EP1050

GENERAL, MECHANICAL/ ELECTRICAL

MINOLTA

CONTENTS

● **SAFETY INFORMATION**

GENERAL

1. SPECIFICATIONS G-1
2. SPACE REQUIREMENTS G-4
3. PRECAUTIONS FOR INSTALLATION G-5
4. PRECAUTIONS FOR USE G-6
5. HANDLING OF THE CONSUMABLES G-7
6. SYSTEM OPTIONS G-8
7. PARTS IDENTIFICATION G-9
8. CONTROL PANEL KEYS AND INDICATORS G-11
   - 8-1. Control Panel G-11
   - 8-2. Display Panel G-13

MECHANICAL/ELECTRICAL

1. CROSS-SECTIONAL VIEW M-1
2. COPY PROCESS M-2
3. DRIVE SYSTEM M-4
4. SEQUENTIAL EXPLANATION M-5
5. PC DRUM M-10
6. IMAGING UNIT M-11
   - 6-1. Imaging Unit Drive M-12
   - 6-2. Toner Recycling M-13
   - 6-3. I/U Counter CNT2 ..... M-14
   - 6-4. I/U Fuse F4 ..... M-15
7. DEVELOPMENT M-16
   - 7-1. ATDC Sensor M-17
   - 7-2. Magnet Roller M-19
   - 7-3. Developing Bias M-20
   - 7-4. Doctor Blade M-21
   - 7-5. Magnet Roller Lower Filter M-21
   - 7-6. ATDC Sensor Failure M-22

CONTENTS

8. CLEANING UNIT M-23
8-1. Cleaning Unit M-23
8-2. Cleaning Bias M-24

9. TONER HOPPER M-25
9-1. Toner Hopper Locking/Unlocking M-25
9-2. Toner Replenishing M-25
9-3. Shutter M-26
9-4. Toner Hopper Home Position Detection M-26
9-5. Toner Bottle Vibration M-27
9-6. Toner Replenishing Control M-28
9-7. Toner Replenishing Motor M8 Malfunction M-29

10. DRUM CHARGING M-30

11. IMAGE ERASE LAMP M-31

12. OPTICAL SECTION M-34
12-1. Exposure Lamp LA1 ..... M-35
12-2. AE Sensor M-36
12-3. Lamp Reflectors M-37
12-4. Aperture Plates M-37
12-5. Scanner and 2nd/3rd Mirror Carriage Movement M-38
12-6. 4th Mirror Movement M-40
12-7. Lens Movement M-42
12-8. Optical Section Malfunction M-44

13. MAIN ERASE LAMP M-46

14. IMAGE TRANSFER AND PAPER SEPARATION M-47

15. PAPER SEPARATOR FINGERS M-50

16. PAPER TAKE-UP/FEED SECTION M-52
16-1. Edge Guide and Trailing Edge Stop M-53
16-2. Drawer Positioning M-54
16-3. Paper Lifting Plate M-54
16-4. Drawer-In-Position Detection M-55
16-5. Paper Size Detection M-56
16-6. Paper Empty Detection M-57
16-7. Paper Separating Mechanism M-58
16-8. Paper Take-Up Roll M-59

CONTENTS

17. VERTICAL PAPER TRANSPORT M-61

18. SYNCHRONIZING ROLLERS M-63
18-1. Upper Synchronizing Roller Positioning M-64
18-2. Paper Dust Remover M-64
18-3. Synchronizing Roller Drive M-65

19. PAPER TRANSPORT M-66

20. FUSING UNIT M-67
20-1. Fusing Temperature Control M-68
20-2. Fusing Rollers Pressure Mechanism M-70
20-3. Oil Roller M-70
20-4. Fusing Unit Malfunction M-71

21. EXIT UNIT M-72
21-1. Upper/Lower Separator Fingers M-72
21-2. Paper Exit Sensor M-73

22. EXIT/DUPLEX SWITCHING UNIT (OPTION) M-74

23. DEHUMIDIFYING SWITCH M-75

24. MANUAL BYPASS FEEDING M-76

25. MULTI BYPASS TABLE MB-1 (OPTION) M-77
25-1. Paper Take-Up Mechanism M-78
25-2. Paper Separating Mechanism M-80
25-3. Paper Empty Detection M-81

26. COOLING FAN M-82
26-1. Cooling Fan M-82
26-2. Cooling Fan Motor Malfunction M-83

27. OPTICAL SECTION COOLING FAN M-84

28. POWER SUPPLY UNIT COOLING FAN M-85
28-1. Power Supply Unit Cooling Fan M-85
28-2. Power Supply Unit Cooling Fan Motor Malfunction M-86

29. MEMORY BACKUP M-87

30. MAIN DRIVE MOTOR M2 MALFUNCTION M-88

31. PC DRIVE MOTOR M1 MALFUNCTION M-89

32. MISFEED DETECTION M-90

SAFETY INFORMATION

(ALL Area)

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type
recommended by the manufacturer.
Dispose of used batteries according
to the manufacturer's instructions.

(Denmark only)

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

(Norway only)

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.
Benytt samme batteritype eller en tilsvarende
type anbefalt av apparatfabrikanten.
Brukte batterier kasseres i henhold til fabrikantens
instruksjoner.

(Sweden only)

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(Finland only)

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä Käytetty paristo valmistajan ohjeiden
mukaisesti.

GENERAL

1 SPECIFICATIONS

TYPE : Desktop (with Stationary Platen)

PHOTOCONDUCTOR : Organic Photoconductor

COPYING SYSTEM : Electrostatic Dry Powdered Image Transfer to Plain Paper

PAPER FEEDING SYSTEM : 2-Way Feeding Paper Drawer: Universal Tray (250 sheets of paper)
Manual Bypass Table

EXPOSURE SYSTEM : Mirror Scanning, Slit Exposure

DEVELOPING SYSTEM : Minolta New Micro-Toning System

CHARGING SYSTEM : Comb Electrode DC Negative Corona with Scorotron System

IMAGE TRANSFER SYSTEM : Visible Image Transfer by means of a Single-Wire DC Negative Corona with Corotron System

PAPER SEPARATING SYSTEM : Single-Wire AC Corona with Corotron System, plus Paper Separator Finger

FUSING SYSTEM : Heat Roller

PAPER DISCHARGING SYSTEM : Charge Neutralizing Brush

MAXIMUM ORIGINAL SIZE : Metric-A3L; Inch-11" × 17"L (L: Lengthwise)

COPY MEDIUM

		Paper Drawer (Automatic feeding)	Manual Bypass (Single-sheet feeding)
Medium	Plain paper (60 to 90 g/m^2)	O	O
	Translucent paper	—	O
	Transparencies	—	O
	Thick paper (91 to 157 g/m^2)	—	O
	Recycled paper	O	O
Dimensions	Maximum (Width × Length)	297 × 432 mm	297 × 432 mm
	Minimum (Width × Length)	148 × 210 mm	100 × 140 mm

O: Permissible X: Not permissible

MULTIPLE COPIES : 1 to 99

WARMING-UP TIME : 60 sec. or less with room temperature of 20°C and rated power voltage

FIRST COPY TIME : A4C or 8-1/2" × 11"C: 7.5 sec. or less (in Full size Mode using 1st Drawer)

CONTINUOUS COPY SPEED (copies/min.): Fed from 1st Drawer

Area	Size \ Zoom Ratio	×1.00
Metric	A3L	11
	A4L	14
	A4C	15
	B4L	12
	B5L	15
	B5C	15

Area	Size \ Zoom Ratio	×1.00
Inch	11" × 17" (L)	10
	8-1/2" × 11" (L)	15
	8-1/2" × 11" (C)	15

L: Lengthwise; C: Crosswise

ZOOM RATIOS

	Mode \ Area	Metric	Inch
Fixed	Full Size	100%	100%
	Reduction	81% 70% 50%	78% 64% 50%
	Enlargement	115% 141% 200%	121% 129% 200%
Variable	50% to 200% (in 1% increments)		

LENS : Through Lens (F = 8.0, f = 180 mm)

EXPOSURE LAMP : Halogen Frost Tube Lamp

FUSING TEMPERATURE : 180°C

POWER/CURRENT CONSUMPTION (Copier Only)

Voltage	Exposure Lamp (Rating)	Fusing Heater Lamp (Rating)	Max. Power Consumption	In Standby	Max. Current Consumption
115 V 120 V	80 V 225 W	115/120 V 900 W	1190 W	935 W	10.2 A
			1240 W	966 W	
127 V		127 V 900 W	1190 W	935 W	9.2 A
200 V 220 V	160 V 240 W	200/220 V 870 W	1200 W	898 W	6.1 A
			1350 W	1048 W	
220 V 240 V		220/240 V 870 W	1200 W	898 W	5.5 A
			1320 W	1018 W	

POWER REQUIREMENTS : 115 V, 120 V, 127 V, 200 V, 220 V, 240 V; 50/60 Hz

ENVIRONMENTAL CONDITIONS

Temperature	10 to 35°C with a fluctuation of 10°C or less per hour
Humidity	15 to 85%RH with a fluctuation of 20%RH or less per hour
Ambient Illumination	3,000 lux or less
Leveiness	1° (1.75 mm/100 mm)

DIMENSIONS (Copier Only) : Width .... 610 mm
Depth .... 609 mm
Height ... 401 mm (including Original Cover)

WEIGHT : 52.5 kg (excluding the Manual Bypass Table, starter, toner, and paper)

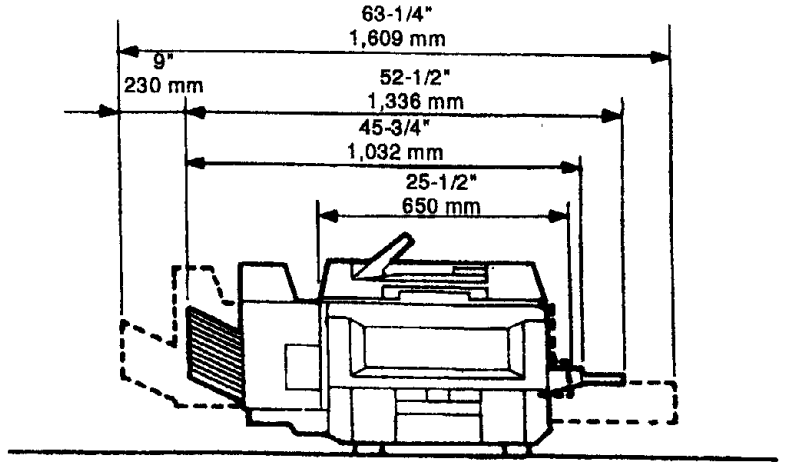
STANDARD ACCESSORIES : Operator's Manual*1, Setting-up Instructions, Starter*2, Copy Tray, Manual Bypass Table*3, Auxiliary Cap

*1: Except Europe and Taiwan
*2: Europe Only
*3: Except Taiwan

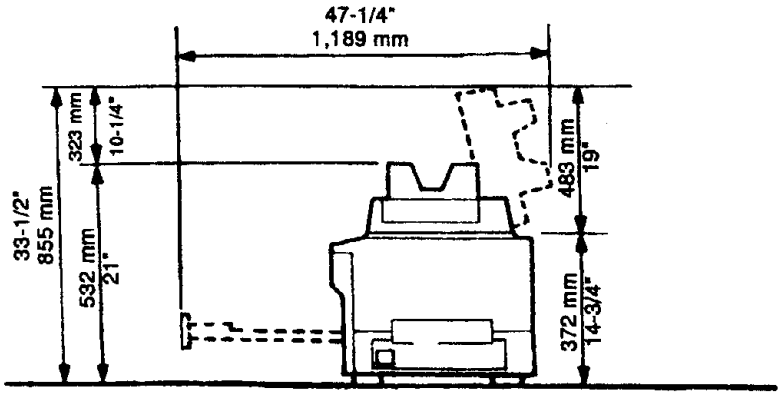
2 SPACE REQUIREMENTS

To ensure easy copier operation, supply replacement, and service maintenance, adhere to the recommended space requirements detailed below.

* Be sure to allow a clearance of 150 (6") mm. or more at the back of the copier as there is a ventilation duct.



1142O008AA



1142O009AA

3 PRECAUTIONS FOR INSTALLATION

Installation Site

To ensure safety and utmost performance of the copier, the copier should NOT be used in a place:

- Where it will be subject to extremely high or low temperature or humidity.
- Which is exposed to direct sunlight.
- Which is in the direct air stream of an air conditioner, heater or ventilator.
- Which puts the operator in the direct stream of exhaust from the copier.
- Which has poor ventilation.
- Where ammonia gas might be generated.
- Which does not have a stable, level floor.
- Where it will be subject to sudden fluctuations in either temperature or humidity.
  If a cold room is quickly heated, condensation forms inside the copier, resulting in blank spots in the copy.
- Which is near any kind of heating device.
- Where it may be splashed with water.
- Which is dirty or where it will receive undue vibration.
- Which is near volatile flammables or curtains.

Power Source

Use an outlet with a capacity of 115/120/127V, 11.2A or more, or 200/220/240V, 6.9A or more.

- If any other electrical equipment is sourced from the same power outlet, make sure that the capacity of the outlet is not exceeded.
- Use a power source with little voltage fluctuation.
- Never connect by means of a multiple socket any other appliances or machines to the outlet being used for the copier.
- Make the following checks at frequent intervals:
  - Is the power plug abnormally hot?
  - Are there any cracks or scrapes in the cord?
  - Has the power plug been inserted fully into the outlet?
  - Does something, including the copier itself, ride on the power cord?
- Ensure that the copier does not ride on the power cord or communications cable of other electrical equipment, and that it does not become wedged into or underneath the mechanism.

Grounding

To prevent receiving electrical shocks in the case of electrical leakage, always ground the copier.

- Connect the grounding wire to:
  - The ground terminal of the outlet.
  - A grounding contact which complies with the local electrical standards.
- Never connect the grounding wire to a gas pipe, the grounding wire for a telephone, or a water pipe.

4 PRECAUTIONS FOR USE

To ensure that the copier is used in an optimum condition, observe the following precautions.

- Never place a heavy object on the copier or subject the copier to shocks.
- Insert the power plug all the way into the outlet.
- Do not attempt to remove any panel or cover which is secured while the copier is making copies.
- Do not turn OFF the Power Switch while the copier is making copies.
- Provide good ventilation when making a large number of copies continuously.
- Never use flammable sprays near the copier.
- If the copier becomes inordinately hot or produces abnormal noise, turn it OFF and unplug it.
- Do not turn ON the Power Switch at the same time when you plug the power cord into the outlet.
- When unplugging the power cord, do not pull on the cord; hold the plug and pull it out.
- Do not bring any magnetized object near the copier.
- Do not place a vase or vessel containing water on the copier.
- Be sure to turn OFF the Power Switch at the end of the workday or upon power failure.
- Use care not to drop paper clips, staples, or other small pieces of metal into the copier.

Operating Environment

The operating environmental requirements of the copier are as follows.

- Temperature: 10°C to 30°C with a fluctuation of 10°C per hour
- Humidity: 15% to 85% RH with a fluctuation of 20% RH per hour

Power Requirements

The power source voltage requirements are as follows.

- Voltage Fluctuation: AC115/120/127/200/220/240V
  ±10% (Copying performance assured)
  −15% (Paper feeding performance assured)
- Frequency Fluctuation: 50/60 Hz ±0.3%

5 HANDLING OF THE CONSUMABLES

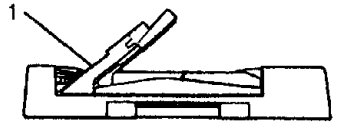
Before using any consumables, always read the label on its container carefully.

- Use the right toner. The applicable copier model name is indicated on the Toner Bottle.
- Paper is apt to be easily damaged by dampness. To prevent absorption of moisture, store paper, which has been removed from its wrapper but not loaded into the Drawer, in a sealed plastic bag in a cool, dark place.
- Keep consumables out of the reach of children.
- Do not touch the PC Drum with bare hands.
- Store the paper, toner, and other consumables in a place free from direct sunlight and away from any heating apparatus.
- The same sized paper is of two kinds, short grain and long grain. Short grain paper should only be fed through the copier crosswise, long grain paper should only be fed lengthwise.
- If your hands become soiled with toner, wash them with soap and water immediately.
- Do not throw away any used consumables (PC Drum, starter, toner, etc.). They are to be collected.

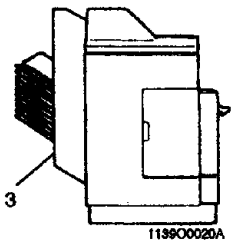
NOTE

Do not burn, bury in the ground, or throw into the water any consumables (PC Drum, starter, toner, etc.).

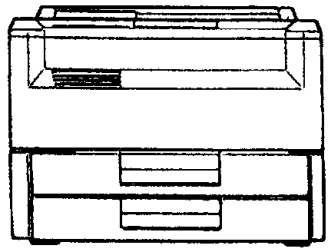
6 SYSTEM OPTIONS



1139O0010A



1139O0020A



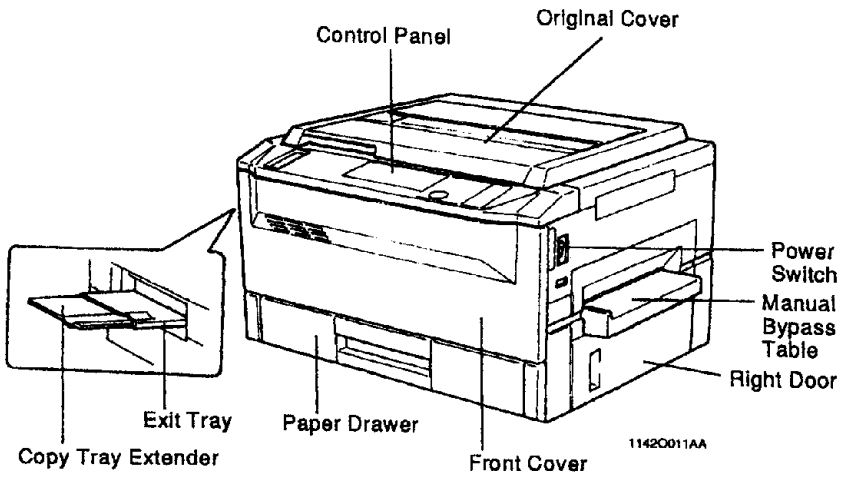
1139O0040A

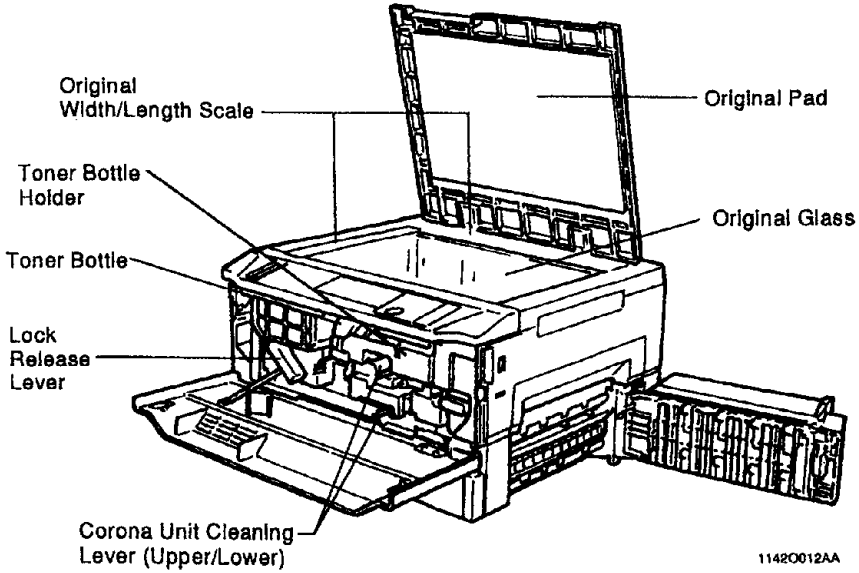


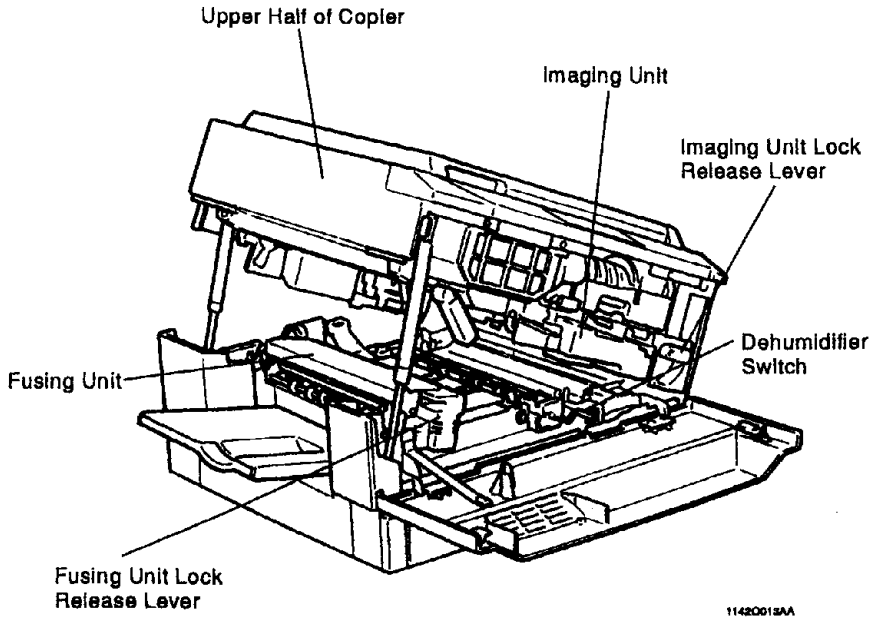
1139O0170A

1. Automatic Document Feeder AF-3
2. Multi Bypass Table MB-1 *1
3. 10-Bin Sorter S-104

*1: Standard Item for only Taiwan

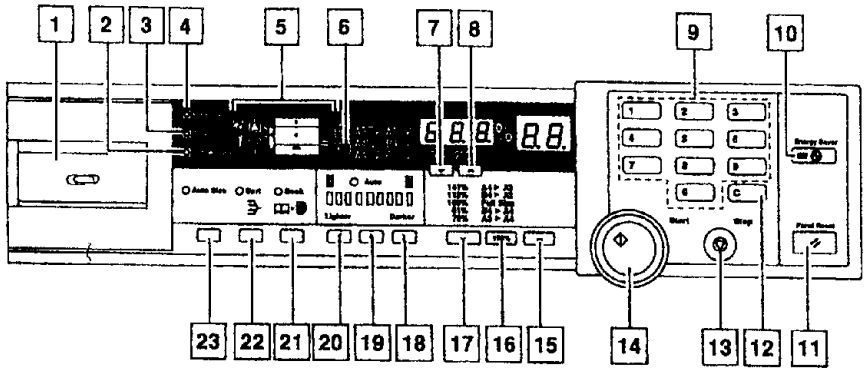

Control Panel
Original Cover
Power Switch
Manual Bypass Table
Right Door
Exit Tray
Paper Drawer
Copy Tray Extender
Front Cover
1142O011AA


Original Width/Length Scale
Original Pad
Toner Bottle Holder
Original Glass
Toner Bottle
Lock Release Lever
Corona Unit Cleaning Lever (Upper/Lower)
1142O012AA


Upper Half of Copier
Imaging Unit
Imaging Unit Lock Release Lever
Dehumidifier Switch
Fusing Unit
Fusing Unit Lock Release Lever
1142O013AA

8 CONTROL PANEL KEYS AND INDICATORS

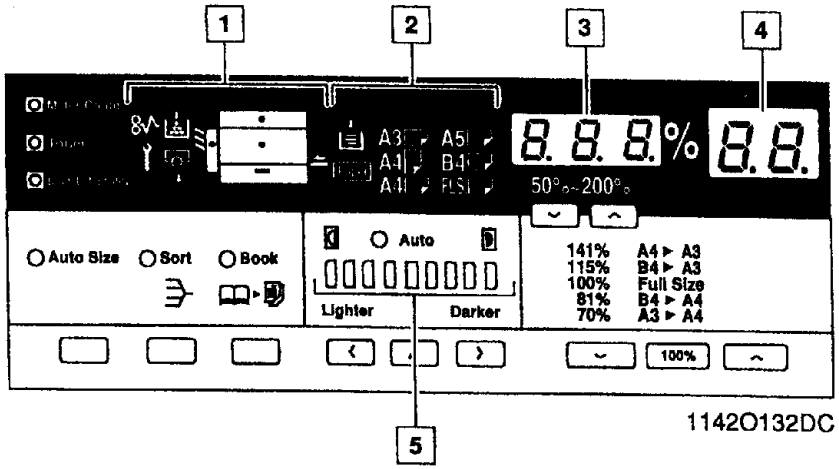
8-1. Control Panel



1142O131DC

1	**Clip Tray**	: A tray in which to put the paper clips used with the documents.
2	**Drum Dehumidify Key**	: Starts the Drum Dehumidify Mode.
3	**Auxiliary Toner Replenishing Key**	: Starts the Auxiliary Toner Replenishing sequence.
4	**Meter Count Key**	: Checks for each of the current counts of different electronic counters of the copier.
5	**Display Panel**	: See "8-2. Display Panel."
6	**Paper Select Key**	: Press to select the paper source, Drawer or Multi Bypass Table (option), when the Multi Bypass Table is mounted to the copier.
7	**Zoom Down Key**	: Makes the zoom ratio smaller in 1% increments.
8	**Zoom Up Key**	: Makes the zoom ratio larger in 1% increments.
9	**Multi-Copy Keys**	: Sets the number of copies to be made and other numeric data including that for the Tech. Rep. Program Mode and User's Choice.
10	**Energy Saving Key**	: Sets the copier into the Energy Saving Mode.
11	**Panel Reset Key**	: Sets the copier into the initial mode, clearing all settings made previously on the control panel. (It does not, however, clear the contents of the copying job program memory and the settings immediately before an Interrupt Mode.) Holding down the Key more than 3 seconds will initiate the User's Choice.
12	**Clear Key**	: Clears the number of copies, zoom ratio, and other settings including those for the Tech. Rep. Program Mode and User's Choice.
13	**Stop Key**	: Stops a multi-copy cycle; Used also in combination with other keys to enter the Tech. Rep Mode.

14	**Start Key**	: Starts a copy cycle and a Tech. Rep. Mode operation.
15	**Enlargement Key**	: Selects a desired fixed enlargement ratio.
16	**Full Size Key**	: Selects full size (100%).
17	**Reduction Key**	: Selects a desired fixed reduction ratio.
18	**Exposure Control Key (>, Darker)**	: Makes the exposure level higher in the Manual Exposure Mode.
19	**Auto Exposure Mode Key**	: Selects either the Auto or Manual Exposure Mode.
20	**Exposure Control Key (<, Lighter)**	: Makes the exposure level lower in the Manual Exposure Mode.
21	**Book Key**	: Press as necessary to Select Book Copying Mode.
22	**Finishing Mode Select Key**	: Press as necessary to Select the Sort or Non-Sort Mode.
23	**Auto Size Mode Key**	: Press as necessary to Select the Auto Size Mode.

