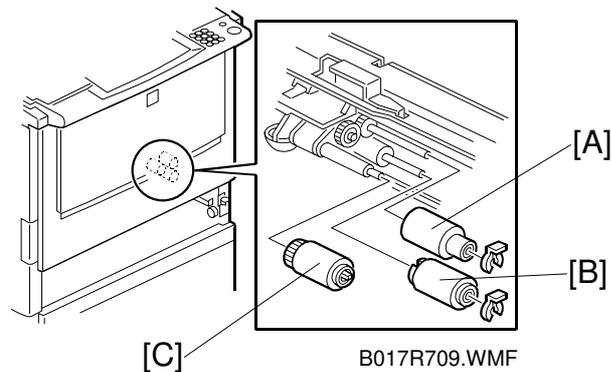
1. Remove the transfer belt unit.
2. Remove the registration sensor bracket [A] (1 screw).
3. Remove the registration sensor [B] (1 screw and 1 connector).

6.8.6 VERTICAL TRANSPORT DOOR REPLACEMENT



1. Open the vertical transport door [A].
2. Remove the bracket [B] (1 screw).
3. Push in hinge [C], and remove the vertical transport door.

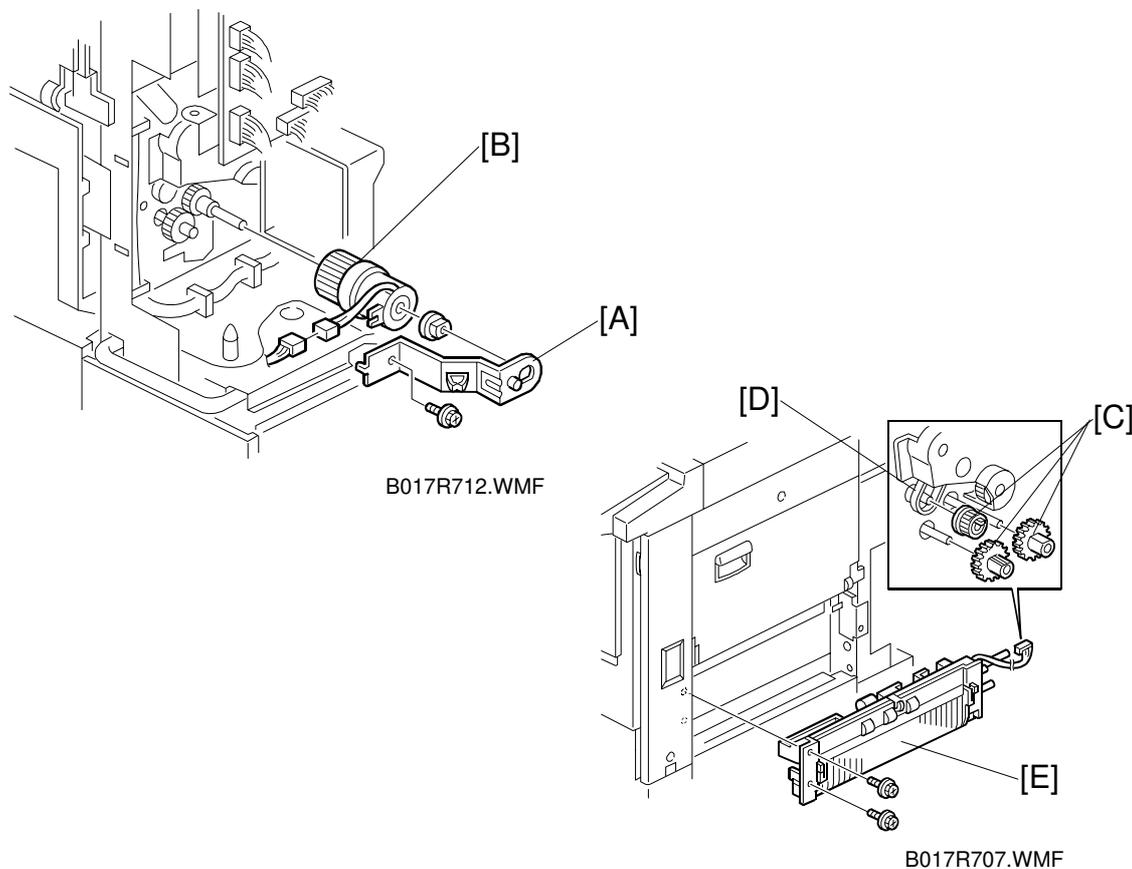
6.8.7 PAPER TRAY PICK-UP, PAPER FEED, AND SEPARATION ROLLER REPLACEMENT



1. Remove the paper tray.
2. Remove the paper feed roller [A] (1 snap ring), separation roller [B] (1 snap ring), and pick-up roller [C].

NOTE: Clean the pick-up, feed, and separation rollers with a moistened cloth.

6.8.8 PAPER FEED UNIT AND CLUTCH REPLACEMENT



1. Remove the following covers (see "Covers, Fans, and Filters"):
 - 1) Used toner cover
 - 2) Rear cover
 - 3) Right rear cover
2. Remove the vertical transport door.
3. Remove the main exhaust fan.
4. Remove the paper feed clutch bracket [A] (1 screw).
5. Remove the paper feed clutch [B] (1 bearing and 1 connector).
6. Remove the three paper feed unit drive gears [C] (1 drive belt [D]).
7. Remove the paper feed unit [E] (2 screws and 1 connector).

6.8.9 COPY IMAGE AREA ADJUSTMENT

Adjust the leading edge registration for each paper type and line speed (normal paper, OHP, thick paper, 2/3 speed: A258/259/260 only) to determine the leading edge margin. Also adjust the side-to-side registration for each paper feed station, to determine the left and right edge margins.

NOTE: When adjusting the leading edge registration, be sure the machine has been connected to the power outlet for more than 3 hours.

The leading edge margin should be 5 ± 2 mm. The adjustment procedure is described below.

Preparation

1. Place the type of paper for the registration adjustment in the paper feed tray.
2. Enter SP mode and ensure that all the values of SP2-101 are 0.0 (default value).
3. Generate the trim patterns using the procedure shown below.
 - 1) Select SP5-955-018 (Printer in Pattern).
 - 2) Press "1" in "Data Input" on the screen at the ten-key pad and press # (Enter key). "1" appears in the "Set Data" field.
 - 3) Press the Interrupt key to temporarily exit the SP mode screen, select "B/W Mode" and the paper feed tray for the test, then press the Start key to generate the trim pattern.
 - 4) Press the Interrupt key again to return to the SP mode screen.

Leading Edge Registration

Standard value: 5 ± 2 mm

1. Enter SP mode 1-1 (leading edge registration adjustment).
2. Select the level 3 SP mode for the condition you wish to adjust.
 - 1. Normal (wooden pulp paper)
 - 2. OHP
 - 3. Thick paper
 - 4. 2/3 speed (printer mode): A258/259/260 only

3. Type a number in "Data Input" on the screen at the ten-key pad.
Input value range: -5.0 to 5.0

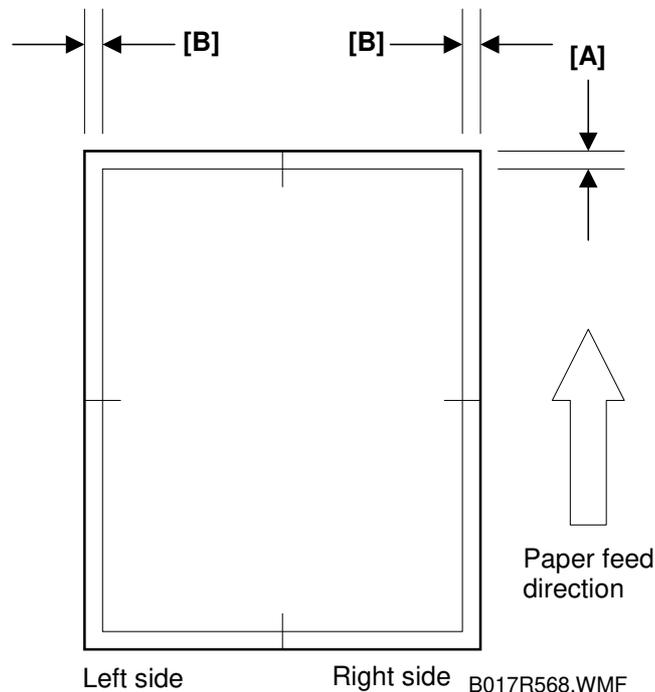
After entering a number, press the # (Enter key) to save the number in "Set Data."

To increase the leading edge margin [A]: Increase the stored value.

To decrease the leading edge margin: Reduce the stored value.

NOTE: To enter a negative number, press the  key before typing the value of the negative number.

4. Repeat printing and testing with the interrupt key until the margin [A] in the trim pattern falls within the specified range.



Replacement Adjustment

Side-to-side Registration

Standard value: 2 ± 2 mm

1. Enter SP mode 1-2 (side-to-side registration adjustment).
2. Select the paper feed unit to test.
 - Manual feed (by-pass feed table)
 - Tray 1 (Copier paper feed tray): **A258/B018 only**
 - Tray 2 (Optional paper feed unit, first tray)
 - Tray 3 (Optional paper feed unit, second tray)
 - Tray 4 (Optional paper feed unit, third tray)
 - Duplex 2nd side (Duplex unit): **A259/A260/B017 only**

NOTE: Any value entered for Tray 1 is ignored in duplex models.

3. Type a number in "Data Input" on the screen at the ten-key pad.

Input value range: -5.0 to 5.0

After entering a number, press the # (Enter key) to save the number in "Set Data."

To move the image to the right (when viewing towards the direction of paper feed): Increase the stored value.

To move the image to the left (when viewing towards the direction of paper feed): Decrease the stored value.

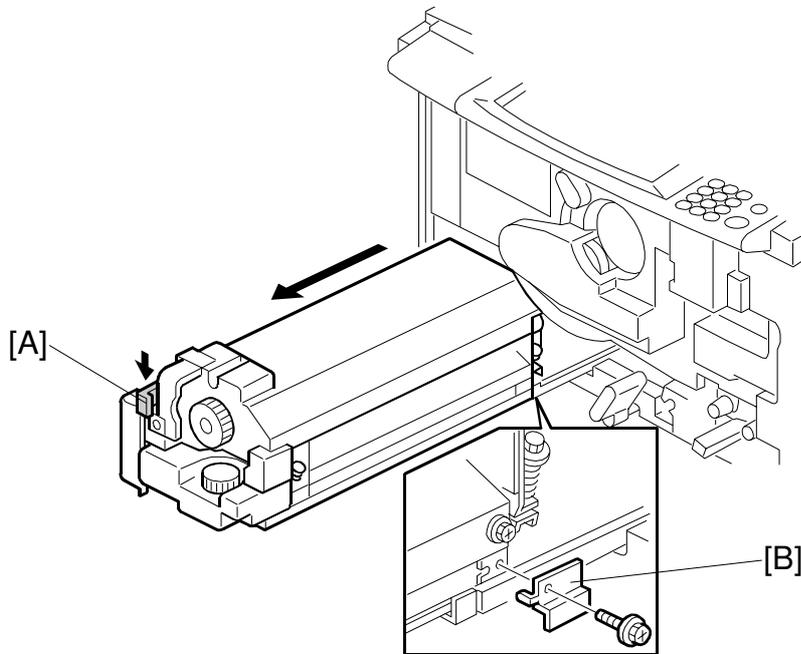
NOTE: To enter a negative number, press the \ominus key before typing the value of the negative number.

4. Repeat step 3) until the distance [B] in the trim pattern (see the previous page) falls within the specified range.

NOTE: After the registration adjustment, reset the value of SP5-955-18 to "0" to resume normal copy operation.

6.9 PAPER TRANSPORT, FUSING, AND PAPER EXIT SECTIONS

6.9.1 FUSING UNIT REMOVAL



B017R544.WMF

⚠ CAUTION

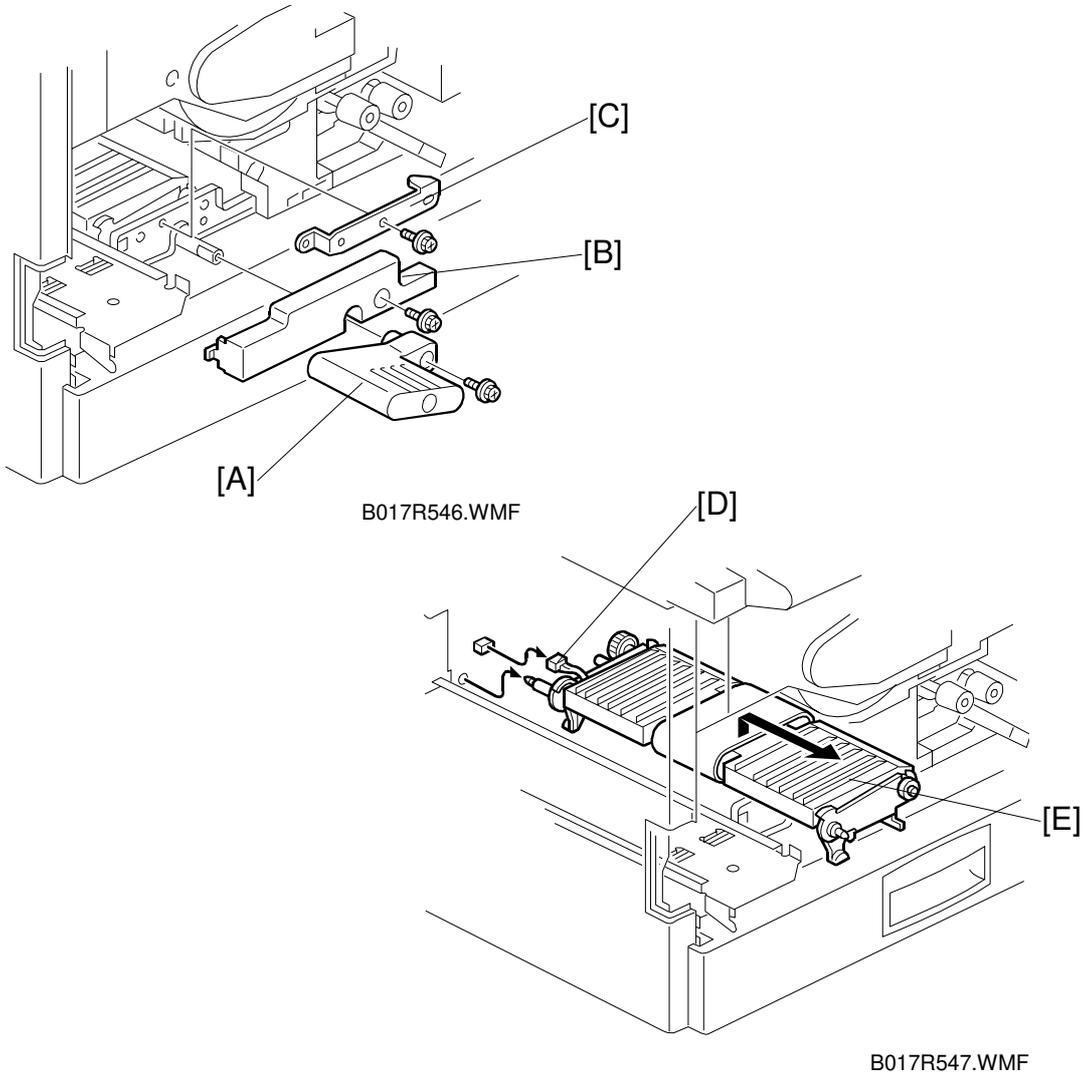
1. Be careful when handling the fusing unit. It is very hot.
2. Take care not to spill silicone oil on the floor. If silicone oil spills on the floor, immediately clean it up with a suitable solvent. Silicone oil is very slippery and can cause someone to fall.

Replacement
Adjustment

1. Remove the front door (see "Covers, Fans, and Filters").
2. Lower the release lever [A], pull out the fusing unit, and unscrew the stopper [B] (1 screw).

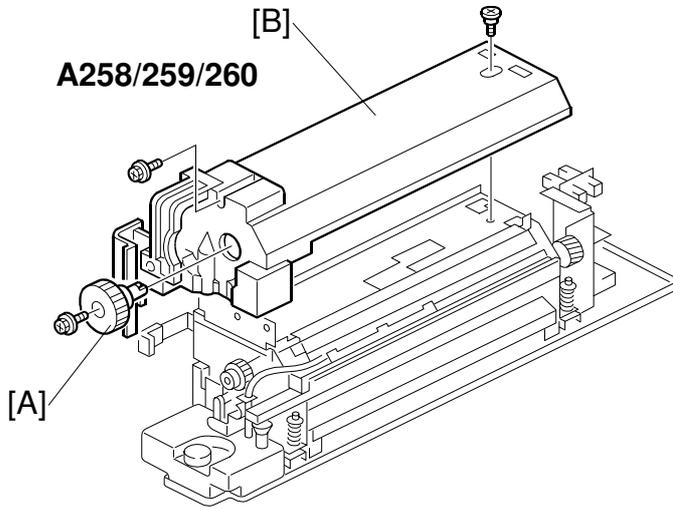
NOTE: Hold the bottom of the fusing unit when you pull it out.

6.9.2 TRANSPORT UNIT REMOVAL

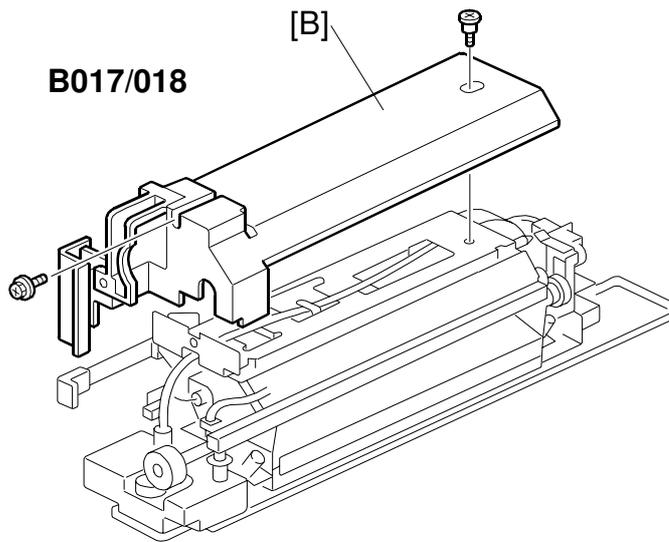


1. Remove the fusing unit.
2. Remove the transport unit lever [A] (1 screw).
3. Remove the inner cover [B] (1 screw).
4. Remove the mounting bracket [C] (1 screw).
5. Unplug the connector [D] and remove the transport unit [E].

6.9.3 FUSING UNIT TOP COVER REMOVAL



B017R606.WMF

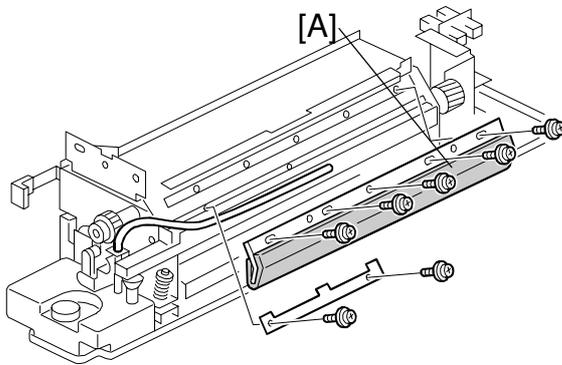


B017R501.WMF

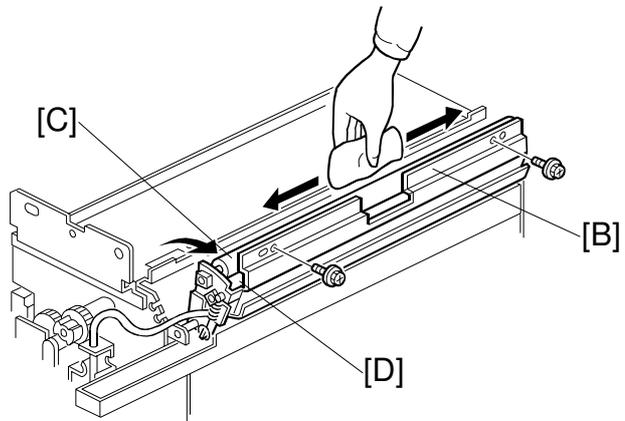
1. **A258/259/260 only:** Remove the fusing unit knob [A] (1 screw).
2. Remove the fusing unit top cover [B] (2 screws).

Replacement
Adjustment

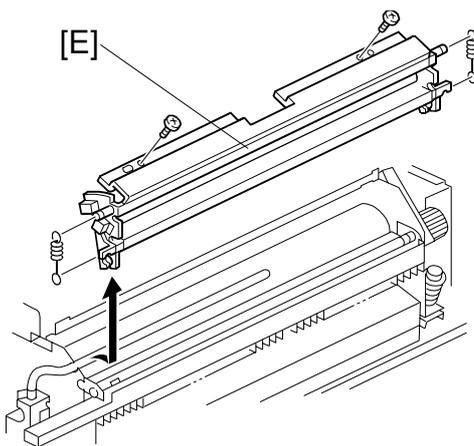
6.9.4 OIL SUPPLY PAD AND OIL BLADE REPLACEMENT (A258/259/260)



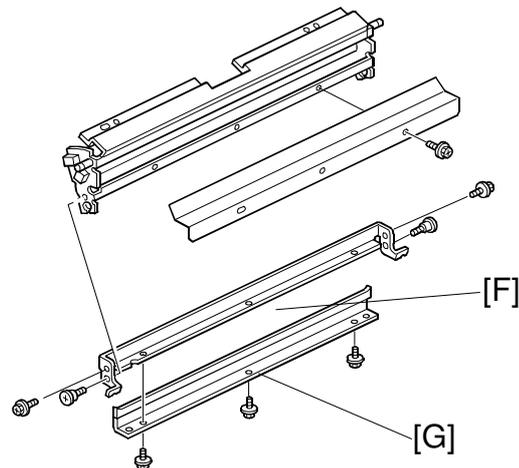
B017R532.WMF



B017R607.WMF



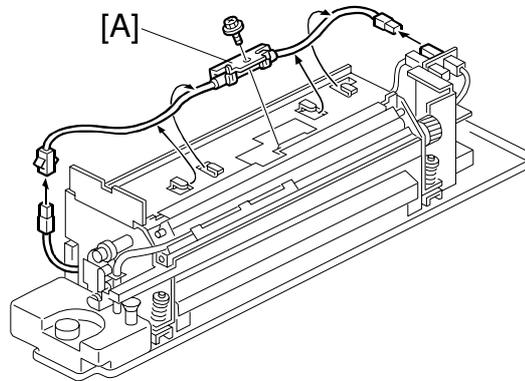
B017R549.WMF



B017R569.WMF

1. Remove the fusing unit top cover.
2. Remove the oil supply pad [A] (5 screws).
3. Remove the oil supply unit mounting screws (2 screws) and release the oil supply unit [B] from the top of the fusing unit.
4. Clean the oil supply roller [C], sub-roller [D], and hot roller blade with a dry cloth.
5. Remove the oil supply roller unit [E] (2 springs and 2 screws).
6. Remove the hot roller blade bracket [F] (4 screws).
7. Remove the hot roller blade [G] (3 screws).