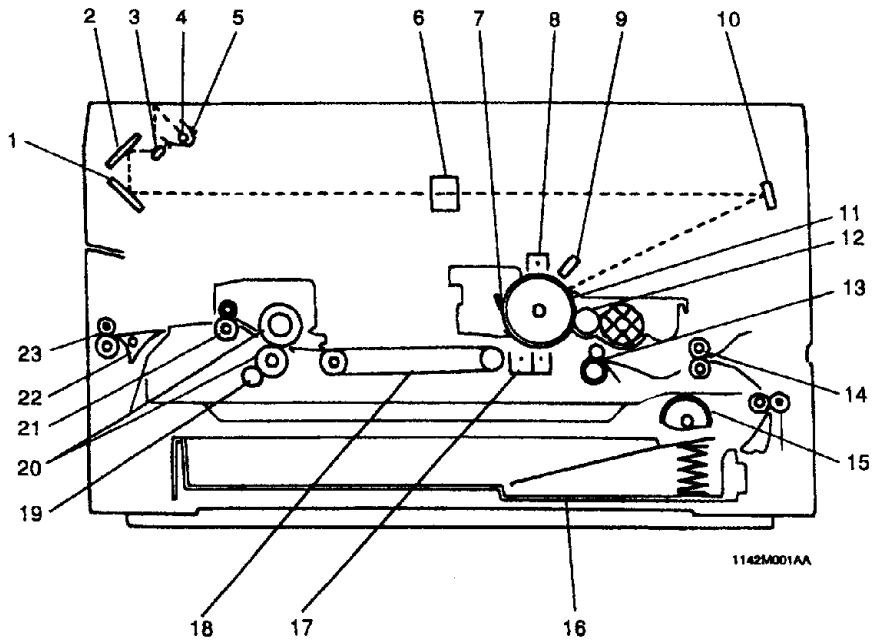


1142O132DC

MECHANICAL/ ELECTRICAL

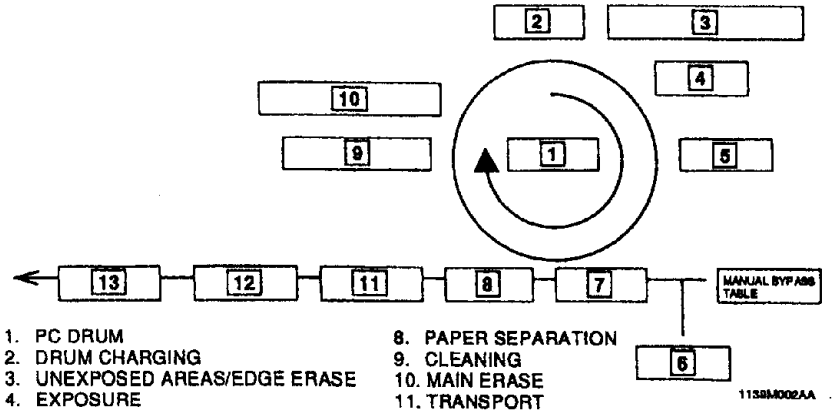
1	**Monitor Display**	: Consists of the Paper Port Indicators, which show the Drawer currently selected for use, the Closure Failure Indicator, which indicates that a Door is left open, the Misfeed Indicators, which indicate that a paper misfeed has occurred (with the location of the misfeed being shown in the copier graphic display), and the Call-Tech.-Rep. Indicator, which indicates that the copier has developed a malfunction (the corresponding malfunction code is shown across the Zoom Ratio Indicator and Multi-Copy Display). Consists of the Wait Indicator, Add Toner Indicator, Add Staple Indicator, I.U. Service Life Indicator, and Remove Copies Indicator, letting the operator know of these warning conditions of the copier.
2	**Paper Information Display**	: Consists of the Add Paper Indicator and Paper Size Indicators.
3	**Zoom Ratio Indicator**	: Shows the zoom ratio, the count of each of the four electronic counters, part of a malfunction code, User's Choice code, and the Test Mode operation data.
4	**Multi-Copy Display**	: Shows the number of copies set to be made, User's Choice setting, part of a malfunction code, and Test Mode operation data.
5	**Exposure Information Display**	: Consists of the Auto Exposure Indicator and Exposure Level Indicator.

1 CROSS-SECTIONAL VIEW



1. 3rd Mirror
2. 2nd Mirror
3. 1st Mirror
4. Exposure Lamp LA1
5. Lamp Reflector
6. Lens
7. Cleaning Blade
8. PC Drum Charge Corona
9. Image Erase Lamp LA3
10. 4th Mirror
11. PC Drum
12. Sleeve/Magnet Roller
13. Synchronizing Roller
14. Transport Roller
15. 1st/2nd Drawer Paper Take-Up Roll
16. 1st/2nd Drawer
17. Image Transfer/Paper Separator Coronas
18. Suction Unit
19. Oil Roller
20. Upper/Lower Fusing Roller
21. Paper Exit Roller
22. Exit/Duplex Switching Guide (for optional Sorter S-104)
23. Paper Exit Roller in Exit/Duplex Switching Guide Unit (for optional Sorter S-104)

2 COPY PROCESS



1. PC DRUM
2. DRUM CHARGING
3. UNEXPOSED AREAS/EDGE ERASE
4. EXPOSURE
5. DEVELOPING
6. PAPER FEEDING
7. IMAGE TRANSFER
8. PAPER SEPARATION
9. CLEANING
10. MAIN ERASE
11. TRANSPORT
12. FUSING
13. PAPER EXIT

1. PC Drum

The PC Drum is an aluminum cylinder coated with a photosensitive semiconductor. It is used as the medium on which a visible developed image of the original is formed.

(For more details, see p. M-10.)

2. Drum Charging

The PC Drum Charge Corona Unit is equipped with a Comb Electrode and a Scorotron Grid to deposit a uniform negative charge across the entire surface of the PC Drum.

(For more details, see p. M-30.)

3. Image Erase

Any areas of charge which are not to be developed are neutralized by lighting up LEDs.

(For more details, see p. M-31.)

4. Exposure

Light from the Exposure Lamp reflected off the original is guided to the surface of the PC Drum and reduces the level of the negative charges, thereby forming an electrostatic latent image.

(For more details, see p. M-34.)

5. Developing

Toner positively charged in the Developer Mixing Chamber is attracted onto the electrostatic latent image changing it to a visible, developed image. A DC negative bias voltage is applied to the Sleeve/Magnet Roller to prevent toner from being attracted onto those areas of the PC Drum which correspond to the background areas of the original.

(For more details, see p. M-16.)

6. Paper Feeding

Paper is fed either automatically from the 1st or 2nd Drawer, or manually via the Manual Bypass Table. Each Drawer has fingers that function to separate the top sheet of paper from the rest at take-up.

(For more details, see p. M-52.)

7. Image Transfer

The single-wire Image Transfer Corona Unit applies a DC negative corona emission to the underside of the paper, thereby attracting toner onto the surface of the paper.

(For more details, see p. M-47.)

8. Paper Separation

The single-wire Paper Separator Corona Unit applies an AC corona emission to the underside of the paper to neutralize the paper. In addition, mechanical paper separation is provided by the two PC Drum Paper Separator Fingers fitted to the Imaging Unit.

(For more details, see p. M-47 and M-50.)

9. Cleaning

Residual toner on the surface of the PC Drum is scraped off by the Cleaning Blade.

(For more details, see p. M-23.)

10. Main Erase

Light from the Main Erase Lamp neutralizes any surface potential remaining on the surface of the PC Drum after cleaning.

(For more details, see p. M-46.)

11. Transport

The paper is fed to the Fusing Unit by the Suction Belts.

(For more details, see p. M-66.)

12. Fusing

The developed image is permanently fused to the paper by a combination of heat and pressure applied by the Upper and Lower Fusing Rollers.

(For more details, see p. M-67.)

13. Paper Exit

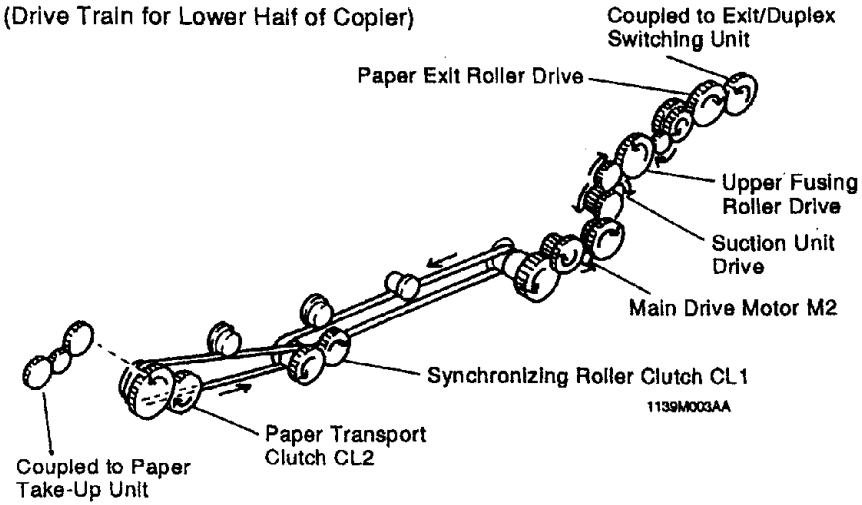
After the fusing process the paper is fed out by the Paper Exit Roller onto the Copy Tray.

(For more details, see p. M-72.)

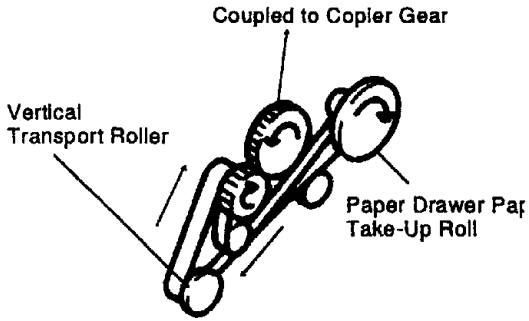
3 DRIVE SYSTEM

This copier is equipped with two main drive motors, PC Drive Motor M1 that drives the upper half of the copier (Imaging Unit) and Main Drive Motor M2 which gives drive for the lower half of the copier (paper take-up/feeding and transport mechanism and Fusing Unit). Each has its own drive transmitting gears and timing belts as illustrated below.

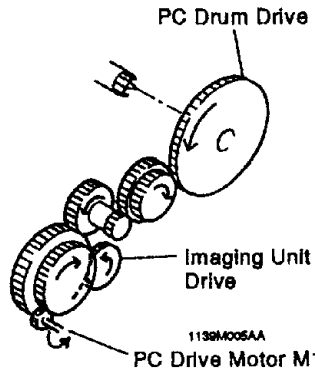
(Drive Train for Lower Half of Copier)



(Drive Train for Paper Take-Up Unit)



(Drive Train for Upper Half of Copier)



4 SEQUENTIAL EXPLANATION

*Numbers given in rectangles ☐ in the following flowchart are timer values in msec.

A The power cord is plugged into the outlet.

Power cord is plugged in.
- ON → DC24V for Drum heating (PU2)
- ON → Drum Dehumidifying Heater H2
- ON → Paper Dehumidifying Heater H3

(Only when Paper Dehumidifying Switch S3 is ON)
* Some models have no Bias Seal installed depending on their marketing areas

B Power Switch S1 is turned ON.

S1 ON
- OFF → H2, H3
- ON → DC24V (PU2)
- ON → DC5V (PWB-C)
- ON → Control panel
- ON → The Cooling Fan turns at full speed.
  - Approx. 500 → ON → The Cooling Fan turns at half speed.
  - Approx. 500 → ON → Fusing Heater Lamp H1
- ON → Scanner Reference Position Sensor PC81
  * If the Scanner is not at the home position, Scanner Motor M5 is energized to move the Scanner to the home position.
  - ON → Lens Reference Position Sensor PC90
    * If the Lens is not at the home position, Lens Motor M6 is energized to move the Lens to the home position.
    - ON → Mirror Reference Position Sensor PC86
      * If the 4th Mirror is not at the home position, Mirror Motor M7 is energized to move the Mirror to the home position.
      - ON → Approx. 1,000 → Prescan by M5
- Starter setup and ATDC Sensor automatic adjustment
  * Only when the Imaging Unit is new. I/U Fuse F4 blows when the starter setup sequence is completed normally.

C The Fusing Unit temperature reaches 200°C.

Fusing Thermistor TH1 detects 200°C.
- ON/OFF → Fusing Heater Lamp H1
  * The Fusing Unit temperature control is started.

D **The Start Key is pressed.**

Start Key ON

- ON → PC Drive Motor M1
- ON → Main Erase Lamp LA2
- ON → Main Drive Motor M2
- ON → Image Erase Lamp LA3
  * All LEDs are turned ON.
- ON → Developing Bias (High Voltage Unit HV1)
- ON → Paper Separator Corona (HV1)
- ON → Cleaning Bias (HV1)
  * Some models have no Bias Seal installed depending on their marketing areas.
  - Approx. 300 → ON → Paper Take-Up Roll (Paper Take-Up Solenoid SL2)
    - Approx. 100 → OFF → SL2
  - Approx. 200 → ON → PC Drum Charge Corona/Image Transfer Corona (HV1)
  - Approx. 500 → OFF → Synchronizing Roller (Synchronizing Roller Clutch CL1)
  - Approx. 200 → ON → Transport Roller (Paper Transport Clutch CL2)

E **Paper is taken up.**

Paper Take-Up Solenoid SL2 ON

- Approx. 400 → ON → Paper Take-Up Sensor PC55
  - Approx. 700 → ON → Transport Roller Sensor PC51
    - Approx. 560 → ON → Paper Leading Edge Detecting Sensor PC54
      - Approx. 230 → OFF → Paper Transport Clutch CL2
    - Approx. 380 → ON → Exposure Lamp LA1

→ ①

①

- Approx. 720 → ON → Scanner Motor M5
- OFF → Scanner Reference Position Sensor PC81
- Approx. 260 → Image Erase Lamp LA3 LEDs ON/OFF control is started.
  - Approx. 130 → ON → Synchronizing Roller Clutch CL1
  - ON → CL2
  - Approx. 470 → ON → Separator Fingers (Separator Solenoid SL1)
    - Approx. 420 → OFF → SL1

F **A scan motion is completed.**

SCEND signal: LOW

- Approx. 140 → ON → All LEDs of Image Erase Lamp LA3 ON
- Approx. 270 → Scanner starts return motion.
  - Approx. 860 → ON → Scanner Reference Position Sensor PC81
    * For A4 crosswise, ×1.000
- Approx. 300 → OFF → Exposure Lamp LA1

G The last paper moves past Transport Roller Sensor PC51.

PC51 OFF

- Approx. 250 → OFF → Transport Roller (Paper Transport Clutch CL2)
- Approx. 600 → OFF → Paper Leading Edge Detecting Sensor PC54
  - Approx. 380 → OFF → Synchronizing Roller (Synchronizing Roller Clutch CL1)
  - Approx. 700 → OFF → PC Drum Charge Corona/Image Transfer Corona (High Voltage Unit HV1)
    - Approx. 740 → OFF → PC Drive Motor M1
    - OFF → Main Erase Lamp LA2
    - OFF → Image Erase Lamp LA3
  - Approx. 500 → OFF → Developing Bias (HV1)
    - OFF → Cleaning Bias (HV1)
      * Some models have no Bias Seal installed depending on their marketing areas.
    - OFF → Paper Separator Corona (HV1)
  - Approx. 1000 → ON → Paper Exit Sensor PC53

H The paper moves past Paper Exit Sensor PC53.

PC53 OFF

- Approx. 1,500 → OFF → Main Drive Motor M2
  - Approx. 500 → ON → Synchronizing Roller Clutch CL1

5 PC DRUM

The photoconductive drum used in this copier is the organic photoconductor (OPC) type.

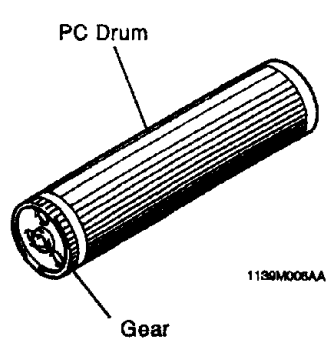
* The drum is made up of two distinct, semiconductive materials on an aluminum alloy base. The outer of the two layers is called the Charge Transport Layer (CTL), while the inner layer is called the Charge Generating Layer (CGL).

The PC Drum has its grounding point inside at its rear end. When the Imaging Unit is installed in the copier, the shaft on which the PC Drum Drive Coupling Gear is mounted contacts this grounding point.

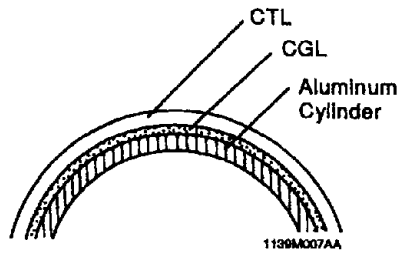
Handling Precautions

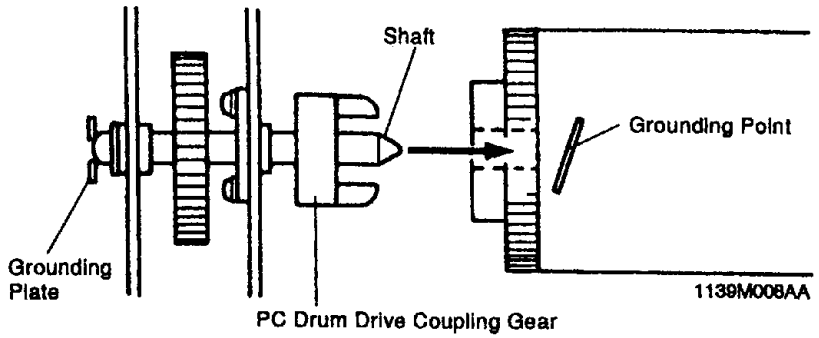
This photoconductor exhibits greatest light fatigue after being exposed to light over an extended period of time. It must therefore be protected from light by a clean, soft cloth whenever the Imaging Unit has been removed from the copier.

Further, use utmost care when handling the PC Drum to prevent it from being contaminated.



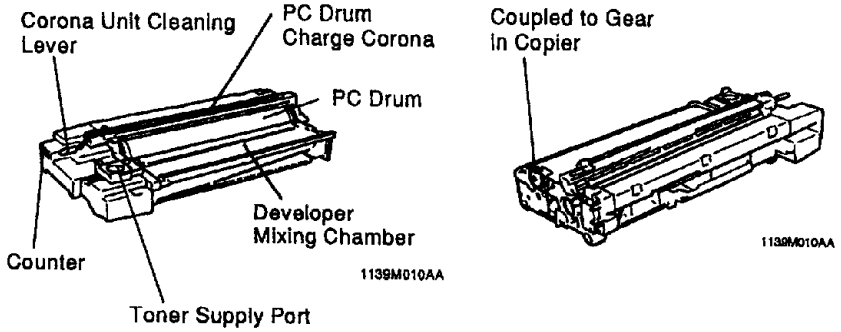
PC Drum Cross-Sectional View

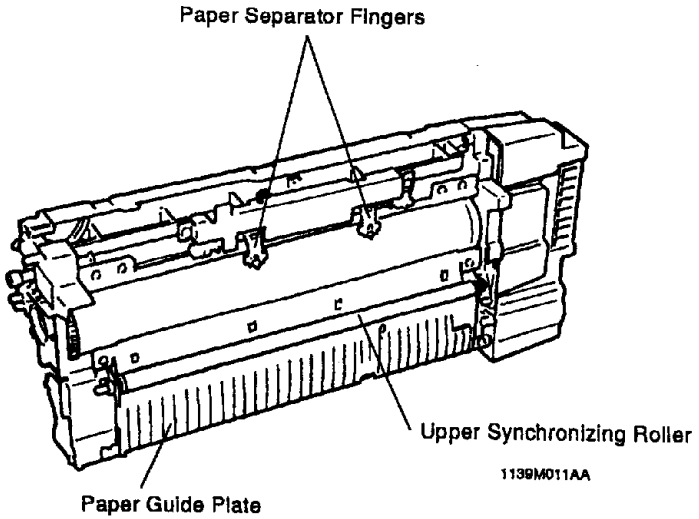




6 IMAGING UNIT

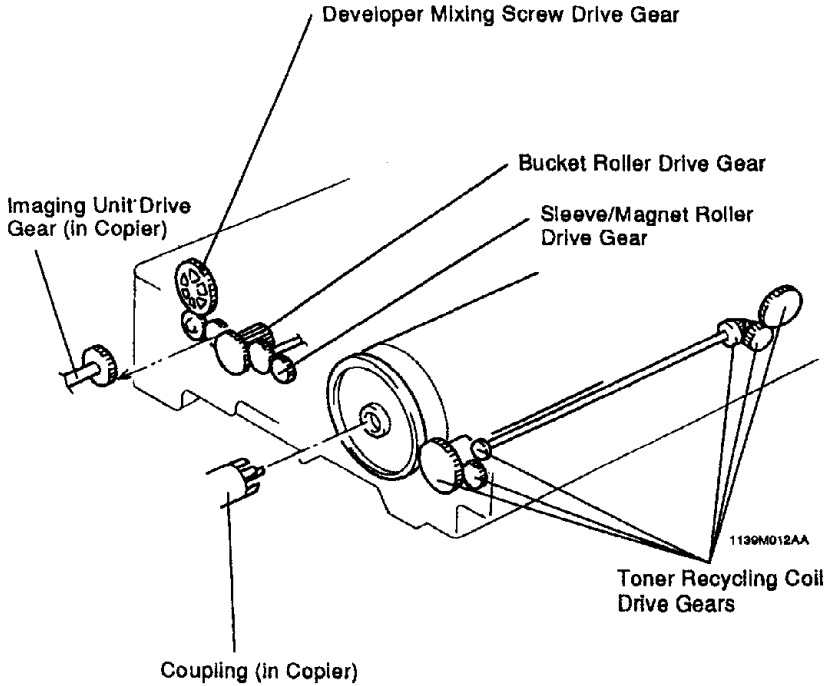
This copier is equipped with an Imaging Unit, or IU, which integrates a PC Drum, PC Drum Charge Corona, Developing Unit, Cleaning Unit, and Toner Recycling mechanism into one assembly. The Unit also includes the Upper Synchronizing Roller which facilitates clearing of a paper misfeed.





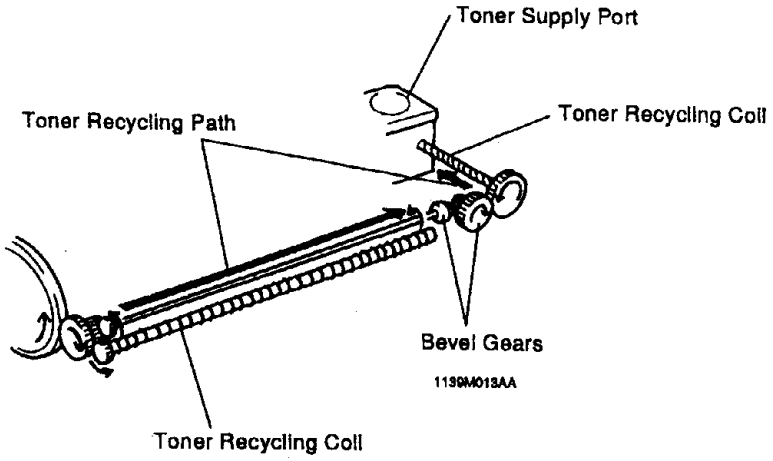
6-1. Imaging Unit Drive

Drive for the Imaging Unit is transmitted by one of the gears on the Unit. This particular gear is in mesh with the Imaging Unit Drive Gear in the copier.



6-2. Toner Recycling

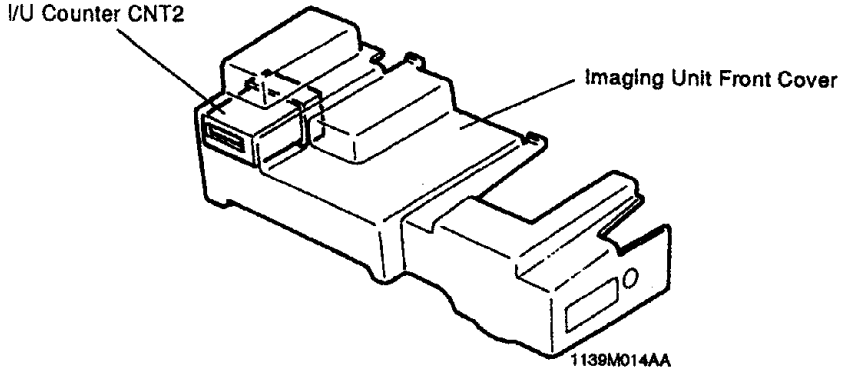
The copier is provided with a toner recycling mechanism.
The toner, which has been scraped off the surface of the PC Drum by the Cleaning Blade and collected in the Cleaning Unit, is conveyed by the two Toner Recycling Coils to the Toner Supply Port and, from there, it is returned back to the Developer Mixing Chamber of the Developing Unit.
One of the gears of the Toner Recycling mechanism receives drive through a gear at the rear end of the PC Drum.

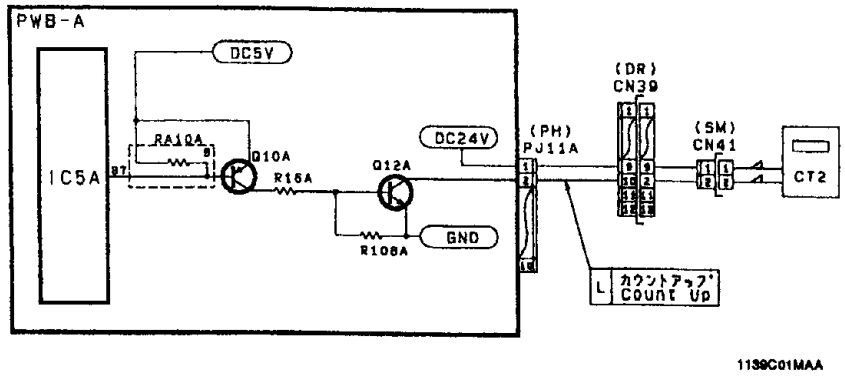


6-3. I/U Counter CNT2

The Imaging Unit is fitted with a mechanical counter. Called I/U Counter CNT2, it keeps track of the number of copy cycles the Imaging Unit has been subjected to.
CNT2 counts up when it receives a Count Up signal from Main Control Board PWB-A.

NOTE: This counter is fitted to Imaging Units for the USA, Canada, South America and Europe only. For other areas, a connector with a resistor is connected in place of the counter.

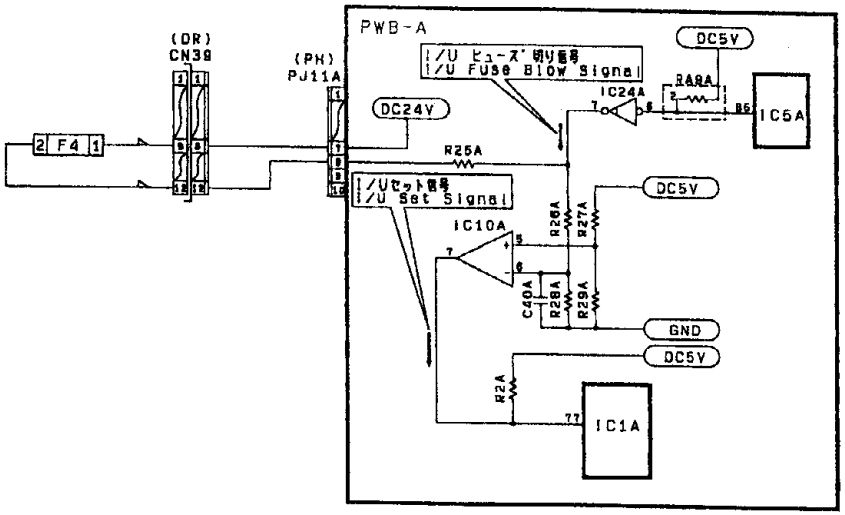




6-4. I/U Fuse F4

The Imaging Unit is provided with a fuse called I/U Fuse F4. When a new Imaging Unit is installed in the copier and the Power Switch turned ON, an I/U Set signal is output causing the copier to start the starter setup sequence and ATDC Sensor automatic adjustment.

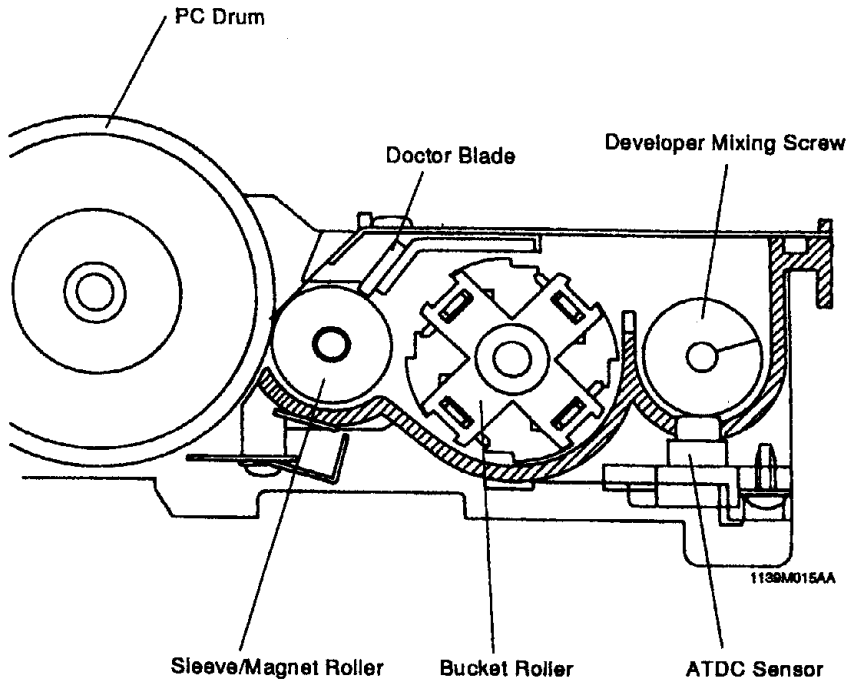
When the starter setup sequence is completed normally, an I/U Fuse Blow signal is output to blow F4. Once F4 is blown, the I/U Set signals are no longer output. This means that the starter setup sequence and ATDC Sensor automatic adjustment will not be carried out when the Power Switch is thereafter turned ON.