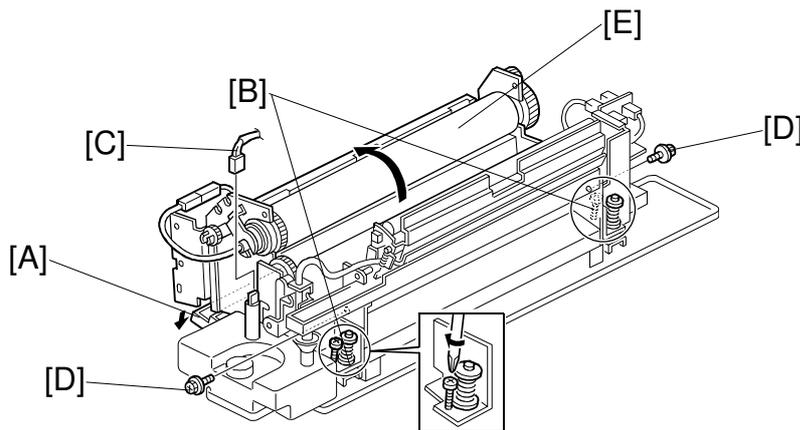
6.9.5 HOT ROLLER THERMOFUSE REPLACEMENT (A258/259/260)



B017R601.WMF

1. Remove the top cover.
2. Remove the hot roller thermofuse [A] (1 screw and 2 connectors).

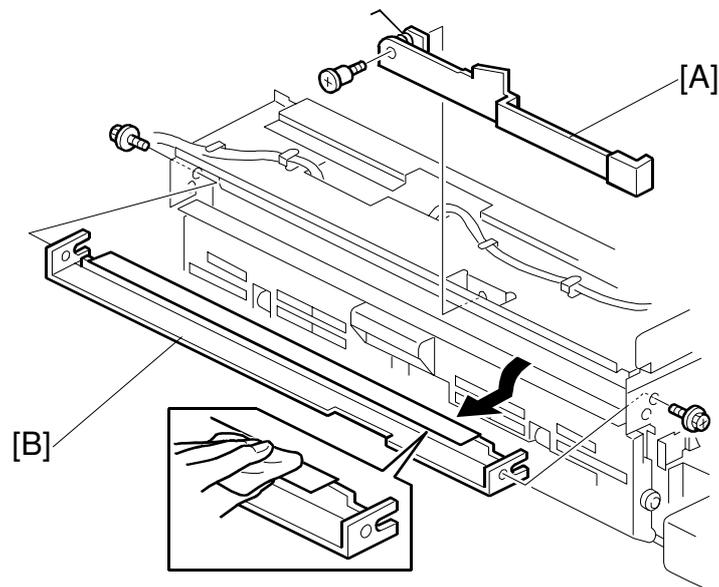
6.9.6 FUSING UNIT DISASSEMBLY (A258/259/260)



B017R602.WMF

1. Remove the top cover.
2. Remove the oil supply pad (see Oil Supply Pad Replacement).
3. Remove the oil supply unit (see Pressure Roller and Pressure Roller Fusing Lamp Removal).
4. Open the paper exit door behind the fusing unit [A].
5. Turn the pressure release screws [B] clockwise to release the pressure roller pressure.
6. Disconnect the oil end sensor connector [C].
7. Remove two lock screws [D].
8. Remove the upper fusing unit assembly [E].

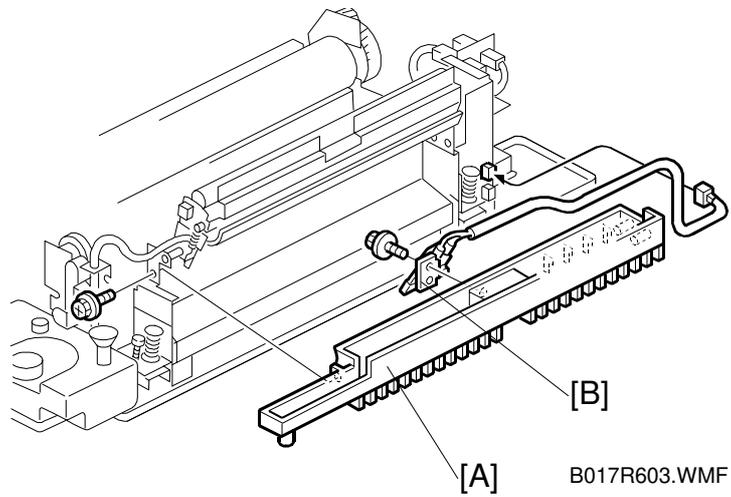
Replacement
Adjustment

6.9.7 CLEANING ROLLER SCRAPER CLEANING (A258/259/260)

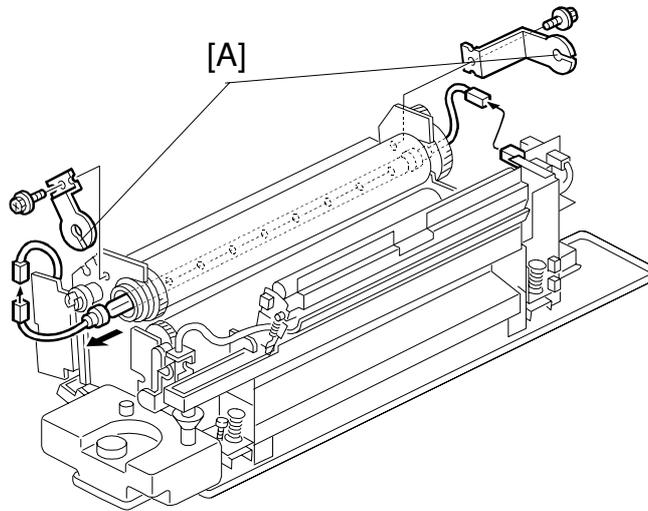
B017R548.WMF

1. Remove the top cover.
2. Remove the lock lever [A] (1 step screw).
3. Remove the cleaning roller scraper [B] (2 screws).
4. Clean the cleaning roller scraper with a dry cloth.

6.9.8 HOT ROLLER THERMISTOR REPLACEMENT (A258/259/260)



1. Disassemble the fusing unit (see Fusing Unit Disassembly).
2. Remove the oil sump [A] (1 screw).
3. Replace the hot roller thermistor [B] (1 screw and 1 connector).

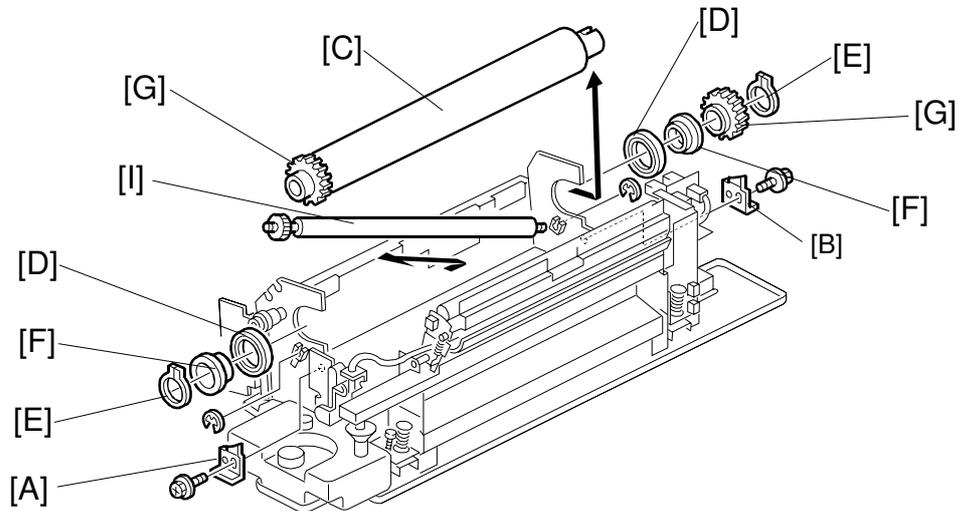
6.9.9 HOT ROLLER FUSING LAMP REPLACEMENT (A258/259/260)

B017R537.WMF

1. Disassemble the fusing unit (see Fusing Unit Disassembly).
2. Remove the front and rear lamp holders [A] (1 screw each).
3. Replace the fusing lamp (2 connectors).

NOTE: The hot roller fusing lamp is an 800 W lamp. The rating is printed on one end of the lamp.

6.9.10 HOT ROLLER AND CLEANING ROLLER REPLACEMENT AND CLEANING (A258/259/260)



B017R605.WMF

1. Disassemble the fusing unit (see Fusing Unit Disassembly).
2. Remove the hot roller fusing lamp.
3. Remove the front [A] and rear [B] roller stoppers (1 screw each).
4. Remove the hot roller [C] and hot roller shaft bearings [D] (2 C-rings [E], 2 bushings [F], 2 gears [G]).

NOTE: Apply grease to the inner and outer surfaces of the bushings.

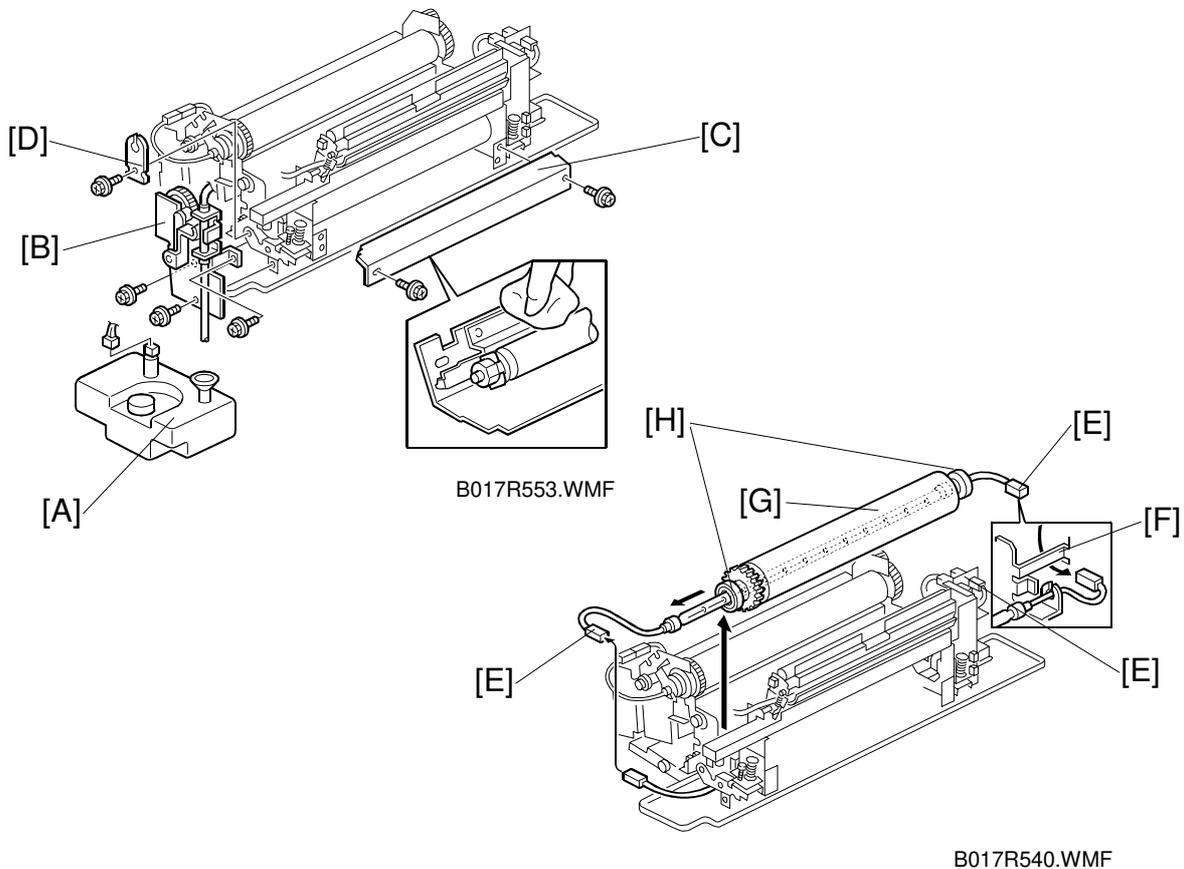
CAUTION

Be sure to apply the grease to the bushings [F] after they have cooled. The grease vaporizes when heated. The resulting gas is harmful if inhaled.

5. Clean the cleaning roller with a suitable solvent or replace the cleaning roller [I] (2 E-rings).

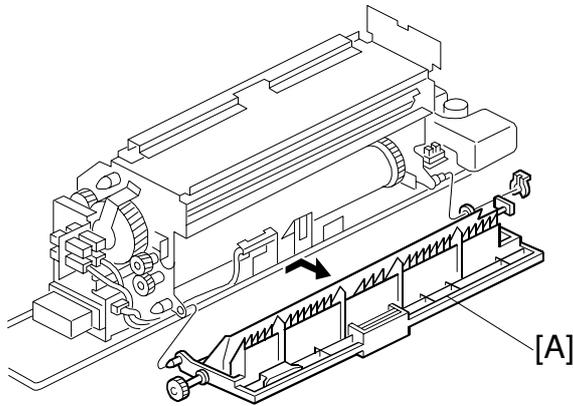
Replacement
Adjustment

6.9.11 PRESSURE ROLLER AND PRESSURE ROLLER FUSING LAMP (A258/259/260)

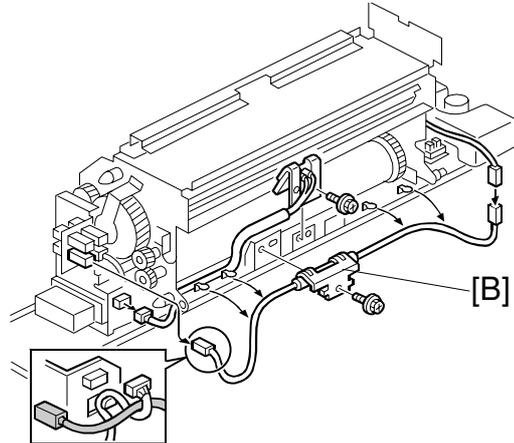


1. Disassemble the fusing unit into two parts (See Fusing Unit Disassembly, Section 6.9.6).
 2. Remove the oil tank [A].
 3. Remove the oil supply unit assembly [B] (3 screws).
 4. Remove the entrance guide plate [C] (2 screws).
 5. Remove the front lamp holder [D] (1 screw).
 6. Remove the front and rear connectors [E].
 7. Disconnect the rear connector [E] while keeping the other connectors in place (2 screws).
 8. Slide the rear connector under the stay as shown [F].
 9. Remove the pressure roller together with the pressure roller lamp [G].
 10. Remove and replace the pressure roller lamp.
 11. Replace the pressure roller and pressure roller bearings [H].
- NOTE:** The pressure roller fusing lamp is a 400 W lamp. The rating is printed on one end of the lamp.

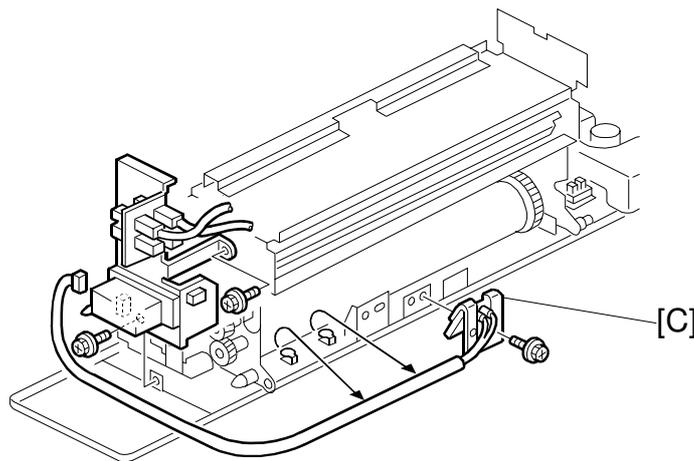
6.9.12 PRESSURE ROLLER THERMOFUSE AND THERMISTOR REPLACEMENT (A258/259/260)



B017R541.WMF



B017R542.WMF

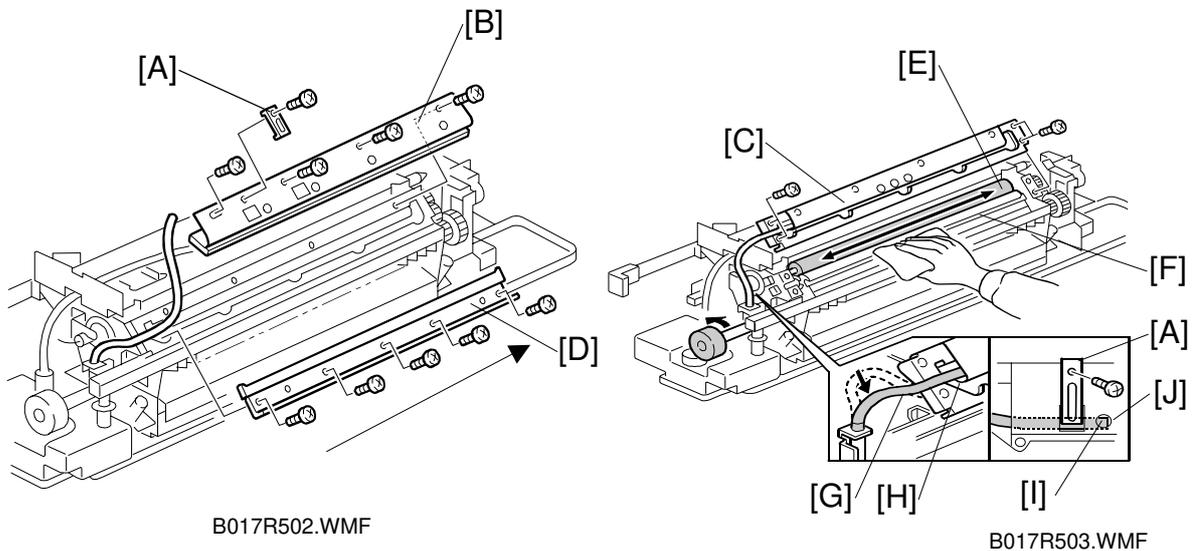


B017R543.WMF

1. Remove the paper exit door [A] (1 snap ring).
2. Replace the pressure roller thermofuse [B] (1 screw and 2 connectors).
3. Replace the pressure roller thermistor [C] (1 screw and 2 connectors).

Replacement
Adjustment

6.9.13 OIL SUPPLY PAD AND OIL BLADE REPLACEMENT (B017/018)



1. Remove the fusing unit top cover (2 screws).
2. Remove the oil supply tube stopper [A] (1 screw).
3. Remove the oil supply pad [B] (4 screws).
4. Remove the upper right stay [C] (4 screws).
5. Remove the oil blade [D] (5 screws).
6. Clean the oil supply roller [E], sub-roller [F], and oil blade with a dry cloth.

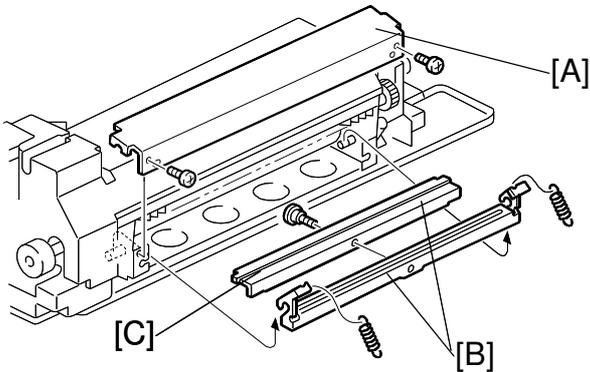
NOTE: When installing the oil blade, secure the screws from either the front or rear side as shown by the arrow. This ensures that even pressure is applied to the sub-roller.

When installing the upper right stay, make sure that the oil supply tube [G] is not caught by the stay [C].

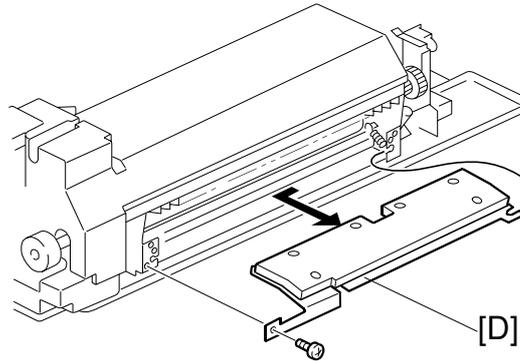
When installing the oil supply tube, check the following:

- Make sure that oil supply tube is routed as shown above [H].
- Place the oil supply tube so that the edge [I] of tube can be seen through the hole [J] on the oil supply pad; then, install the tube stopper [A].

6.9.14 PRESSURE ROLLER OIL PAD AND OIL BLADE REPLACEMENT (B017/018)



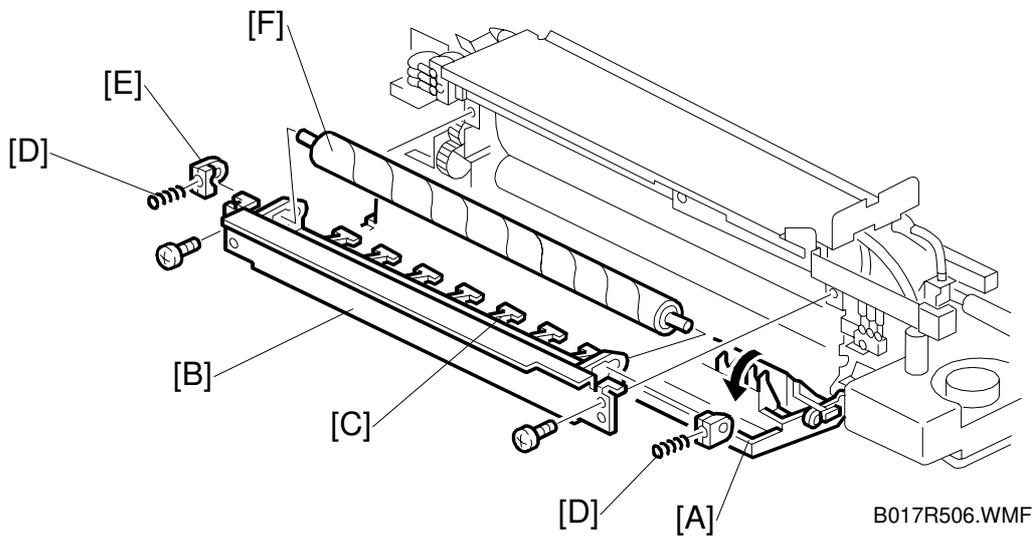
B017R505.WMF



B017R516.WMF

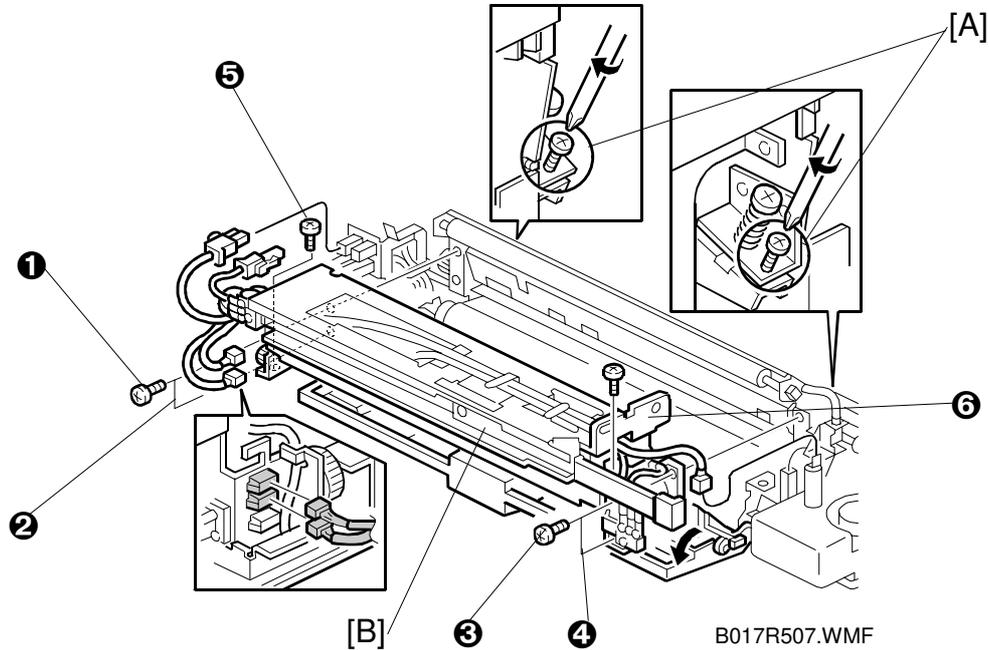
1. Remove the fusing entrance guide [A] (2 screws).
2. Remove the pressure roller blade assembly [B] (2 springs).
3. Remove the pressure roller blade [C] (1 screw).
4. Remove the pressure roller pad [D] (1 screw).

Replacement
Adjustment

6.9.15 TENSION ROLLER REPLACEMENT (B017/018)

1. Remove the top cover (2 screws).
2. Open the paper exit unit [A].
3. Remove the tension roller unit [B] (2 screws).
NOTE: Do not damage the edge of the pick-off pawls [C].
4. Remove the tension springs [D], bushings [E], and tension roller [F].