7 DEVELOPMENT

The Developing Unit built into the Imaging Unit performs the following functions:

- Mixes the toner and carrier well to ensure that a sufficient amount of toner is positively charged.
- Detects the toner-to-carrier ratio of the developer by means of the ATDC Sensor and replenishes the supply of toner as necessary.
- Detects a toner empty condition by means of the ATDC Sensor.
- Ensures that a proper amount of toner is attracted to the PC Drum by means of its Sleeve/Magnet Roller, Developing Bias, and Doctor Blade.



7-1. ATDC Sensor

ATDC Sensor UN3 installed on the underside of the Developer Mixing Chamber detects the varying toner-to-carrier ratio of the developer which flows over it in the Chamber. The copier CPU compares the detected ratio with the ratio set by the ATDC Detection Level Mode (Tech. Rep. Choice SCH-90) to control toner replenishment.

Set T/C (%)	ATDC Output Voltage (V)
4.0	2.725
4.5	2.6125
5.0	2.5
5.5	2.3875
6.0	2.275
6.5	2.1625

Toner is replenished for 5 seconds (the Toner Bottle is turned one turn, which is equivalent to a run of 2 copy cycles) for each Toner Replenishing signal.
If the toner-to-carrier ratio becomes lower than 2%, the copier inhibits the initiation of a new copy cycle (this feature can be enabled or disabled by a Tech. Rep. Choice mode). When a ratio of 2.5% or more is recovered as a result of Auxiliary Toner Replenishing, the copier permits the initiation of a new copy cycle.

If the Front Door is swung open and closed with a T/C ratio of less than 3.5%, the copier initiates an Auxiliary Toner Replenishing sequence. (It stops the sequence as soon as a T/C ratio of 3% is reached.)

ATDC Sensor Automatic Adjustment

An automatic adjustment of the ATDC Sensor is made in the F8 Test Mode operation and when a new Imaging Unit is installed in the copier.

- **When a New Imaging Unit is Installed in the Copier:**
  Following the execution of the starter setup mode upon power-up, the copier CPU reads the output value of the ATDC Sensor and establishes the reading as the reference value.

- **When F8 is Run after Starter Has Been Changed:**
  Following the execution of the starter setup mode upon pressing of the Start Key, the copier CPU reads the output value of the ATDC Sensor and establishes the reading as the reference value.

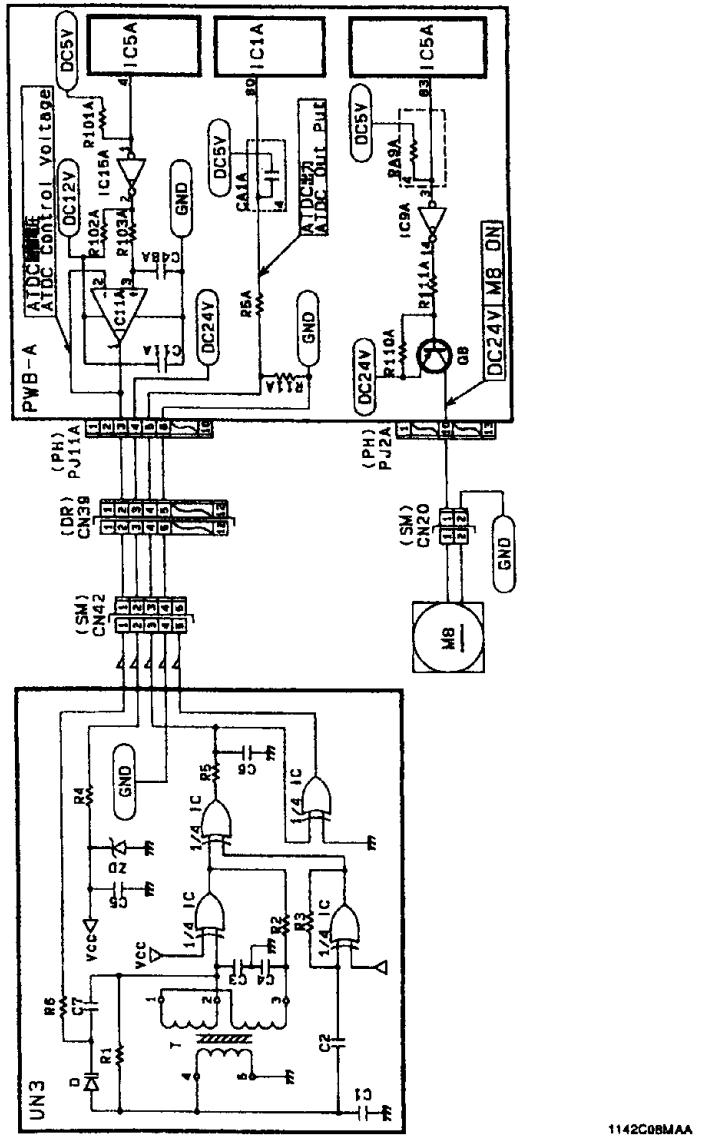
NOTE: If an F8 operation is run at a time when the starter has not been changed, it can result in a wrong T/C reference value being set by the copier. Avoid casual use of F8.

If the setting value has been cleared because of the RAM Board being replaced, however, enter the ATDC control value before the replacement using the Zoom Up/Down Keys in the F8 operation (without pressing the Start Key).

Toner Empty Detection

The copier has no toner empty detecting sensor and, instead, the ATDC Sensor performs that function.
The ATDC Sensor checks the toner-to-carrier ratio and, if it reads a T/C ratio lower than the setting 37 copies and, further, if it next reads a ratio 1% lower than the setting, this is a toner-empty condition. The toner-empty condition is canceled after detection under any of the following conditions:

- The set T/C ratio has been recovered.
- After the Front Door has been swung open and closed.



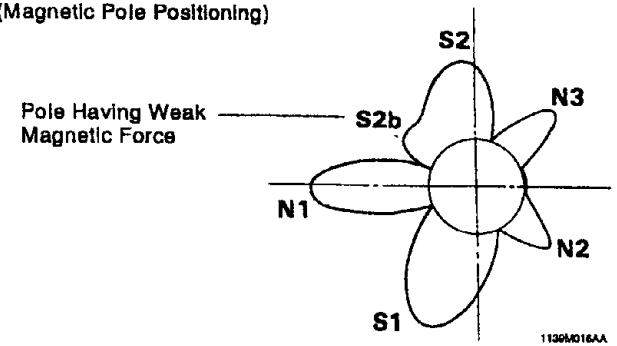
7-2. Magnet Roller

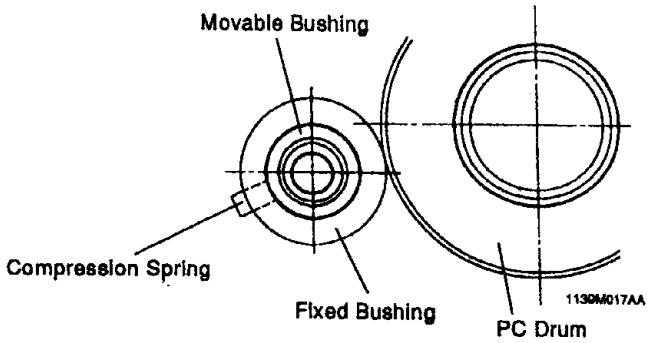
The Magnet Roller of the Sleeve/Magnet Roller of this copier has the following magnetic characteristics. Part of pole S2 before the principal N1 pole (i.e., the area marked as S2b in the Fig. below) provides a very weak magnetic force. If developer is compacted and clogs at the Doctor Blade and, as a result, part of the surfaces of the Sleeve/Magnet Roller is not covered with developer, the nearby developer around S2b goes to those uncovered surfaces because of its weak magnetic force. This helps prevent blank lines from occurring on the copy.

The Sleeve Roller, onto which developer is attracted by the magnetic fields of force set up by the poles of the Magnet Roller, turns to convey the developer toward the point of development. It also means that the developer fresh from the Developer Mixing Chamber is always brought to the point of development.

As we noted earlier, the Imaging Unit integrates the Developing Unit with the PC Drum into one body. Because of that, it is impossible to move the Developing Unit against the PC Drum, thereby providing a certain distance between the PC Drum and Sleeve/Magnet Roller. The Magnet Roller has therefore been made movable: the Bushing is pressed by compression springs thereby pressing the Positioning Collars on both ends of the Magnet Roller against the PC Drum. This ensures a given distance between the PC Drum and the Sleeve/Magnet Roller.

(Magnetic Pole Positioning)



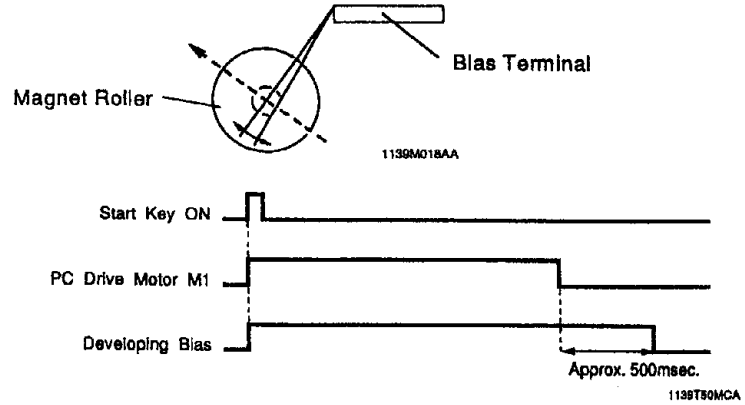


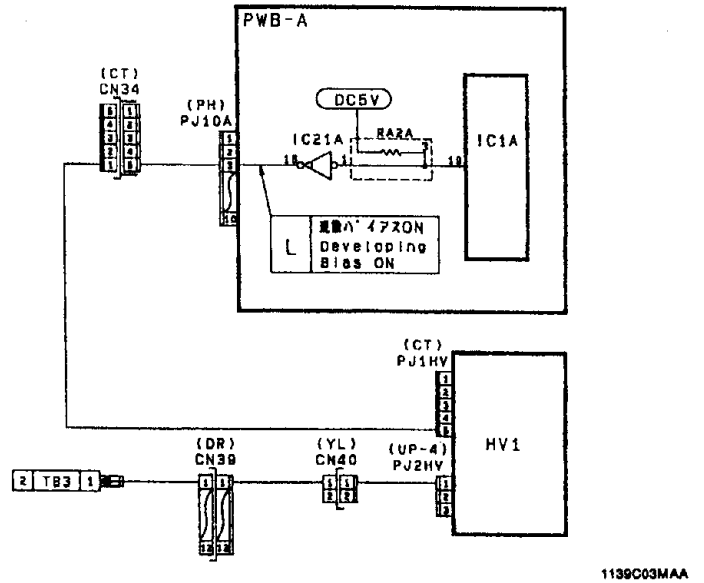
7-3. Developing Bias

A negative voltage (Vb = Developing Bias voltage) is applied to the Sleeve Roller to prevent a foggy background on the copy. The amount of toner attracted onto the surface of the PC Drum depends on how much lower the PC Drum surface potential (Vl) is than Vb (i.e., the potential difference).

- When the potential difference is large, a greater amount of toner is attracted.
- When the potential difference is small, a smaller amount of toner is attracted.

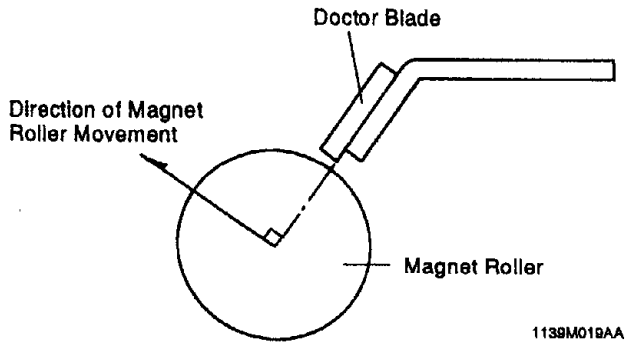
Because the Magnet Roller of this copier is movable, a flat spring is used as the Bias Terminal which follows the movement of the Magnet Roller.





7-4. Doctor Blade

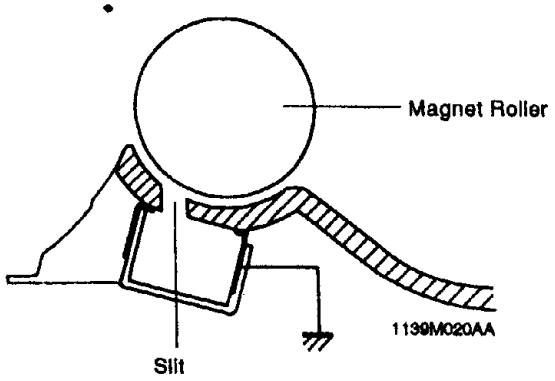
The Doctor Blade installed over the Sleeve/Magnet Roller regulates the height of the developer brush on the surface of the Sleeve Roller. The Blade is perpendicular to the direction of movement of the Magnet Roller to minimize variations in the distance between the Doctor Blade and Magnet Roller as the Magnet Roller moves.



7-5. Magnet Roller Lower Filter

* Except the U.S.A., Canada, and Europe

There is a slit provided under the Magnet Roller to collect insufficiently charged toner in the grounded Toner Antispill Receiver. This effectively prevents the toner from spilling onto the mechanisms inside the copier.



7-6. ATDC SENSOR FAILURE

A defective ATDC Sensor (C0F30) is detected under any of the following timings:

* The ATDC Sensor output remains 0.5V or lower for a consecutive 2-second period during a period from 2 seconds after the Imaging Unit has been energized until it is deenergized.

* The ATDC Sensor output remains 4.5V or higher for a consecutive 2-second period during a period from 2 seconds after the Imaging Unit has been energized until it is deenergized.

8 CLEANING UNIT

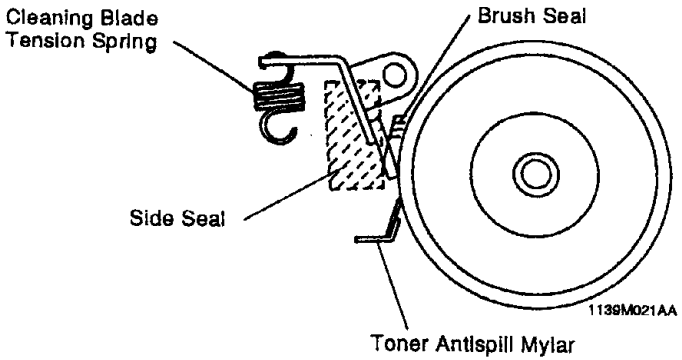
8-1. Cleaning Unit

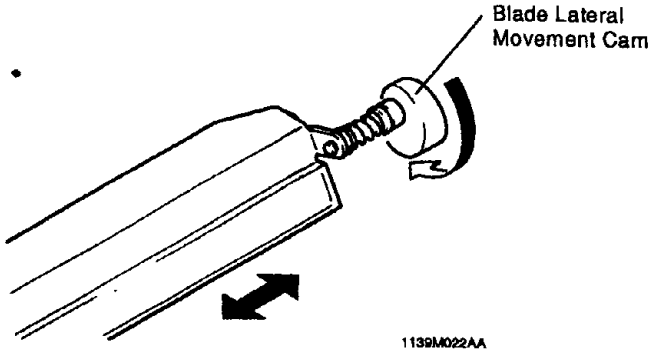
The Cleaning Blade is pressed tightly against the surface of the PC Drum and scrapes off any toner remaining on the surface after image transfer and paper separation have been completed.

The Cleaning Blade is moved back and forth to prevent the PC Drum from deteriorating and the Cleaning Blade from warping away from the surface of the PC Drum.

There is a Toner Antispill Mylar affixed to the Imaging Unit. It prevents toner scraped off the surface of the PC Drum from falling down onto the surface of the copy paper or the paper path.

In addition, a Side Seal and Brush Seal are affixed to both ends of the Imaging Unit on both sides of the Cleaning Blade. They prevent toner from spilling from both ends of the Cleaning Blade.

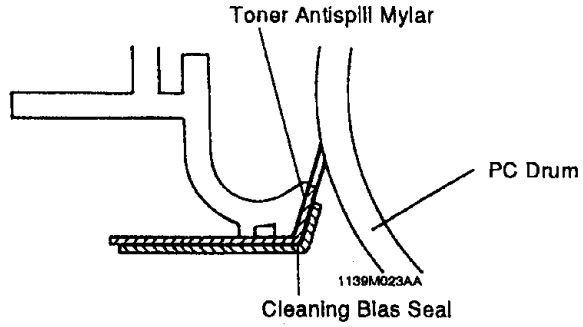


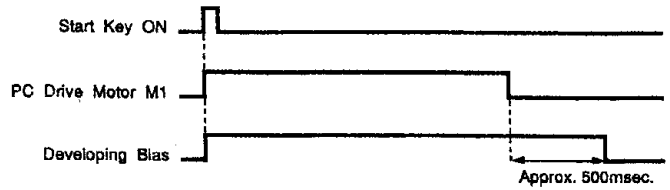


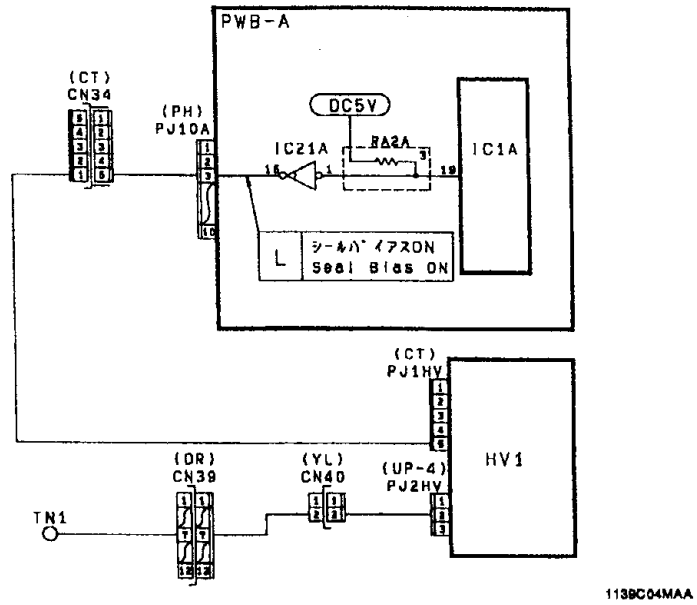
8-2. Cleaning Bias

* Except the U.S.A., Canada, and Europe

There is a Cleaning Bias Seal installed to minimize damage to the PC Drum from acid paper.



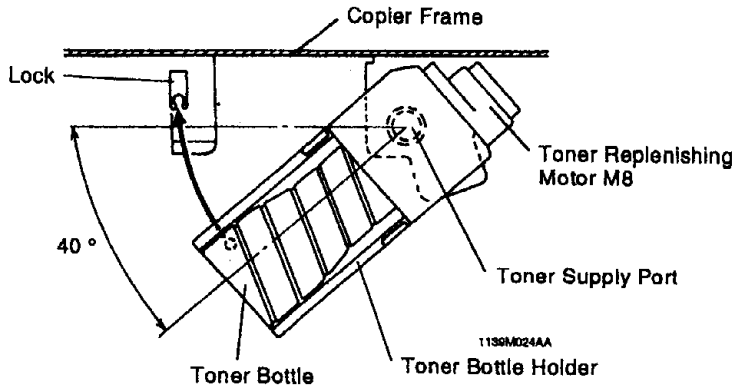




9 TONER HOPPER

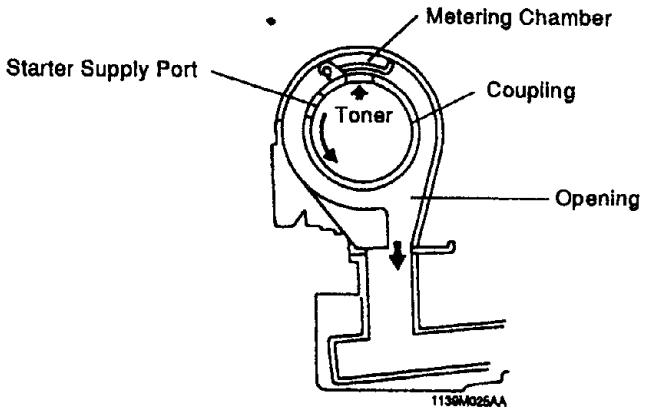
9-1. Toner Hopper Locking/Unlocking

The Toner Hopper is not integrated into the Imaging Unit; instead, it is secured to the copier. To replace an empty Toner Bottle, the user first needs to swing the Toner Bottle Holder out 40° to the front. The Holder pivots about the Toner Supply Port as it is swung out or in, which effectively prevents toner from spilling when the Holder is swung out or in.



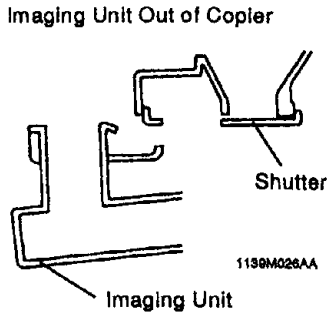
9-2. Toner Replenishing

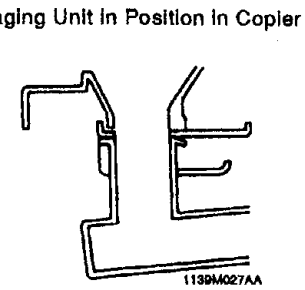
Toner is supplied from the Toner Bottle through the Coupling. During toner replenishing, the Toner Bottle and Coupling turn together.
There is a Metering Chamber provided at the toner supply port of the Coupling. It functions to regulate the amount of toner to be fallen down.
There is a supply port for the exclusive use of the starter. The starter does not pass through the Metering Chamber, which means that it takes a shorter time to charge the starter.



9-3. Shutter

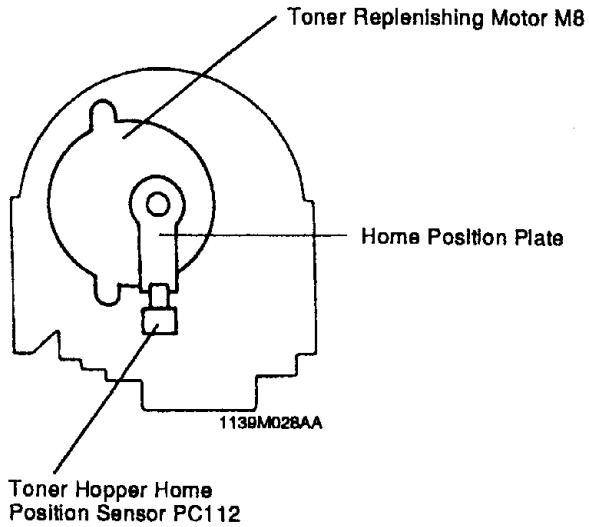
The connection between the Toner Hopper and Imaging Unit is provided with a Shutter which prevents toner from spilling when the Imaging Unit is slid out of the copier.





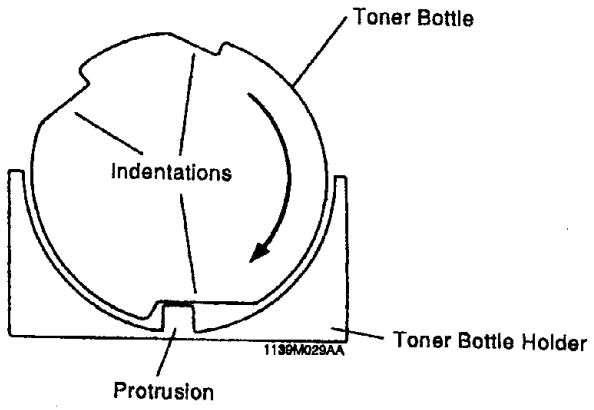
9-4. Toner Hopper Home Position Detection

Toner Replenishing Motor M8 is fitted with a Home Position Plate which is detected by Toner Hopper Home Position Sensor PC112. This ensures that the Toner Bottle is located so that its opening is positioned on top whenever M8 is deenergized.



9-5. Toner Bottle Vibration

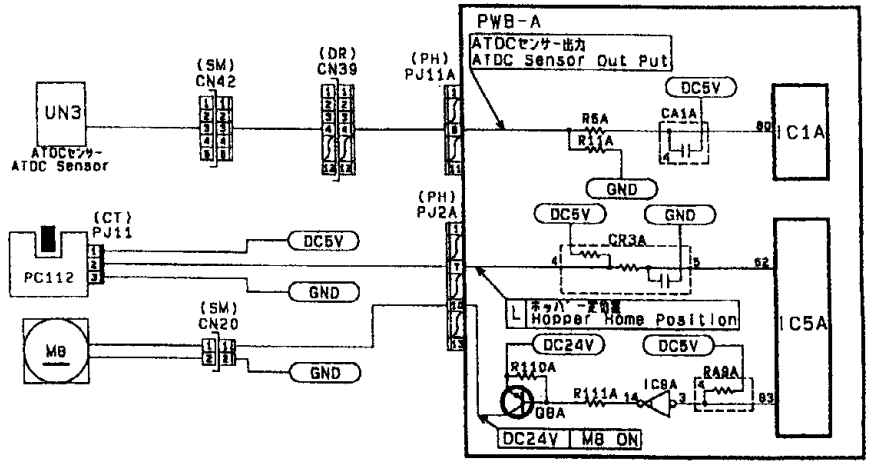
When the indentations at three places on the left-hand side (as viewed when the Toner Bottle is in position) of the Toner Bottle move past the protrusion in the Toner Bottle Holder, the Toner Bottle is vibrated to prevent some of the toner from remaining unconsumed in the Bottle.



9-6. Toner Replenishing Control

1. The ATDC Sensor installed in the Imaging Unit reads the toner-to-carrier ratio of the developer in the Developer Mixing Chamber for each copy cycle.
2. It samples the ratio 16 times and compares each with the preset level.
3. If eight or more readings out of the total 16 are lower than the preset level, a Toner Replenishing signal is output.
4. Toner Replenishing Motor M8 is turned one complete turn for each Toner Replenishing signal (which is equivalent to a supply of 0.45 g toner).

* The readings taken while M8 is turning (it takes 5 seconds for M8 to turn one complete turn) are ignored. This means that, in a multi-copy cycle, the ATDC Sensor may take readings as the next copy cycle is started while M8 is turning; but, those readings are ignored.

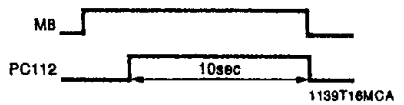


1142C09MAA

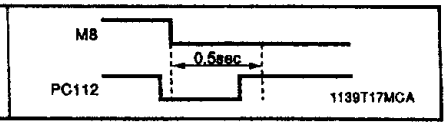
9-7. Toner Replenishing Motor M8 Malfunction

A defective Toner Replenishing Motor M8 is detected under any of the following timings:

C0070: M8's Failure to Turn

The output from Toner Hopper Home Position Sensor PC112 does not go HIGH within 2 seconds after M8 has been energized.	
The PC112 output does not go LOW within 10 seconds after it has gone HIGH following energization of M8.	

C0071: M8 Turning at Abnormal Timing

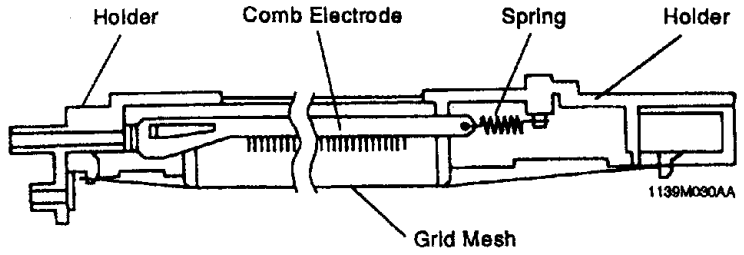
The PC112 output is HIGH 0.5 seconds after M8 has been deenergized.	

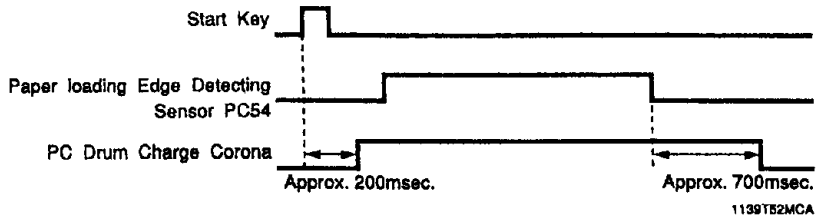
10 DRUM CHARGING

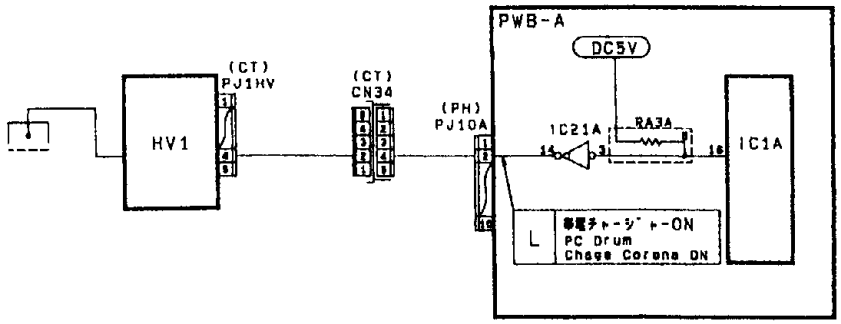
The PC Drum Charge Corona above the Imaging Unit deposits a negative DC charge evenly across the surface of the PC Drum.

The Corona Unit has a Comb Electrode which minimizes the amount of ozone produced. The conventional wire type corona unit produces a large amount of ozone due to corona discharge in radial directions. The comb electrode type, on the other hand, discharges corona only toward the Grid Mesh, meaning a reduced amount of ozone is produced.

The Comb Electrode can be cleaned by the user who pulls out to the front the shaft on which a Cleaning Roller is mounted.

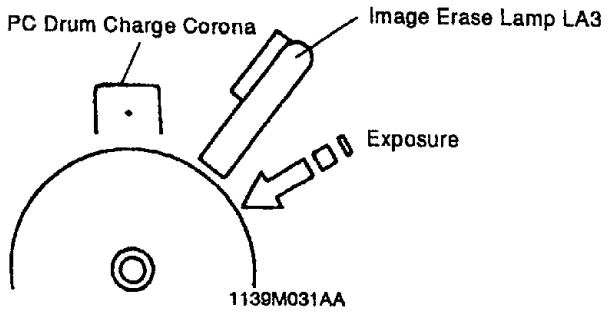




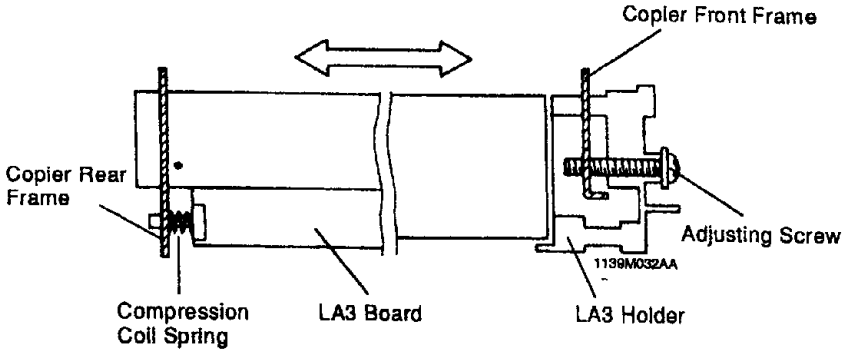


11 IMAGE ERASE LAMP

To prevent a black band from occurring across both the leading and trailing edges, and along the front and rear edges, of the electrostatic latent image, 31 LEDs of Image Erase Lamp LA3 are turned ON before development takes place, thereby reducing to a minimum the unnecessary potential on the surface of the PC Drum.
Because of the light path involved, this copier has this edge erasing cycle between drum charging and exposure.



The position of LA3 can be adjusted using the adjusting screw on the front of the copier.



The 31 LEDs of LA3 are grouped as shown below. The diagram on the bottom of this page shows which LEDs turn ON and OFF for different paper sizes and different zoom ratios.

LED Group No.	LED No.	LED Group No.	LED No.
00	LED 1	10	LED 23
01	LED 2 to 6	11	LED 24
02	LED 7 to 11	12	LED 25
03	LED 12 to 16	13	LED 26
04	LED 17	14	LED 27
05	LED 18	15	LED 28
06	LED 19	16	LED 29
07	LED 20	17	LED 30
08	LED 21	18	LED 31
09	LED 22		

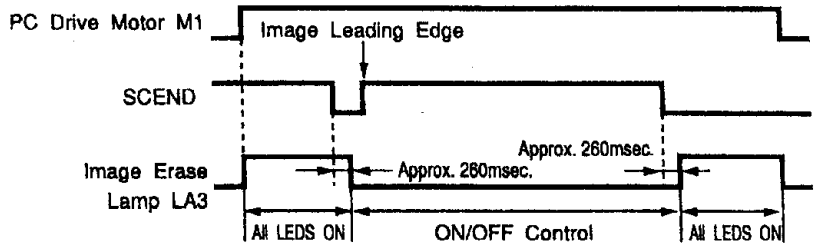
* The smaller the number, the nearer the LED is to the front side of the copier.

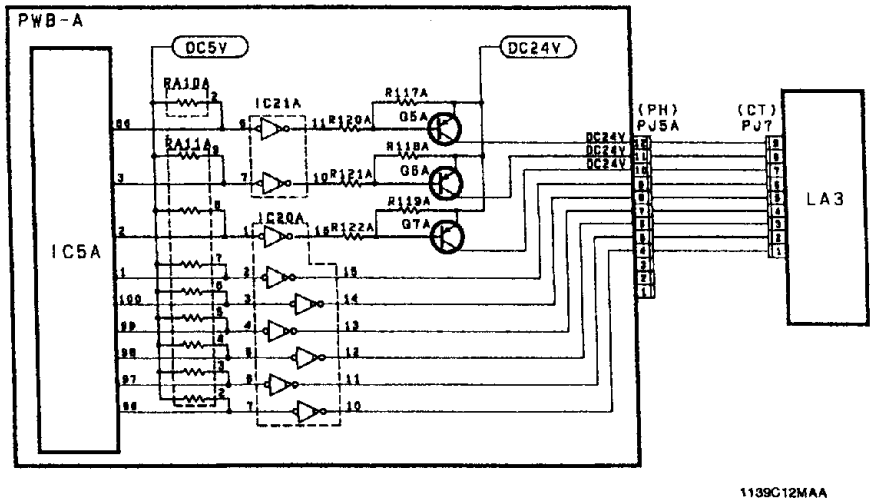
LED ON/OFF Pattern

Zoom Ratio	Paper Width	LED Group No.																		
From - To Less Than (%)	From - To Less Than (mm)	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
50.0 to 52.5	to 147	O	—	—	—	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
52.5 to 56.5	147 to 159	O	—	—	—	—	O	O	O	O	O	O	O	O	O	O	O	O	O	O
56.5 to 60.5	159 to 171	O	—	—	—	—	—	O	O	O	O	O	O	O	O	O	O	O	O	O
60.5 to 63.5	171 to 183	O	—	—	—	—	—	—	O	O	O	O	O	O	O	O	O	O	O	O
63.5 to 66.5	183 to 192	O	—	—	—	—	—	—	—	O	O	O	O	O	O	O	O	O	O	O
66.5 to 69.5	192 to 201	O	—	—	—	—	—	—	—	—	O	O	O	O	O	O	O	O	O	O
69.5 to 73.5	201 to 212	O	—	—	—	—	—	—	—	—	—	O	O	O	O	O	O	O	O	O
73.5 to 77.5	212 to 223	O	—	—	—	—	—	—	—	—	—	—	O	O	O	O	O	O	O	O
77.5 to 81.5	223 to 235	O	—	—	—	—	—	—	—	—	—	—	—	O	O	O	O	O	O	O
81.5 to 85.5	235 to 247	O	—	—	—	—	—	—	—	—	—	—	—	—	O	O	O	O	O	O
85.5 to 89.5	247 to 259	O	—	—	—	—	—	—	—	—	—	—	—	—	—	O	O	O	O	O
89.5 to 92.5	259 to 270	O	—	—	—	—	—	—	—	—	—	—	—	—	—	—	O	O	O	O
92.5 to 95.5	270 to 281	O	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	O	O	O
95.5 to 98.5	281 to 291	O	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	O	O
98.5 to	291 to	O	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	O

O: ON; —: OFF

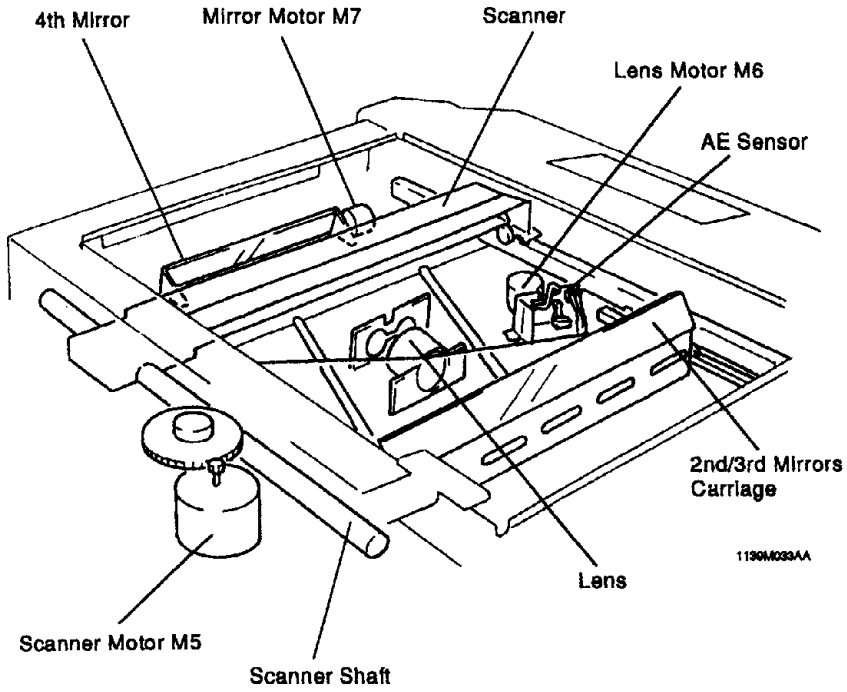
* Max. width (291 mm or more) applies to manual bypass copying in which the copier is unable to detect paper width.





12 OPTICAL SECTION

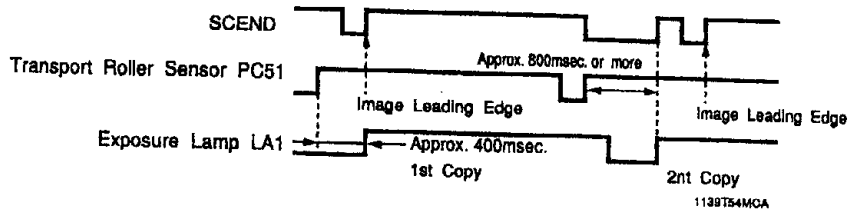
As the Scanner is moved by Scanner Motor M5, the light from Exposure Lamp LA1 is reflected off the original and guided through the four Mirrors onto the surface of the PC Drum to form the electrostatic latent image. The image is enlarged or reduced as necessary by changing the position of the Lens and 4th Mirror and varying the angle of the 4th Mirror.

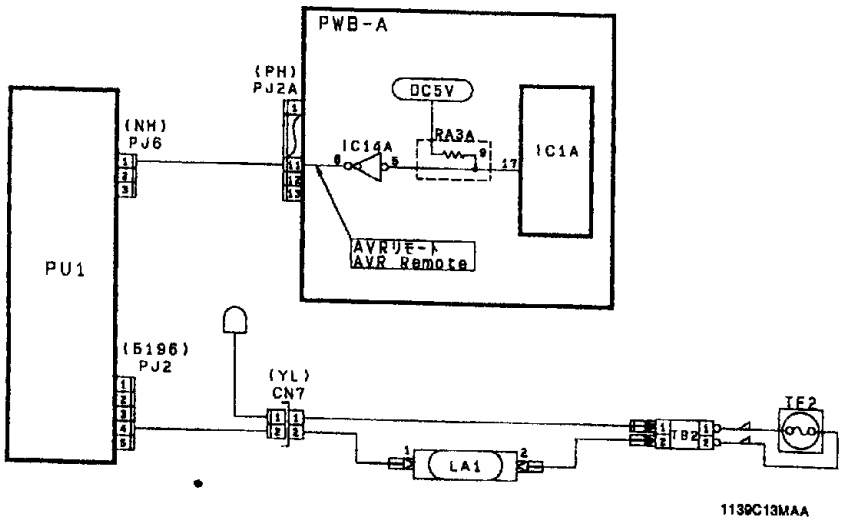


12-1. Exposure Lamp LA1

An AC halogen lamp is used as Exposure Lamp LA1.
As the exposure level is adjusted on the control panel, the duty ratio of the pulse of AVR Remote from PWB-A changes to increase or decrease the LA1 voltage, thereby changing the image density.

Manual EXP Setting	9	8	7	6	5	4	3	2	1
Lamp Voltage Difference (V)	−8	−4	−2	−1	Reference	+1	+2	+4	+8



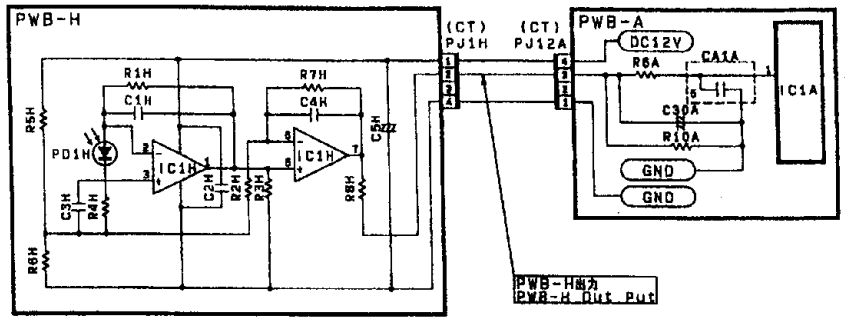


* If reduction copies are made using large size paper, the Trailing edge of the first copy moves past PC51 after the SCEND signal for the second copy has been generated. If LA1 is turned ON for the second copy at the same timing as the first one, therefore, the image for the second copy is produced on the trailing edge of the first copy. To prevent this from occurring, LA1 is turned ON for the second and subsequent copies when all of the following conditions are met:
  - Approx. 800 msec. or more have elapsed after the first copy deactivated PC51.
  - The PC51 output is HIGH.
  - The SCEND signal for the second copy is output.

12-2. AE Sensor

In the Auto Exposure Mode, the AE Sensor on AE Sensor Board PWB-H measures the intensity of the light reflected off the original, which results in the black/white ratio of a 210-mm-wide area from the reference position of the original being measured. According to this measurement, the Exposure Lamp voltage is automatically increased or decreased so that copies of consistent quality are produced.
The output from the AE Sensor is applied to PWB-A which, in turn, varies the duty ratio of the AVR Remote from it to vary accordingly the LA1 voltage.

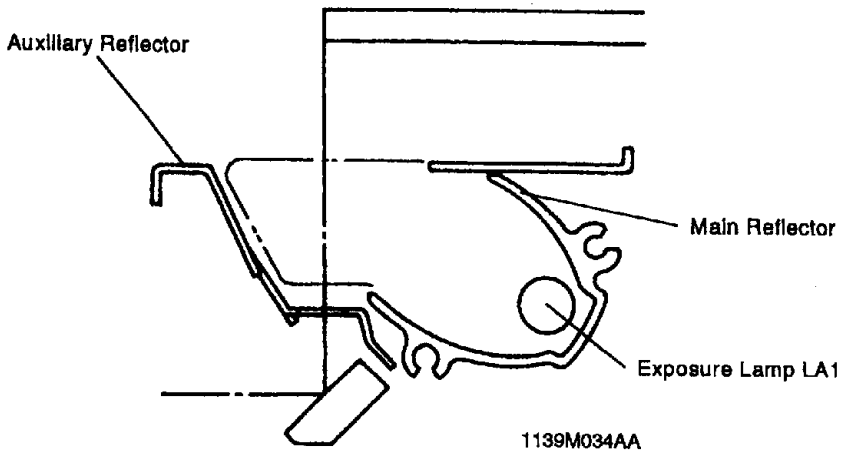
Original Density (B/W Ratio)	High	Low
Intensity of Reflected Light	Low	High
PWB-H Output	High	Low
AVR Duty	Decreased	Increased
LA1 Voltage	Increased	Decreased



12-3. Lamp Reflectors

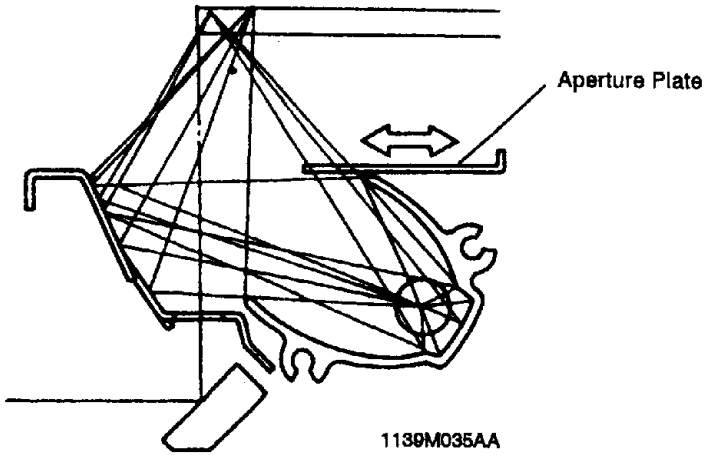
The Main Reflector ensures that light from Exposure Lamp LA1 exposes all areas of the original. The Auxiliary Reflector functions to reflect light onto the areas that LA1 cannot illuminate when an original that does not lie flat on the Original Glass (such as a book) is being used. This reduces shadows which would otherwise be transferred to the copy.

The Main Reflector is of aluminum, while the Auxiliary Reflector is aluminum to which film has been deposited. The same film as that used on the Auxiliary Reflector is affixed to both sides of the frame to compensate for the reduced intensity of light around both sides of the Exposure Lamp.



12-4. Aperture Plates

Four Aperture Plates are moved to the front and rear to ensure even light distribution.

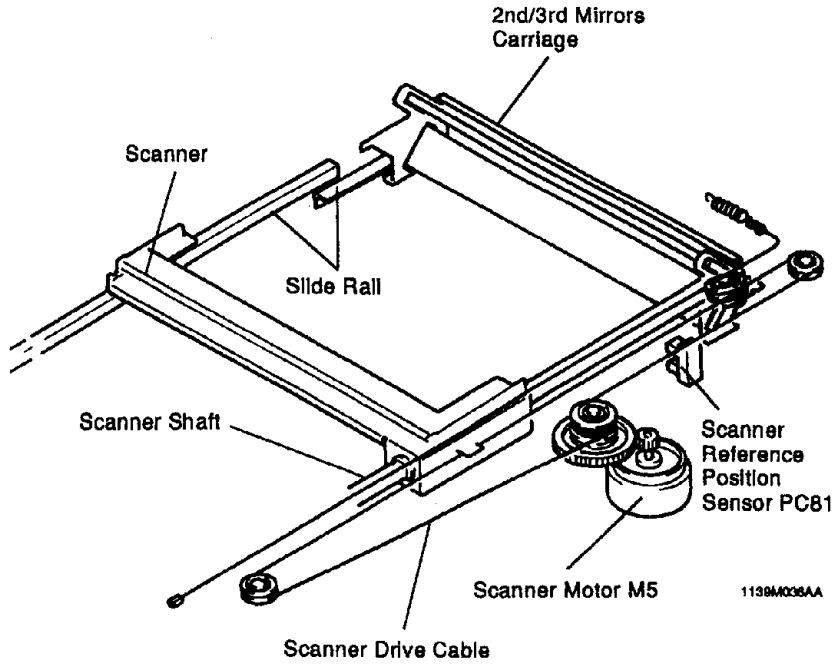


12-5. Scanner and 2nd/3rd Mirror Carriage Movement

The Scanner and 2nd/3rd Mirrors Carriage are moved by the Scanner Drive Cable fitted in the rear side of the copier. The Cable is driven by Scanner Motor M5.

Both the Scanner and 2nd/3rd Mirrors Carriage slide along the Scanner Shaft at the rear end. While at the front end, there is a Slide Bushing attached to the underside of each of the bodies and that Bushing slides over the Slide Rail. The speed of the Scanner and 2nd/3rd Mirrors Carriage varies with different zoom ratios.

Scanner Reference Position Sensor PC81 detects the home position of the Scanner and 2nd/3rd Mirrors Carriage. If they are not at the home position when the copier is turned ON, M5 is energized to move them to the home position.

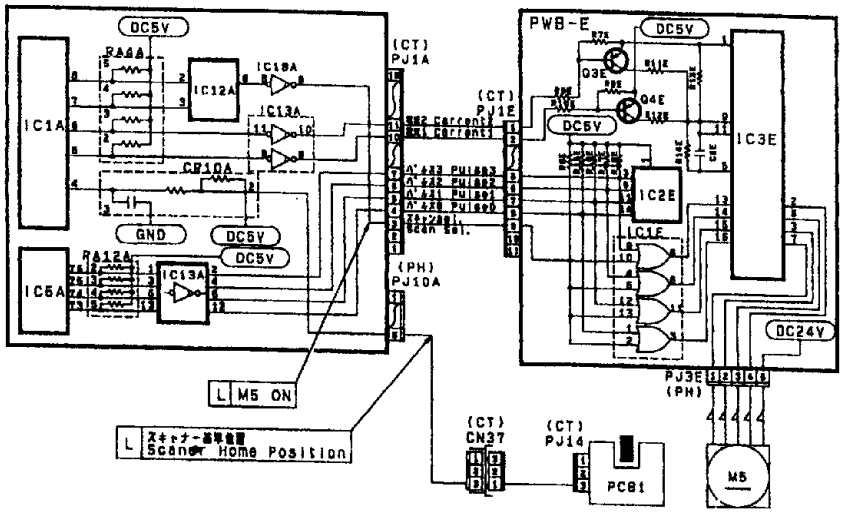


The Scanner starts the scan motion as a Scan Sel signal (PJ1-3) is output from PWB-A. At the start of a scan motion and other heavy load conditions, Scanner Motor M5 requires a large amount of current. The Current 1 or 2 signal (PJ1-10 or 11) from PWB-A is selected accordingly to vary the amount of current supplied to M5.

* The Current signal selection timing is controlled by software.

Current 1	H	L	L
Current 2	H	H	L
Current	Approx. 0.56A	Approx. 0.65A	Approx. 0.85A
	When the scan speed reaches a given level and during return braking.	At scan start and when the return speed reaches a given level.	At return start and at scan start for low zoom ratio

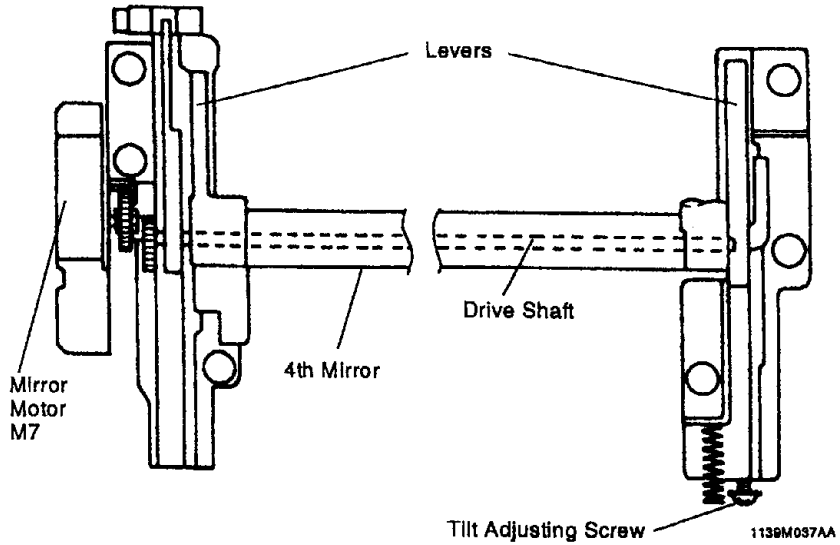
On receiving the Scan Sel signal, Motor Drive Board PWB-E applies motor drive pulses, which are out-of-phase with each other, to M5. The motor speed is varied by changing the width of the pulses applied to M5.



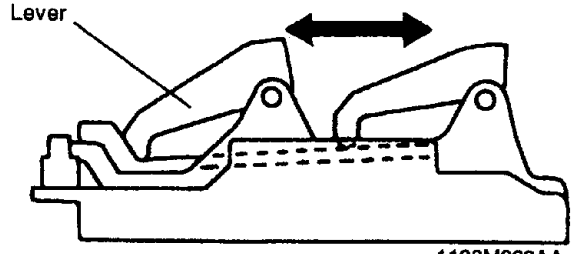
1139C15MAA

12-6. 4th Mirror Movement

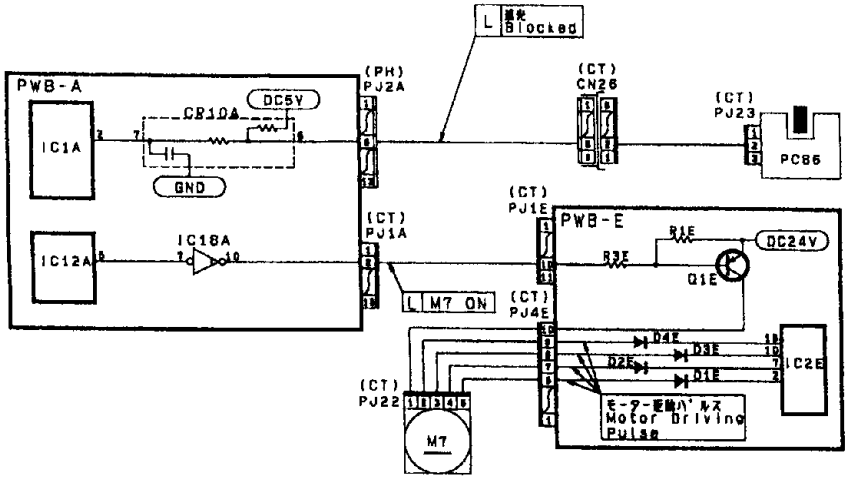
The 4th Mirror is moved to vary the conjugate distance for a particular zoom ratio by driving the rack-and-pinion gears at the front and rear ends of the copier using Mirror Motor M7 (stepping motor). The Levers of the Holder to which the Mirror is mounted slides along a tilted rail to change the Mirror angle. This ensures that the light strikes the surface of the PC Drum in the direction of the normal, thereby preventing resolution from being degraded. Mirror Reference Position Sensor PC81 is used to control the position of the 4th Mirror. It ensures that the Mirror is located at the home position when the copier is turned ON.