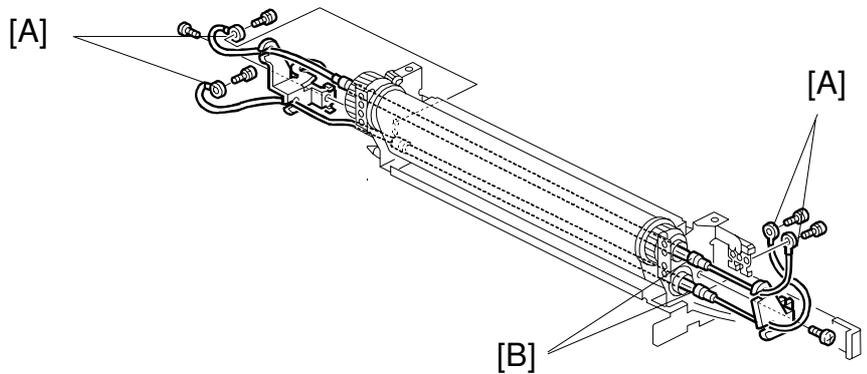
6.9.16 UPPER FUSING UNIT REMOVAL (B017/018)



1. Turn the pressure release screws [A] clockwise to release the pressure roller pressure.
2. Remove the top cover.
3. Open and remove the paper exit unit (1 snap-ring).
4. Remove the tension roller unit (2 screws).
5. Disconnect 5 connectors routed in the fusing upper unit [B].
 - 1 oil sensor connector (3p).
 - 2 white connectors (1p).
 - 2 blue connectors (2p, 3p).
6. Remove the fusing upper unit (6 screws).

NOTE: When reinstalling the upper fusing unit, make sure that gears are properly engaged and secure the screws in the order described in the illustration.

6.9.17 HEAT & HOT ROLLER FUSING LAMPS REPLACEMENT (B017/018)

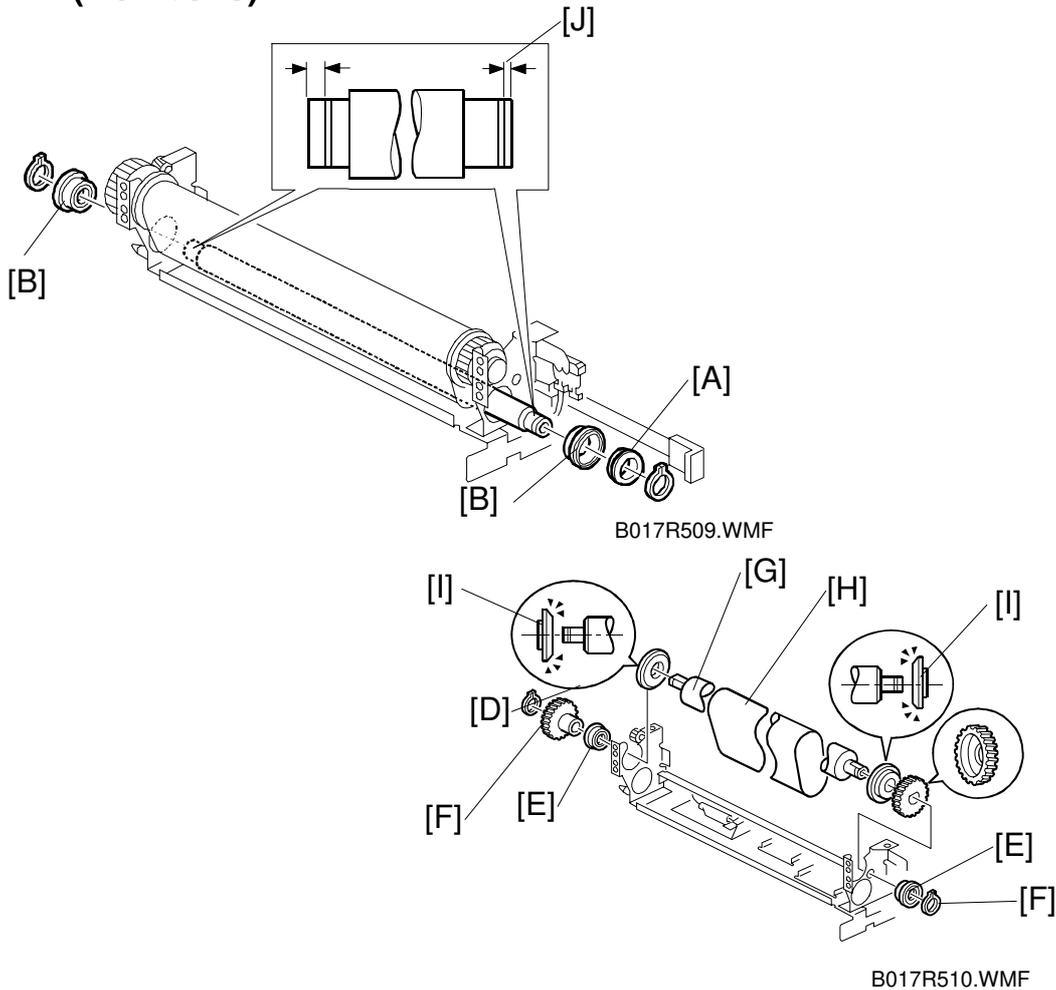


B017R508.WMF

1. Remove the upper fusing unit (See Upper Fusing Unit Removal).
2. Remove the heat and hot roller fusing lamp terminals [A] (1 screw each).
3. Remove the front and rear lamp holders [B] (1 screw each).
4. Replace the fusing lamps.

NOTE: The heat roller fusing lamp is an 500 W lamp and the hot roller fusing lamp is an 150 W lamp. The rating is printed on one end of the lamp.

6.9.18 FUSING BELT, HEAT AND HOT ROLLER REPLACEMENT (B017/018)



1. Remove the fusing upper unit and the fusing lamps. (See Heat & Hot Roller Fusing Lamps Replacement).
2. Remove the bushing [A] and ball bearings [B] (2 C-rings).
3. Remove the heat roller [C].
4. Remove the drive gear [D] and ball bearings [E] (2 C-rings [F]).
5. Pull out the hot roller [G] with the fusing belt [H].
6. Remove the stoppers [I] and remove the fusing belt.

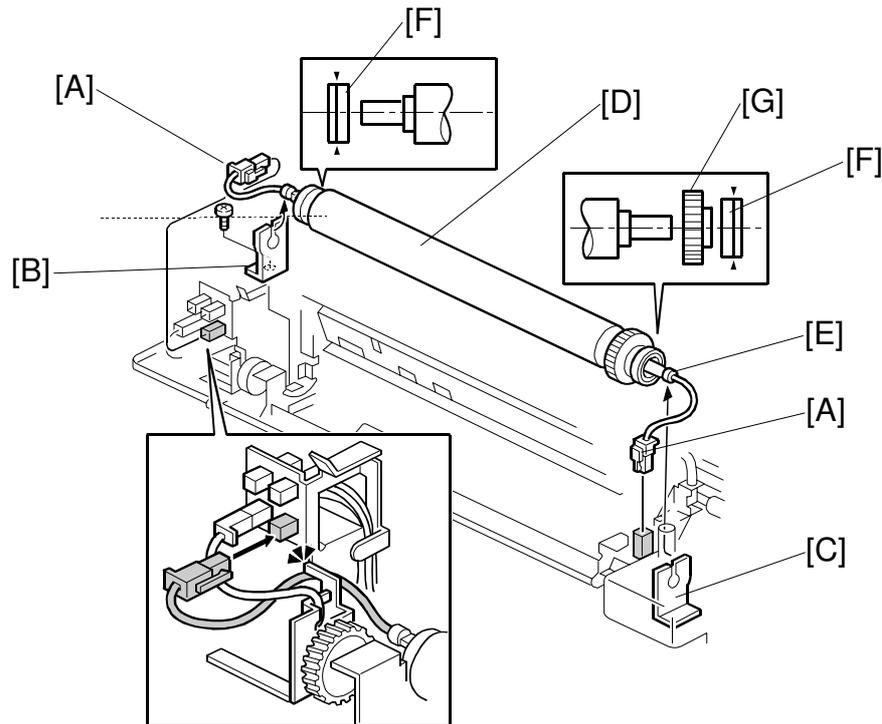
NOTE: 1) When installing the heat roller the shorter distance from [J] the roller edge to groove should be at the front.
 2) Apply grease (Barrierta S552R) to the drive gear [D] after reassembling the unit.

⚠ CAUTION

Be sure to apply the grease to the drive gear after the gear has cooled. The grease vaporizes when heated. The resulting gas is harmful if inhaled.

Replacement
Adjustment

6.9.19 PRESSURE ROLLER AND PRESSURE ROLLER FUSING LAMP (B017/018)

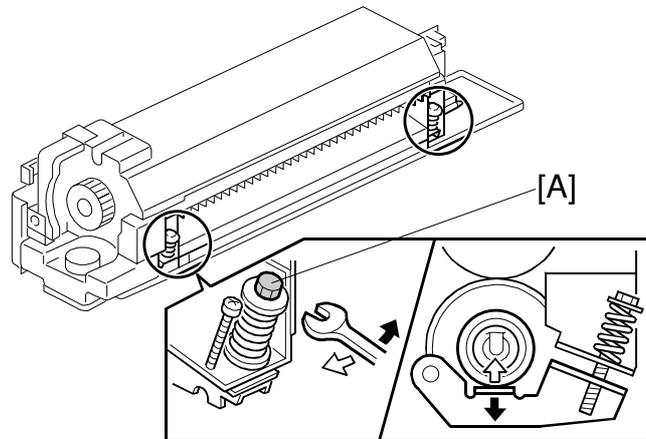


B017R511.WMF

1. Remove the fusing upper unit and the fusing lamps. (See Heat & Hot Roller Fusing Lamps Replacement).
2. Remove the fusing entrance guide (2 screws).
3. Disconnect the pressure roller fusing lamp connectors [A].
4. Remove the rear lamp holder [B] (1 screw), then release the fusing lamp from the front lamp holder [C].
5. Pull out the pressure roller [D] together with the fusing lamp and place it on a clean sheet of paper.
6. Remove the pressure roller fusing lamp [E].
7. Remove the ball bearings [F] and gear [G].

- NOTE:** 3) The pressure roller fusing lamp is a 400 W lamp. The rating is printed on one end of the lamp.
- 4) When reinstalling the pressure roller and fusing lamp, route the lamp harness [H] as shown.

6.9.20 NIP BANDWIDTH ADJUSTMENT



B017R545.WMF

- NOTE:**
- 1) Check and adjust the nip bandwidth AFTER the copier has warmed up.
 - 2) Place an OHP sheet on the by-pass feed table before starting this procedure.
 - 3) Use only A4/LT sideways (other sizes of OHP sheet may cause a paper jam).
 - 4) If a sorter is connected to the copier, disconnect the sorter connector and remove the sorter, otherwise a paper jam will occur after ejecting the OHP sheet.

1. Enter SP mode and measure the fusing nip bandwidth (SP1-109).
2. When the OHP sheet is ejected, measure the nip width of the bands.
 - 1) Use a rule to measure the width of the slightly opaque area on the OHP sheet.
 - 2) If the slightly opaque area has notched boundaries, measure the narrowest width.
 - 3) For both edges of the OHP sheet, measure the width 10 mm away from the edge.
3. Check that the average width of the three bands (front, rear, and center) matches the standard value.

Standard value

A258/259/260

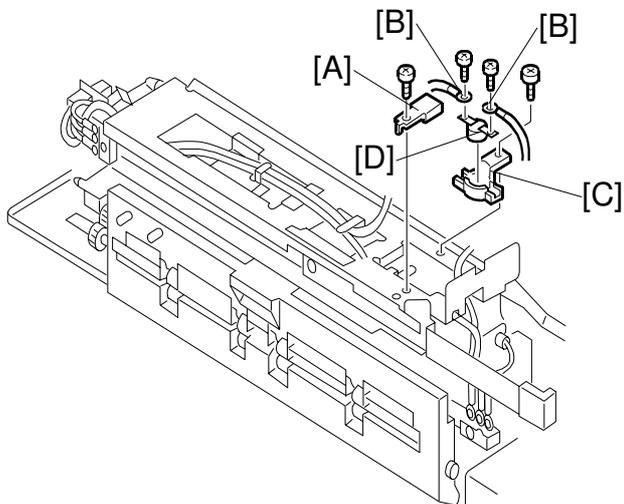
Center: 8.7 ± 0.3 mm
Edge deviation: 0.5 mm maximum

B017/018

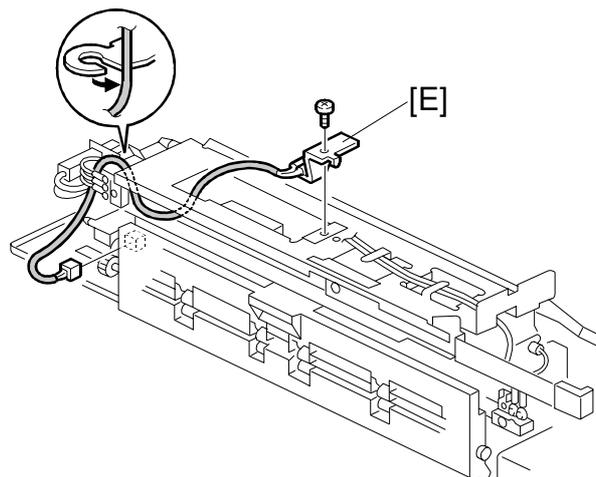
Center: 7.9 ± 0.3 mm
Edge deviation: 0.5 mm maximum

4. If the measured nip width does not correspond to the standard value, adjust the nip width using the pressure roller screw [A]. Then repeat steps 1 to 4 until the width is correct.

6.9.21 HEAT ROLLER THERMOSTAT AND THERMISTOR REPLACEMENT (B017/018)



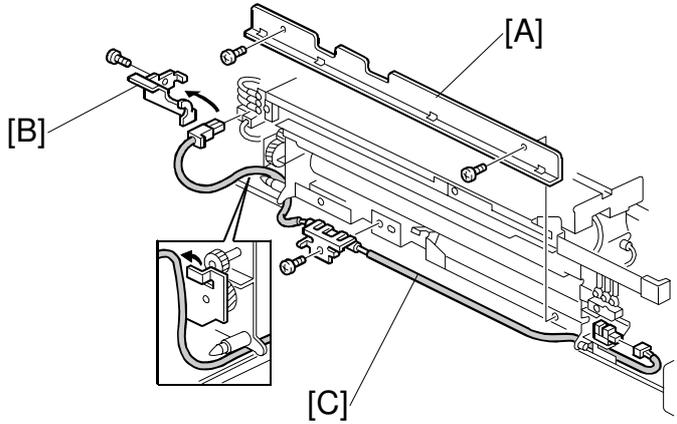
B017R517.WMF



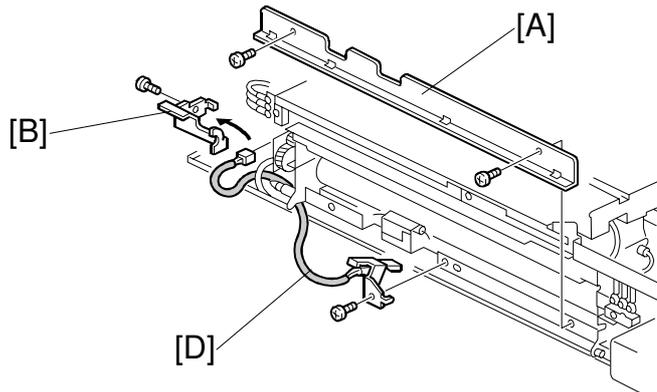
B017R518.WMF

1. Remove the top cover (2 screws).
2. Remove the cover plate [A] (1 screw).
3. Unscrew the terminal [B] of harnesses (1 screw each).
4. Remove the thermostat housing [C] (1 screw), then, remove the heat roller thermostat [D].
5. Remove the heat roller thermistor [E] (1 screw, 1 connector).

6.9.22 PRESSURE ROLLER THERMOFUSE AND THERMISTOR REPLACEMENT (B017/018)



B017R520.WMF



B017R519.WMF

1. Remove the paper exit guide (1 snap-ring).
2. Remove the harness covers [A, B] (3 screws).
3. Remove the pressure roller thermofuse [C] (1 screw, 2 connectors).
4. Remove the pressure roller thermistor [D] (1 screw, 1 connector).

Replacement
Adjustment

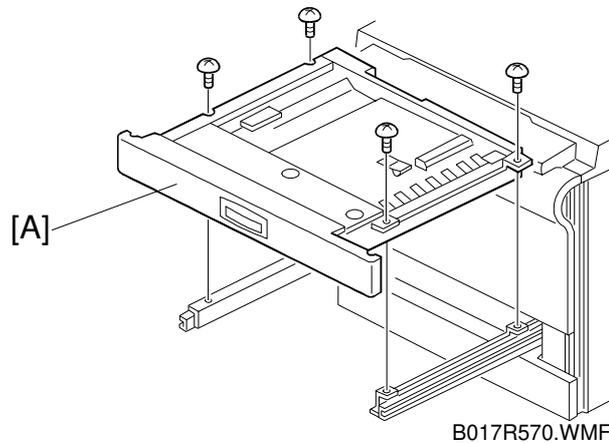
6.9.23 CAUTIONS TO BE TAKEN WHEN USING A FUSING UNIT THAT HAS BEEN IN STOCK FOR A LONG PERIOD

NOTE: When using a fusing unit that has been in stock for an extended period, press the pump with your fingers to check whether an adequate amount of oil is pumped up.

Reason: A fusing unit that has been stocked unused for a long time may have a clogged pump or valve in the oil supply unit. Such a fusing unit will not run smoothly. This may result in an oil supply shortage and the hot roller will fail earlier than normal.

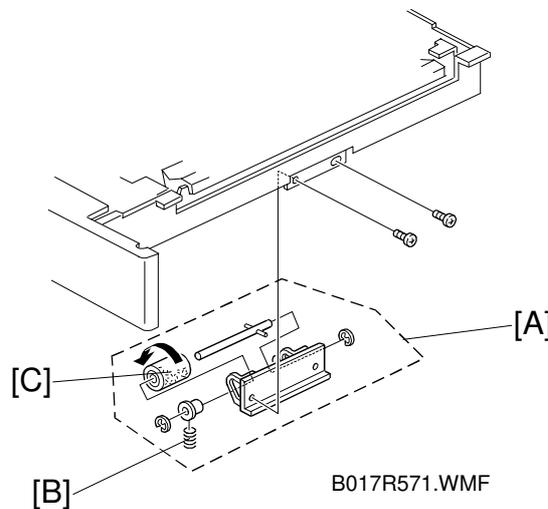
6.10 DUPLEX UNIT

6.10.1 DUPLEX UNIT REMOVAL



1. Pull out the duplex unit [A].
2. Remove the duplex unit (4 screws).

6.10.2 SEPARATION ROLLER REPLACEMENT

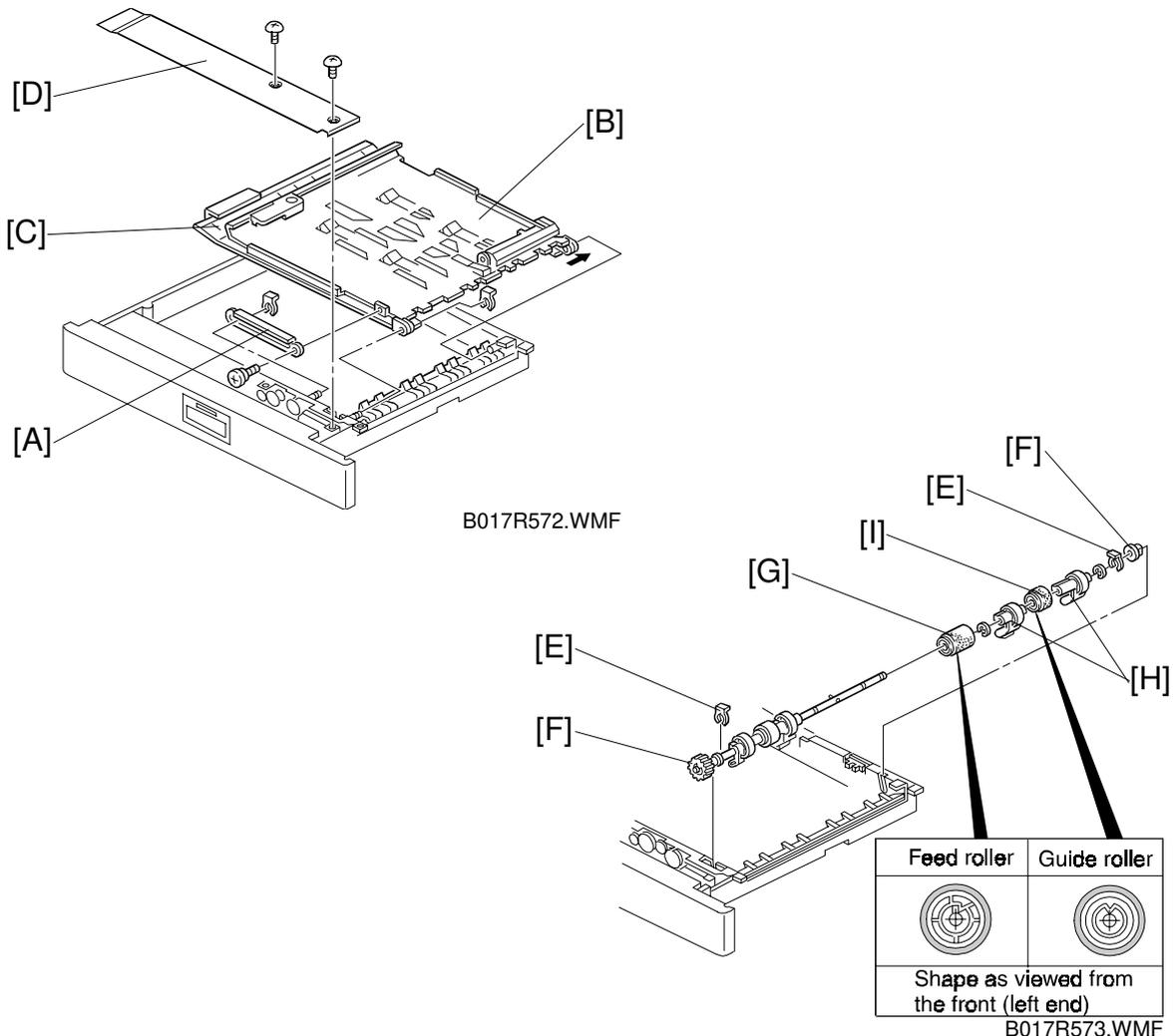


1. Remove the duplex unit (see procedure 10.1).
2. Remove the separation roller assembly [A] (2 screws).
3. Remove two springs [B].
4. Replace the separation roller [C] (2 E-rings and 2 bearings).

NOTE: Be sure to install the separation roller (one-way clutch) so that the clutch is visible.

Replacement
Adjustment

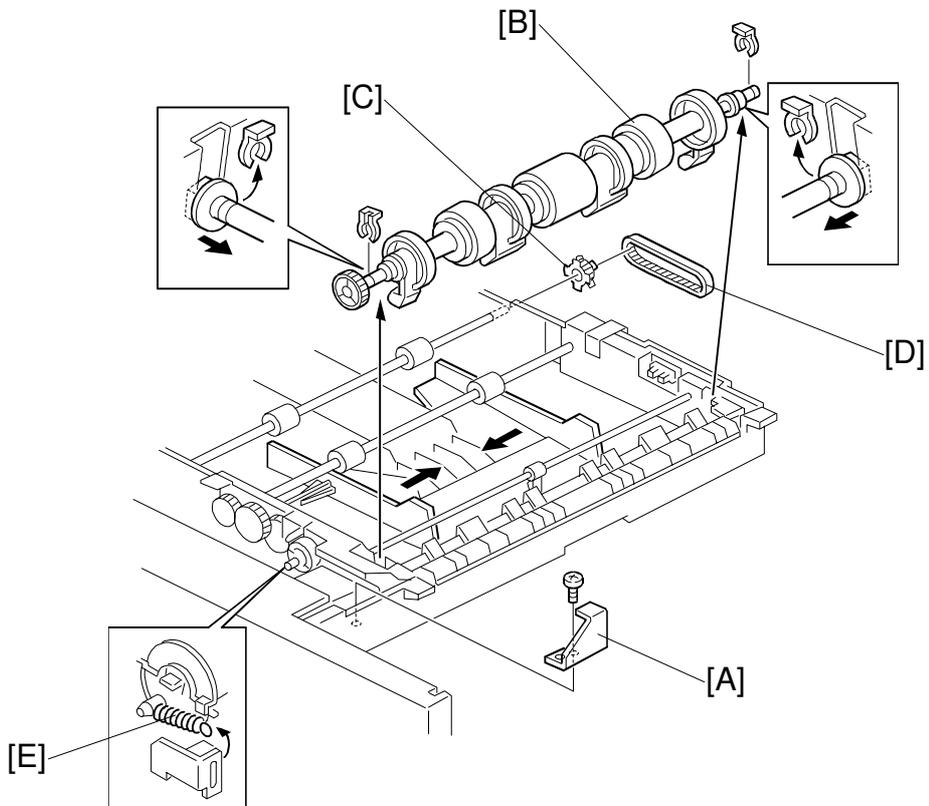
6.10.3 FEED ROLLER REPLACEMENT



1. Pull out the duplex unit.
2. Remove the guide rail [A] (1 screw and 1 snap-ring).
3. Remove the upper guide plate [B] and lower guide plate [C] (1 snap-ring).
4. Remove the inner cover [D] (2 screws).
5. Remove the 2 snap-rings [E] from both ends of the feed roller shaft.
6. Slide the bearings [F] inward.
7. Replace the feed roller [G] (2 E-rings, 2 paper flatteners [H], and 1 guide roller [I]).