1139M037AA



1139M038AA

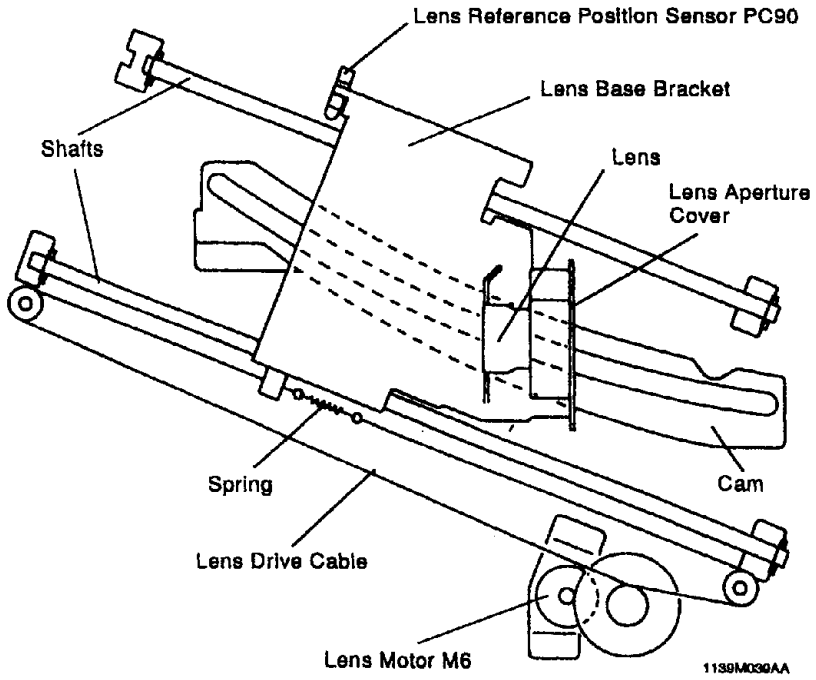


1139C16MAA

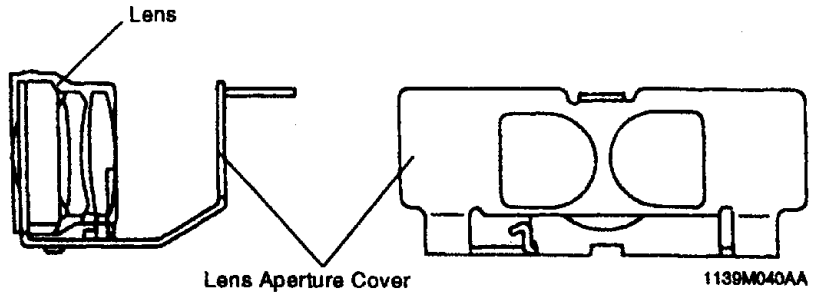
12-7. Lens Movement

The Lens is moved by the Lens Drive Cable to which drive comes from Lens Motor M6 (stepping motor). The motor drive pulses (PJ4E-1 to 4) sent from PWB-E drive M6 to move the Lens a given distance, corresponding to the zoom ratio, from the reference position determined by Lens Reference Position Sensor PC90.

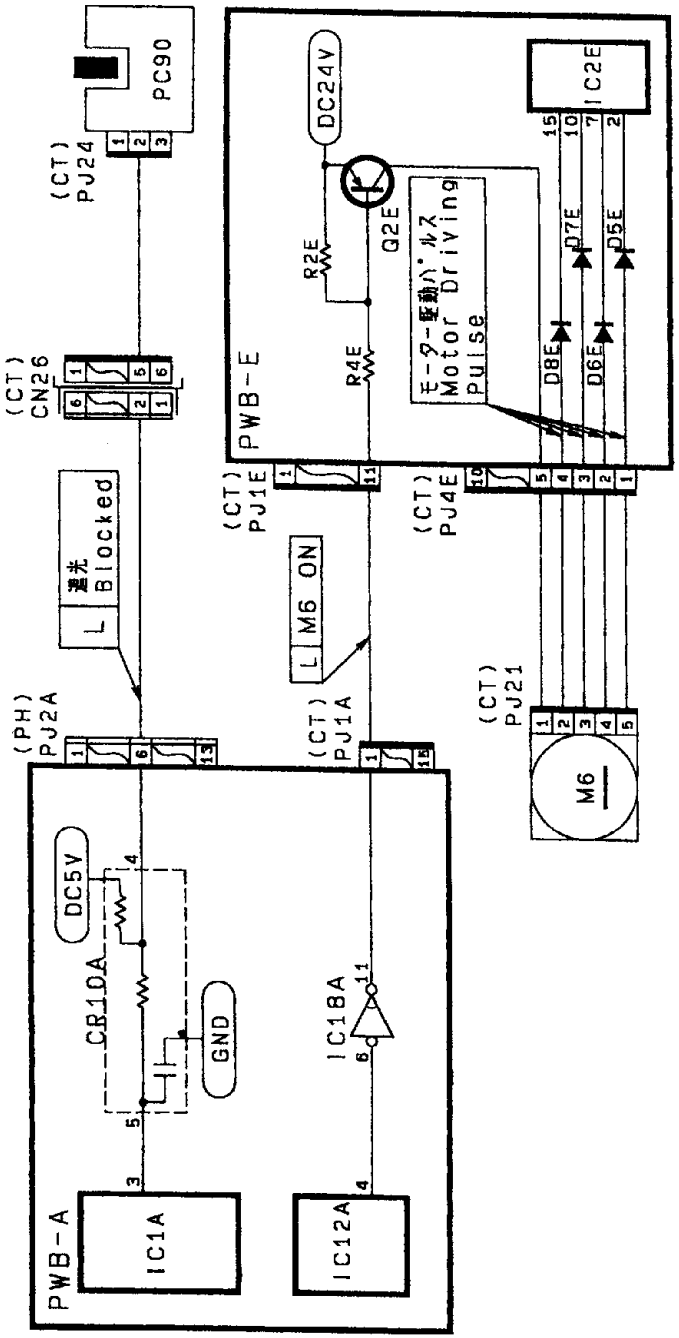
There is a fixed-type Lens Aperture Cover provided in the rear of the Lens (on the 4th Mirror end). It limits the amount of light striking the surface of the PC Drum.



1139M039AA



1139M040AA

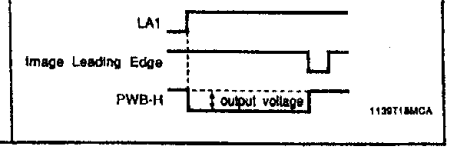


1139C17MAA

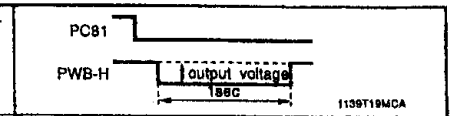
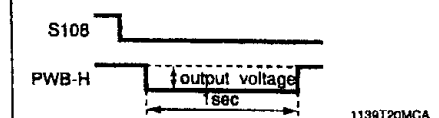
12-8. OPTICAL SECTION MALFUNCTION

A defective Exposure Lamp LA1 (C0400, C0410) is detected under any of the following timings:

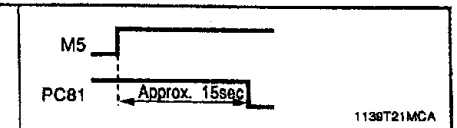
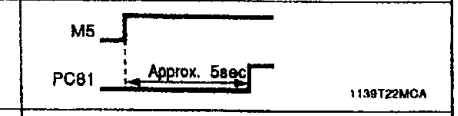
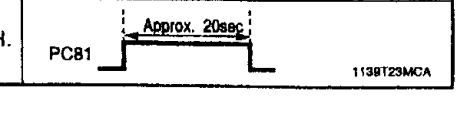
C0400: Exposure Lamp's Failure to Turn ON

The output from AE Sensor Board PWB-H does not drop to 4.3V or lower for the period from when LA1 turns ON and the Scanners start a scan motion to when an Image Leading Edge signal is output.	

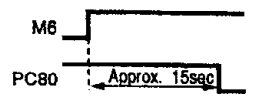
C0410: Exposure Lamp Turning ON at Abnormal Timing

The PWB-H output remains 4.1V or lower for 1 second or longer while the output from Scanner Reference Position Sensor PC81 remains LOW.	
The PWB-H output remains 4.1V or lower for 1 second or longer while Size Reset Switch S108 remains actuated (HIGH) (except while the Scanners are in motion).	

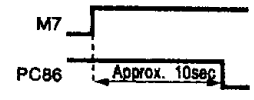
A defective Scanner Motor M5 (C0600) is detected under any of the following timings:

The output from Scanner Reference Position Sensor PC81 does not go LOW within approx. 15 seconds after M5 has been energized (for Scanner's return motion).	
The output from PC81 does not go HIGH within approx. 5 seconds after M5 has been energized (for Scanner's scan motion).	
The output from PC81 does not go LOW within 20 seconds after it has gone HIGH.	

A defective Lens Motor M6 (C0610) is detected under any of the following timings:

The output from Lens Reference Position Sensor PC90 does not go LOW within approx. 15 seconds after M6 has been energized while the PC90 output was HIGH.	
The output from PC90 does not go HIGH within approx. 10 seconds after M6 has been energized while the PC90 output was LOW.	

A defective Mirror Motor M7 (C0620) is detected under any of the following timings:

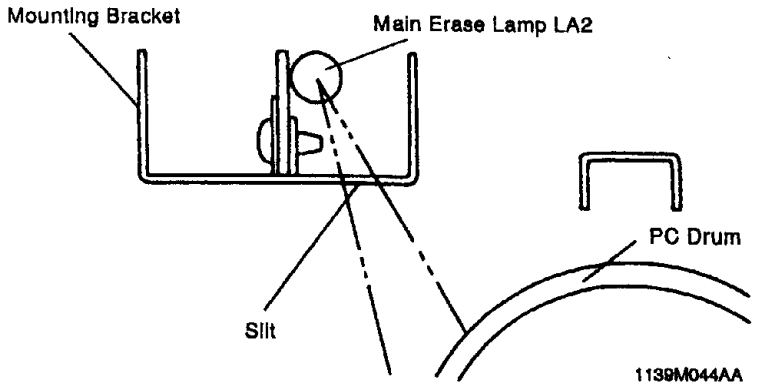
The output from Mirror Reference Position Sensor PC86 does not go LOW within approx. 10 seconds after M7 has been energized while the PC90 output was HIGH.	
The output from PC86 does not go HIGH within approx. 3 seconds after M7 has been energized while the PC86 output was LOW.	

A defective AE Sensor Board PWB-H (C0F10) is detected under the following timing:

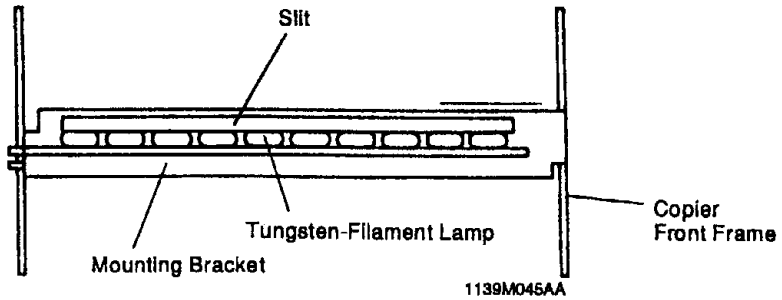
- The PWB-H output voltage sampled in the F5 operation does not fall within the range between 2.0V and 4.2V.

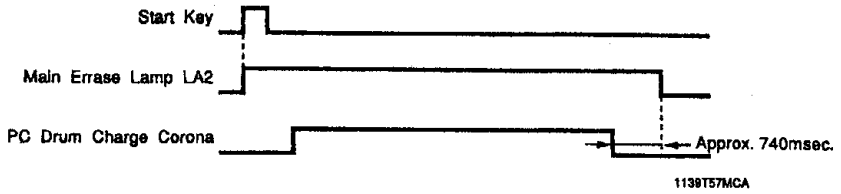
13 MAIN ERASE LAMP

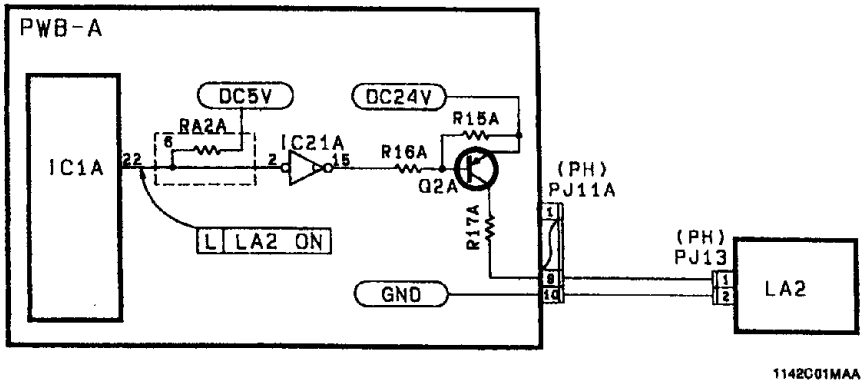
Main Erase Lamp LA2 is turned ON to neutralize any surface potential remaining on the surface of the PC Drum after cleaning.



LA2 consists of ten tungsten-filament lamps mounted on a Board.







14 IMAGE TRANSFER AND PAPER SEPARATION

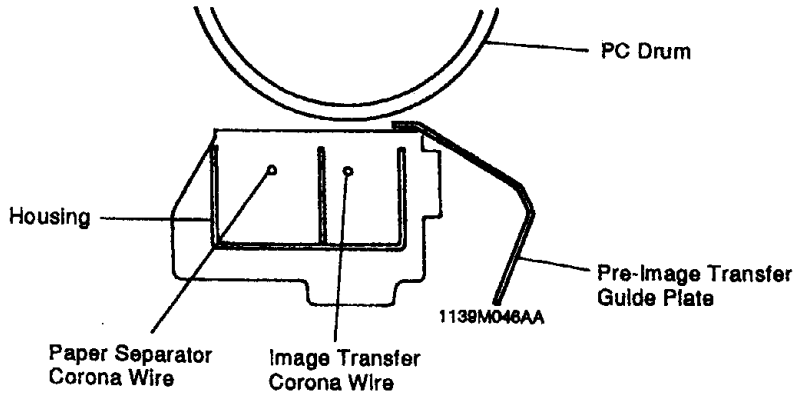
Image Transfer

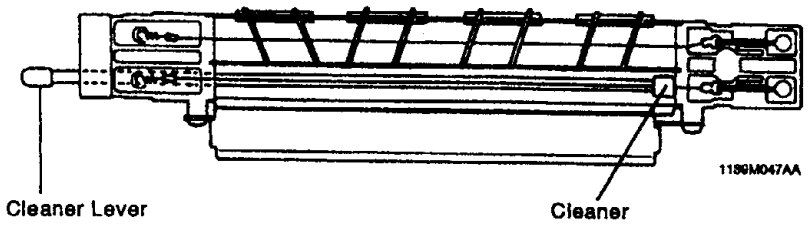
The Image Transfer Corona applies a DC negative corona emission to the underside of the paper thereby attracting the positively charged toner onto the surface of the paper to form a visible, developed image of the original. The Corona Unit is provided with a Corona Wire cleaning mechanism: the operator has only to pull out the Lever on which the Cleaner is mounted from the front of the copier, which cleans the Wire.

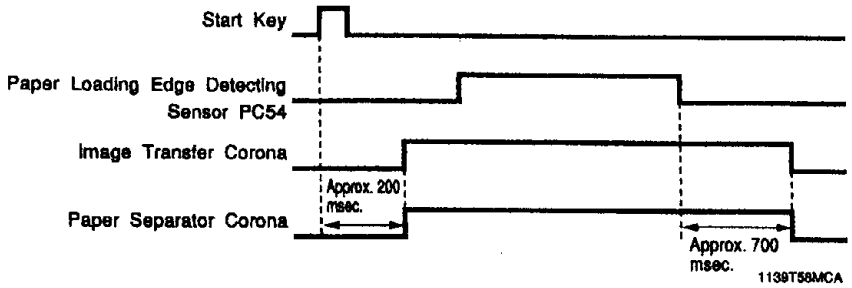
Paper Separation

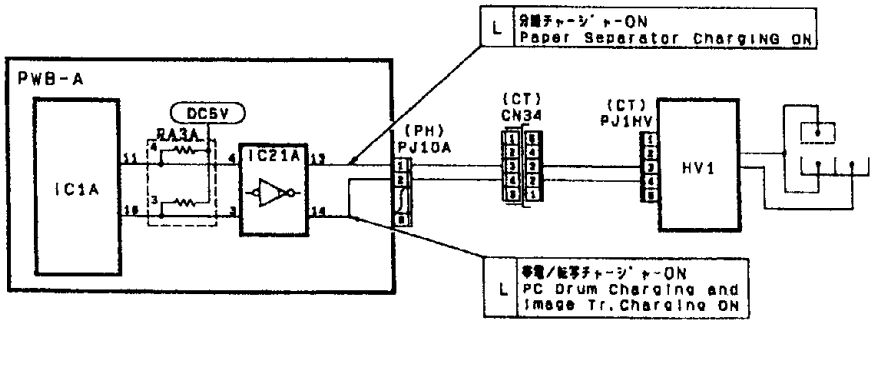
The Paper Separator Corona showers the underside of the paper with both positive and negative charges so that the paper can be easily separated from the PC Drum. In addition, two Paper Separator Fingers physically peel the paper off the surface of the PC Drum. (For details, see PAPER SEPARATOR FINGERS.)

The Image Transfer/Paper Separator Coronas Unit is provided with a Pre-Image Transfer Guide Plate that determines the angle at which the paper comes into contact with the PC Drum and keeps an optimum distance between the paper and the PC Drum so that the image may be properly transferred onto the paper.





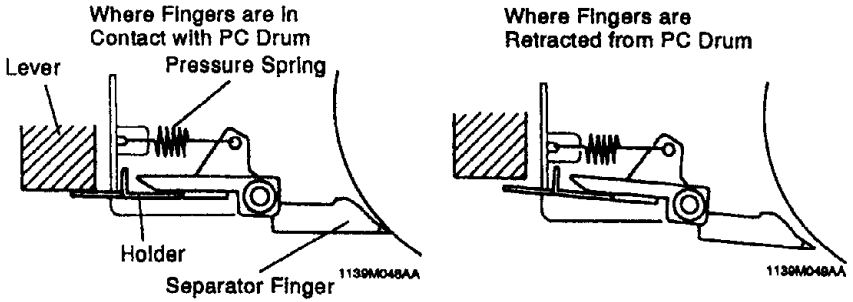




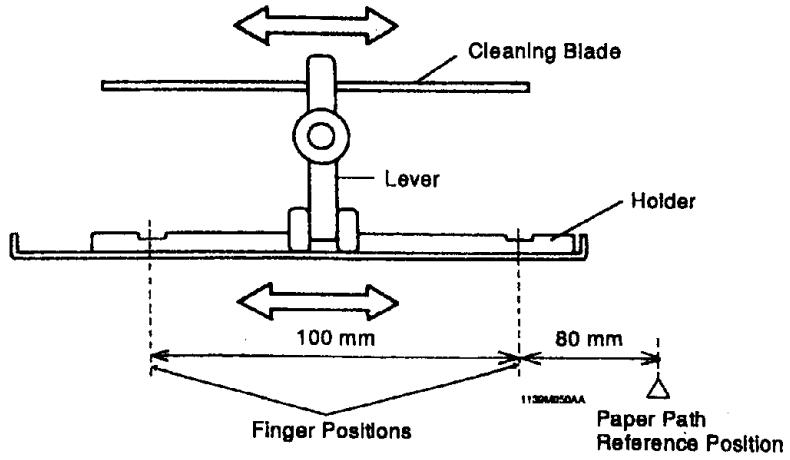
15 PAPER SEPARATOR FINGERS

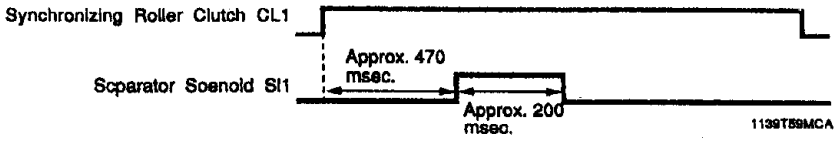
After image transfer, an AC corona emission is applied to the underside of the paper by the Paper Separator Corona to neutralize the paper so that it can be easily separated from the PC Drum. To further ensure that the paper is positively separated from the PC Drum, there are two Paper Separator Fingers attached to the Imaging Unit. They physically peel the paper off the surface of the PC Drum.

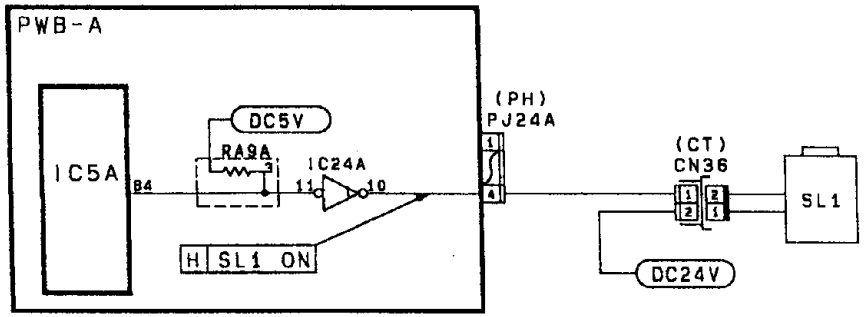
To prevent the Paper Separator Fingers from damaging the surface of the PC Drum, they are kept in the retracted position whenever they are not at work. As illustrated below, the Fingers are brought into contact with, and retracted from, the surface of the PC Drum by the Lever which is operated by Separator Solenoid SL1.



The Paper Separator Fingers are also moved over a given distance to the front and rear so that they will contact wider areas of the surface of the PC Drum, thus preventing localized damage of the PC Drum surface.
This lateral movement is done by the Lever connected to the Cleaning Blade and, when the Cleaning Blade is moved, the Separator Fingers are also moved back and forth.
* Lateral Movement: 3.7 mm

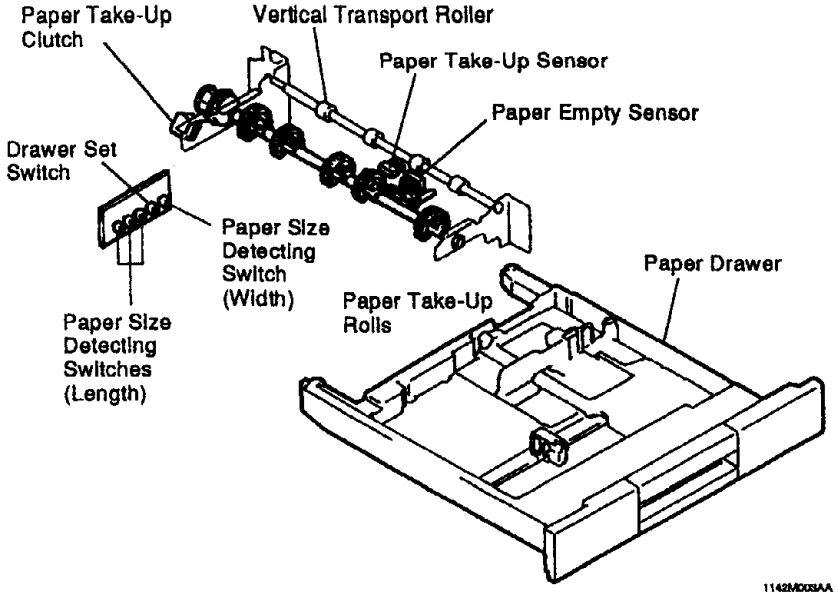






16 PAPER TAKE-UP/FEED SECTION

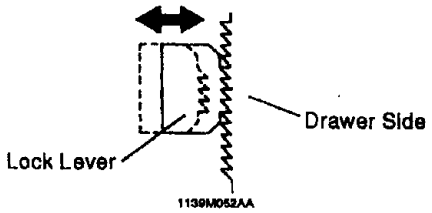
The copier is equipped with one universal paper size Drawer that can hold up to 250 sheets of paper.



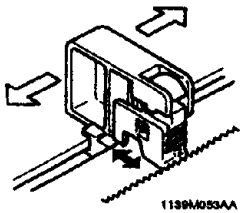
16-1. Edge Guide and Trailing Edge Stop

The Paper Drawer is a universal type allowing the user to slide freely the Edge Guide and Trailing Edge Stop (in 1 mm units) to accommodate paper of different sizes.

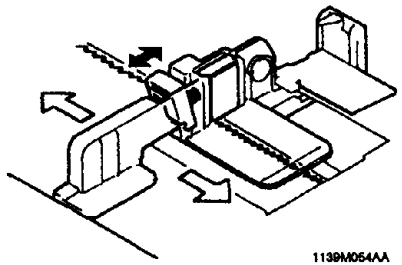
The Edge Guide and Trailing Edge Stop can be locked into position by meshing the notches in the Lock Lever with those in the Drawer.



(Trailing Edge Stop)

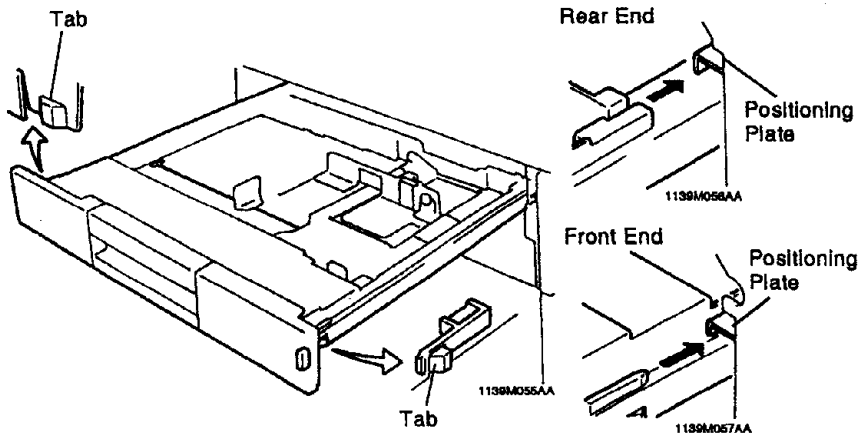


(Edge Guide)



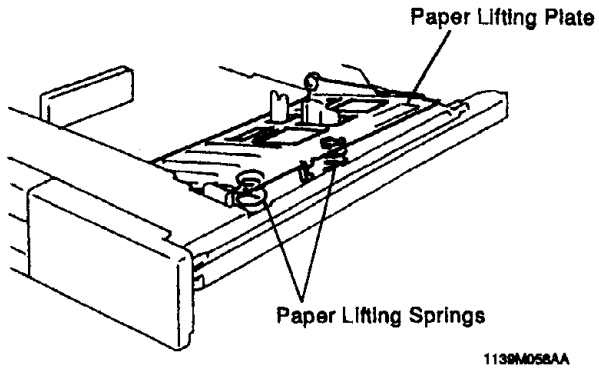
16-2. Drawer Positioning

The Paper Drawer is positioned by fitting its Positioning Plate on the paper take-up end into the groove in the Drawer Frame. It is then secured in position by the magnet installed in the Drawer Front Cover on the paper take-up end. The tabs on both sides at the front of the Drawer ensure that the Drawer clicks into position. Any deviation in the paper path reference position can be adjusted within ±2 mm by moving the Front Cover of the Drawer to the front or rear.



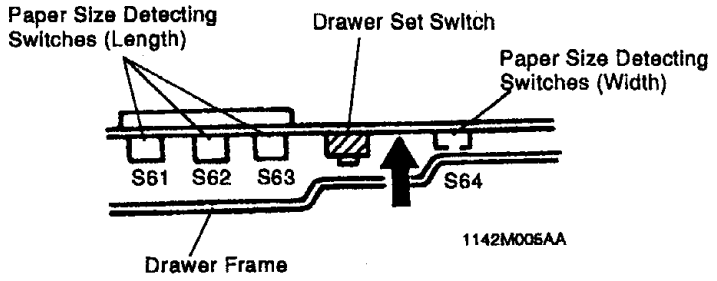
16-3. Paper Lifting Plate

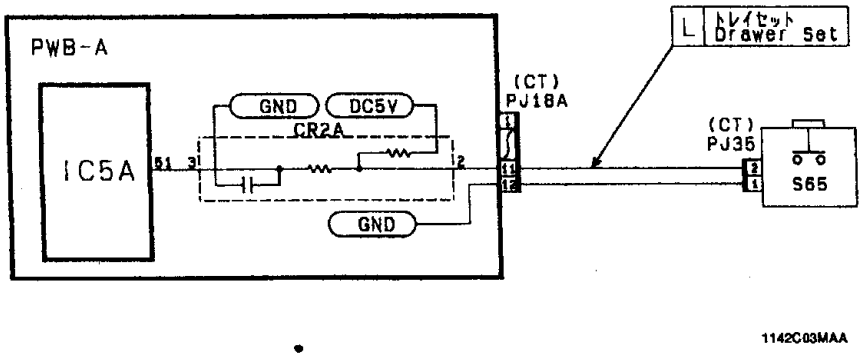
The Paper Lifting Plate of the Drawer is raised at all times by two Paper Lifting Springs.



16-4. Drawer-in-Position Detection

When the Drawer is slid into the copier, the Drawer frame presses Drawer Set Detecting Switch S65 installed on the back panel of the copier. This signals the copier that the Drawer is closed.





16-5. Paper Size Detection

Paper length is detected by the ON and OFF combination of Paper Size Detecting Switches S61, S62 and S63 which are pressed by a lever connected to the Trailing Edge Stop.