NOTE: 1) Be sure to install the feed and guide rollers correctly.
 2) The feed roller is made of silicone rubber and is not compatible with the non-silicone rubber feed rollers used in some previous models.

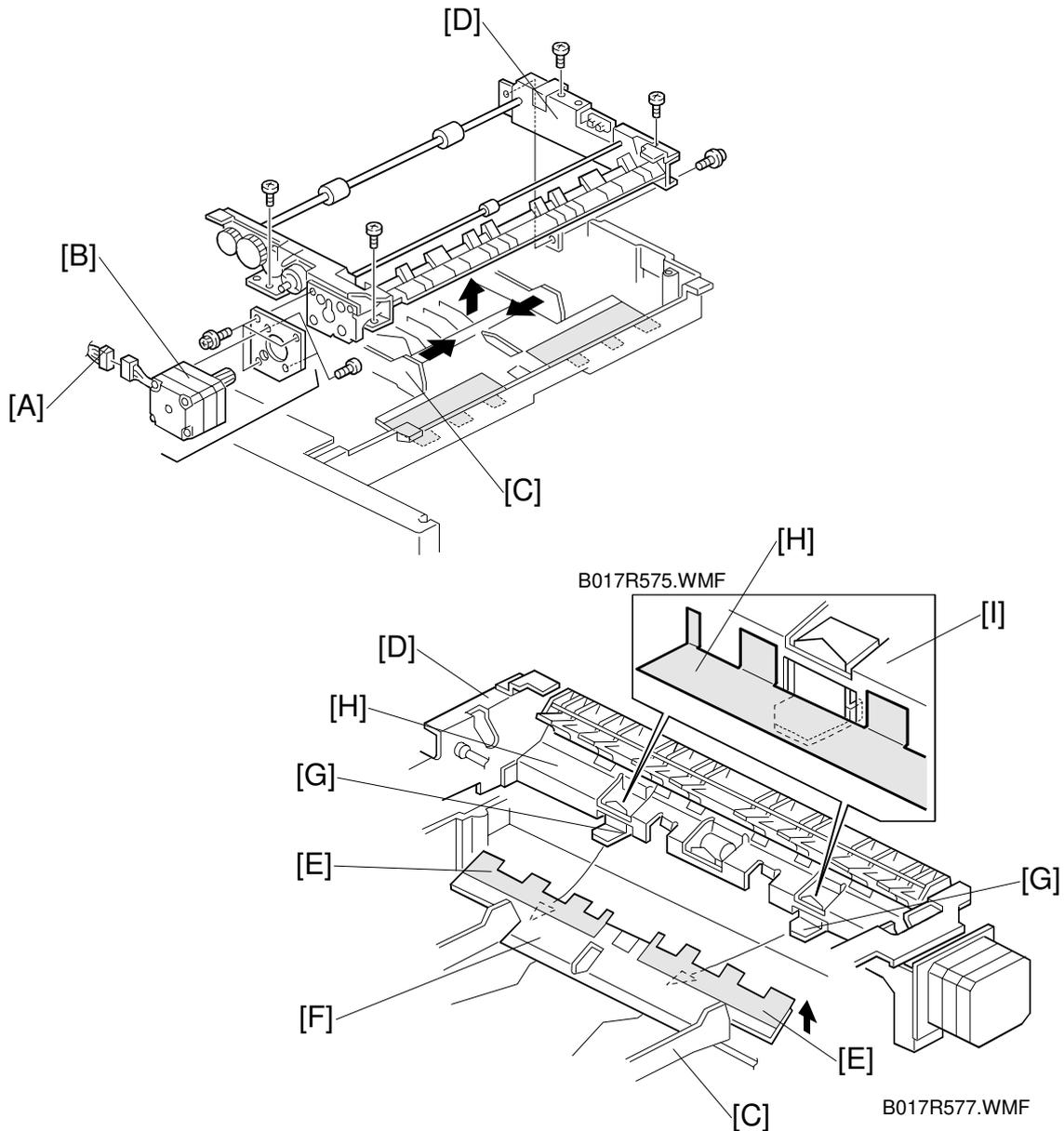
6.10.4 DUPLEX FEED MOTOR REPLACEMENT



B017R574.WMF

1. Perform steps 1 through 4 of Feed Roller Replacement.
2. Remove the bracket [A] (1 screw).
3. Remove the feed roller shaft assembly [B] (2 snap-rings).
4. Remove the pulley [C] and the timing belt [D].
5. Remove the pressure spring [E].

Replacement
Adjustment



6. Disconnect the connector [A] of the duplex feed motor [B].
7. Close the side fences [C] and remove the duplex feed assembly [D] (5 screws 2 connectors).
8. Remove the duplex feed motor assembly (3 screws).
9. Replace the duplex feed motor (2 screws).

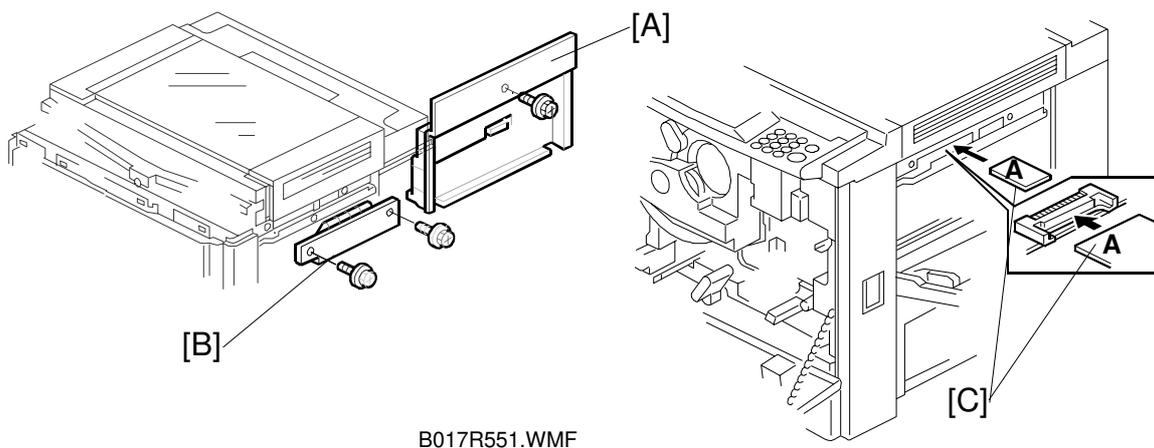
NOTE: 1) When installing the duplex feed assembly [D] on the base unit, place the bottom plate [F], with the mylar strip [E], over the bracket tabs [G].
 2) Ensure the base unit's mylar strip [H] is placed against the guide plate [I], as shown. It must not go under the guide plate.

6.11 SYSTEM AND ELECTRONICS

Flash ROM card handling precautions:

- Never insert or remove a Flash ROM card with the main power switch on.
- Do not turn the main power switch off during the software installation process.
- Since the Flash ROM card is a precision part, it must not be exposed to high temperature, humidity, or direct sunlight.
- Never bend, scratch, or apply excessive shock to a Flash ROM card.

6.11.1 IPU PROGRAM DOWNLOADING



1. Turn off the main power switch on the copier.
2. Remove the right cover [A] (see "Covers, Fans, and Filters").
3. Remove flash ROM cover [B] (2 screws).
4. Insert the Flash ROM card [C] that contains the new IPU software.
NOTE: Insert the Flash ROM card with side "A" facing up.

– A258/259/260 only –

5. Turn on the main power switch. When the system starts, the program in the Flash ROM card automatically is downloaded to the scanner IPU board.
NOTE: Do not remove the Flash ROM card from the copier or disconnect the power cord while the system is loading. When downloading the program, LED3 on the scanner IPU board lights. It takes about 30 seconds to finish downloading.
6. After downloading, LED3 turns off and LED4 starts blinking.
NOTE: SC 690 might be displayed on the LCD. This is normal for this machine.
7. Turn off the main switch, then remove the Flash ROM card. (Go to step 8.)

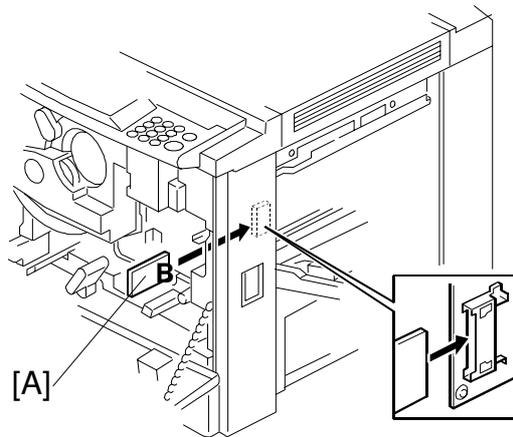
– B017/018 only–

5. Turn on the main power switch while keeping the front door open. This will force the machine to skip the process control initialization. When the system starts and the LCD displays the normal menu, close the front cover and go to SP5-827-002 to download the program.
6. To start downloading:
B017: Press “OK”.
B018: Input = “1”, then, press the Enter key.
7. Wait until end of processing is indicated on the screen (approximately 30 seconds, depending on the size of the software). Then, turn the main power switch off when an end of processing message appears, and remove the Flash ROM card.

– All machines –

5. Turn on the main switch again.
6. When the copier is in standby mode, check the program version with SP 7-801-002. If the download failed, repeat the procedure.

6.11.2 MAIN PROGRAM DOWNLOADING



B017R524.WMF

1. Turn off the main power switch on the copier.
2. Open the front cover and remove the transfer inner cover (see "Covers, Fans, and Filters").
3. Insert the Flash ROM card [A] that contains the new main program.
NOTE: Insert the Flash ROM card with side "B" facing right when viewed from the front.
4. Turn on the main power switch while keeping the front door open. This will force the machine to skip the process control initialization. When the system starts and the LCD displays the normal menu, close the front cover.
5. Select SP mode:
A258/259/260: SP5-827
B017/018: SP5-827-001
6. To start downloading:
A258/B018: Input = "1", then press the Enter key
A259/A260/B017: Press "OK"
7. Wait until end of processing is indicated on the screen (approximately 3 minutes, depending on the size of the software).
8. When an end of processing message appears, turn the main power switch off and remove the Flash ROM card.
9. Replace all covers and turn on the main power switch.
10. Check the version of the software using SP7-801-001.

NOTE: If the download fails and the LCD does not display an "OK" message, turn the main power switch off again, remove and insert the Flash ROM card, then re-execute the download procedure. If it fails again, reprogram the Flash ROM card and re-execute the download procedure.

6.11.3 NV-RAM UPLOADING AND DOWNLOADING

With SP mode, copier settings can be uploaded to the Flash ROMs on the main control board from the NV-RAM, or downloaded from the Flash ROMs to the NV-RAM. When uploading or downloading the copier setting, the Flash ROM card that contains the main program needs to be set in the main control board slot.

SP5-824: Upload

Executing an upload saves the copier settings (including the main counter value and serial number) onto flash ROMs on the main control board.

SP5-825: Download

Executing a download loads copier settings (excluding the main counter value and serial number) from flash ROMs into the NV-RAM inside the copier.

Upload/Download Procedure

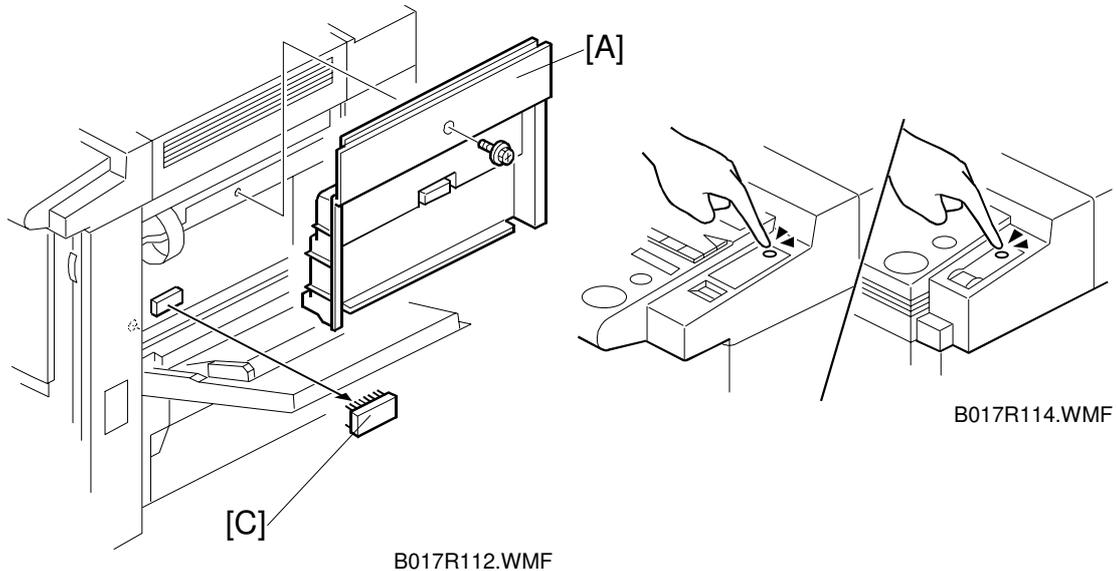
1. Print out the copier settings that have been modified from their defaults, using SP7-902.
2. Turn the main power switch off and insert the Flash ROM card into the main control board (see Main Program Downloading).
3. Turn the main power switch on and start one of the following SP modes.
 - Upload: SP5-824
 - Download: SP5-825
4. To start uploading or downloading:
A258/B018: Input "1".
A259/A260/B017: Press "OK".
5. Wait until end of processing is indicated on the screen (approximately 1 to 3 minutes, depending on the size of the software).
6. When an end of processing message appears, turn the main power switch off and remove the Flash ROM card.
7. Replace all covers and turn on the main power switch.
8. Using the settings list printed in step 1 using SP7-902, input the values that were different from the factory settings (after downloading).

6.11.4 RAM CLEAR

RAM Clear Procedure

NOTE: Clearing the RAM resets all SP and UP values to the defaults, except the serial number and main counter value. Therefore, it is important to clear the RAM using the procedure shown below.

1. Before clearing the RAM, execute SP7-902 to output the SP mode values that have been changed from their default values.
2. Upload the settings from the NV-RAM onto a Flash ROM card using SP5-824 (see "NV-RAM uploading and downloading").
3. Use SP5-801 to clear the RAM.
4. Run the forced process control self-check (this is required since RAM clearing also initializes the process control data).
5. Enter the SP mode changes that were printed in step 1, or download the NV-RAM values from the Flash ROM card (see the download procedure).
6. Perform the auto color calibration (ACC) procedure.
7. If the color balance after the ACC is not satisfactory for the customer, adjust the ACC target using SP4-502 (for copier mode) and SP4-503 (for printer mode), and/or adjust the KCMY color balance.
8. **A259/A260/B017:** Calibrate the touch panel.

Precautions when replacing the NV-RAM

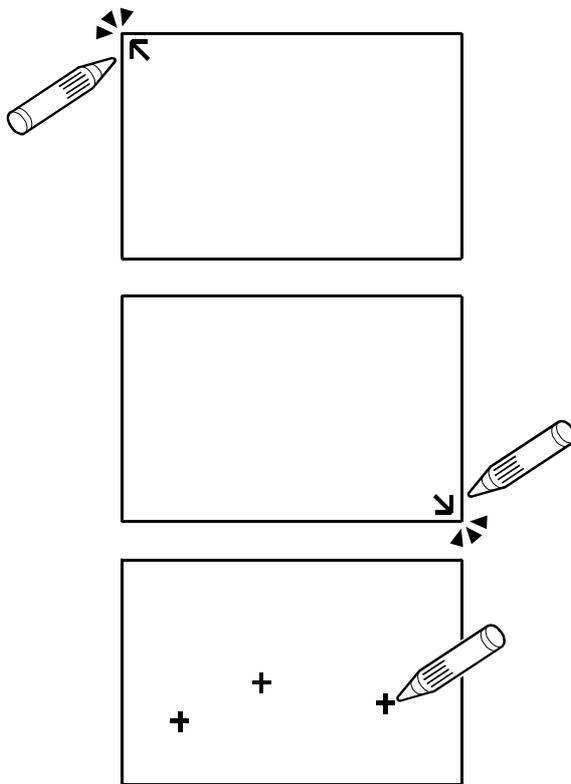
The NV-RAM stores the counter value and the copier settings.

The procedure for replacing the NV-RAM on the main control board is given below.

Make sure you have the factory settings that come with the copier before beginning the following procedure:

1. Print the SP mode values that have been modified from their default values, using SP7-902.
2. Turn the main power switch off and unplug the power cord.
3. Remove the right upper cover [A] (1 or 2 screws).
4. Replace the NV-RAM [B] at IC106 (**for A258/B018**) or IC104 (**for A259/A260/B017**) on the main control board.
5. Assemble the machine in the reverse order of disassembly.
6. Turn on the main power and enter the machine's device number in the factory set mode (consult your executive for details).
7. Execute SP5-801 (RAM Clear).
8. Enter the SP mode changes you printed in step 1.
9. Perform the auto color calibration (ACC) procedure.
10. If the color balance after the ACC is not satisfactory for the customer, adjust the ACC target using SP4-501 (for copier mode) and SP4-502 (for printer mode), and/or do the KCMY color balance adjustment.
11. **A259/A260/B017**: Calibrate the touch panel.

6.11.5 TOUCH PANEL CALIBRATION (A259/A260/B017 ONLY)



B017R600.WMF

It is necessary to calibrate the touch panel in the following cases:

- After the operation panel is replaced.
- The touch panel coordinates are illegible or misaligned.
- After the NVRAM is cleared.

1. Press the  key, then press and hold the  key (for 3 seconds or longer). The calibration screen will appear.
2. Gently touch the screen with the tip of a pen in the sequence indicated by the arrow, which appears on the screen (from upper left to lower right).
3. Touch any location with the touch pen to verify the current coordinates.
4. Terminate the calibration with the  key if the coordinates of the "+" mark almost match the point you touched. If the coordinates disagree, rerun the calibration with the  key.

NOTE: Do not use a sharp-tipped pen in this procedure. The touch panel might be damaged.

7. TROUBLESHOOTING

7.1 SERVICE CALL CONDITIONS

7.1.1 SUMMARY

Type	Display Method	How to Reset
A	Fusing unit SCs displayed on the operation panel. The machine is disabled. The user cannot reset the SC.	Turn the main switch off then on before entering SP mode. Reset the SC (set SP5-810 to 1), then turn the main switch off then on again.
B	SCs that disable only the features that use the defective item. Although these SCs are not shown to the user under normal conditions, they are displayed on the operation panel only when the defective feature is selected.	Turn power off/on.
C	SCs that are not shown on the operation panel. They are internally logged.	Logging only
D	Turning the operation switch or main power switch off then on resets the SC. Displayed on the operation panel. Re-displayed if they occurred after the main power switch is turned on again.	Turn the operation switch or main power switch off and on.

All SCs are logged.

7.1.2 SC CODE DESCRIPTIONS

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
101	<p>D</p> <p>Exposure lamp failure</p> <ul style="list-style-type: none"> • The lamp output check signal (LAMPDET) is still HIGH 250 ms after the lamp turns on (the ON check is canceled if the lamp goes off within 250 ms). • The lamp output check signal is still LOW 30ms after the lamp turns off (the OFF check is canceled if the lamp turns on within 30 ms). 	<ol style="list-style-type: none"> 1. Visually check the lamp element or check the continuity between both ends of the lamp terminals with a multi-meter. 2. Check continuity at the ends of the thermostat terminals with a multi-meter. 3. Check if the connectors (CN1, CN2, and CN3) on the lamp regulator are properly connected. 4. Check the continuity of the 3 cables. 5. Replace the lamp regulator if 100Vac is present at the CN3-1 and 3 on the lamp regulator. 6. Replace the scanner IPU board 7. Check fuse (FU103) on PSU and replace if necessary. 8. Replace PSU <p>- Signals to Check -</p> <ul style="list-style-type: none"> • LAMPDET: CN502-2 on lamp regulator / CN403-12 on scanner IPU board • LAMPTRIG: CN403-11 on scanner IPU board / CN502-3 on lamp regulator
120	<p>D</p> <p>Scanner HP sensor does not turn on</p> <p>The scanner H.P. sensor does not turn on when the scanner moves back to the home position or at the home position check.</p> <p>The sensor output at CN406-7 [A258/A259/A260] / CN406-6 [B017/B018] stays HIGH (5V).</p>	<ol style="list-style-type: none"> 1. In SP 5-804-104, stop supplying the current to the scanner motor. Check the output signal from the scanner H.P. sensor in SP 5-803-100 by moving the scanner manually. (0: Not actuated; 1: Actuated - at H.P.) 2. If the result of step 1 is OK; <ol style="list-style-type: none"> 1) Check the tension of the timing belt. 2) Check if the pulley is firmly secured. 3) Check if the scanner wire is properly wired 4) Check the connection of CN710, and CN731 on the scanner motor drive board. 5) Check continuity of cables. 6) Replace the scanner motor drive board. 7) Replace the scanner motor. 3. If the result of step 1 is not OK; <ol style="list-style-type: none"> 1) Check if the cable is properly connected. 2) Check the continuity of cable. 3) Replace the sensor. 4) Replace the scanner IPU board. 5) Replace the main control board. <p>- Signals to Check -</p> <p>Scanner HP: CN406-7 [A258/A259/A260] / CN406-6 [B017/B018] on scanner IPU board</p>



No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
121	D Scanner HP sensor does not turn off The sensor does not turn off when the scanner moves from the home position. The sensor output at CN406-7 [A258 /A259/A260] / CN406-6 [B017/B018] stays LOW (0V).	1. Same as SC120
130	D Scanner start error - Timing - <ul style="list-style-type: none"> • Scanning start • While the scanner motor is running - Condition - <ul style="list-style-type: none"> • Total number of steps calculated based on the signal from the stepper motor is out of range. • The H.P. sensor is off when the scanner starts moving. • A 'scan start' command was issued while the motor was active. 	Same as SC120 or 1. Sequence error Replace the sub and/or main scanner IPU board(s) .
150	D Scanner ROM mismatch - Timing - After software installation or just after the main switch is turned on - Condition - 1) The scanner IPU board detects that the software installed is not the correct one	1. An invalid IC card used (such as a card for a different model). Try again with the correct IC card. 2. Replace the scanner IPU board
170	D Video processing error 1 - Timing - Just after the main switch is turned on (after auto gain control on the scanner IPU board) - Condition - The corrected CCD odd/even pixel black level difference is not in the proper range.	1. Check if the flat cable is firmly connected at CN421 (CN1) and CN404 on the SBU and scanner IPU board . 2. Check the continuity of the flat cable . 3. Replace the scanner IPU board . 4. Replace the SBU unit .
171	D Video processing error 2 - Timing - Same as SC170 - Condition - The corrected black level is not in the proper range.	Same as SC170

Trouble-shooting

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
172	<p>D</p> <p>Video processing error 3</p> <p>- Timing - Same as SC170</p> <p>- Condition - The corrected white level is not in the proper range.</p>	<ol style="list-style-type: none"> 1. Check SP 4-426-001 to 006 (RGB Gain). If their values are near "255", clean the optics section (exposure glass, white plate, mirrors, and lens). 2. Visually check if the exposure lamp turns on during warming-up after the main switch is turned on. If not, replace the lamp regulator. 3. Check if the CCD flat cable is firmly connected at CN421 (CN1) and CN404 on the SBU and scanner IPU board. 4. Check the continuity of the flat cable. 5. Replace the scanner IPU board. 6. Replace the SBU unit.
191	<p>D</p> <p>Bar code scan error</p> <p>- Timing - Just after the main switch is turned on</p> <p>- Condition - The scanner IPU board detects that the bar code pattern scanned in is not appropriate.</p>	<ol style="list-style-type: none"> 1. Check if the bar code is damaged or scratched. 2. Clean the optics section components, such as mirrors and lenses, and the bar code label. 3. Check if the mirrors are properly positioned on the 1st and 2nd scanners. If the spring plate which secures the mirrors is out of position, it causes the light axis to be changed. 4. Replace the scanner IPU board. 5. Replace the main control board.
192	<p>D</p> <p>Bar code number mismatch</p> <p>- Timing - Just after the main switch is turned on</p> <p>- Condition - The main control board detects that the bar code data scanned in does not match the machine identification number stored in the RAM.</p>	<ol style="list-style-type: none"> 1. Check if the serial number stored in the RAM is correct. NOTE: Contact your product specialist for the detailed procedure. 2. Check the copier's serial number and the number defined in SP mode. 3. Garbled ROM data: Replace the NV-RAM. 4. Replace the scanner IPU board. 5. Replace the main control board.
193	<p>D</p> <p>IDU error</p> <p>- Timing - Just after the main switch is turned on or during a hardware reset</p> <p>- Condition - The IDU starts self-diagnosis at power-on and a hardware error was detected during this.</p>	<ol style="list-style-type: none"> 1. Test the scanner IPU board (SP 4-904-001 and 002). If not OK, replace the scanner IPU board. 2. Replace the IDU board.