Paper width is detected by the ON or OFF condition of Paper Size Detecting Switch S64 which is pressed by a lever actuated by the Edge Guide. A paper width more than approx. 270 mm (10-2/3") turns S64 ON.

Inch Areas:
Letter (C) and 5-1/2" × 8-1/2" (L) have the same length, and 8-1/2" × 14" and 11" × 14" have the same length. The copier can distinguish between these four sizes by using S64.

Metric Areas:
A4 (C) and A5 (L) have the same length. The copier can distinguish between these two sizes by using S64.

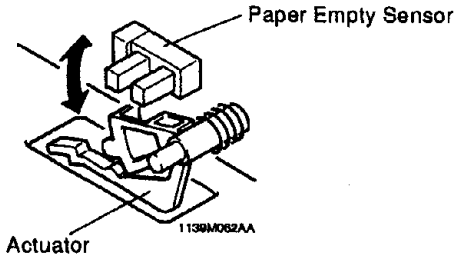
Paper Size Detecting Switches			Paper Length	Detecting Sizes	
S61	S62	S63		Metric Areas	Inch Areas
ON	ON	ON	~402.0	A3	11" × 17"
ON	ON	OFF	402.0~349.4	B4	8.5" × 14"
ON	OFF	OFF	349.4~317.2	8" × 13"	11" × 14" (*)
OFF	OFF	OFF	317.2~272.0	A4 (L)	8.5" × 11"
OFF	OFF	ON	272.0~222.0	B5 (L)	8.5" × 11" 11" × 8.5" (*)
OFF	ON	ON	222.0~195.0	A4 (C) A5 (L)	11" × 8.5" (*) 5.5" × 8.5"
OFF	ON	OFF	195.0~	B5 (C)	8.5" × 11" (*) 11" × 8.5"

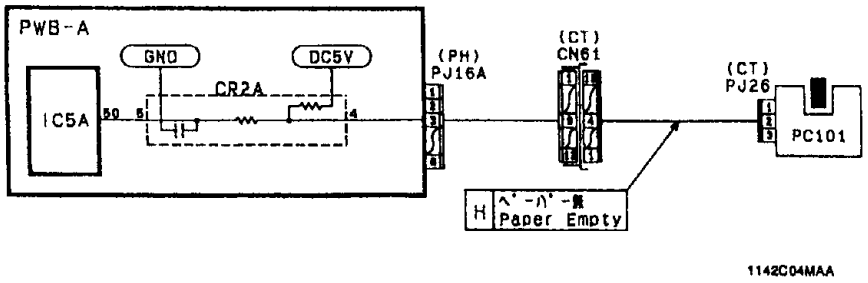
(*) = S64: ON

16-6. Paper Empty Detection

When the Drawer runs out of paper, the Actuator for the Paper Empty Sensor drops into the cutout in the Paper Lifting Plate. This activates the Paper Empty Sensor and the copier will know that the Drawer has run out of paper.

As we noted earlier, the Paper Lifting Plate is raised at all times by the Paper Lifting Springs. To prevent the Actuator for the Paper Empty Sensor (PC101) from being caught by the paper stack when the Drawer is slid out of the copier, therefore, it is tilted only slightly. This, however, results in the operating stroke of the Actuator becoming small, which increases the possibility of the Actuator activating the Sensor by the flexing of a sheet of paper as it is taken up and fed in. To prevent this false detection of a paper-empty condition, the paper empty detection is enabled only when the Paper Take-Up Roll is in the retracted position. (See 21-8. "Paper Take-Up Roll" for the retracted position of the Paper Take-Up Roll.)

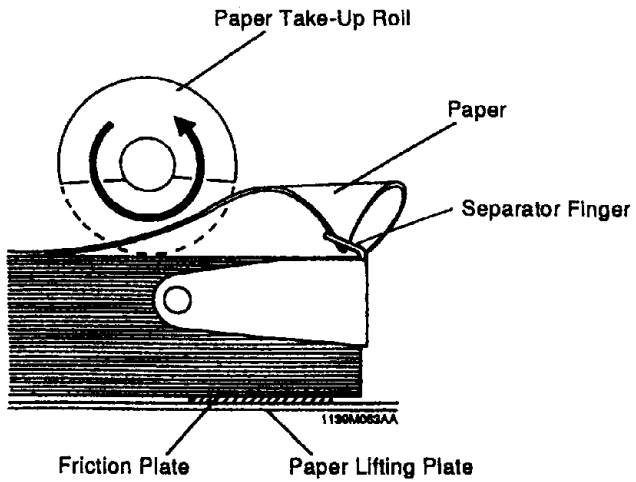




16-7. Paper Separating Mechanism

The Drawer has Fingers that function to separate the top sheet of paper from the rest of the paper stack at paper take-up. The Fingers are fitted to the right front and rear corners of the Drawer. When the Paper Take-Up Roll starts turning to take up the top sheet of paper, its turning force is directly transmitted to the top sheet of paper as it is in direct contact with the Paper Take-Up Roll. That force overcomes the block of the Fingers, causing the top sheet of paper to ride over the Fingers and be fed out of the Drawer into the copier.

As to the second sheet of paper, the paper transport force obtained through friction with the top sheet of paper is weak and does not allow the second sheet of paper to ride over the block of the Fingers. Hence, the second sheet of paper remains stationary with the rest of the paper stack in the Drawer. When there are only two sheets of paper left in the Drawer, the bottom sheet can be fed with the top one if the friction of the Paper Lifting Plate is weak. The Friction Plate affixed to the Paper Lifting Plate prevents this from happening.

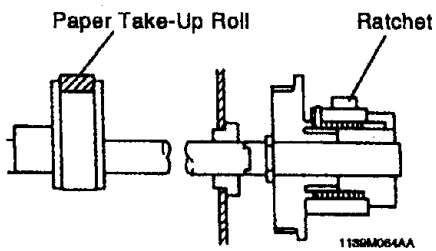


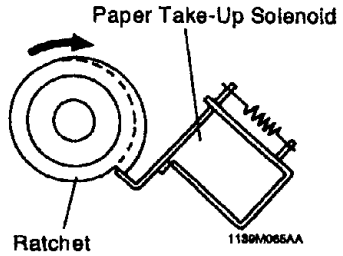
16-8. Paper Take-Up Roll

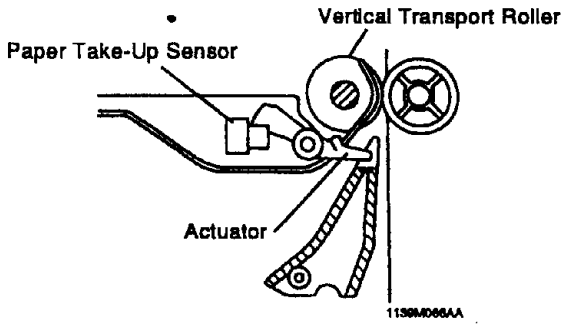
Since the Paper Lifting Plate is raised at all times by the Paper Lifting Springs, paper is wedged in the mechanism when the Drawer is slid out of the copier if the Paper Take-Up Roll is round in shape. So the Take-Up Roll is semicircular and the circular part of the Roll is positioned on top at times other than take-up. For convenience, we call this position of the Paper Take-Up Roll the "retracted" position.

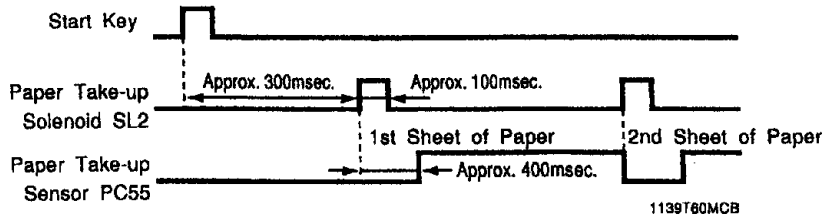
The Paper Take-Up Roll is grooved to keep good friction even under heavy loading. The paper drawer, which is a universal type to accommodate paper of different sizes, is provided with five (four in areas using only inch paper) Paper Take-Up Rolls.

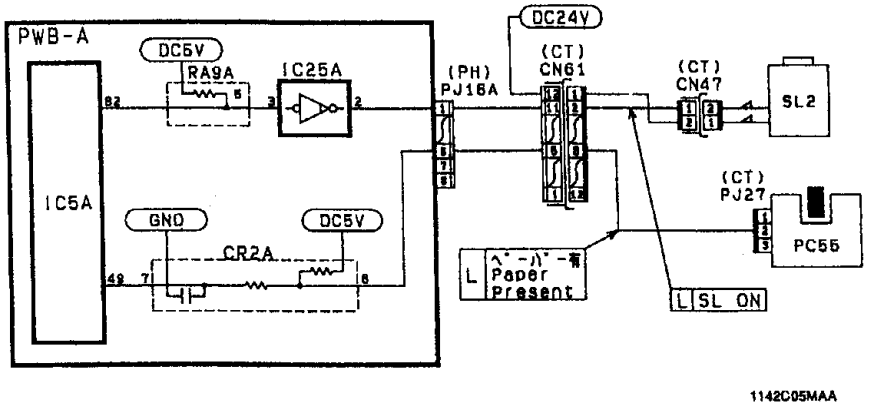
The Paper Take-Up Roll is driven when the Paper Take-Up Solenoid (SL2) is energized. The Roll is turned one complete turn for each single sheet of paper. If, however, the Paper Take-Up Sensor is not activated within approx. 1,200 msec. after the Solenoid has been deenergized, the Solenoid is again energized.
The Paper Take-Up Sensor (PC55) is used to detect whether a sheet of paper has been properly taken up or not.







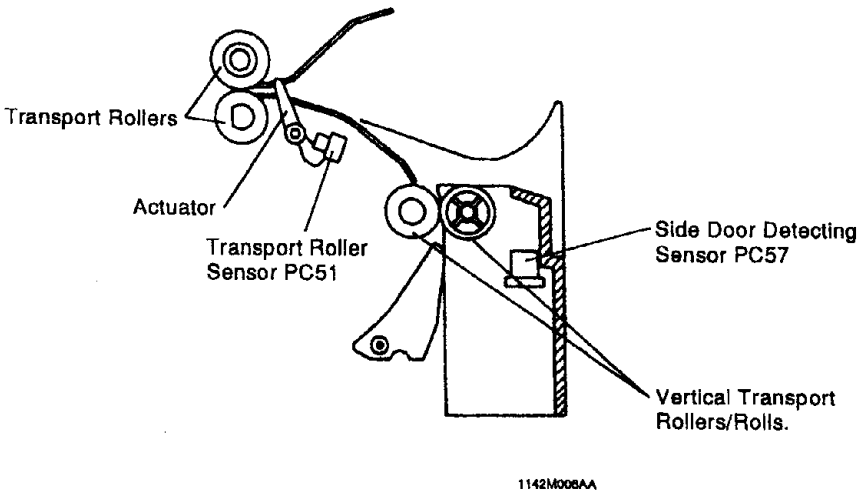




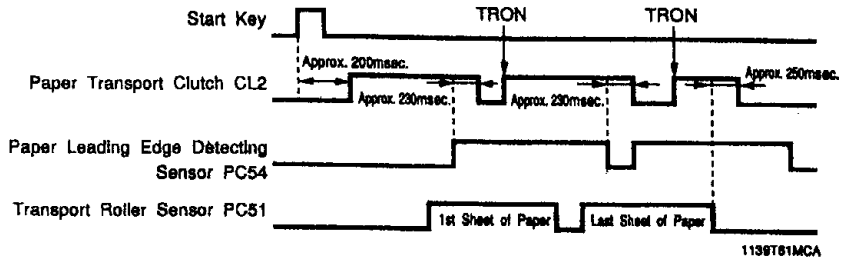
17 VERTICAL PAPER TRANSPORT

The sheet of paper taken up by the Paper Take-Up Roll from the Drawer is fed along the Paper Guide onto the Vertical Transport Rollers.
The paper fed by the Vertical Transport Rollers reaches the Transport Rollers and is then fed up to the Synchronizing Rollers. The Transport Rollers are turned and stopped by Paper Transport Clutch CL2. Transport Roller Sensor PC51 immediately before the Transport Rollers detects a sheet of paper fed from the Vertical Transport Section or Manual Bypass Table.

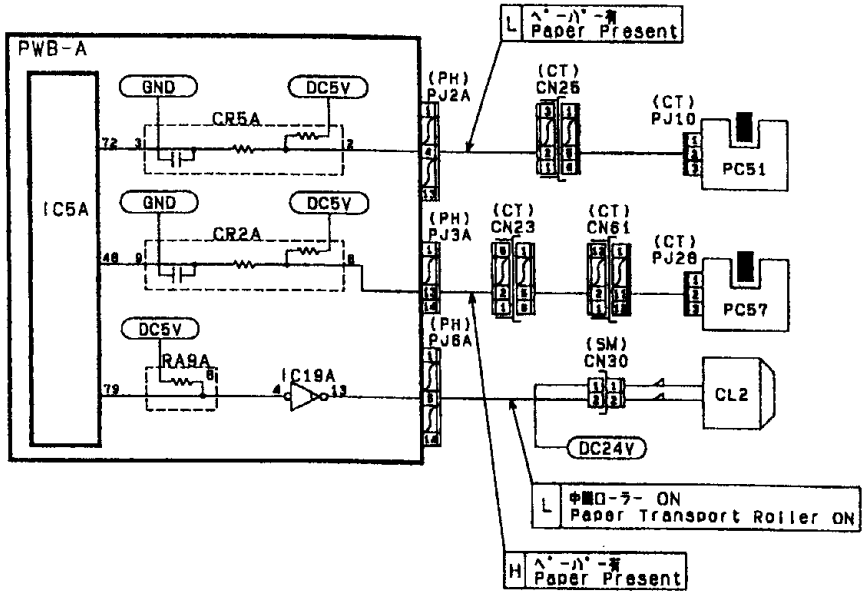
The Cover for the Vertical Transport Section (i.e., the Side Door) can be opened and closed for clearing misfeeds. Side Door Detecting Sensor PC57 detects whether or not this Cover is open.



1142M006AA



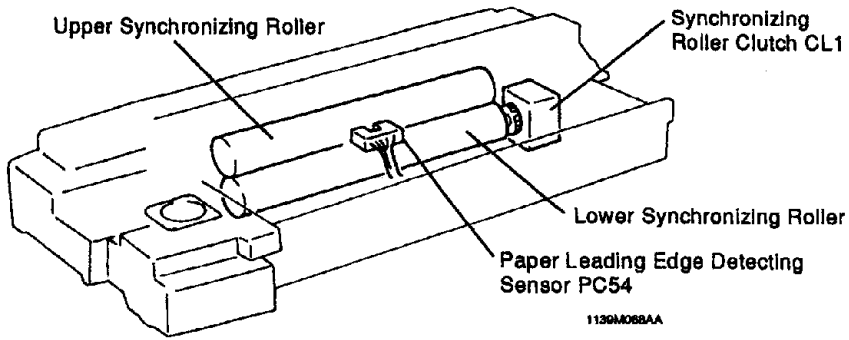
1139T61MCA



1142C10MAA

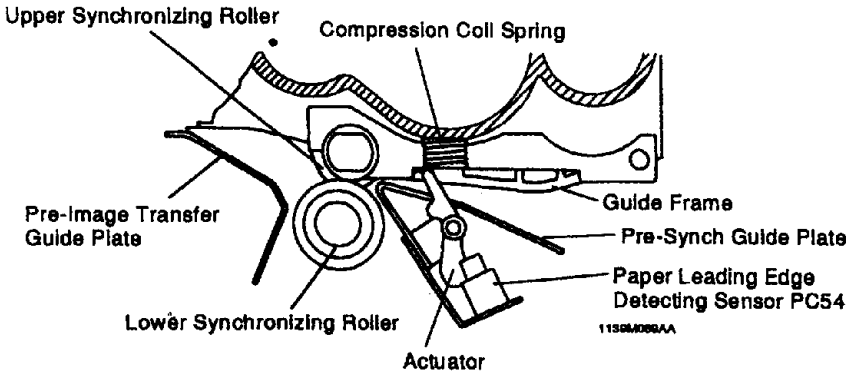
18 SYNCHRONIZING ROLLERS

The Synchronizing Rollers, operating in phase with the Scanners' scan motion and paper feeding, synchronize the leading edge of the copy paper accurately with the leading edge of the toner image on the PC Drum.
The Upper Synchronizing Roller is a metal roller covered with a polyvinyl chloride tubing, while the Lower one is a rubber roller.



To facilitate clearing of misfeeds, the Upper Synchronizing Roller is installed in the Imaging Unit. It is fitted to the Guide Frame of the Imaging Unit and the Compression Coil Springs at the front and rear ends press the Roller downward so that it makes contact with the Lower Synchronizing Roller. The Lower Roller is driven by the drive source, while the Upper Roller follows the turning of the Lower Roller.

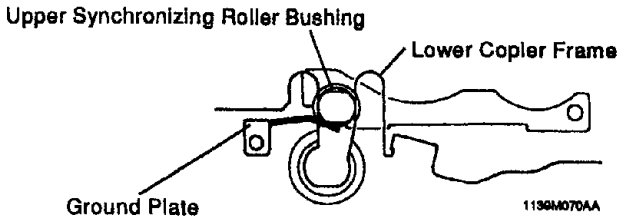
To ensure good image transfer during conditions of high humidity, an 82-megohm resistor is connected to the Pre-Synch Guide Plate and the Guide Plate is electrically insulated by a plastic spacer installed between the frame and Guide Plate.



18-1. Upper Synchronizing Roller Positioning

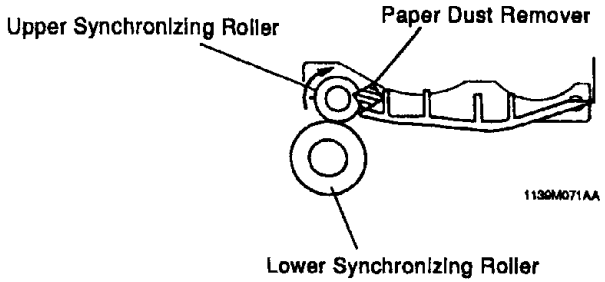
Since the Upper Synchronizing Roller is fitted to the Imaging Unit, it must be correctly positioned with reference to the Lower Synchronizing Roller when the Upper Half of the copier is swung down into the locked position.
For this purpose, slits are cut in the lower copier frame and the Bushings of the Upper Synchronizing Roller are to fit into these slits.

The Upper Synchronizing Roller may be grounded through the Bushings which are in contact with the frame. To even positively ground the Roller, the Ground Plate fitted to the lower frame is makes in contact with the Bushings of the Upper Synchronizing Roller.



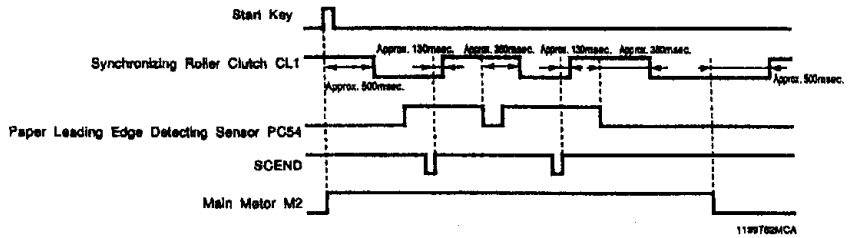
18-2. Paper Dust Remover

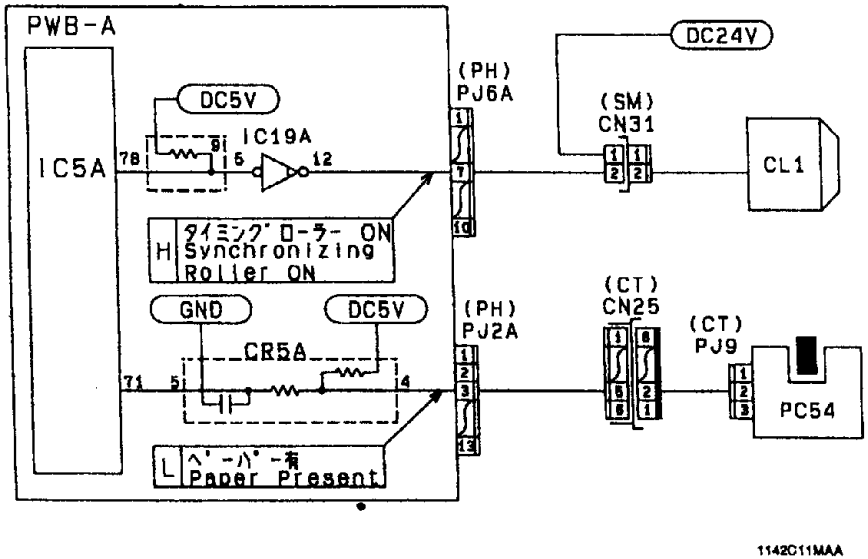
The Paper Dust Remover is installed so that it makes contact with the Upper Synchronizing Roller. Since the Upper Synchronizing Roller is covered with a vinyl tubing, triboelectric charging occurs as the Roller turns in contact with the Paper Dust Remover. As paper is then fed between the Synchronizing Rollers, the charges on the tubing attract paper dust from the paper. The dust is then transferred onto the Paper Dust Remover.



18-3. Synchronizing Roller Drive

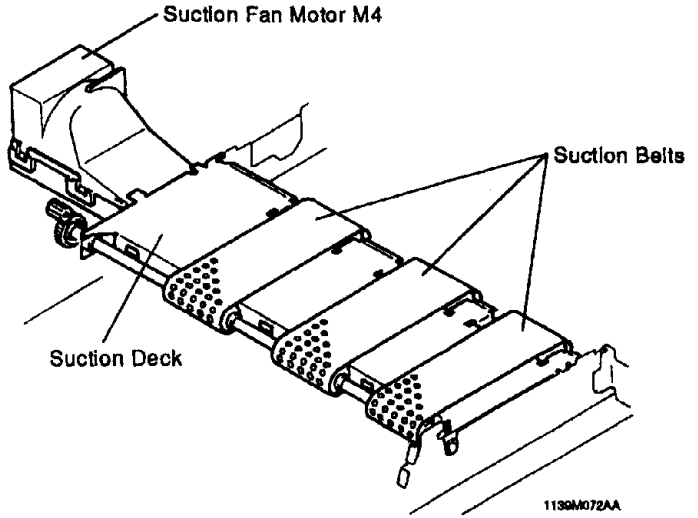
The Synchronizing Rollers are started as Synchronizing Roller Clutch CL1 is energized upon reception of a signal from PWB-A.

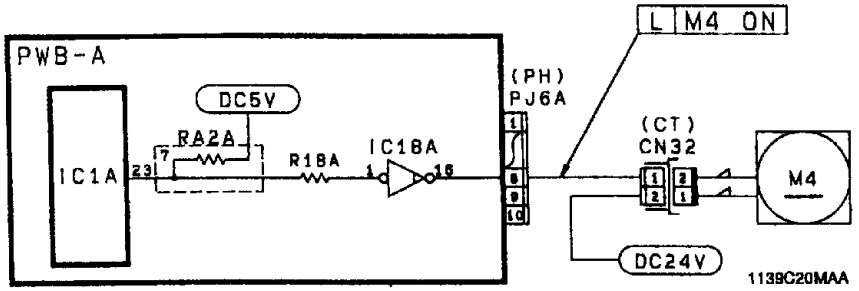




19 PAPER TRANSPORT

After having gone through the image transfer and paper separation processes, the paper is then transported to the Fusing Unit by the Suction Belts of the Suction Deck driven directly by Main Drive Motor M2.
Suction Fan Motor M4 draws the paper onto the turning Suction Belts for positive transport of the paper.

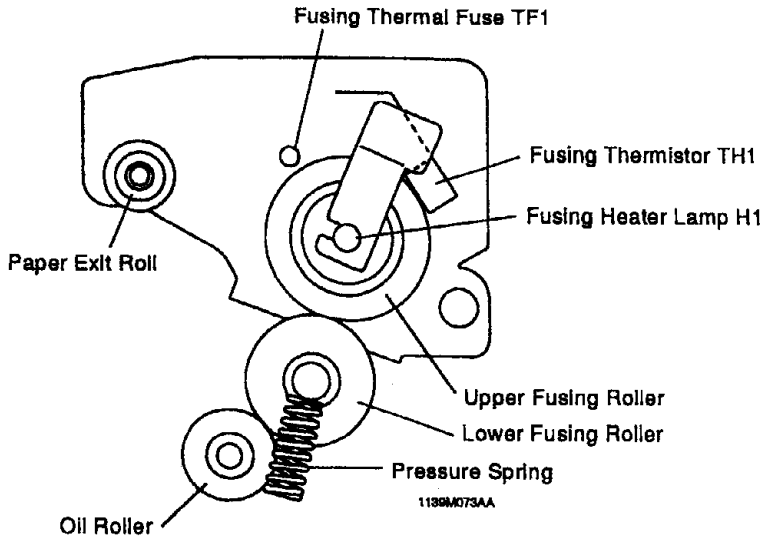


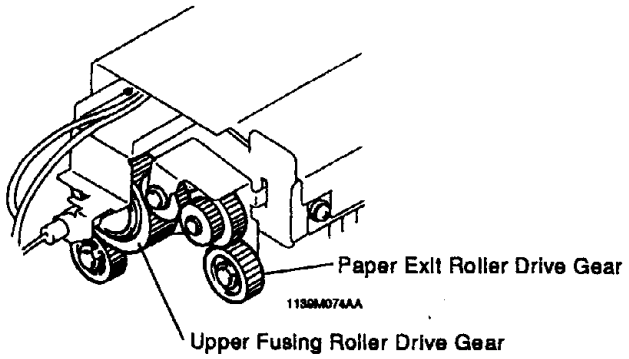


20 FUSING UNIT

The Upper Fusing Roller (teflon roller) and Lower Fusing Roller (silicon rubber + teflon tubing for inch areas; rubber for metric areas) together apply heat and pressure to the toner and paper to permanently fix the developed image to the paper.

Drive for the Upper Fusing Roller is transmitted from the Main Drive Motor to the Upper Fusing Roller Drive Gear. The Lower Fusing Roller and Oil Roller are driven by the respective Rollers in contact with them.





20-1. Fusing Temperature Control

The Upper Fusing Roller is heated by Fusing Heater Lamp H1 which is an AC halogen lamp. Fusing Thermistor TH1 installed on the Upper Fusing Roller helps keep the optimum fusing temperature.

The fusing temperature is normally controlled at 180°C. To ensure good fusing performance, however, even when the Lower Fusing Roller remains cool immediately after warm-up in the early morning, the temperature is controlled as follows if the fusing temperature is below 100°C when the copier is turned ON:

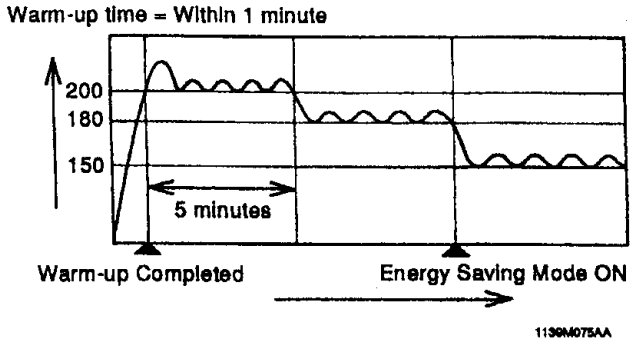
* 200°C control within 5 minutes after the copier has completed warming up.
* 180°C control after the 5-minute period following the completion of the warm-up.

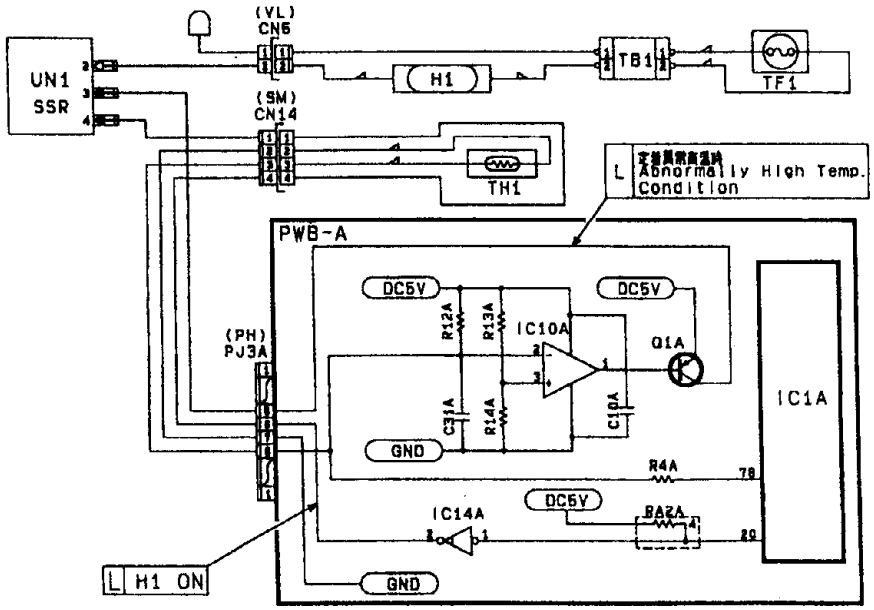
NOTE: If a copy cycle is run within 5 minutes, 200°C control is provided only for the 1-minute period after the copy cycle has been completed.