No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
195	D Serial number error - Timing - Just after the main switch is turned on - Condition - The serial number entered or stored in RAM is not correct.	1. Check and re-enter the serial number properly. NOTE: Contact your product specialist for the detailed procedure. 2. Garbled ROM data: Replace the NV-RAM .
301	D Charge current leak - Timing - When the charge corona unit is on during printing or process control. - Condition - The feedback voltage is 4.8V or higher, or the PMW value is 60% or higher for 500 ms continuously.	1. Reinstall the charge corona unit properly or replace the charge corona unit. 2. Reconnect the connectors on the high voltage supply board (C, G), I/O control board, and main control board , or check the cables. 3. Check and clean the charge corona unit receptacle . 4. Replace the high voltage supply board (C, G) . 5. Replace the I/O control board . 6. Replace the main control board . - Signals to Check - [A258/A259/260] <ul style="list-style-type: none"> • Feedback signal: CN201-1 on I/O control board or CN302-A3 on main control board • PWM: CN201-B3 on I/O control board. [B017/B018] <ul style="list-style-type: none"> • Feedback signal: CN201-B1 on I/O control board or CN302-A3 on main control board • PWM: CN201-B3 on I/O control board.
302	D Charge corona grid voltage error - Timing - When the charge corona unit grid is on during printing or process control - Condition - The feedback voltage is 4.8V or higher, or the PMW value is 60% or higher for 500 ms continuously.	Same as SC301 - Signals to Check – [A258/A259/A260] <ul style="list-style-type: none"> • Feedback signal: CN201-3 on I/O control board or CN302-A4 on main control board • PWM: CN201-4 on I/O control board [B017/B018] <ul style="list-style-type: none"> • Feedback signal: CN201-B3 on I/O control board or CN302-A4 on main control board • PWM: CN201-B4 on I/O control board

Trouble-shooting

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
303	D Charge cleaner motor error - Timing - When the charge cleaner starts - Condition - <ul style="list-style-type: none"> • Over-current is detected for 10 seconds when the cleaner pads start moving from rear to front. • Over-current is still not detected 1 minute after the cleaner motor turns on. 	<ol style="list-style-type: none"> 1. Check if the connectors (CN818, CN820 & CN828) are firmly connected. 2. Check if the charge corona unit is properly set. 3. Clean the screw shaft if it is dirty. 4. Check if the cleaner pad is mechanically locked. 5. Check if the connector is firmly connected on the I/O control board (CN202). 6. Replace the I/O control board. 7. Replace the main control board.
320	D Polygon motor error - Condition - <ul style="list-style-type: none"> • The LD main control board does not receive the PMLOCK signal within a predetermined period of time. 	<ol style="list-style-type: none"> 8. Check that the connector (CN602-4) on the LD control board is properly connected. 9. Check the continuity of cable. 10. Replace the polygon motor. 11. Replace the LD main control board. 12. Replace the scanner IPU board.
322	D Laser synchronizing signal error - Timing & Condition - While the polygon motor is running and the laser diode is on, the LD main control board does not receive the laser synchronizing signal.	<ol style="list-style-type: none"> 1. Check if the connectors (CN 604 [A258/A259/ A260] / CN601 [B017/B018]) are properly connected on the laser synchronizing detector board and LD main control board 2. Remove and clean the synchronizing detector board. 3. Check if anything such as the seal of the barrel toroidal lens in the optic housing unit interferes with the laser beam axis. 4. Replace the synchronizing detector board. 5. Check if the cable connectors (CN1 & CN605 [A258/ A259 /A260] / CN601 [B017/B018]) on the LD drive board and LD main control board are properly connected or check the continuity of the cable. 6. Check if the cable connectors (CN601 [A258/ A259 /A260] / CN605 [B017/B018] & CN306) on the LD main control board and main control board are properly connected or check the continuity of the cable. 7. Replace the LD main control board. 8. Replace the main control board 9. Check the optical housing unit or replace it.

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
323	D LD error - Timing - During LD writing - Condition - The LD main control board detects over-current or no feedback signal from the LD drive board.	1. Check if the connectors (CN1 & CN605 [A258/A259/A260] / CN601 [B017/B018]) on the LD drive board and LD main control board are properly connected. 2. Check the continuity of the cable . 3. Check that the cable connectors (CN601 [A258/A259/A260] / CN605 [B017/B018] & CN306) on the LD control board and main control board are properly connected. 4. Replace the LD drive board . 5. Replace the LD main control board . 6. Replace the main control board .
325	C Magnification correction error - Condition - The length of a line measured during main scan auto magnification correction does not fall within -0.1% to 0.1% of the center value. -Timing - When three main scan magnification corrections failed successively.	This SC is only logged, and not displayed, so no particular action is required (no adverse influence is exerted on copier operation). Take the following actions if the customer complains about excessive magnification errors. 1. Dirty synchronizing detector board : Clean it 2. Incorrect synchronizing detector board installation: Reinstall 3. Defective polygon mirror motor : Replace.



No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
326	D FGATE1 error - Timing & Condition - The main control board does not receive the FGATE signal from the LD control board during 3 revolutions of the transfer belt.	<ol style="list-style-type: none"> 1. Clean the belt mark located on the backside of the transfer belt or replace the belt if the belt mark is dirty or peeled off. 2. Clean the transfer belt home position sensor if it is dirty. 3. Clean the bias terminals of the development units if they are dirty. 4. Check if the cable connectors (CN606 & CN408) on the LD main control board and scanner IPU board are properly connected. 5. Check if the cable connectors (CN601 [A258/A259/A260] / CN605 [B017/B018] & CN306) on the LD main control board and main control board are properly connected. 6. Replace the LD main control board. 7. Replace the main control board. <p>- Signals to Check - [A258/A259/A260]</p> <ul style="list-style-type: none"> • FGATE: CN601-A2 on LD main control board / CN306-A9 on main control board • Belt mark: CN218-B11 or CN233-A6 on I/O control board / CN303-B1 or CN306-B2 on main control board / CN601-B9 on LD main control board <p>[B017/B018]</p> <ul style="list-style-type: none"> • FGATE: CN605-A2 on LD main control board / CN306-A9 on main control board • Belt mark: CN211-B11 or CN225-A6 on I/O control board / CN303-B1 or CN306-B2 on main control board / CN605-B9 on LD main control board <p>If the machine is equipped with the controller,</p> <ol style="list-style-type: none"> 1. Check if the connectors (CN609) on the LD control board and controller I/F board are properly set. 2. Check if the controller I/F board is properly connected. 3. Replace the interface board.
327	D FGATE2 error - Timing & Condition - When two pages will be written on the transfer belt at the same time, the main control board does not receive the 2nd FGATE signal from the LD main control board during 3 revolutions of the transfer belt.	Same as SC326

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
360	<p>D</p> <p>Development bias error</p> <p>- Timing - When the development DC bias is on during printing or process control.</p> <p>- Condition - The feedback voltage is 4.8V or higher, or the PWM value becomes 80% or higher for 500 ms continuously.</p>	<ol style="list-style-type: none"> 1. Clean the development roller shaft (terminal). 2. Clean the bias terminal if it is dirty. 3. Poor connection: Correct the leaf spring shape. 4. Replace the bias terminal if it does not move smoothly. 5. Check the connectors of high voltage supply cable and trigger lines are properly connected on the high voltage supply board (B), I/O control board, and main control board. 6. Replace the high voltage supply board (B) 7. Replace the I/O control board. 8. Replace the main control board. <p>- Signals to Check - [A258/A259/A260]</p> <ul style="list-style-type: none"> • Feedback signal: CN203-A12 or CN214-A5 on I/O control board / CN302-A5 on main control board • PWM: CN203-A13 on I/O control board <p>[B017/B018]</p> <ul style="list-style-type: none"> • Feedback signal: CN202-A12 or CN210-A5 on I/O control board / CN302-A5 on main control board • PWM: CN202-A13 on I/O control board
361	<p>D</p> <p>Revolver HP sensor error</p> <p>- Timing & Condition - The home position is not detected during 3 revolutions of the revolver unit after the revolver motor turns on.</p>	<ol style="list-style-type: none"> 1. Check if the sensor connector is properly connected. 2. Replace the revolver H.P. sensor if the voltage at CN203-A4 [A258/A259/A260] / CN202-A4 [B017/B018] on the I/O control board does not change when covering the sensor with a piece of paper. NOTE: Make sure that the revolver unit is locked for this step. 3. If the revolver unit does not rotate; <ol style="list-style-type: none"> 1) Replace the revolver motor. 2) Replace the revolver motor drive board. 3) Replace the I/O control board. 4) Replace the main control board. <p>- Signals to Check - [A258/A259/A260]</p> <p>Revolver H.P.: CN203-A4 on I/O control board</p> <p>[B017/B018]</p> <p>Revolver H.P.: CN202-A4 on I/O control board</p>

Trouble-shooting

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
385	<p>D</p> <p>ID sensor VSG adjustment error</p> <p>- Timing - During process control self check, the main control board detects that the Vsg signal fed back from the ID sensor is out of range.</p>	<ol style="list-style-type: none"> 1. Clean the ID sensor. 2. Check if the sensor connector is properly connected. 3. Replace the ID sensor. 4. Check the drum cleaning unit. <p>- Signals to Check - [A258/A259/A260]</p> <ul style="list-style-type: none"> • ID sensor LED: CN203-B9 on I/O control board • ID sensor 1 (K): CN203-B10 on I/O control board / CN302-B6 on main control board. • ID sensor 2 (CMY): CN203-B11 on I/O control board / CN302-B5 on main control board. <p>[B017/B018]</p> <ul style="list-style-type: none"> • ID sensor LED: CN202-B9 on I/O control board • ID sensor 1 (K): CN202-B10 on I/O control board / CN302-B6 on main control board. • ID sensor 2 (CMY): CN202-B11 on I/O control board / CN302-B5 on main control board.
386	<p>C</p> <p>Amount of toner on sensor pattern too low during ID pattern measurement</p> <p>The amount of toner obtained during YCM ID pattern measurement was less than (target value for the amount of toner) minus (threshold value for detecting insufficient toner density) 5 consecutive times, even though there was no toner end condition</p> <p>- If ID sensor error (SC385) is detected before this SC, no detection is attempted unless Vsg is adjusted and the ID sensor error condition is reset.</p> <p>- This SC does not apply to black toner since the toner end sensor is not used for Bk.</p>	<p>This SC is only logged in the memory (not displayed), so no particular action is required (no adverse influence is exerted on copier operation).</p> <ol style="list-style-type: none"> 1. Defective toner end sensor: SP5-803-010 (Input check: toner end sensor), replace if necessary. 2. Dirty toner end sensor window: Clean. 3. Toner supply seal peeled off: Remove the cartridge and check the seal in the hopper.
387	<p>C</p> <p>Drum potential error</p> <p>- Timing - During initial process control check or interval (number of copies) process control self check</p> <p>- Condition - While the revolver unit returns to the home position, the following condition is detected. $V_D < V_G - 200V$ $V_D > V_G + 200V$</p>	<ol style="list-style-type: none"> 1. Clean the charge corona unit or replace the charge corona wire and grid plate. 2. Reinstall the drum. 3. Replace the drum if necessary. 4. Replace the potential sensor.

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
400	<p>D</p> <p>Image transfer belt bias error</p> <p>- Timing - When the image transfer belt bias is on during printing or a process control self check</p> <p>- Condition - The feedback voltage is 4.8V or higher, or the PWM value is 60% or higher (indicating a leak) for 500 ms continuously.</p>	<ol style="list-style-type: none"> 1. Check if the connectors of high voltage cables and trigger lines are properly connected on the high voltage supply board, I/O control board, and main control board. 2. Clean the bias terminals. 3. Replace the high voltage supply board (T1, PCC). 4. Replace the I/O control board. 5. Replace the main control board. <p>- Signals to Check - [A258/A259/A260]</p> <ul style="list-style-type: none"> • Feedback signal: CN277-B3 or CN214-A4 on I/O control board / CN302-A6 on main control board. • PWM: CN227-B4 on I/O control board. <p>[B017/B018]</p> <ul style="list-style-type: none"> • Feedback signal: CN221-B3 or CN210-B4 on I/O control board / CN302-A6 on main control board. • PWM: CN221-B4 on I/O control board.
410	<p>D</p> <p>Paper separation current leak</p> <p>- Condition - When the current leak is detected for 2 seconds while the paper separation corona is ON.</p>	<ol style="list-style-type: none"> 1. Check to see if the separation corona unit is set properly. 2. Replace the corona wire if it is broken. 3. Check to see if the connectors are properly connected. 4. Clean the receptacle. 5. Replace the high voltage supply board (T2, D). 6. Replace the I/O control board. 7. Replace the main control board. <p>- Signal to Check - [A258/A259/A260]</p> <p>Leak Detection: CN227-A1 on I/O control Board</p> <p>[B017/B018]</p> <p>Leak Detection: CN221-A1 on I/O control Board</p>



Trouble-shooting

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
422	<p>D</p> <p>PCC leak</p> <p>- Timing & Condition - When the current leak is detected for 2 seconds, leak detection starts 1 second after the PCC turns on. The leak signal is monitored twice at 1-second intervals. When the leak condition is detected twice continuously, this SC is displayed.</p>	<ol style="list-style-type: none"> 1. Check if the PCC unit is properly installed. 2. Replace the corona wire if it is broken. 3. Check if the connectors on the terminal and high voltage supply board (T1, PCC) are properly connected and if the cables are damaged. 4. Clean the receptacle. 5. Replace the high voltage supply board (T1, PCC). 6. Replace the I/O control board. 7. Replace the main control board. <p>- Signals to Check - [A258/A259/A260] Leak Detection: CN227-B1 on I/O control Board</p> <p>[B017/B018] Leak Detection: CN221-B1 on I/O control Board.</p>
440	<p>D</p> <p>Drum motor error</p> <p>- Timing & Condition -</p> <ul style="list-style-type: none"> • The feedback signal from the motor is still out of range 1 second after the trigger signal is sent. • The feedback signal becomes out of range for 2 seconds while the trigger signal is on. 	<ol style="list-style-type: none"> 1. Check if the cleaning blade locks the drum. If it is, replace the cleaning blade. 2. Check if the connector (CN223 [A258/A259/A260] / CN225 [B017/B018]) on the I/O control board is properly connected. 3. Check if the drum motor works properly using SP 5-804-001 to 004. If not, replace the drum motor. 4. Replace the I/O control board. 5. Replace the main control board. <p>- Signals to Check - [A258/A259/A260] Motor OK: CN223-B5 on the I/O control board</p> <p>[A258/A259/A260] Motor OK: CN225-B5 on the I/O control board</p>

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
450	<p>D</p> <p>Paper transfer bias current error</p> <p>- Timing - When the paper transfer bias is on during printing</p> <p>- Condition - The feedback voltage is 4.8V or higher (indicating a leak), or PWM value is 60% or higher for 500 ms continuously.</p>	<ol style="list-style-type: none"> 1. Check if the connectors of high voltage cables and trigger lines are properly connected on the high voltage supply board (T2, D), I/O control board, and main control board. 2. Replace the high voltage supply board (T2, D). 3. Replace the I/O control board. 4. Replace the main control board. <p>- Signals to Check - [A258/A259/A260]</p> <ul style="list-style-type: none"> • Feedback signal: CN227-A3 or CN214-A3 on I/O control board / CN302-A7 on the main control board • PWM: CN227-A4 on I/O control board <p>[B017/B018]</p> <ul style="list-style-type: none"> • Feedback signal: CN221-A3 or CN210-B3 on I/O control board / CN302-A7 on the main control board • PWM: CN221-A4 on I/O control board
452	<p>D</p> <p>Transfer belt mark detection error</p> <p>- Timing & Condition- The main control board does not receive the belt mark detection signal from the transfer belt home position sensor for a certain period.</p>	<ol style="list-style-type: none"> 1. Check if the transfer belt release lever is properly set. 2. Clean the belt mark if it is dirty. 3. Replace the transfer belt if a belt mark has peeled off or is damaged. 4. Clean the transfer belt home position sensor if it is dirty. 5. Replace the transfer belt home position sensor. 6. Replace the I/O control board. 7. Replace the main control board. <p>- Signals to Check - [A258/A259/A260]</p> <p>Sensor: CN223-A6 or CN218-B11 on I/O control board / CN303-B1 on the main control board.</p> <p>[B017/B018]</p> <p>Sensor: CN225-A6 or CN211-B11 on I/O control board / CN303-B1 on the main control board.</p>

Trouble-shooting

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
456	D Paper transfer unit position error - Timing & Condition <ul style="list-style-type: none"> • The paper transfer home position sensor does not detect the paper transfer unit moving into the contact position or the release position at the correct time. 	1. Replace the paper transfer H.P. sensor . (Input Check: SP 5-803-11) 2. Replace the paper transfer positioning clutch . (Output Check: SP 5-804-23) 3. Replace the I/O control board . - Signals to Check - <i>[A258/A259/A260]</i> H.P.: CN229-5 on I/O control board <i>[B017/B018]</i> H.P.: CN221-B10 on I/O control board
457	D Image transfer belt cleaning unit position error - Timing & Condition <ul style="list-style-type: none"> • The belt cleaning home position sensor does not detect the transfer belt cleaning unit moving into the contact position or the release position at the correct time. 	1. Pull out and re-insert the image transfer belt unit . 2. Clean the belt cleaning H.P. sensor if it is dirty. 3. Replace the sensor. (Input Check: 5-803-12) 4. Replace the belt cleaning clutch . (Output Check: SP 5-804-36) 5. Replace the I/O control board . 6. Replace the main control board . - Signals to Check - <i>[A258/A259/A260]</i> H.P.: CN202-2 or TP254 on I/O control board <i>[B017/B018]</i> H.P.: CN201-B12 or TP254 on I/O control board
495	C Temperature sensor error - Timing & Condition - The temperature sensor output is out of range (2.75V or greater or less than 0.25V).	<i>[A258/A259/A260]</i> 1. Check that the connectors (CN236, 214 & CN302) are properly connected on the I/O control board and main control board . <i>[B017/B018]</i> 1. Check that the connectors (CN210, 218 & CN304) are properly connected on the I/O control board and main control board . 2. Replace the humidity sensor . 3. Replace the I/O control board . 4. Replace the main control board . - Signals to Check - <i>[A258/A259/A260]</i> Temperature: CN236-6 or CN214-A9 on I/O control board / CN302-A1 on main control board <i>[B017/B18]</i> Temperature: CN218-1 or CN210-B9 on I/O control board / CN304-A1 on main control board

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
496 C	Humidity sensor error - Timing & Condition - The humidity sensor output is out of range (2.75V or greater or less than 0.25V)	<p>[A258/A259/A260]</p> <ol style="list-style-type: none"> 1. Check that the connectors (CN236, 214 & CN302) are properly connected on the I/O control board and main control board. <p>[B017/B018]</p> <ol style="list-style-type: none"> 1. Check that the connectors (CN210, 218 & CN304) are properly connected on the I/O control board and main control board. 2. Replace the humidity sensor. 3. Replace the I/O control board. 4. Replace the main control board. <p>- Signals to Check - [A258/A259/A260] Humidity: CN236-3 or CN214-A8 on I/O control board / CN302-A2 on main control board</p> <p>[B017/B018] Humidity: CN218-4 or CN210-B8 on I/O control board / CN304-A2 on main control board</p>
500 D	Fusing motor error - Timing & Condition - <ul style="list-style-type: none"> • The feedback signal from the motor is still out of range 1 second after the trigger signal is sent. • The feedback signal becomes out of range for 2 seconds while the trigger signal is on. 	<ol style="list-style-type: none"> 1. Check if the connector (CN204 [A258/A259/A260] / CN201 [B017/B018]) is properly connected on the I/O control board. 2. Replace the fusing motor. (Output check: SP 5-804-05,-06,-07,-08) 3. Replace the I/O control board. 4. Replace the main control board. 5. Check if anything causes overload for the fusing unit drive. <p>- Signals to Check - [A258/A259/A260] Motor OK: CN204-7 on I/O control board</p> <p>[B017/B018] Motor OK: CN201-7 on I/O control board</p>

Trouble-shooting

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
501	B 1st paper tray error - Timing & Condition - <ul style="list-style-type: none"> • The upper limit sensor does not turn on 1.5 s after the tray bottom plate starts to go up. 	1. Check if the spring of pick-up solenoid comes off. 2. Check if the upper limit sensor cable is properly connected. 3. Clean or replace the upper limit sensor and replace it if necessary (Input Check: SP 5-803-14 to 17). 4. Replace the tray bottom lever if it is broken. 5. Pull out the paper tray and check if the tray lift motor works properly (Output Check: SP 5-804-75 to 82). 6. Replace the I/O control board . 7. Replace the main control board . - Signals to Check - <i>[A258/A259/A260]</i> Upper limit sensor: CN226-2 on I/O control board <i>[B017/B018]</i> Upper limit sensor: CN220-2 on I/O control board
502	B 2nd paper tray error	Same as SC501
503	B 3rd paper tray error	Same as SC501
504	B 4th paper tray error	Same as SC501
510	D Paper feed motor error - Timing & Condition - <ul style="list-style-type: none"> • The feedback signal from the motor is still out of range 1 second after the trigger signal is sent. • The feedback signal becomes out of range for 2 seconds while the trigger signal is on. 	1. Check if the connector is properly connected on the I/O control board (CN224 [A258/A259/A260] / CN217 [B017/B018]) . 2. Replace the paper feed motor . (Output check: SP 5-804-08 to 09) 3. Replace the I/O control board . 4. Replace the main control board . 5. Check the feed unit drive section and if anything causes overload. - Signals to Check - <i>[A258/A259/A260]</i> Motor OK: CN224-B4 on I/O control board <i>[B017/B18]</i> Motor OK: CN217-B8 on I/O control board

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
522	B Duplex - Side fence jogger H.P. error - Timing & Condition - <ul style="list-style-type: none"> • The home position is still detected a few seconds after the side fence leaves from the home position. • The home position is not detected 12 seconds after the side fence moves back to the home position. 	1. Pull out and re-insert the duplex unit . 2. Check the connector (CN485) is properly connected on the duplex control board . 3. Check if anything causes overload to the motor. 4. Replace the side fence motor (Output Check: SP 5-804 93 and 94). 5. Replace the I/O control board .
524	B Duplex - End fence jogger H.P. error - Timing & Condition - <ul style="list-style-type: none"> • The home position is still detected a few seconds after the end fence leaves from the home position. • The home position is not detected 13 seconds after the end fence moves back to the home position. 	1. Pull out and re-insert the duplex unit . 2. Check the connector (CN486) is properly connected on the duplex control board . 3. Check if anything causes overload to the motor . 4. Replace the end fence motor (Output Check: SP 5-804 95 and 96). 5. Replace the I/O control board .
541	A Hot roller thermistor open [A258/A259/A260] Heat roller thermistor open [B017/B018] - Timing - Every 1 second when the fusing unit is installed - Condition - The hot roller thermistor [A258/A259/ A260] / heat roller thermistor [B017/ B018] output is almost close to 5V, which corresponds to 0 °C, for 6 seconds continuously.	1. Check if the fusing unit is properly set. 2. Check if the thermistor connector is properly connected. 3. Replace the thermistor if it is deformed. 4. Replace the thermistor if the measured resistance is outside the resistance range indicated in the table. [A258/A259/A260] 10°C : 166.8kΩ – 236.9kΩ 200°C: 0.5184Ω – 0.5818Ω [B017/B018] 10°C : 342.8kΩ – 514.2kΩ 220°C: 0.6171Ω – 0.7057Ω 5. Replace the I/O control board . 6. Replace the main control board . - Signals to Check - [A258/A259/A260] Thermistor: CN206-B9 or CN214-B1 on I/O control board / CN302-B9 on main control board. [B017/B018] Thermistor: CN204-B9 or CN210-B11 on I/O control board / CN304-B9 on main control board.

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
542	<p>A</p> <p>Hot roller warm-up error [A258/A259/A260] Heat roller warm-up error [B017/B018]</p> <p>- Timing & Condition - The hot roller thermistor [A258/A259/ A260] / heat roller thermistor [B017/ B018] does not output an analog value corresponding to the ready temperature within 12 minutes after the main switch is turned on.</p>	<p>[A258/A259/A260]</p> <ol style="list-style-type: none"> 1. Check if the following connectors are properly connected: <ul style="list-style-type: none"> • Hot roller fusing lamp connectors • CN303 on the main control board • CN206 and CN214 on the I/O control board • CN105 on the PSU 2. Replace the hot roller fusing if it is opened. 3. Replace the hot roller thermofuse if it is opened. <p>[B017/ B018]</p> <ol style="list-style-type: none"> 1. Check if the following connectors are properly connected: <ul style="list-style-type: none"> • Heat roller fusing lamp connectors • CN303 on the main control board • CN204 and CN211 on the I/O control board • CN105 on the PSU 2. Replace the heat roller fusing lamp if it is opened. 3. Replace the heat roller thermofuse if it is opened. 4. Check if the power supplied from the outlet fluctuates. 5. Replace the main control board, I/O control board, or PSU (check the trigger signal at each pin and replace any defective boards). <p>- Signals to Check - [A258/A259/A260] Hot roller fusing lamp trigger: CN303-B6 on main control board / CN205-A4 or CN218-B6 on I/O control board / CN106-5 on PSU.</p> <p>[B017/B018] Heat roller fusing lamp trigger: CN303-B6 on main control board / CN203-A4 or CN211-B6 on I/O control board / CN106-5 on PSU.</p>

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
543	<p>A</p> <p>Hot roller fusing lamp overheat [A258/A259/A260] Heat roller fusing lamp overheat [B017/B018]</p> <p>- Timing - Every 1 second when the fusing unit is installed</p> <p>- Condition - The hot roller thermistor [A258/A259/ A260] / heat roller thermistor [B017/ B018] output is lower than about 0.3V, which corresponds to 220 °C, for 3 seconds continuously.</p>	<p>1. Check if the fusing unit is properly installed.</p> <p>2. Check if the thermistor connector is properly connected.</p> <p>3. Replace the thermistor if it is deformed.</p> <p>4. Replace the thermistor if the measured resistance is outside the resistance range indicated in the table. [A258/A259/A260] 10°C : 166.8kΩ – 236.9kΩ 200°C: 0.5184Ω – 0.5818Ω [B017/B018] 10°C : 342.8kΩ – 514.2kΩ 220°C: 0.6171Ω – 0.7057Ω</p> <p>5. Replace the main control board, I/O control board, or PSU (check the output from the thermistor and the trigger signal at each pin).</p> <p>- Signals to Check - [A258/A259/A260]</p> <ul style="list-style-type: none"> • Thermistor: CN206-B9 or CN214-B1 on I/O control board / CN302-B9 on main control board. • Hot roller fusing trigger: CN303-B6 on main control board / CN205-A4 or CN218-B6 on I/O control board / CN106-5 on PSU. <p>[B017/B018]</p> <ul style="list-style-type: none"> • Thermistor: CN204-B9 or CN210-B11 on I/O control board / CN304-B9 on main control board. • Heat roller fusing lamp trigger: CN303-B6 on main control board / CN203-A4 or CN211-B6 on I/O control board / CN106-5 on PSU.
544	<p>A</p> <p>Hot roller fusing lamp lower limit temperature detected [A258/A259/A260] Heat roller fusing lamp lower limit temperature detected [B017/B018]</p> <p>- Timing - Every 1 second after warm-up is completed</p> <p>- Condition - The hot roller thermistor [A258/A259/ A260] / heat roller thermistor [B017/ B018] output is higher than about 3V, which corresponds to 87 °C, for 8 seconds continuously after warm-up is completed.</p>	<p>Same as SC543</p>

Trouble-shooting

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
545	<p>A</p> <p>Hot roller ready temperature abnormal [A258/A259/A260] Heat roller ready temperature abnormal [B017/B018]</p> <p>- Timing - Every 1 second after the temperature reaches the ready condition</p> <p>- Condition - The hot roller thermistor [A258/A259/ A260] / heat roller thermistor [B017/ B018] output does not reach the ready temperature within 7 minutes.</p>	<p>Same as SC543</p>
547	<p>A</p> <p>Hot roller temperature does not increase [A258/A259/A260] Heat roller temperature does not increase [B017/B018]</p> <p>- Timing - Every 1 second, 2 minutes after the main switch turned on until the hot roller temperature reaches the ready condition</p> <p>- Condition - The hot roller [A258/A259/A260] / heat roller [B017/B018] temperature does not increase by more than 3 °C for a minute during warm-up.</p>	<p>[A258/A259/A260]</p> <ol style="list-style-type: none"> 1. Check if the following connectors are properly connected; <ul style="list-style-type: none"> • Hot roller fusing lamp connectors • CN303 on the main control board • CN206 and CN214 on the I/O control board • CN105 on the PSU 2. Replace the hot roller fusing lamp if it is opened. 3. Replace the hot roller thermofuse if it is opened. 4. Replace the main control board, I/O control board, or AC drive board (check the trigger signal at each pin). <p>- Signals to Check - Hot roller fusing lamp trigger: CN303-B6 on main control board / CN205-A4 or CN218-B6 on I/O control board / CN106-5 on PSU.</p> <p>Continued on the next page</p>

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
547	Continued from the previous page	<p><i>[B017/B018]</i></p> <ol style="list-style-type: none"> 1. Check if the following connectors are properly connected; <ul style="list-style-type: none"> • Heat roller fusing lamp connectors • CN303 on the main control board • CN204 and CN211 on the I/O control board] • CN105 on the PSU 2. Replace the heat roller fusing lamp if it is opened. 3. Replace the heat roller thermofuse if it is opened. 4. Replace the main control board, I/O control board, or AC drive board (check the trigger signal at each pin). <p>- Signals to Check - Heat roller fusing lamp trigger: CN303-B6 on main control board / CN203-A4 or CN211-B6 on I/O control board / CN106-5 on PSU.</p>
551	<p>A Pressure roller thermistor open</p> <p>- Timing - Every 1 second after the fusing unit is installed</p> <p>- Condition - The pressure roller thermistor output is almost close to 5V, which corresponds to 0 °C, for 6 seconds continuously.</p>	<ol style="list-style-type: none"> 1. Check if the fusing unit is properly installed. 2. Check if the thermistor connector is properly connected. 3. Replace the thermistor if it is deformed. 4. Replace the thermistor if the measured resistance is outside the resistance range indicated in the table. <i>[A258/A259/A260]</i> 10°C : 166.8kΩ – 236.9kΩ 200°C: 0.5184Ω – 0.5818Ω <i>[B017/B018]</i> 10°C : 342.8kΩ – 514.2kΩ 220°C: 0.6171Ω – 0.7057Ω 5. Replace the I/O control board. 6. Replace the main control board. <p>- Signals to Check - <i>[A258/A259/A260]</i> Thermistor: CN206-B4 or CN214-B2 on I/O control board / CN302-B8 on main control board.</p> <p><i>[B017/B018]</i> Thermistor: CN204-B4 or CN210-B12 on I/O control board / CN302-B8 on main control board.</p>

Trouble-shooting

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
552	<p>A</p> <p>Pressure roller warm-up error</p> <p>- Timing & Condition - The pressure roller thermistor does not output an analog value corresponding to the ready temperature within 12 minutes after the main switch is turned on.</p>	<p>[A258 /A259/A260]</p> <p>1. Check if the following connectors are properly connected;</p> <ul style="list-style-type: none"> • Hot roller fusing lamp connectors • CN303 on the main control board • CN206 and CN214 on the I/O control board • CN105 on the PSU <p>[B017/B018]</p> <p>1. Check if the following connectors are properly connected;</p> <ul style="list-style-type: none"> • Heat roller fusing lamp connectors • CN303 on the main control board • CN204 and CN211 on the I/O control board • CN105 on the PSU <p>2. Replace the pressure roller fusing lamp if it is opened.</p> <p>3. Replace the pressure roller thermofuse if it is opened.</p> <p>4. Check if the power supplied from the outlet fluctuates.</p> <p>5. Replace the main control board, I/O control board, or PSU (check the trigger signal at each pin).</p> <p>- Signals to Check - [A258/A259/A260] Pressure roller fusing lamp trigger: CN303-B7 on main control board / CN218-B5, or CN205-A5 on I/O control board / CN106-4 on PSU.</p> <p>[B017/B018] Pressure roller fusing lamp trigger: CN303-B7 on main control board / CN211-B5 or CN203-A5 on I/O control board / CN106-4 on PSU.</p>

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
553	<p>A</p> <p>Pressure roller overheat</p> <p>- Timing - Every 1 second when the fusing unit is installed</p> <p>- Condition - The pressure roller thermistor output is lower than about 0.3V, which corresponds to 220 °C, for 3 seconds continuously.</p>	<ol style="list-style-type: none"> 1. Check if the fusing unit is properly installed. 2. Check if the thermistor connector is properly connected. 3. Replace the thermistor if it is deformed. 4. Replace the thermistor if the measured resistance is outside the resistance range indicated in the table. <i>[A258/A259/A260]</i> 10°C : 166.8kΩ – 236.9kΩ 200°C: 0.5184Ω – 0.5818Ω <i>[B017/B018]</i> 10°C : 342.8kΩ – 514.2kΩ 220°C: 0.6171Ω – 0.7057Ω 5. Replace the main control board, I/O control board, or PSU (check the output from the thermistor and the trigger signal at each pin). <p>- Signals to Check - <i>[A258/A259/A260]</i></p> <ul style="list-style-type: none"> • Thermistor: CN206-B4 or CN214-B2 on I/O control board / CN302-B8 on main control board. • Pressure roller fusing lamp trigger: CN303-B7 on main control board / CN218-B5, or CN205-A5 on I/O control board / CN106-4 on PSU. <p><i>[B017/B018]</i></p> <ul style="list-style-type: none"> • Thermistor: CN204-B4 or CN210-B12 on I/O control board / CN302-B8 on main control board. • Pressure roller fusing lamp trigger: CN303-B7 on main control board / CN211-B5 or CN203-A5 on I/O control board / CN106-4 on PSU.
554	<p>A</p> <p>Pressure roller low limit temperature detected</p> <p>- Timing - Every 1 second after warm-up is completed</p> <p>- Condition - The pressure roller thermistor output is higher than about 3 V, which corresponds to 87 °C, for 8 seconds continuously after warm-up is completed.</p>	<p>Same as SC553</p>

Trouble-shooting

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
555	<p>A</p> <p>Pressure roller ready temperature abnormal</p> <p>- Timing - Every 1 second after the temperature reaches the ready condition</p> <p>- Condition - The pressure roller thermistor output does not reach the ready temperature within 7 minutes continuously.</p>	<p>Same as SC553</p>
557	<p>A</p> <p>Pressure roller temperature does not increase</p> <p>- Timing - Every 1 second, 2 minutes after the main switch turned on until the roller temperature reaches the ready condition</p> <p>- Condition - The pressure roller temperature does not increase by more than 3 °C for a minute during warm-up.</p>	<p>[A258 /A259/A260]</p> <p>1. Check if the following connectors are properly connected:</p> <ul style="list-style-type: none"> • Hot roller fusing lamp connectors • CN303 on the main control board • CN206 and CN214 on the I/O control board <p>[B017/B018]</p> <p>1. Check if the following connectors are properly connected:</p> <ul style="list-style-type: none"> • Heat roller fusing lamp connectors • CN303 on the main control board • CN204 and CN211 on the I/O control board <p>2. Replace the pressure roller fusing lamp if it is opened.</p> <p>3. Replace the pressure roller thermofuse if it is opened.</p> <p>4. Replace the main control board, I/O control board, or by checking the trigger signal at each pin.</p> <p>- Signals to Check - [A258/A259/A260] Pressure roller fusing lamp trigger: CN303-B7 on main control board / CN218-B5, or CN205-A5 on I/O control board / CN106-4 on PSU.</p> <p>[B017/B018] Pressure roller fusing lamp trigger: CN303-B7 on main control board / CN211-B5 or CN203-A5 on I/O control board / CN106-4 on PSU.</p>

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
558	A Zero cross signal abnormal - Timing & Condition - Zero cross signals generated within a certain period do not reach a predetermined number.	1. Check if the following connectors are properly connected; <ul style="list-style-type: none"> • CN205 and CN218 on the I/O control board [A255/A259/A260] • CN203 and CN211 on the I/O control board [B017/B018] • CN303 on the main control board • CN106 on the PSU 2. Check the continuity of the signal lines of the above cables. 3. Replace the PSU, I/O control board, or main control board by checking the signal line at each pin. - Signals to Check - <i>[A258/A259/A260]</i> Zero cross: CN106-3 on PSU/ CN205-A6, or CN218-B8 on I/O control board / CN303-B4 on main control board <i>[B017/B018]</i> Zero cross: CN106-3 on PSU/ CN203-A6, or CN211-B8 on I/O control board / CN303-B4 or on main control board
601	D Scanner IPU communication error - Timing & Condition - After the main control board communicates successfully with the scanner IPU board once, a communication error is detected.	1. Turn the main power switch off/on. 2. Check if the connectors (CN412 and CN407) are properly connected on the main control board and scanner IPU board. 3. Replace the scanner IPU board. 4. Replace the main control board.
604	D IDU communication error - Timing & Condition - No response is received from the IDU within 200 ms after the scanner IPU board sends a command and this error is detected 3 times in total.	1. Check if the IDU board is properly connected to the scanner IPU board. 2. Replace the IDU board. 3. Replace the scanner IPU board.
620	D ADF communication error - Timing & Condition - After the main control board communicates successfully with the ARDF once, a communication error is detected.	1. Check that the cable is properly connected on the ADF main board and main control board or check if it is damaged. 2. Replace the ARDF main board. 3. Replace the main control board.

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
621	D Sorter communication error - Timing - Just after the main switch is turned on or while the sorter is running - Condition - The main control board detected a communication error with the sorter main board.	1. Check that the fibre-optic cable is properly connected on the sorter main board and main control board or check if it is damaged. 2. Replace the sorter main board . 3. Replace the main control board
625	B FPU communication error - Timing & Condition - The scanner IPU board detected a communication error with the FPU while the FPU is operating or after the FPU completes the operation.	Defective scanner IPU board 1. Check that the fiber-optic cable is properly connected on the FPU main board and main control board or check if it is damaged. 2. Replace the FPU main board . 3. Replace the scanner IPU board .
626	B Paper tray unit communication error - Timing - Just after the main switch is turned on or while the paper tray unit is running - Condition - The main control board detected a communication error with the paper tray unit.	1. Check that the cables are properly connected on the main control board, CSS/bank interface board, and paper tray unit control board or check if the cables are is damaged. 2. Replace CSS/bank interface board . 3. Replace the paper tray unit control board . 4. Replace the main control board .
630	RDS communication error - Timing & Condition - The main control board receives no response from RDS when accessing it. Even when this error is detected, the copier does not show the SC code and this SC code is not logged. (Copier functions are still working.)	1. Check that the cables are properly connected on the CSS/bank interface board and main control board or check if the cables are damaged. 2. Check and/or change the setting of the line adapter or replace it. 3. Replace the CSS/bank interface board . 4. Replace the scanner IPU board .
690	B Application selection error - Timing & Condition - When the main CPU communicates with CPUs on other PCBs, the main CPU does not receive response from the others.	1. If this SC code is displayed after the scanner IPU firmware is changed, the IC card may still be in the slot. Turn the main switch off and on after removing the IC card. . 2. Check if the connectors on the main control board, scanner IPU board, and the main board on each option are properly connected. 3. Replace the main control board, scanner IPU board, or the main board on each option .

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
720	D Sorter main motor error The main motor pulse output state remains unchanged for 300 ms at start time, or for 100 ms during operation.	Sorter main motor: Test with SP5-804-120. Replace if necessary
721	D Sorter bin motor error The bin HP sensor has not turned off 2,550 ms after the bin goes up from the home position.	<ol style="list-style-type: none"> Bin HP sensor: Check connections. Test using SP5-803-124/125 (input check: bin home/bin rotation). Replace the sensor if necessary. Overload: Check the mechanism, including the gears. Bin drive motor: Test with SP5-804-124. Replace if necessary.
722	D Sorter jogger motor error <ul style="list-style-type: none"> The jogger does not return to its home position within the specified time. The jogger does not leave home position within the specified time. 	<ol style="list-style-type: none"> Jogger HP sensor: Check the connections. Test with SP5-803-128. Replace if necessary. Jogger motor: Test with SP5-804-131. Replace if necessary.
724	D Sorter grip motor error <ul style="list-style-type: none"> The grip HP sensor does not go off within 3,200 ms during travel out of home position. The grip HP sensor does not go on within 3,200 ms during return to home position. 	<ol style="list-style-type: none"> Grip HP sensor: Check connections. Test with SP5-803-129. Replace if necessary. Grip motor: Test with SP5-804-127. Replace if necessary.
725	B Sorter stapler motor error The stapler HP sensor cannot detect the home position within the specified time (700 ms) after the stapler motor is turned on.	<ol style="list-style-type: none"> Staple jam: Check. Overload: Too many staples Stapler motor: Test with SP5-804-129. Replace if necessary.
731	D Sorter tray shift motor error The sorter self-diagnostics detect a tray shift motor error and notify the main control board. - Timing - Just after power is turned on or when the sorter is running	<ol style="list-style-type: none"> Motor overload: Check the mechanism, including the gears. Motor: Test with SP5-804-132. Replace if necessary.

No. Definition	Phenomenon	Possible Cause/ Troubleshooting Procedure
732	D Sorter bin lift motor error The sorter self-diagnostics detect a bin lift motor error and notify the main control board. - Timing - Just after power is turned on or when the sorter is running	1. Bin lift motor: Test with SP5-804-124. Replace if necessary. 2. Sorter control board: Replace
741	B Optional paper tray unit error The paper tray unit self-diagnostics detect an error and notify the main control board. - Timing - Just after power is turned on or when the paper tray unit is running. -	Paper tray unit control board: Replace.
790	B Projector lamp on error - Timing & Condition - The projector lamp does not turn on 100 ms after 5V is applied to it.	1. Check if the connector of blown projector lamp is properly connected. 2. Replace the projector lamp if it is blown. 3. Replace the projector main board
791	B Projector lamp off error - Timing & Condition - The projector lamp does not turn off 100 ms after it is turned off.	1. Replace the projector main board. 2. Replace the scanner IPU board. 3. Replace the main control board.
792	B Projector lamp overheated - Timing & Condition - The projector lamp overheats during projector operation.	1. Check if the connector of the fan is properly connected. 2. Replace the fan if it is defective. 3. Replace the thermistor if it is defective. 4. Replace projector main board.
901	D Upper total counter error <ul style="list-style-type: none"> • Feedback signal stays LOW when the main switch turns on. • Feedback signal stays LOW just before the trigger signal goes ON. • Feedback signal stays HIGH just before the trigger signal goes off. 	1. Check if the connectors are properly set. 2. Replace the total counter.
902	D Lower total counter error Same as SC901.	Same as SC901.

7.2 PROCESS CONTROL ERROR CONDITIONS

7.2.1 PROCESS CONTROL SELF-CHECK RESULTS (SP3-975-00)

Self-check results 03-975-00



Displayed Value	Item	Related SP No.	Major Cause	Remarks
1	Successful	None		
85	Toner end error	SP3-125-00	SP3-125-00 is set to "1", toner end condition or toner near-end condition.	
99	Forced termination (door opened, etc.)	None	Power is turned off during self-check. Temporary main power failure	
100	ID sensor offset error		ID sensor connector disconnected	SC385 is indicated.
110	Vsg adjustment error	3-107	Dirty ID sensor, dirty drum, foreign materials or flaws on the drum	SC385 is indicated.
120	Coating weight calculation error	None	ID sensor noise interference, defective development unit, incorrect charge control unit setup, development bias error	
130	Vmin error		ID sensor noise interference, K toner density too low	
20*	γ calculation error, invalid γ or V_k value	3-122-xx	Development unit error, mixed colors	
300	Residual potential error	3-111-00	Drum anomaly, faulty LD unit, poor grounding	
31*	Vd adjustment error	None	Drum deterioration, optical fatigue	
32*	Vpl adjustment error	None	Drum anomaly, faulty LD unit	
40*	Self-check process control γ (gamma) error (unable to calculate)			
41*	Self-check process control γ (gamma) error (out of range condition)			

1:K, 2:Y, 3:C, and 4:M are displayed for the respective colors for items identified by an asterisk in the 'Displayed value' column of the table.

7.2.2 DEVELOPER SETUP RESULTS (SP3-964-00)

Displayed Value	Item	Related SP No.	Major Cause	Remarks
1	Successful			
20*	Unable to perform calculation, invalid γ (gamma) or V_k value		Development unit error, mixed colors	
31*	V_d adjustment error		Drum deterioration, optical fatigue	
32*	V_{pl} adjustment error		Drum anomaly, faulty LD unit	
40*	Self-check process control γ (gamma) error (unable to calculate)		Same as process control self-check result.	
41*	Self-check process control γ (gamma) error (out of range condition)		Same as process control self-check result.	
50*	Toner end condition, etc.		Toner end sensor actuated, toner end condition	Toner end condition detected during developer replenishment.
51*	Toner supply error (γ (gamma) value will not go up when toner is replenished.)		Developer/toner supply mechanism error, toner supply motor cable disconnected	Re-run.
52*	PS potential calculation error		Developer error, ID sensor or potential sensor error	
99	Forced termination (door open, etc.)		Power turned off during self-check, temporary main power failure	
100	ID sensor offset error		ID sensor cable disconnected	
110	V_{sg} adjustment error		Dirty ID sensor, dirty drum, foreign materials or flaws on the drum	
120	Coating weight calculation error		ID sensor noise interference, defective development unit, incorrect charge control unit setup, development bias error	
130	V_{min} error		ID sensor noise interference, BK toner density too low	
300	Residual potential error		Drum anomaly, faulty LD unit, poor grounding	

1:K, 2:Y, 3:C, and 4:M are displayed for the respective colors for items identified by an asterisk in the 'Displayed value' column of the table.

7.2.3 SELF-CHECK PROCESS CONTROL RELATED SCs

(1) SC385: Vsg adjustment error

The LCD displays SC385 when the output from the ID sensor is outside $1.8 \pm 0.05V$ during Vsg adjustment.

Turning the power off then on resets this condition. However, SC385 is lit again after the end of each copy job even when this SC condition is reset by turning the power off then on. Toner is still supplied by using fixed supply mode, until a subsequent Vsg adjustment succeeds.

Vsg adjustment timing:

- After a process control self-check (forced, power-on time, or fixed interval).
- After developer initialization (SP2-225-1 to SP2-225-5)
- When the output differs from the Vsg value measured during the preceding Vsg adjustment by more than $\pm 0.05 V$.

(2) SC386: ID sensor pattern error

The LCD displays SC386 when the M/A is out of the target range (0.2 to 0.4 mg/cm² for C, M, and Y toners, 0.1 to 0.3 mg/cm² for K toner). For example, if an M/A less than 0.2 mg/cm² is detected five times successively for C, M, and Y toners (or 0.1 mg/cm² for K toner), the machine will display an SC386.

Turning the power off then on resets this SC. Subsequently, the toner supply is carried out in normal supply mode (fuzzy control).

There are cases in which SC385 occurs before SC386 (abnormal ID sensor) output is generated because of a faulty ID sensor.

Differences between SC385 and SC386 in their use

- SC385 is detected only when a Vsg adjustment is being performed. Consequently, it can never be detected in continuous copy mode (until self-check process controls are performed at a fixed interval or the establishment of an end of copy job condition).
- SC386 is detected during toner supply control, which is done every image production. Consequently, it is designed to be detected when abnormal toner density occurs during the development process in continuous copy mode.