TH1 is positioned at a point 90 mm from the paper path reference position, thereby preventing offset caused by low temperature and degraded fusing performance for small-size paper.

The control temperature in the Energy Saving Mode is 150°C.

Fusing Thermal Fuse TF1 installed above the Upper Fusing Roller blows to cut off the power to the Fusing Unit if the temperature of the Upper Fusing Roller becomes excessively high. It eliminates the possibility of a fire that could occur when H1 remains ON due to a faulty temperature control circuit.

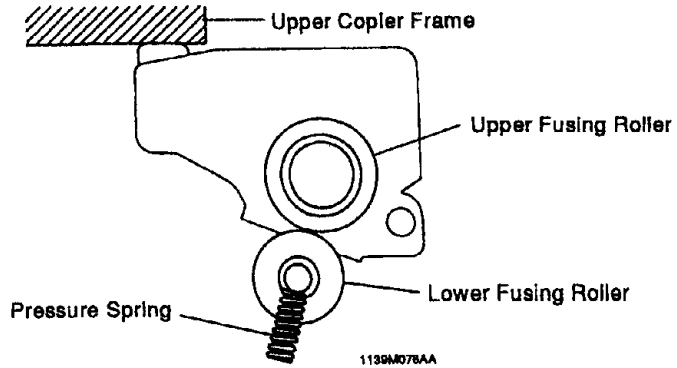




20-2. Fusing Rollers Pressure Mechanism

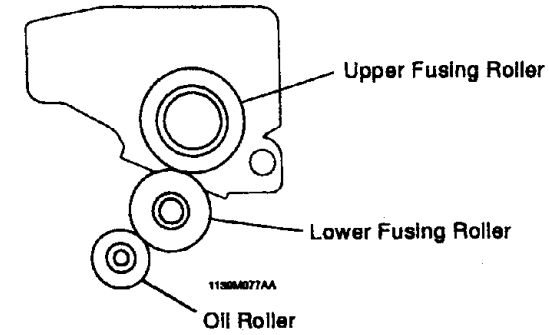
Pressure Springs are installed on both ends of the Lower Fusing Roller. These springs contact the bearings mounted on both ends of the Lower Fusing Roller and exert pressure through the Lower Fusing Roller to the Upper Fusing Roller which is installed in the Fusing Unit.

The Fusing Unit is divided into an upper and a lower half, and the upper half can be swung open. The Upper Half of the copier, when locked in position, presses the upper half of the Fusing Unit down onto its lower half.



20-3. Oil Roller

A felt-type silicone oil roller, the Oil Roller, is pressed up against the Lower Fusing Roller by the Torsion Coil Springs fitted on the bushings on both ends of the Oil Roller. The Oil Roller applies a coat of silicone oil to the surface of the Lower Fusing Roller. From there, it is transferred to the surface of the Upper Fusing Roller to help prevent toner from being melted onto the surface of the Upper Fusing Roller.



20-4. Fusing Unit Malfunction

Abnormal fusing temperature trouble (C0500, C0510, C0520) is detected under any of the following timings:

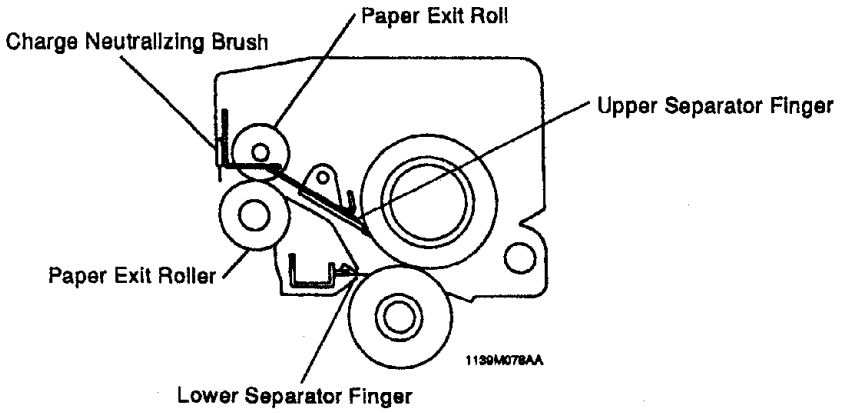
a) C0500: Warming-up Failure
- * The surface temperature of the Upper Fusing Roller does not reach 50°C within 30 seconds.
- * The surface temperature of the Upper Fusing Roller does not reach 100°C within 30 seconds after it has reached 50°C.
- * The surface temperature of the Upper Fusing Roller does not reach 160°C within 40 seconds after it has reached 100°C.
- * The surface temperature of the Upper Fusing Roller does not reach 200°C within 40 seconds after it has reached 160°C.

b) C0510: Abnormally Low Fusing Temperature
- * The surface temperature of the Upper Fusing Roller remains 135°C or less for a consecutive 1-second period after the copier has completed warming up.

c) C0520: Abnormally High Fusing Temperature
- * The surface temperature of the Upper Fusing Roller remains 220°C or more for a consecutive 1-second period after the copier has completed warming up.

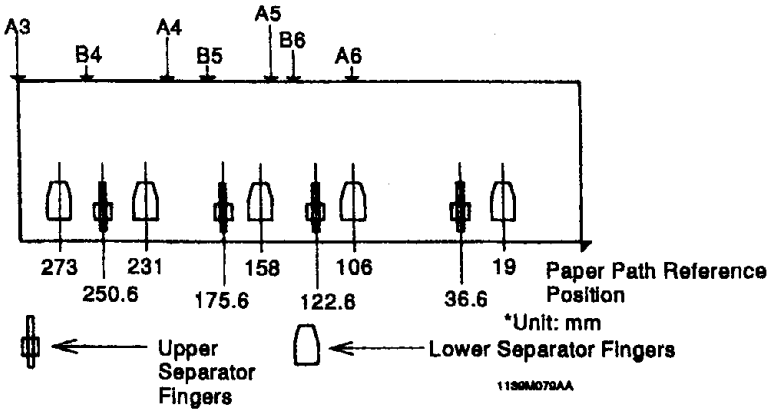
21 EXIT UNIT

The Paper Exit Roller/Rolls feed the paper, to which the developed image has been fixed, out of the Fusing Unit onto the Copy Tray. The Charge Neutralizing Brush touches the surface of the sheet of paper being fed out of the Fusing Unit to neutralize any static charge left on it.
The Upper and Lower Separator Fingers strip the paper from the surface of the Upper/Lower Fusing Roller.



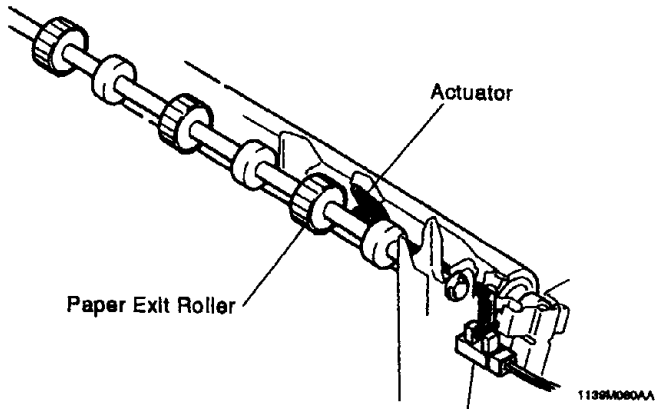
22-1. Upper/Lower Separator Fingers

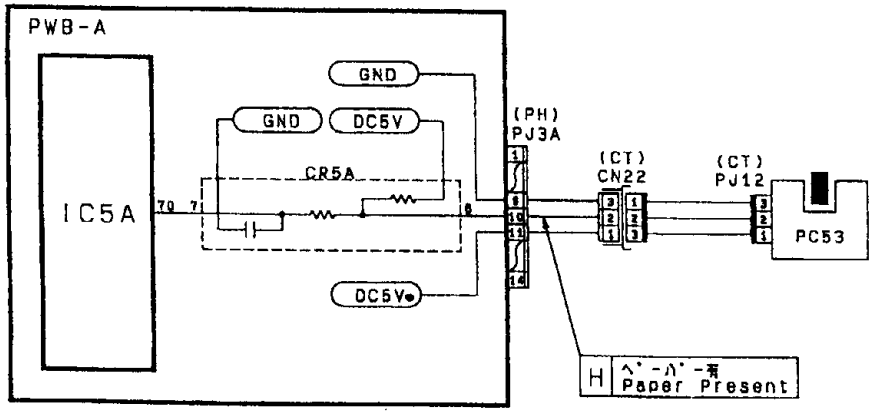
The Upper and Lower Separator Fingers are laid out as shown below to cope with many different paper sizes.



21-2. Paper Exit Sensor

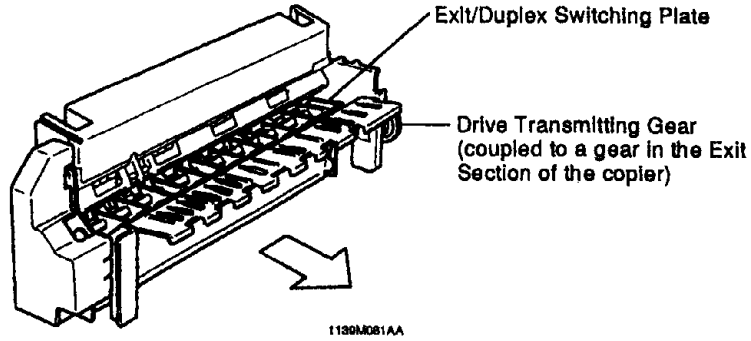
Paper Exit Sensor PC53 installed in the paper exit section of the lower half of the copier detects the sheet of paper being fed out of the Fusing Unit onto the Copy Tray.





22 EXIT/DUPLEX SWITCHING UNIT (OPTION)

If the copier is configured with an optional Sorter or Staple Sorter, or Duplex Unit (installed in the Cabinet), the Exit/Duplex Switching Unit must be fitted to the exit section of the copier.

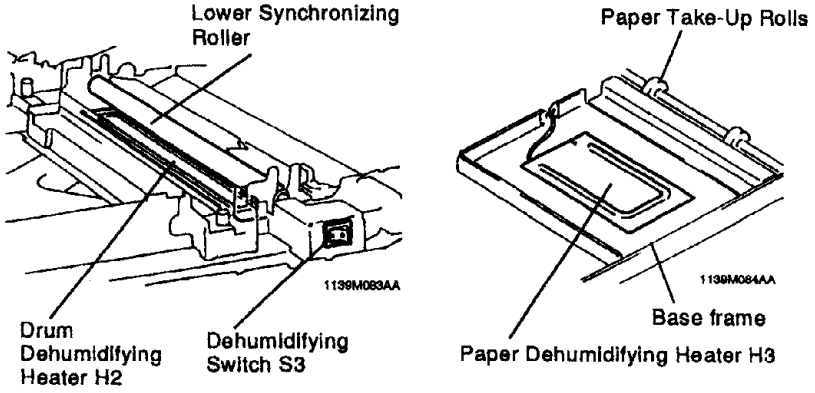


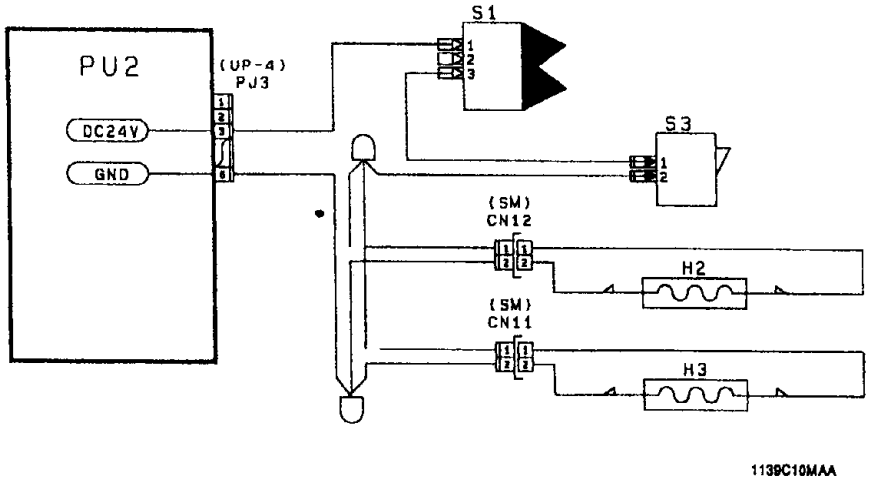
The Unit has 2nd Paper Exit Sensor PC30 built into it which detects a sheet of paper being fed out of the Unit.

23 DEHUMIDIFYING SWITCH

* Except Europe, USA, Canada, South America, Philippines and Pakistan.

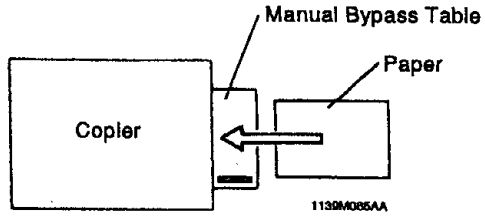
Turning ON Dehumidifying Switch S3 provided on the copier, with the power cord plugged in and Power Switch S1 in the OFF position, activates both Drum Dehumidifying Heater H2 located under the Synchronizing Rollers and Paper Dehumidifying Heater H3 attached to the copier base frame under the Drawer. This dries any moisture inside the copier.
Both H2 and H3 are panel heaters in which heater wires are covered with aluminum foil.

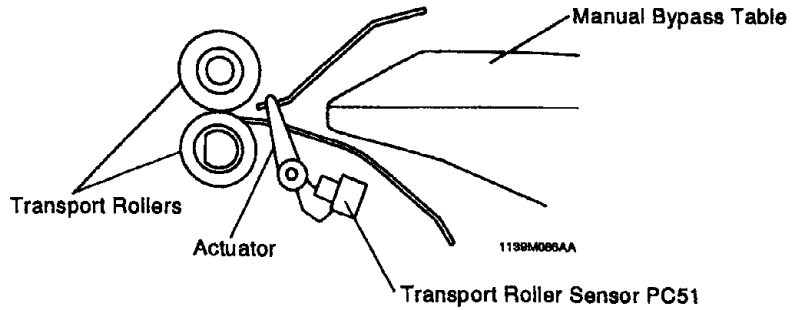




24 MANUAL BYPASS FEEDING

The copier is equipped with a Manual Bypass Table on its right-hand side. When using the manual bypass copying capability, the user inserts the copy paper along the Paper Guide Plate at the front on the Table.
Transport Roller Sensor PC51 detects the paper inserted via the Manual Bypass Table, which causes the copier to start the copy cycle. (No paper size detection can, however, be made.)
* Max. allowable paper length: 540 mm

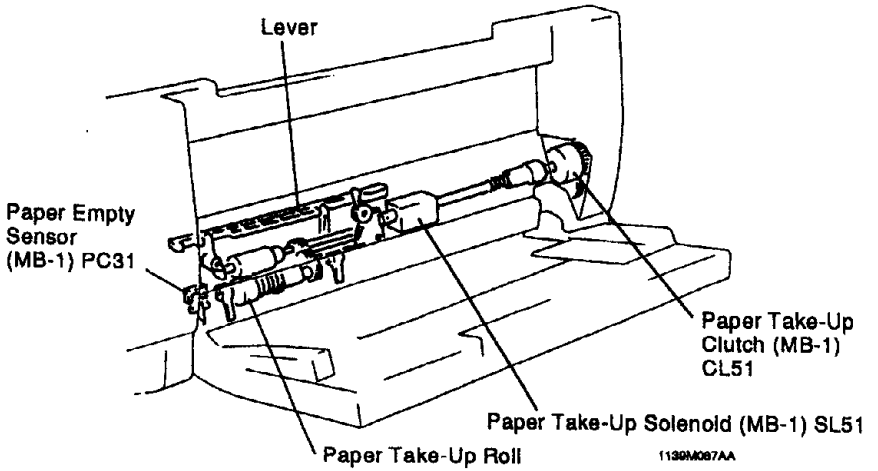




25 MULTI BYPASS TABLE MB-1 (OPTION)

The optional Multi Bypass Table permits the user to make multiple copies (up to 50) on paper that cannot be fed automatically via any built-in paper drawer of the copier.

* Max. allowable paper length: 540 mm
* MB-1 is a Standard Item for only Taiwan.



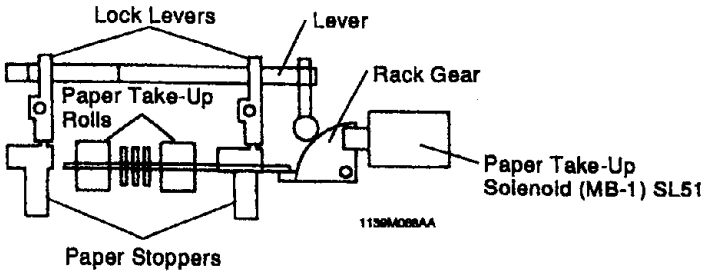
25-1. Paper Take-Up Mechanism

The Paper Take-Up Rolls are normally in their raised (retracted) position so that they will not hamper proper loading of paper. When the Start Key is pressed, Paper Take-Up Solenoid (MB-1) SL51 is deenergized causing the Paper Take-Up Rolls to press the paper stack downward and take up a sheet of paper.

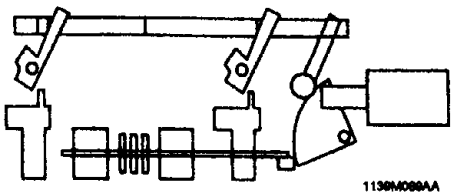
There are Paper Stoppers provided that block the leading edge of the paper stack as it is loaded on the Table, preventing any portion of the leading edge of the paper from getting inside. These Stoppers are unlocked at paper take-up, allowing paper into the copier.

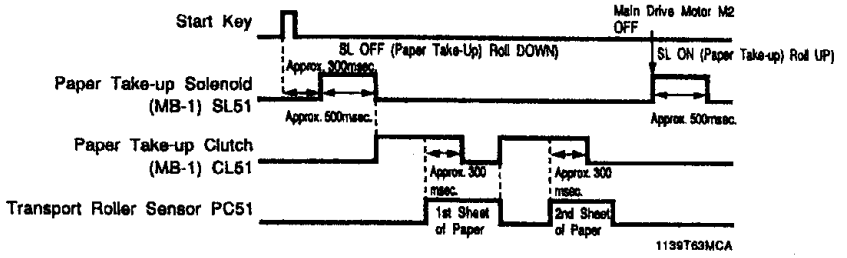
Paper Take-Up Clutch (MB-1) CL51 controls the turning and stop of the Paper Take-Up Rolls.

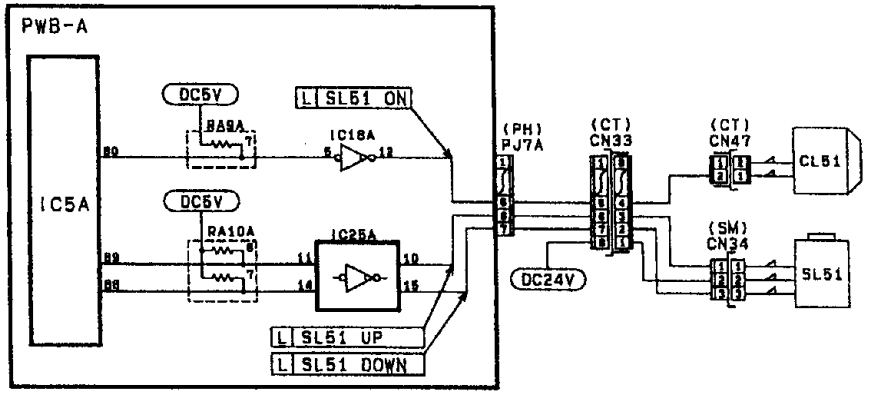
In Standby



At Take-Up



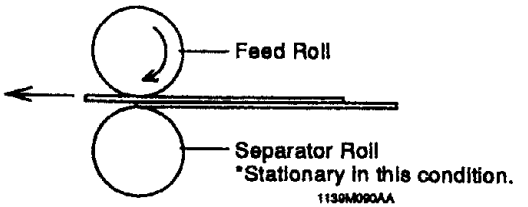




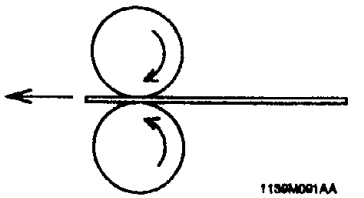
25-2. Paper Separating Mechanism

The paper separating mechanism ensures that only the top sheet of paper is fed in by separating the second sheet of paper from the top one. This is accomplished by the Torque Limiter fitted to the Separator Roll shaft which stops the Separator Roll when there is a change in friction between the Feed and Separator Rolls.

1. At the Time of Double Feed:
   The top sheet of paper is fed into the copier by the Feed Roll. Since the coefficient of friction between the top and second sheets of paper is smaller than that between the second sheet of paper and the Separator Roll, the two sheets of paper slip and the second sheet of paper is not fed into the copier. The driving force of the Feed Roll is at this time consumed by the two slipping sheets of paper and not transmitted to the Separator Roll which is stopped by its Torque Limiter. In other words, the force of the Torque Limit is greater than the driving force of the Feed Roll as it is transmitted through the two sheets of paper.

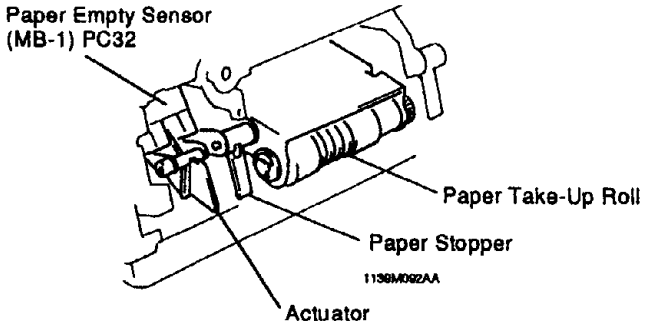


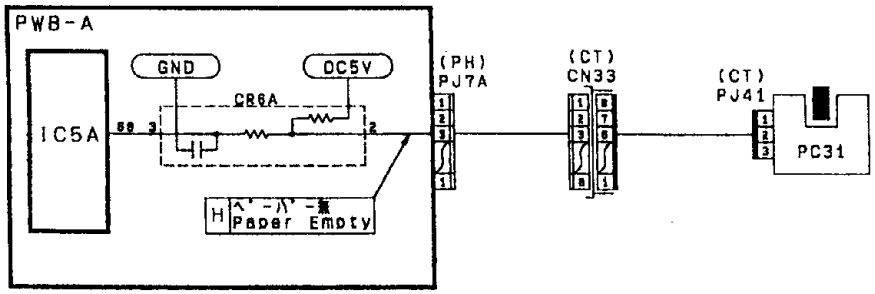
2. Normal Feeding:
   The friction coefficient on the top side of the paper is equivalent to that on the underside. Hence, the driving force of the Feed Roll is directly transmitted to the Separator Roll through the paper, causing the Separator Roll to be turned by the Feed Roll. In other words, the force of the Torque Limit is smaller than the driving force of the Feed Roll as it is transmitted through the paper.



25-3. Paper Empty Detection

The Multi Bypass Table is equipped with Paper Empty Sensor (MB-1) PC32 which detects a sheet of paper at the manual bypass port.





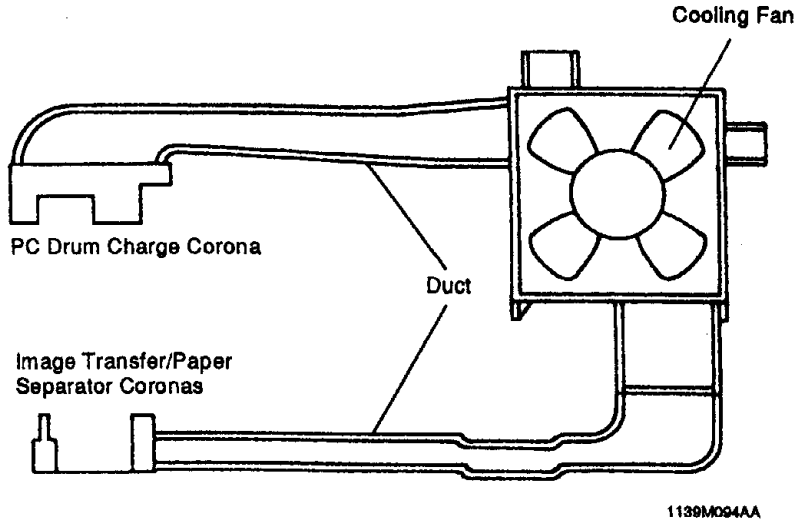
1139C28MAA

26 COOLING FAN

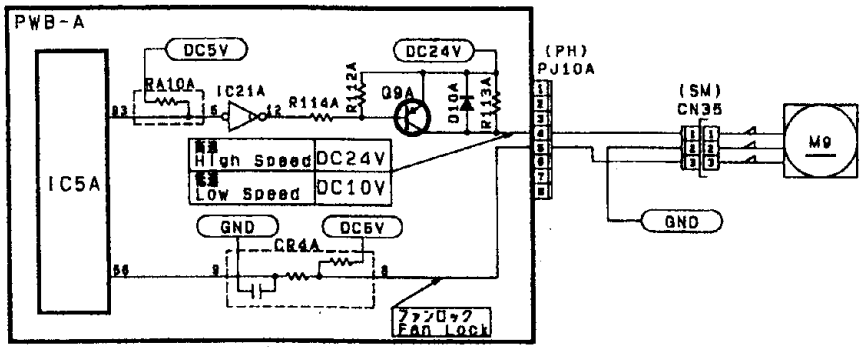
26-1. Cooling Fan

Ozone produced by the PC Drum Charge Corona and Image Transfer/Paper Separator Coronas is and absorbed drawn out of the copier by Cooling Fan Motor M9, by the Ozone Filter.

M9 is turned either at high or low speed. It turns at high speed for 0.5 seconds during a copy cycle and after the Power Switch is turned ON.



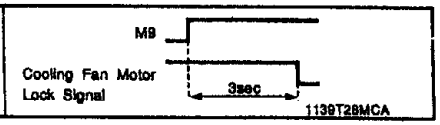
1139M094AA



1139C25MAA

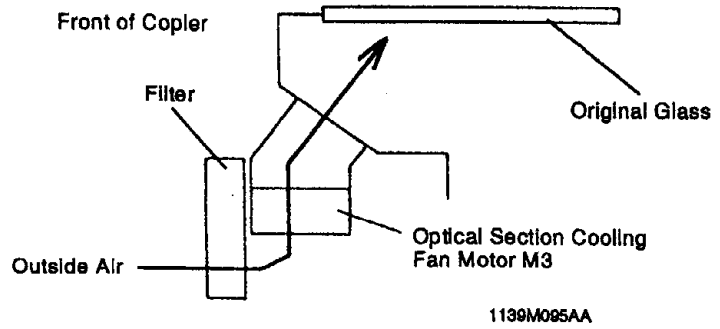
26-2. Cooling Fan Motor Malfunction

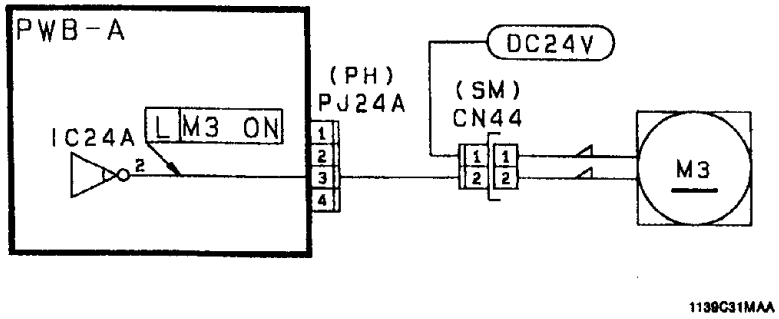
A defective Cooling Fan Motor M9 (C004C) Is detected at the following timing.