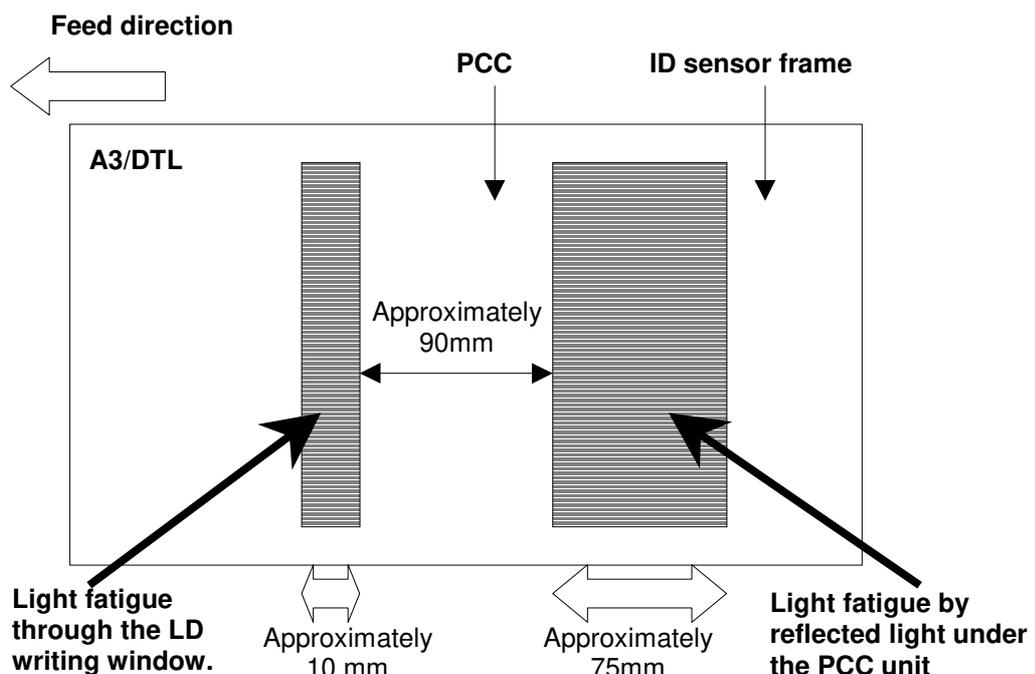
7.3 DRUM LIGHT FATIGUE

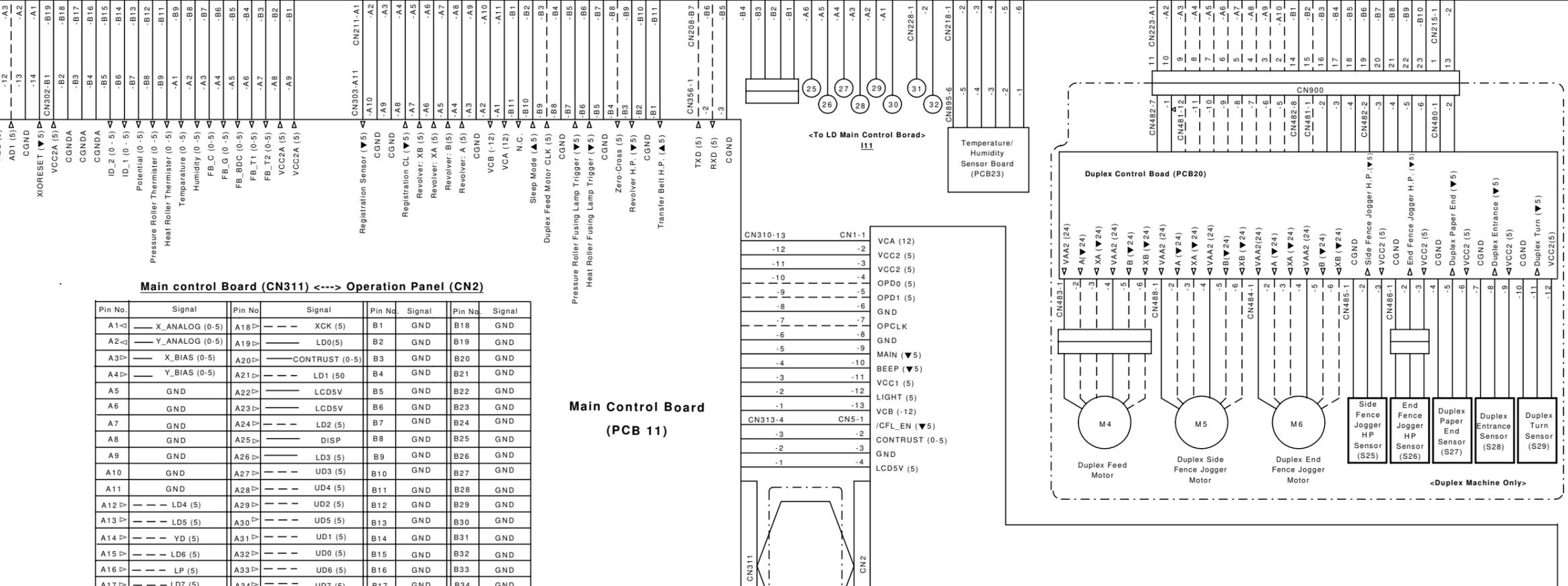
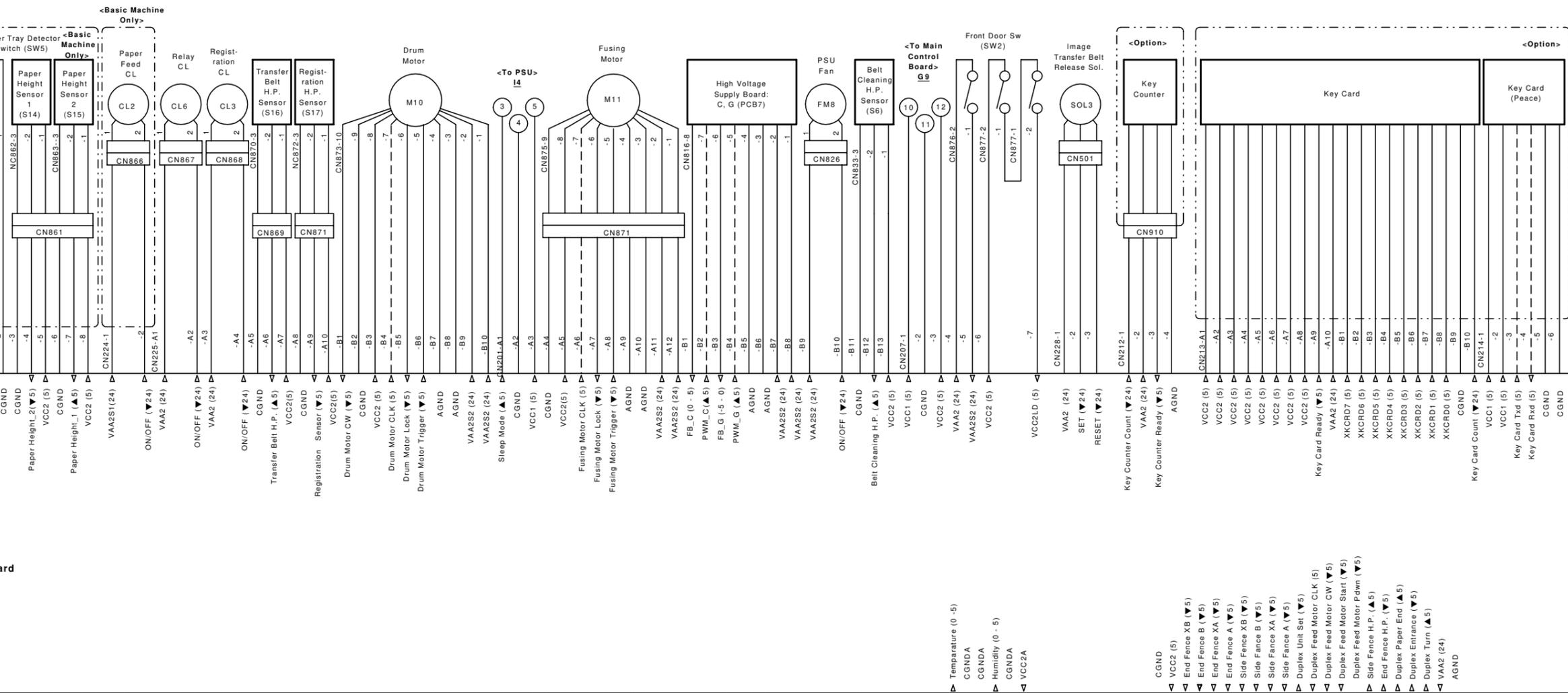
Leaving the drum exposed to direct sunlight will cause it damage. This damage creates light fatigue on the drum, an effect that will be visible on the print out. When the drawer unit is slid out, even if the drum remains in the drawer unit, it will be exposed to direct and reflected light. Light fatigue will occur if the drum is exposed for more than 2 minutes.

This section will show how to determine where light fatigue occurred on the image.

Making a print test pattern with SP mode 5-955-18 enables you to determine whether the drum has light fatigue. Follow this procedure to make a test pattern with A3 (DTL) in 1C (single color) mode using SP mode.

1. Enter SP mode 5-955.
2. Set SP 5-955-018 to 6 to select the Solid test pattern.
3. Set SP 5-955-001 to 51 to select the LD writing value, 51.
4. Press the  key to change the LD.
5. Select A3 (DTL) size and B/W mode (or another 1C mode).
6. Press the  key to make a test pattern.
7. Check whether the image has a dark uneven area.
8. If the darker area location is similar to the following figure, replace the drum.
9. After replacing the drum, set SP5-955-001 10 128 and 5-955-018 to 0.

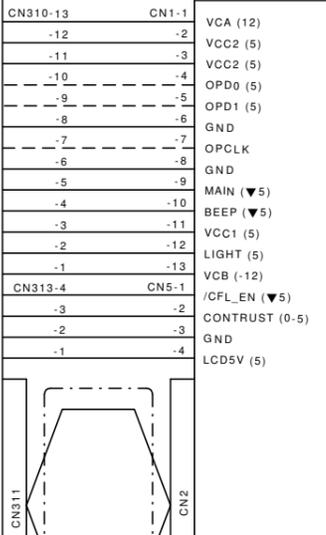




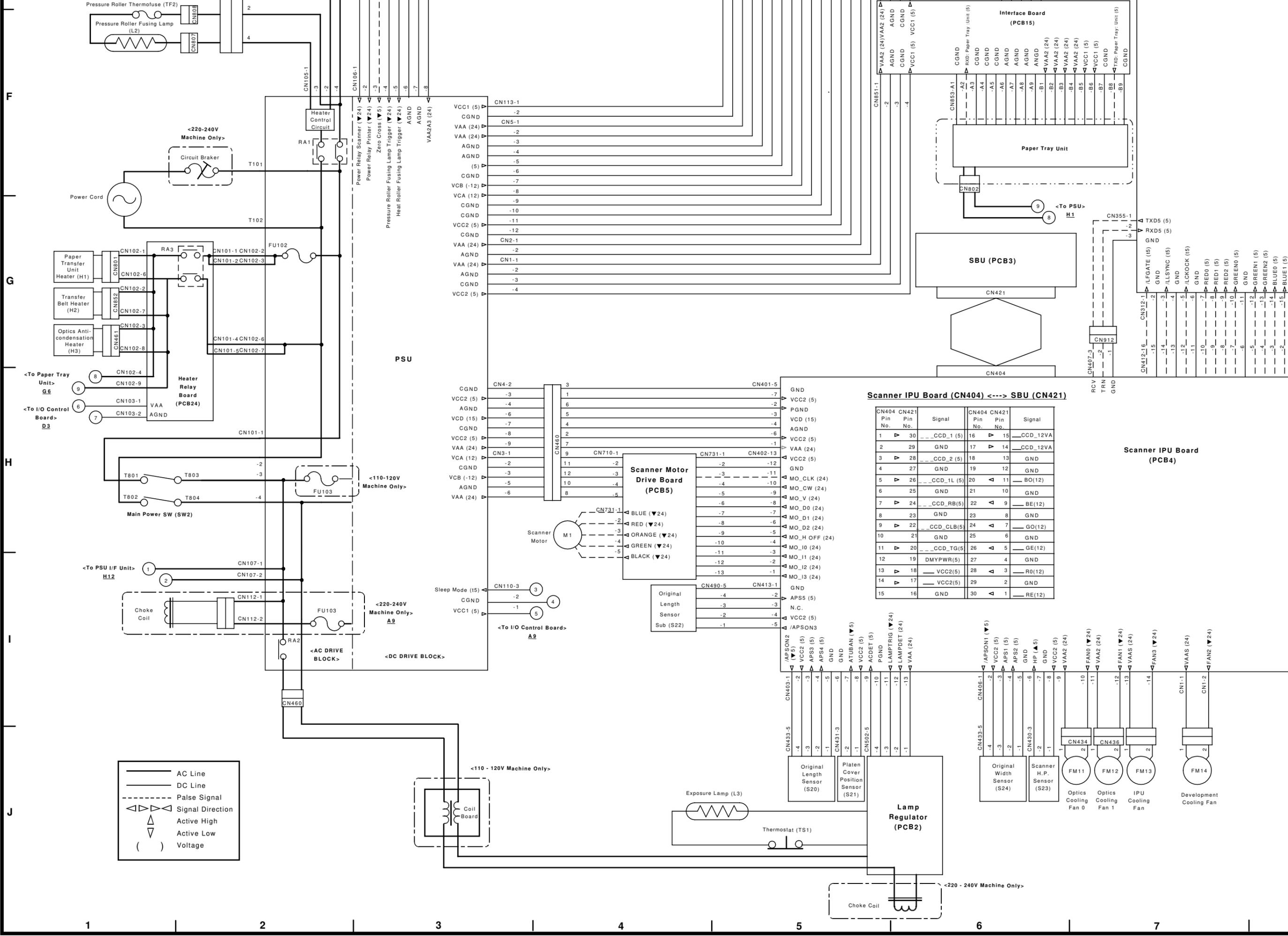
Main control Board (CN311) <----> Operation Panel (CN2)

Pin No.	Signal	Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
A1	X_ANALOG (0-5)	A18	XCK (5)	B1	GND	B18	GND
A2	Y_ANALOG (0-5)	A19	LD0(5)	B2	GND	B19	GND
A3	X_BIAS (0-5)	A20	CONTRUST (0-5)	B3	GND	B20	GND
A4	Y_BIAS (0-5)	A21	LD1 (5)	B4	GND	B21	GND
A5	GND	A22	LCD5V	B5	GND	B22	GND
A6	GND	A23	LCD5V	B6	GND	B23	GND
A7	GND	A24	LD2 (5)	B7	GND	B24	GND
A8	GND	A25	DISP	B8	GND	B25	GND
A9	GND	A26	LD3 (5)	B9	GND	B26	GND
A10	GND	A27	UD3 (5)	B10	GND	B27	GND
A11	GND	A28	UD4 (5)	B11	GND	B28	GND
A12	LD4 (5)	A29	UD2 (5)	B12	GND	B29	GND
A13	LD5 (5)	A30	UD5 (5)	B13	GND	B30	GND
A14	YD (5)	A31	UD1 (5)	B14	GND	B31	GND
A15	LD6 (5)	A32	UD0 (5)	B15	GND	B32	GND
A16	LP (5)	A33	UD6 (5)	B16	GND	B33	GND
A17	LD7 (5)	A34	UD7 (5)	B17	GND	B34	GND

Main Control Board (PCB 11)



A
B
C
D
E

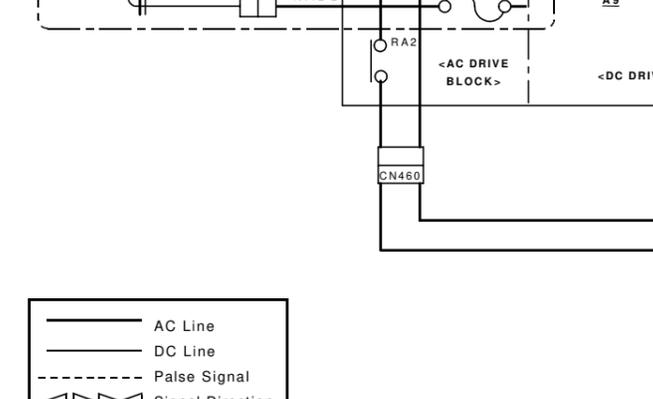
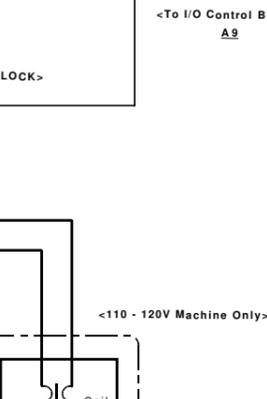
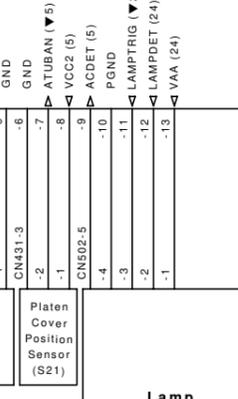
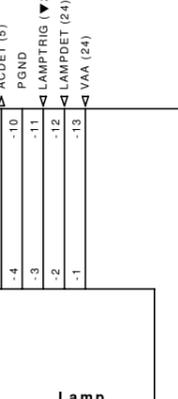
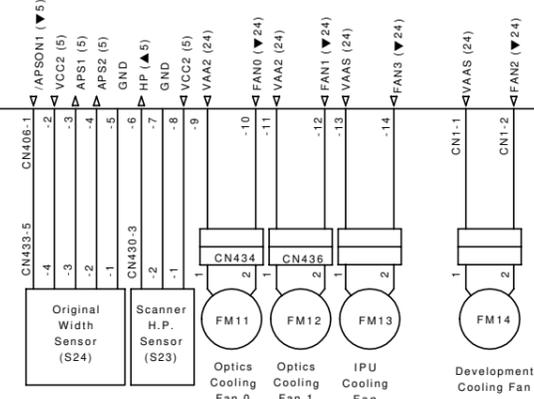


— AC Line
 — DC Line
 - - - Pulse Signal
 <--- Signal Direction
 ▲ Active High
 ▼ Active Low
 () Voltage

Scanner IPU Board (CN404) <---> SBU (CN421)

CN404 Pin No.	CN421 Pin No.	Signal	CN404 Pin No.	CN421 Pin No.	Signal
1	30	__CCD_1 (5)	16	15	__CCD_12VA
2	29	GND	17	14	__CCD_12VA
3	28	__CCD_2 (5)	18	13	GND
4	27	GND	19	12	GND
5	26	__CCD_1L (5)	20	11	BO(12)
6	25	GND	21	10	GND
7	24	__CCD_RB(5)	22	9	BE(12)
8	23	GND	23	8	GND
9	22	__CCD_CLB(5)	24	7	GO(12)
10	21	GND	25	6	GND
11	20	__CCD_TG(5)	26	5	GE(12)
12	19	DMYPWR(5)	27	4	GND
13	18	VCC2(5)	28	3	RO(12)
14	17	VCC2(5)	29	2	GND
15	16	GND	30	1	RE(12)

Scanner IPU Board (PCB4)



PSU

SBU (PCB3)

Interface Board (PCB15)

Paper Tray Unit

Scanner Motor Drive Board (PCB5)

Lamp Regulator (PCB2)

DC Drive Block

AC Drive Block

Main Power SW (SW2)

Choke Coil

Scanner Motor (M1)

Original Length Sensor (S20)

Platen Cover Position Sensor (S21)

Original Width Sensor (S24)

Scanner H.P. Sensor (S23)

Optics Cooling Fan 0 (FM11)

Optics Cooling Fan 1 (FM12)

IPU Cooling Fan (FM13)

Development Cooling Fan (FM14)

Exposure Lamp (L3)

Thermostat (TS1)

Choke Coil

Main Power SW (SW2)

Choke Coil

Scanner Motor (M1)

Original Length Sensor (S20)

Platen Cover Position Sensor (S21)

Original Width Sensor (S24)

Scanner H.P. Sensor (S23)

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Optics Cooling Fan 1 (FM12)

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Choke Coil

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IPU Cooling Fan (FM13)

Development Cooling Fan (FM14)

Exposure Lamp (L3)

Thermostat (TS1)

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Main Power SW (SW2)

Choke Coil

Scanner Motor (M1)

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Platen Cover Position Sensor (S21)

Original Width Sensor (S24)

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Optics Cooling Fan 0 (FM11)

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Choke Coil

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IPU Cooling Fan (FM13)

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Exposure Lamp (L3)

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Choke Coil

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Choke Coil

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IPU Cooling Fan (FM13)

Development Cooling Fan (FM14)

Exposure Lamp (L3)

Thermostat (TS1)

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Main Power SW (SW2)

Choke Coil

Scanner Motor (M1)

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Original Width Sensor (S24)

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Optics Cooling Fan 1 (FM12)

IPU Cooling Fan (FM13)

Development Cooling Fan (FM14)

Exposure Lamp (L3)

Thermostat (TS1)

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Main Power SW (SW2)

Choke Coil

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Main Power SW (SW2)

Choke Coil

Scanner Motor (M1)

Original Length Sensor (S20)

Platen Cover Position Sensor (S21)

Original Width Sensor (S24)

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Optics Cooling Fan 0 (FM11)

Optics Cooling Fan 1 (FM12)

IPU Cooling Fan (FM13)

Development Cooling Fan (FM14)

Exposure Lamp (L3)

Thermostat (TS1)

Choke Coil

Main Power SW (SW2)

Choke Coil

Scanner Motor (M1)

Original Length Sensor (S20)

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Original Width Sensor (S24)

Scanner H.P. Sensor (S23)

Optics Cooling Fan 0 (FM11)

Optics Cooling Fan 1 (FM12)

IPU Cooling Fan (FM13)

Development Cooling Fan (FM14)

Exposure Lamp (L3)

Thermostat (TS1)

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Main Power SW (SW2)

Choke Coil

Scanner Motor (M1)

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Original Width Sensor (S24)

Scanner H.P. Sensor (S23)

Optics Cooling Fan 0 (FM11)

Optics Cooling Fan 1 (FM12)

IPU Cooling Fan (FM13)

Development Cooling Fan (FM14)

Exposure Lamp (L3)

Thermostat (TS1)

Choke Coil

Main Power SW (SW2)

Choke Coil

Scanner Motor (M1)

Original Length Sensor (S20)

Platen Cover Position Sensor (S21)

Original Width Sensor (S24)

Scanner H.P. Sensor (S23)

Optics Cooling Fan 0 (FM11)

Optics Cooling Fan 1 (FM12)

IPU Cooling Fan (FM13)

Development Cooling Fan (FM14)

Exposure Lamp (L3)

Thermostat (TS1)

Choke Coil

Main Power SW (SW2)

Choke Coil

Scanner Motor (M1)

Original Length Sensor (S20)

Platen Cover Position Sensor (S21)

Original Width Sensor (S24)

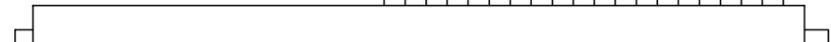
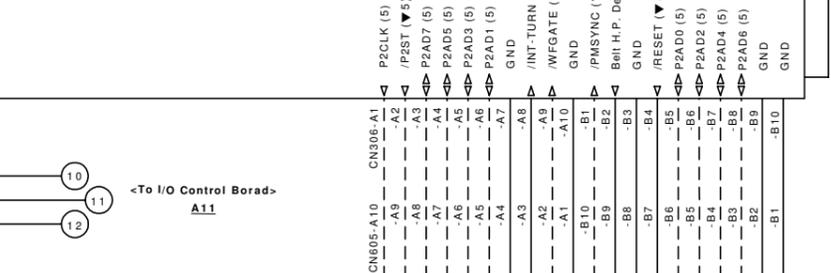
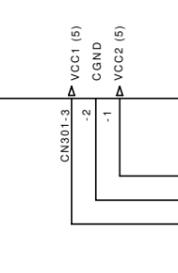
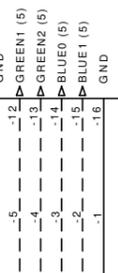
Scanner H.P. Sensor (S23)

Optics Cooling Fan 0 (FM11)

A14	LD7 (5)	A31	UD1 (5)	B14	GND	B31	GND
A15	LD6 (5)	A32	UD0 (5)	B15	GND	B32	GND
A16	LD5 (5)	A33	UD6 (5)	B16	GND	B33	GND
A17	LD7 (5)	A34	UD7 (5)	B17	GND	B34	GND

Main Control Board (CN305) <----> Bus S/W Board CN102

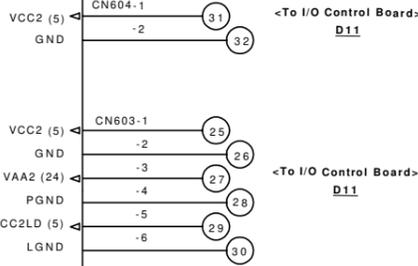
CN305 Pin No.	CN102 Pin No.	Signal	CN305 Pin No.	CN102 Pin No.	Signal
A1	A12	P3CLK(5)	B1	B12	RXD8(5)
A2	A11	/P3ST(5)	B2	B11	GND
A3	A10	P3AD7(5)	B3	B10	RXD7(5)
A4	A9	P3AD5(5)	B4	B9	GND
A5	A8	P3AD3(5)	B5	B8	GND
A6	A7	P3AD1(5)	B6	B7	/RESET (5)
A7	A6	GND	B7	B6	P3AD0(5)
A8	A5	*RTRG(▼5)	B8	B5	P3AD2(5)
A9	A4	WKUP(▼5)	B9	B4	P3AD4(5)
A10	A3	TXD7(5)	B10	B3	P3AD6(5)
A11	A2	GND	B11	B2	GND
A12	A1	TXD8(5)	B12	B1	GND



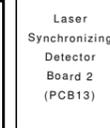
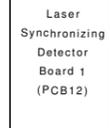
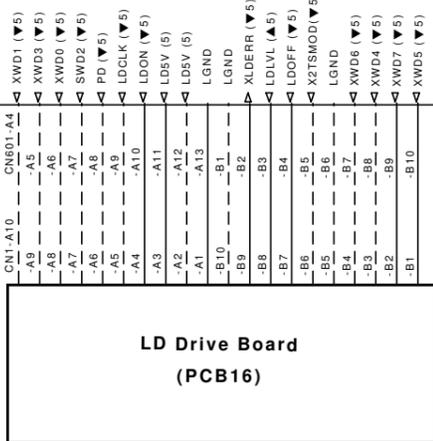
Scanner IPU Board (CN408) <----> VIDEO-TMC Board (CN606)

CN408 Pin No.	CN606 Pin No.	Signal	CN408 Pin No.	CN606 Pin No.	Signal
A1	A20	GND	B1	B20	GND
A2	A19	_ISEP0 (▼5)	B2	B19	_XCLK(5)
A3	A18	GND	B3	B18	GND
A4	A17	_XSDATA7 (5)	B4	B17	GND
A5	A16	_XSDATA6 (5)	B5	B16	_XBFSGATE(▼5)
A6	A15	GND	B6	B15	GND
A7	A14	_XSDATA5 (5)	B7	B14	_XSDATE8(5)
A8	A13	_XSDATA4 (5)	B8	B13	_XSDATA9(5)
A9	A12	GND	B9	B12	GND
A10	A11	_XSDATA3 (5)	B10	B11	_XSDATA10(5)
A11	A10	_XSDATA2 (5)	B11	B10	_XSDATA11(5)
A12	A9	GND	B12	B9	GND
A13	A8	_XSDATA1 (5)	B13	B8	_XSDATA12(5)
A14	A7	_XSDATA0 (5)	B14	B7	_XSDATA13 (5)
A15	A6	GND	B15	B6	GND
A16	A5	_XPMSYNC(▼5)	B16	B5	_XSDATA14 (5)
A17	A4	GND	B17	B4	_XSDATA15 (5)
A18	A3	_XSLSYNC(▼5)	B18	B3	GND
A19	A2	_XSFSGATE(▼5)	B19	B2	_ISEP1 (▼5)
A20	A1	GND	B20	B1	GND

LD Main Control Board (PCB17)



LD Drive Board (PCB16)



Polygon Mirror Motor

Bus S/W Board

VIDEO-TMC(CN607) <----> Bus S/W Board

CN607 Pin No.	Signal	CN607 Pin No.	Signal	CN607 Pin No.	Signal	CN607 Pin No.	Signal
A1	GND	A26	GND	B1	GND	B26	GND
A2	GND	A27	-XPDATA6 (5)	B2	GND	B27	-XSDATA4 (5)
A3	-XSIFGATE (▼5)	A28	GND	B3	-XSDATA15 (5)	B28	GND
A4	GND	A29	-XPDATA7 (5)	B4	GND	B29	-XSDATA3 (5)
A5	-XSILSYNC (▼5)	A30	GND	B5	-XSDATA14 (5)	B30	GND
A6	GND	A31	SHIFT1 (▼5)	B6	GND	B31	-XSDATA2 (5)
A7	-XSICLK (5)	A32	GND	B7	-XSDATA13 (5)	B32	GND
A8	GND	A33	-XPDATA8 (5)	B8	GND	B33	-XSDATA1 (5)
A9	GND	A34	GND	B9	-XSDATA12 (5)	B34	GND
A10	GND	A35	-XPDATA9 (5)	B10	GND	B35	-XSDATA0 (5)
A11	-XOMFGATE (▼5)	A36	GND	B11	-XSDATA11 (5)	B36	GND
A12	GND	A37	-XPDATA10 (5)	B12	GND	B37	-XIPMSYNC(▼5)
A13	-XOPMSYNC (▼5)	A38	GND	B13	-XSDATA10 (5)	B38	GND
A14	GND	A39	-XPDATA1 (5)	B14	GND	B39	-XIMFGATE (▼5)
A15	-XPDATA0 (5)	A40	GND	B15	-XSDATA9 (5)	B40	GND
A16	GND	A41	-XPDATA12 (5)	B16	GND	B41	GND
A17	-XPDATA1 (5)	A42	GND	B17	-XSDATA8 (5)	B42	GND
A18	GND	A43	-XPDATA13 (5)	B18	GND	B43	-XSOCLK (5)
A19	-XPDATA2 (5)	A44	GND	B19	GND	B44	GND
A20	GND	A45	-XPDATA14 (5)	B20	GND	B45	-XSOLSYNC (▼5)
A21	-XPDATA3 (5)	A46	GND	B21	-XSDATA7 (5)	B46	GND
A22	GND	A47	-XPDATA15 (5)	B22	GND	B47	-XSFOGATE (▼5)
A23	-XPDATA4 (5)	A48	GND	B23	-XSDATA6 (5)	B48	GND
A24	GND	A49	SHIFTO (▼5)	B24	GND	B49	SENSE
A25	-XPDATA5 (5)	A50	GND	B25	-XSDATA5 (5)	B50	GND

P to P BLOCK DIAGRAM (B017/018)

ELECTRICAL COMPONENT LAYOUT (1/2)

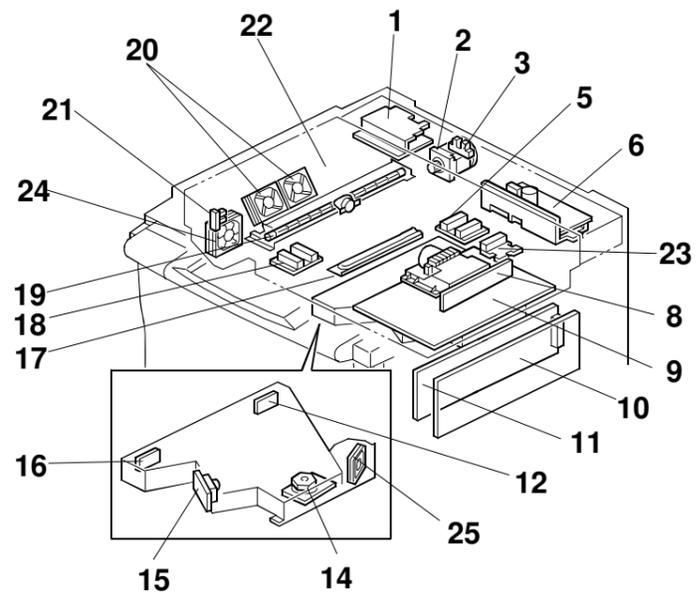


Diagram 1

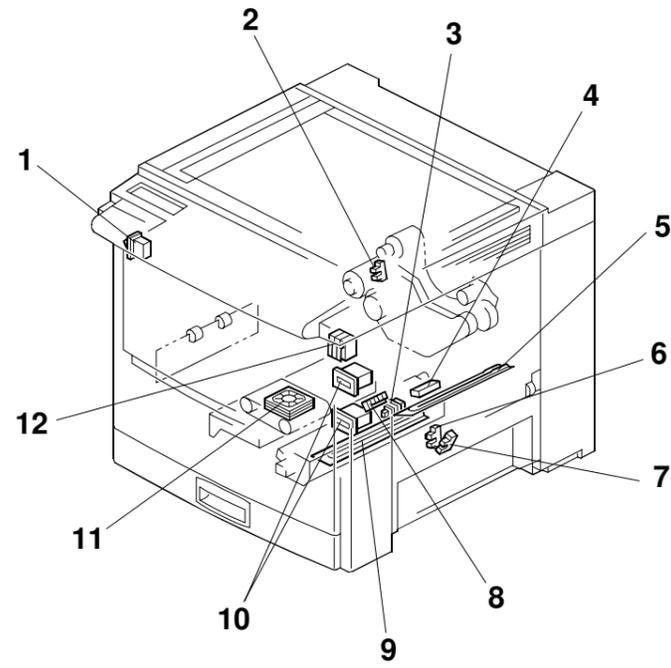


Diagram 2

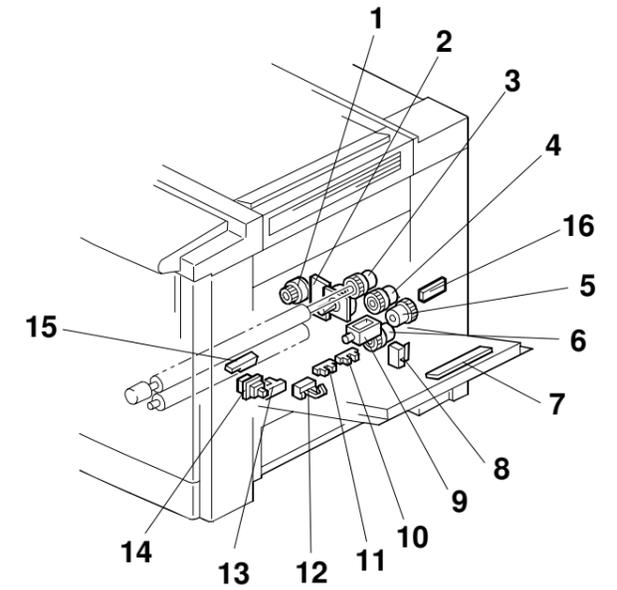


Diagram 3

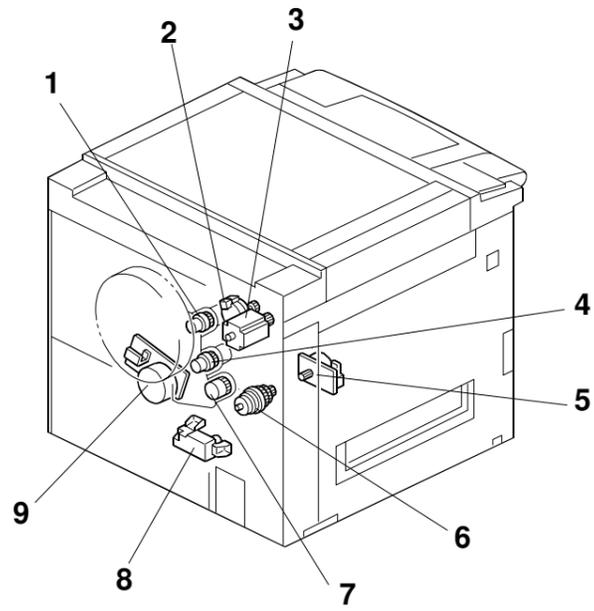


Diagram 6

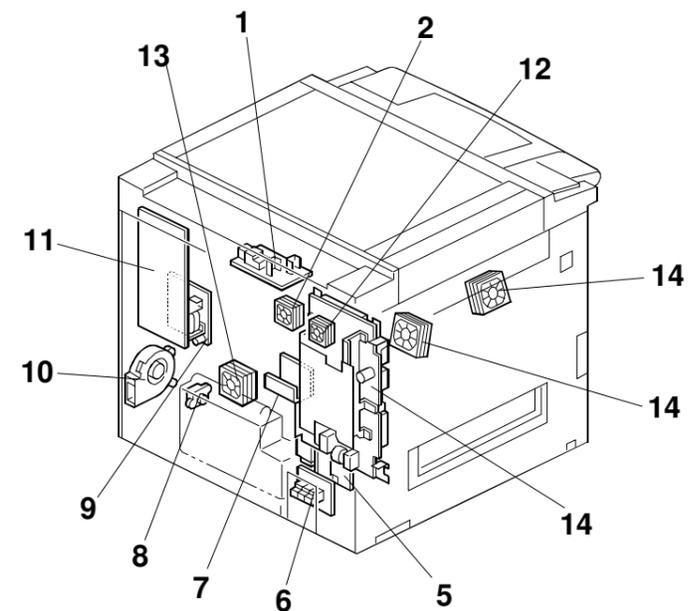


Diagram 7

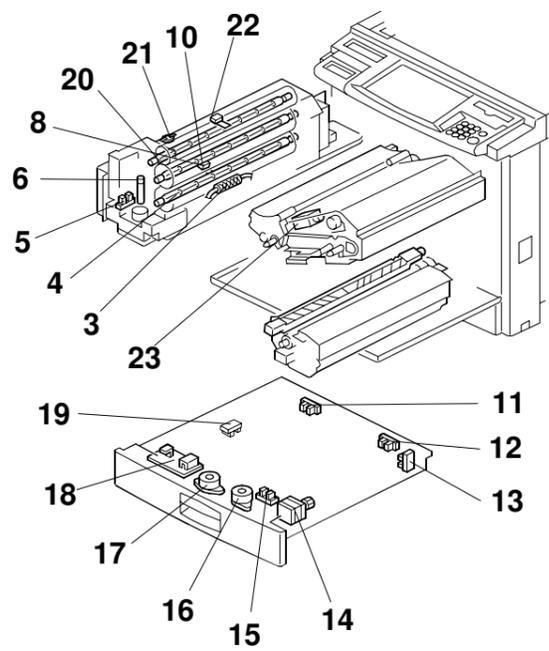


Diagram 4

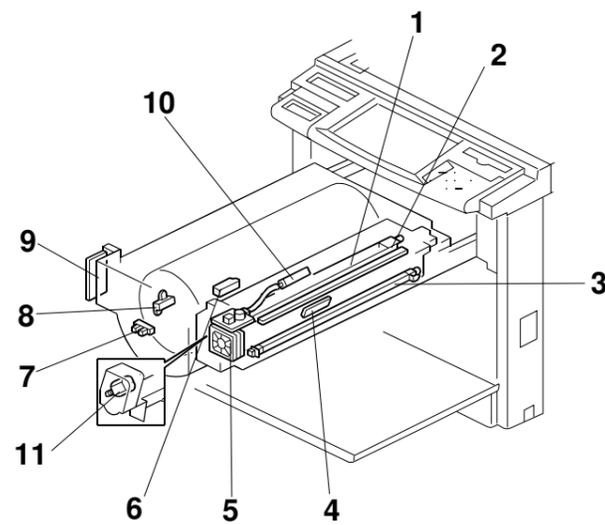
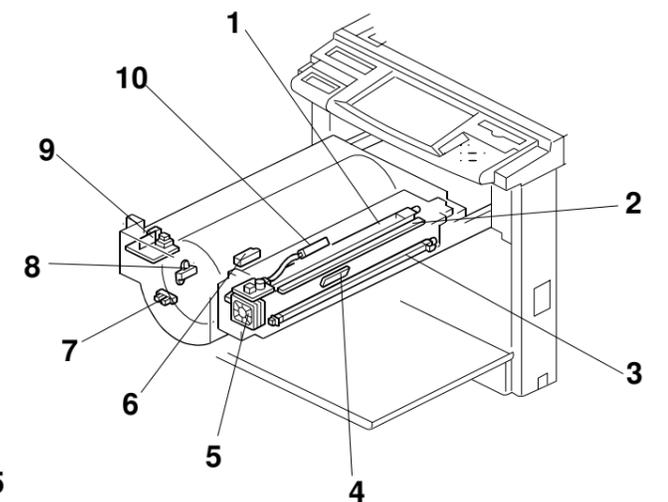


Diagram 5



ELECTRICAL COMPONENT LAYOUT (2/2)

Printed Circuit Boards

Symbol	Name	Index-No	Location	
			A258/259/260	B017/018
PCB1	PSU	7-4	K4	G3
PCB2	Lamp regulator	1-6	O7	J6
PCB3	SBU	1-8	J9	G6
PCB4	Scanner IPU	1-9	L8	H7
PCB5	Scanner motor drive	1-1	M7	H4
PCB6	I/O control	7-11	D14	C7
PCB7	High voltage supply: C, G	7-1	A14	A10
PCB8	High voltage supply: T1, PCC	7-9	A2	A4
PCB9	High voltage supply: T2, D	7-5	A1	A3
PCB10	High voltage supply: B	5-9	A3	A1
PCB11	Main control	1-10	J12	E10
PCB12	Laser synchronizing detector 1	1-16	O15	J9
PCB13	Laser synchronizing detector 2	1-12	O15	J10
PCB14	Revolver motor drive	7-7	F5	D4
PCB15	Interface: CSS/Bank	7-6	J9	F6
PCB16	LD drive	1-15	O17	J9
PCB17	LD main control	1-11	M16	H10
PCB18	By-pass paper width detection	3-7	A10	A5
PCB19	Operation panel	4-1	H19	
PCB20	Duplex control	4-18	F20 (A259/A260 copiers only)	D12
PCB21	IDU	1-4	M14	-
PCB22	Polygon mirror motor drive	1-13	O15	-
PCB23	Temperature and humidity sensor	3-16	E19	D11
PCB24	Header relay	-	-	H1

Solenoids

Symbols	Name	Index-No	Location	
			A258/259/260	B017/018
SOL1	By-pass pick-up	3-9	A9	A5
SOL2	Junction gate	2-14	A7 (A259/A260 copiers only)	D2
SOL3	Image transfer belt release	4-22	-	A12

Lamps

Symbol	Name	Index-No	Location	
			A258/259/260	B017/018
L1	Hot roller fusing	4-7	H1	E1
L2	Pressure roller fusing	4-4	G1	F1
L3	Exposure	1-19	O5	J5
L4	Quenching	5-2	A6	A2
L5	Heat roller fusing	4-20	-	E1

Motors

Symbol	Name	Index-No	Location	
			A258/259/260	B017/018
M1	Scanner	1-2	M6	H4
M2	Polygon mirror	1-14	O15	H8
M3	Revolver drive	6-3	G5	E4
M4	Duplex feed motor	4-14	G20 (A259/A260 copiers only)	E12 (B017 models only)
M5	Duplex Side fence jogger	4-16	G21 (A259/A260 copiers only)	E12 (B017 models only)
M6	Duplex End fence jogger	4-17	G21 (A259/A260 copiers only)	E13 (B017 models only)
M7	Paper feed	3-2	A12	A6
M8	Tray lift	6-8	A12 (A258 model only)	A7 (B018 models only)
M9	Toner supply	6-2	A7	A3
M10	Drum	6-9	A19	A9
M11	Fusing	6-5	E8	A10
M12	Charge corona cleaner	5-11	-	A2

Fan Motors

Symbol	Name	Index-No	Location	
			A258/259/260	B017/018
FM1	Transport	2-11	A11	A6
FM2	Optics cooling	1-20	O14	-
FM3	Charge corona	5-5	A6	A3
FM4	Scanner exhaust	1-7	P7	-
FM5	Fusing unit	7-3	E1	D4
FM6	Main exhaust	7-10	A17	A5
FM7	Rear cooling unit (A258/59/60) Rear upper cooling (B017/018)	7-2	E10	D3
FM8	PSU	7-12	A7	A11
FM9	Rear lower cooling	7-13	-	D2
FM10	Polygon mirror motor	1-25	-	D6
FM11	Optics cooling 0	1-20	-	J7
FM12	Optics cooling 1	1-20	-	J7
FM13	IPU cooling	1-24	-	J7
FM14	Development cooling	7-14	-	J7

Heaters

Symbol	Name	Index-No	Location	
			A258/259/260	B017/018
H1	Paper transfer unit	2-9	J1	G1
H2	Transfer belt	2-5	K1	G1
H3	Optics anti-condensation	1-17	L1	G1

Sensors

Symbol	Name	Index-No	Location	
			A258/259/260	B017/018
S1	Toner end	5-8	A4	A1
S2	Toner cartridge	5-6	A4	A1
S3	Revolver H.P.	5-7	A4	A2
S4	Potential	5-10	A5	A2
S5	ID	5-4	A5	A2
S6	Belt cleaning H.P.	2-2	A8	A11
S7	By-pass feed paper end	3-13	A8	A5
S8	Upper limit	3-10	A13 (A258 model only)	A7 (B018 model only)
S9	Relay	3-12	A13 (A258 model only)	A7 (B018 model only)
S10	Tray paper end	3-11	G13 (A258 model only)	A7 (B018 model only)
S11	Relay	3-12	A14 (A259/A260 models only)	A7
S12	Used toner	7-8	A15	A4
S13	Paper transfer H.P.	2-8	A15	A4
S14	Paper height 1	2-6	A16 (A258 model only)	A8 (B018 model only)
S15	Paper height 2	2-7	A16 (A258 model only)	A8 (B018 model only)
S16	Transfer belt H.P.	2-4	A18	A9
S17	Registration H.P.	3-15	A19	A9
S18	Paper exit	4-5	F1	D1
S19	Oil end	4-6	G1	E1
S20	Original length	1-5	N7	J5
S21	Platen cover position	1-3	O7	J5
S22	Original length -sub	1-23	P7	I4
S23	Scanner H.P.	1-21	P14	J6
S24	Original width	1-18	P14	J6
S25	Side fence jogger HP	4-15	G22 (A259/A260 models only)	E13 (B017 model only)
S26	End fence jogger HP	4-19	G22 (A259/A260 models only)	E13 (B017 model only)
S27	Duplex paper end	4-13	G22 (A259/A260 models only)	E13 (B017 model only)
S28	Duplex entrance	4-11	G23 (A259/A260 models only)	E13 (B017 model only)
S29	Duplex turn	4-12	G23 (A259/A260 models only)	E13 (B017 model only)

Switches

Symbols	Name	Index-No	Location	
			A258/259/260	B017/018
SW1	Main power	2-1	M1	H1
SW2	Front door	2-12	E11	A11
SW3	Paper exit door	2-13	A7 (A259/A260 models only)	D2 (B017 model only)
SW4	By-pass feed table	3-14	A8	A5
SW5	Paper tray detector	2-3	A16 (A258 model only)	A7 (B018 model only)
SW6	Vertical transport	3-8	A17	A4

Clutches

Symbols	Name	Index-No	Location	
			A258/259/260	B017/018
CL1	By-pass feed	3-5	A9	A5
CL2	Paper feed	3-6	A17	A8
CL3	Registration	3-3	A18	A8
CL4	Paper transfer positioning	3-1	A11	A6
CL5	Development	6-1	E3	D2
CL6	Relay	3-4	A18	A8
CL7	Belt cleaning	6-7	E2	D1
CL8	Fusing	6-6	E1	D1
CL9	Belt lubricant	6-4	E2	D1

Thermistors

Symbol	Name	Index-No	Location	
			A258/259/260	B017/018
TH1	Pressure roller	4-9	F1	D1
TH2	Hot roller	4-6	G1	-
TH3	Heat Roller	4-22	-	E1

Thermofuses

Symbol	Name	Index-No	Location	
			A258/259/260	B017/018
TF1	Hot roller	4-8	H1	-
TF2	Pressure roller	4-3	H1	F1

Thermostat

Symbol	Name	Index-No	Location	
			A258/259/260	B017/018
TS1	Exposure lamp	1-22	O6	J5
TS2	Heat roller	4-21	-	E1

Counter

Symbol	Name	Index-No	Location	
			A258/259/260	B017/018
CO1	Upper mechanical	2-10	A9	D6
CO2	Lower mechanical	2-10	A10	D7