The M9 Lock signal remains HIGH for a consecutive 3-second period during a period from when M9 starts turning at high speed to when it stops turning.	

27 OPTICAL SECTION COOLING FAN

Optical Section Cooling Fan Motor M3 draws outside air into the copier and blows it against the Original Glass which is heated by lit Exposure Lamp LA1. The Filter at the intake port of the Fan prevents dust and dirt from entering the Optical Section of the copier.
M3 turns only during a copy cycle.

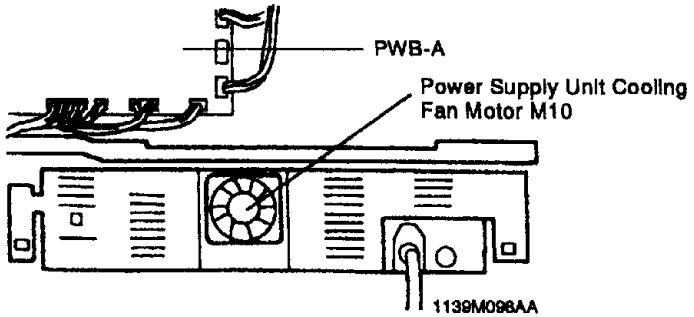


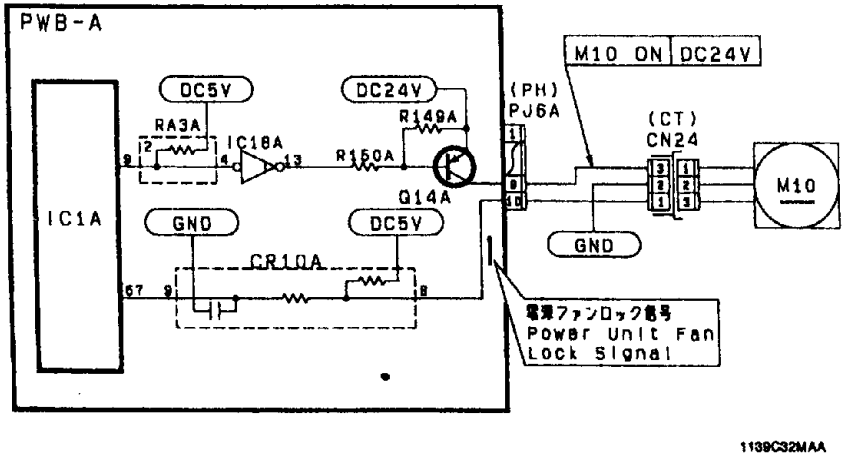


28 POWER SUPPLY UNIT COOLING FAN

28-1. Power Supply Unit Cooling Fan

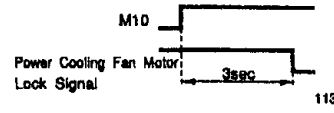
Power Supply Unit Cooling Fan Motor M10 draws outside air into the copier to protect the Power Supply Unit from thermal damage.
M10 turns only during a copy cycle.





28-2. Power Supply Unit Cooling Fan Motor Malfunction

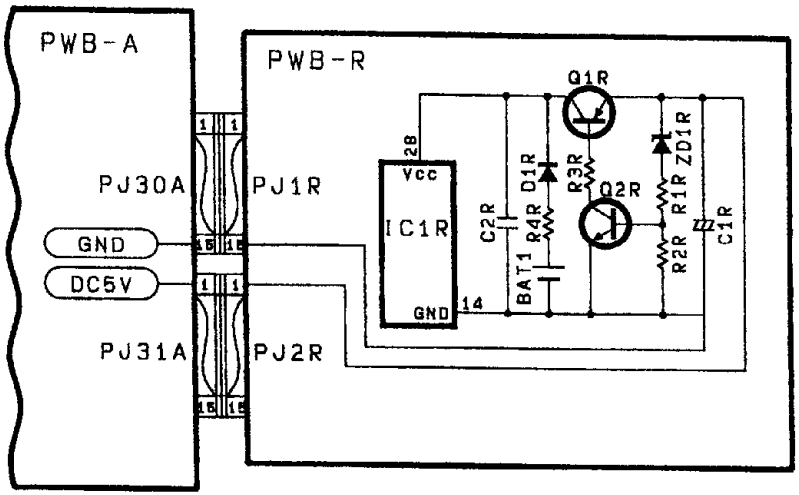
A defective Power Supply Unit Cooling Fan Motor M10 (C004E) is detected at the following timing.

The M10 Lock signal remains HIGH for a consecutive 3-second period after M10 has started turning.	

29 MEMORY BACKUP

IC1 (RAM) of RAM Board PWB-R connected to Main Control Board PWB-A stores the setting/adjustment values set in the Tech. Rep. Modes as well as the counter counts. Backup Battery BAT1 is mounted on the PWB-R to prevent the contents of memory from being lost when the power cord is unplugged or PWB-R removed from the copier. BAT1 requires a voltage of 2V or more to retain the contents of memory.

Important
As we noted above, the RAM stores critical data. If PWB-R has been replaced with a new one, memory must first be cleared and then all settings be made again. It should also be noted that PWB-R should not be replaced at the same time when PWB-A is replaced.

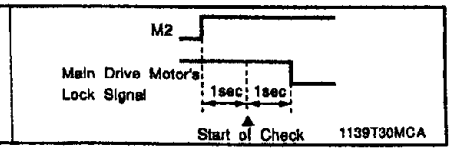


1139C33MAA

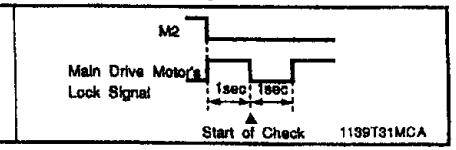
30 MAIN DRIVE MOTOR M2 MALFUNCTION

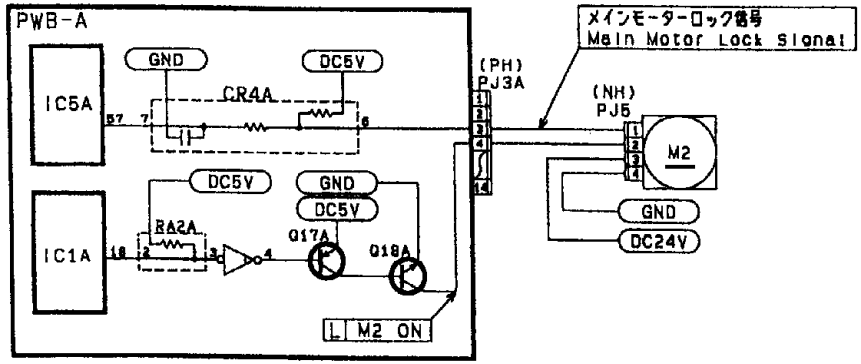
A defective Main Drive Motor M2 is detected under any of the following timings.

a) C0000: Main Drive Motor's Failure to Turn

The M2 Lock signal remains HIGH for a consecutive 1-second period after 1 second after M2 has been energized.	

b) C0001: Main Drive Motor Turning at Abnormal Timing

The M2 Lock signal remains LOW for a consecutive 1-second period while M2 remains deenergized. The check is started after 1 second after M2 has been deenergized.	

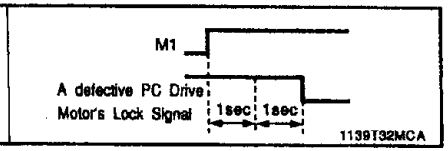


1142C13MAA

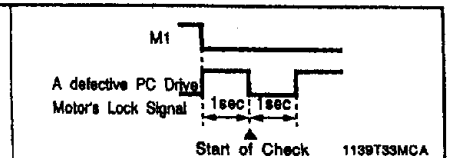
31 PC DRIVE MOTOR M1 MALFUNCTION

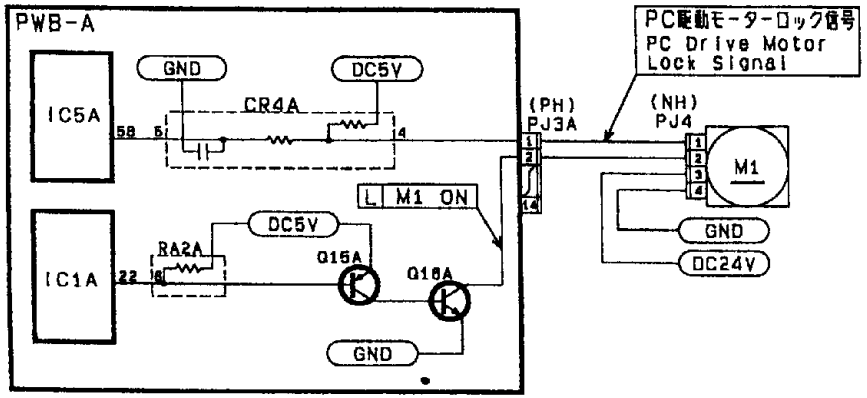
A defective PC Drive Motor M1 is detected under any of the following timings.

a) C0010: PC Drive Motor's Failure to Turn

The M1 Lock signal remains HIGH for a consecutive 1-second period after 1 second after M1 has been energized.	

b) C0011: PC Drive Motor Turning at Abnormal Timing

The M1 Lock signal remains LOW for a consecutive 1-second period while M1 remains deenergized. The check is started after 1 second after M1 has been deenergized.	



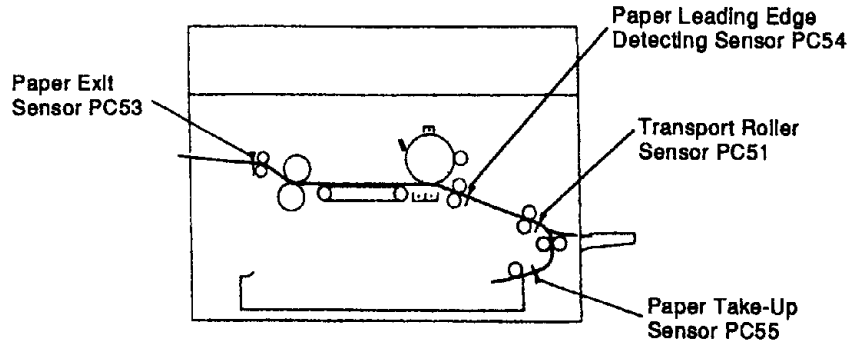
1142C14MAA

32 MISFEED DETECTION

A paper misfeed, transport failure, or a separation failure is detected by five sensors located at critical points along the paper path.

1. Types of Misfeed Detection

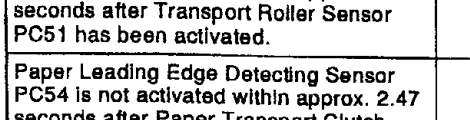
1) **Take-up failure detection**
The detection circuit is enabled for a period from the start of Paper Take-Up Rolls to the activation of Paper Take-Up Sensor.
2) **Trailing edge detection**
The detection circuit is enabled for a period from the activation to deactivation of the Paper Take-Up Sensor.
3) **Leading edge detection by Transport Roller Sensor**
The detection circuit is enabled for a period from the activation of Paper Take-Up Sensor to the activation of Transport Roller Sensor.
4) **Trailing edge detection by Transport Roller Sensor**
The detection circuit is enabled for a period from the input of a TRON signal to the deactivation of Transport Roller Sensor.
5) **Leading edge detection by Paper Leading Edge Detecting Sensor**
The detection circuit is enabled for a period from the activation of Transport Roller Sensor to the activation of Paper Leading Edge Detecting Sensor.
6) **Trailing edge detection by Paper Leading Edge Detecting Sensor**
The detection circuit is enabled for a period from the deactivation of Transport Roller Sensor to the deactivation of Paper Leading Edge Detecting Sensor.
7) **Leading edge detection by Paper Exit Sensor**
The detection circuit is enabled for a period from the input of a TRON signal to the activation of Paper Exit Sensor.
8) **Trailing edge detection by Paper Exit Sensor**
The detection circuit is enabled for a period from the deactivation of Paper Leading Edge Detecting Sensor to the deactivation of Paper Exit Sensor.



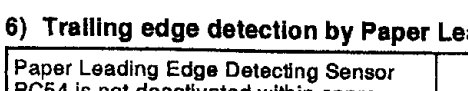
1142M007AA

2. Misfeed Detection Timing

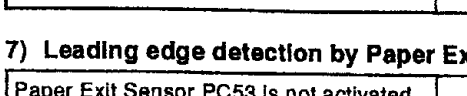
1) Take-up failure detection

Paper Take-Up Sensor PC55 is not activated within approx. 2.39 seconds after Paper Take-Up Solenoid SL2 has been energized.	

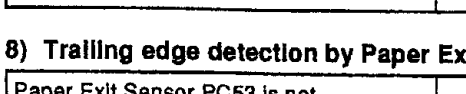
2) Trailing edge detection

Paper Take-Up Sensor PC55 is not deactivated within approx. 4.65 seconds after it has been activated.	

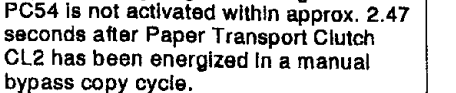
3) Leading edge detection by Transport Roller Sensor

Transport Roller Sensor PC51 is not activated within approx. 1.7 seconds after Paper Take-Up Sensor PC55 has been activated.	

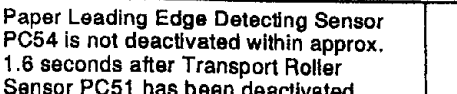
4) Trailing edge detection by Transport Roller Sensor

Transport Roller Sensor PC51 is not deactivated within approx. 4.31 seconds after a TRON signal has been input.	

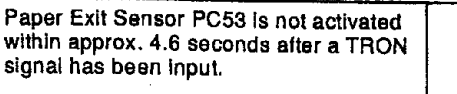
5) Leading edge detection by Paper Leading Edge Detecting Sensor

Paper Leading Edge Detecting Sensor PC54 is not activated within approx. 1.56 seconds after Transport Roller Sensor PC51 has been activated.	
Paper Leading Edge Detecting Sensor PC54 is not activated within approx. 2.47 seconds after Paper Transport Clutch CL2 has been energized in a manual bypass copy cycle.	

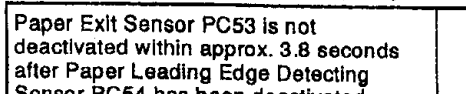
6) Trailing edge detection by Paper Leading Edge Detecting Sensor

Paper Leading Edge Detecting Sensor PC54 is not deactivated within approx. 1.6 seconds after Transport Roller Sensor PC51 has been deactivated.	

7) Leading edge detection by Paper Exit Sensor

Paper Exit Sensor PC53 is not activated within approx. 4.6 seconds after a TRON signal has been input.	

8) Trailing edge detection by Paper Exit Sensor

Paper Exit Sensor PC53 is not deactivated within approx. 3.8 seconds after Paper Leading Edge Detecting Sensor PC54 has been deactivated.	

EP1050

DIS/REASSEMBLY, ADJUSTMENT

MINOLTA

CONTENTS

1 SERVICE INSTRUCTIONS

1-1. PRECAUTIONS FOR DISASSEMBLY/ADJUSTMENTS ... D-1
1-2. INSTRUCTIONS FOR HANDLING THE PWBs WITH MOS ICs ... D-2
1-3. HANDLING OF THE PC DRUM ... D-2
1-4. PARTS WHICH MUST NOT BE TOUCHED ... D-4

2 DISASSEMBLY/REASSEMBLY

2-1. DOORS, COVERS, AND EXTERIOR PARTS: IDENTIFICATION AND REMOVAL PROCEDURES ... D-5
2-2. REMOVAL OF PWBs ... D-8
2-3. Belt Installations ... D-10
2-4. PAPER TAKE-UP/TRANSPORT SECTIONS ... D-11
(1) Removal of the Paper Take-Up Unit ... D-11
(2) Removal of the Paper Take-Up Rolls ... D-11
(3) Cleaning of the Paper Take-Up Rolls ... D-12
(4) Removal of the Suction Unit ... D-12
(5) Disassembly of the Suction Unit ... D-12
(6) Disassembly of the Multi Bypass Table (Option) ... D-13
2-5. OPTICAL SECTION ... D-18
(1) Removal of the Lens Drive Cable ... D-18
(2) Winding of the Lens Drive Cable ... D-19
(3) Removal of the Scanner Drive Cable ... D-20
(4) Winding of the Scanner Drive Cable ... D-22
(5) Removal of the Scanner ... D-24
(6) Cleaning of the Exposure Lamp ... D-24
(7) Cleaning of the 1st/2nd/3rd Mirrors ... D-25
(8) Cleaning of the Lens and 4th Mirror ... D-25
(9) Cleaning of the Optical Section Cooling Fan Filter ... D-25
2-6. Imaging Unit ... D-26
(1) Disassembly, Cleaning, and Replacement and Starter changing of the Imaging Unit ... D-26
• Replacement of the PC Drum ... D-26
• Replacement of the Toner Scattering Prevention Plate ... D-26
• Replacement of the Cleaning Blade ... D-27
• Cleaning of the PC Drum Paper Separator Fingers ... D-28
• Cleaning of the Ds Positioning Collars ... D-28
• Cleaning of the Paper Dust Remover ... D-28

CONTENTS

• Replacement of the Toner Antisplil Mylar D-28
• Cleaning of the Upper Pre-Image Transfer Guide Plate D-29
• Cleaning of the Magnet Roller Lower Filter D-29
(2) Cleaning of the Main Erase Lamp D-30
(3) Cleaning of the Image Erase Lamp D-30
2-7. PC DRUM CHARGE CORONA/IMAGE TRANSFER CORONA UNIT D-32
(1) Cleaning of the PC Drum Charge Corona Housing D-32
(2) Cleaning of the PC Drum Charge Corona Grid Mesh ... D-32
(3) Cleaning of the Comb Electrode D-33
(4) Cleaning of the Image Transfer/Paper Separator Coronas Wires D-33
(5) Cleaning of the Image Transfer/Paper Separator Coronas Housing D-33
(6) Cleaning of the Lower Pre-Image Transfer Guide Plate D-34
(7) Replacement of the Ozone Filter D-34
2-8. Fusing Unit D-34
(1) Removal of the Fusing Unit D-34
(2) Cleaning of the Pre-Fusing Guide Plate D-35
(3) Removal of the Upper Fusing Roller D-35
(4) Cleaning of the Upper Fusing Roller D-37
(5) Cleaning of the Upper Paper Separator Fingers D-37
(6) Cleaning of the Fusing Thermistor D-37
(7) Removal of the Lower Fusing Roller D-37
(8) Cleaning of the Lower Fusing Roller D-38
(9) Cleaning of the Lower Paper Separator Fingers D-38
(10)Disassembly of the Exit/Duplex Switching Unit (Option) D-38

3 ADJUSTMENT

3-1. JIGS AND TOOLS USED D-42
3-2. ADJUSTMENT REQUIREMENTS LIST D-43
3-3. ADJUSTMENT OF SWITCHES D-44
(1) Adjustment of Front Door Inter lock Switch S21 ..... D-45
3-4. ELECTRICAL/IMAGE ADJUSTMENT D-46
(1) Adjustment of the Maximum Exposure Lamp Voltage for the Manual Mode D-46

CONTENTS

(2) Adjustment of the Optimum Exposure Setting in the Manual Mode D-49
(3) Adjustment of the Optimum Exposure Setting in the Auto Mode D-50
(4) Adjustment of the ATDC Sensor D-51
(5) Adjustment of the Apertur e Blades D-52
(6) Adjustment of the Manual Bypass Table Reference Position D-53
(7) Adjustment of the Paper Drawer Reference Position D-54
(8) Adjustment of the Leading Edge Registration D-55
• Full Size D-55
• Enlargement D-57
• Reduction D-58
(9) Adjustment of the Image Leading Edge Erase Width D-59
(10) Adjustment of the Unexposed Areas/Edge Erase Lamp Position D-61
3-5. OTHER ADJUSTMENTS D-62
(1) Adjustment of the Scanner/Mirrors Carriage Position ... D-62
(2) Adjustment of the Gap Between the Doctor Blade and Sleeve Roller D-63
(3) Adjustment of the PC Drum Paper Separator Fingers Position D-64

4 MISCELLANEOUS

4-1. INSTALLATION OF THE PLUG-IN COUNTER MOUNTING BRACKET (OPTION) D-65

1 SERVICE INSTRUCTIONS

1-1. PRECAUTIONS FOR DISASSEMBLY/ADJUSTMENTS

Observe the following precautions whenever servicing the copier.

- Be sure to unplug the copier from the outlet before attempting to service the copier.
- The basic rule is not to operate the copier anytime during disassembly.
  If it is absolutely necessary to run the copier with its covers removed, use care not to allow your clothing to be caught in revolving parts such as the Timing Belt and gears.
- Be sure to use the Interlock Switch Actuating Jig whenever it is necessary to actuate the Interlock Switch with the covers left open or removed.
- Do not plug in or unplug print jacks on the Board or connect or disconnect the Board connectors while power is being supplied to the copier.
- Do not use flammable spray around the copier in operation.
- The Magnet Roller of the Imaging Unit generates strong magnetic force. Do not bring it near a cathode-ray tube or watch.
- A used lithium cell should be disposed of according to the local regulations and never be discarded casually or left unattended at the user's premises.
- Do not use an air gun or vacuum cleaner for cleaning the ATDC Sensor and other sensors, as they can cause electrostatic destruction. Use a blower brush and cloth. If a unit containing these sensors is to be cleaned, first remove the sensors from the unit.
- When handling the PWBs with MOS ICs, observe "1-2. Instructions for Handling the PWBs with MOS ICs."
- When handling the PC Drum, observe precautions given in "1-3. Handling of the PC Drum."
- Note that replacement of a PWB may call for readjustments or resetting of particular items.
- Use the right screw in the right place at reassembly. Note that some are longer and some are thicker than others.
- A toothed washer is used with the screw that secures the ground wire to ensure positive conduction. Do not forget to insert this washer at reassembly.
- To reassemble the copier, reverse the order of disassembly unless otherwise specified.
- If it becomes necessary to replace the thermal fuse or any other fuse mounted on a board, be sure to use one of the rating marked on the blown fuse.
  Always note the rating marked on the fuse, as the rating and mounting site or number used are subject to change without notice.
- Do not pull out the Toner Hopper while the Toner Bottle is turning, as a damaged Toner Replenishing Motor or locking mechanism could result.
  If the copier is to be run with the Front Door swung down, make sure that the Toner Hopper is in the locked position.

CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

ADVARSEL!: Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

1-2. INSTRUCTIONS FOR HANDLING THE PWBs WITH MOS ICs

The following precautions must be observed when handling P.W. Boards with MOS (Metal Oxide Semiconductor) ICs.

During Transportation/Storage:
- During transportation or when in storage, new P.W. Boards must not be indiscriminately removed from their protective conductive bags.
- Do not store or place P.W. Boards in a location exposed to direct sunlight.
- When it becomes absolutely necessary to remove a Board from its conductive bag or case, always place it on its conductive mat in an area as free as possible from static electricity.
- Do not touch the pins of the ICs with your bare hands.

During Replacement:
- Before unplugging connectors from the P.W. Boards, make sure that the power cord has been unplugged from the outlet.
- When removing a Board from its conductive bag or conductive case, do not touch the pins of the ICs or the printed pattern. Place it in position by holding only the edges of the Board.
- Before plugging connectors into the Board, make sure that the power cord has been unplugged from the power outlet.

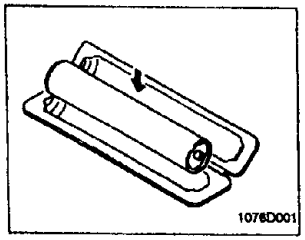
During Inspection:
- Avoid checking the IC directly with a multimeter; use connectors on the Board.
- Never create a closed circuit across IC pins with a metal tool.
- When it is absolutely necessary to touch the ICs and other electrical components on the Board, be sure to ground your body.

1-3. HANDLING OF THE PC DRUM

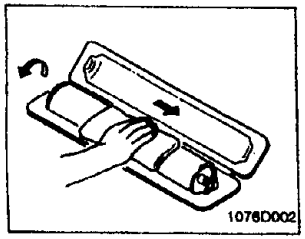
During Transportation/Storage:
- Use the specified carton whenever moving or storing the PC Drum.
- The storage temperature is in the range between –20°C and +40°C.
- In summer, avoid leaving the PC Drum in a car for a long time.

Handling:
- Ensure that the correct PC Drum is used.
- Whenever the PC Drum has been removed from the copier, store it in its Container or protect it with a Drum Cloth.
- The PC Drum exhibits greatest light fatigue after being exposed to strong light over an extended period of time. Never, therefore, expose it to direct sunlight.
- Use care not to contaminate the surface of the PC Drum with oilbase solvent, fingerprints, and other foreign matter.
- Do not scratch the surface of the PC Drum.
- Do not apply chemicals to the surface of the PC Drum.
- Do not attempt to wipe clean the surface of the PC Drum.

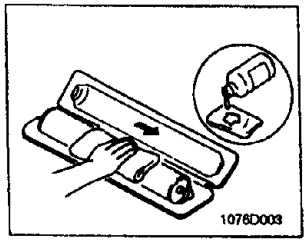
If, however, the surface is contaminated with fingerprints, clean it using the following procedure.



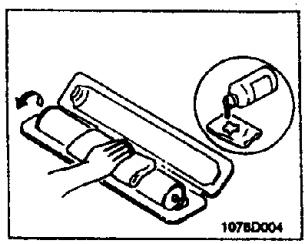
1. Place the PC Drum into one half of its container.



2. Gently wipe the residual toner off the surface of the PC Drum with a dry, Dust-Free Cotton Pad.
   a) Rotate the PC Drum so that the area of its surface on which the line of toner left by the Cleaning Blade is present is facing straight up. Wipe the surface in one continuous movement from the rear edge of the PC Drum to the front edge and off the surface of the PC Drum.
   b) Rotate the PC Drum slightly and wipe the newly exposed surface area with a CLEAN face of the Dust-Free Cotton Pad. Repeat this procedure until the entire surface of the PC Drum has been thoroughly cleaned.
   * At this time, always use a CLEAN face of the dry Dust-Free Cotton Pad until no toner is evident on the face of the Pad after wiping.



3. Soak a small amount of either ethyl alcohol or isopropyl alcohol into a clean, unused Dust-Free Cotton Pad which has been folded over into quarters. Now, wipe the surface of the PC Drum in one continuous movement from its rear edge to its front edge and off its surface one to two times.
   * Never move the Pad back and forth.



4. Using the SAME face of the Pad, repeat the procedure explained in the latter half of step 3 until the entire surface of the PC Drum has been wiped. Always OVERLAP the areas when wiping. Two complete turns of the PC Drum would be appropriate for cleaning.

NOTES

- *The Organic Photoconductor Drum is softer than CdS and Selenium Drums and is therefore susceptible to scratches.*
- *Even when the PC Drum is only locally dirtied, wipe the entire surface.*
- *Do not expose the PC Drum to direct sunlight. Clean it as quickly as possible even under interior illumination.*
- *If dirt remains after cleaning, repeat the entire procedure from the beginning one more time.*

1-4. PARTS WHICH MUST NOT BE TOUCHED

(1) Screws

Purpose of Application of Red Paint

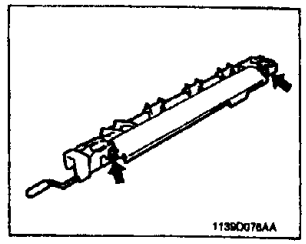
Red paint is applied to the screws which cannot be readjusted, set, or reinstalled in the field. The basic rule is not to remove or loosen the screws to which red paint is applied. In addition, be advised that, if two or more screws are designated as those which must not be touched on a single part, only one representative screw may be marked with red paint.

(2) Variable Resistors on Board

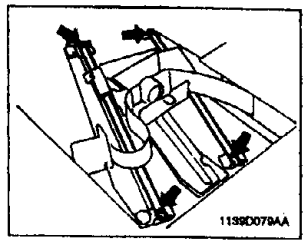
Do not turn the variable resistors on boards for which no adjusting instructions are given in "ADJUSTMENT."

(3) Other Screws

Lower Pre-Image Transfer Guide Plate (2 screws)

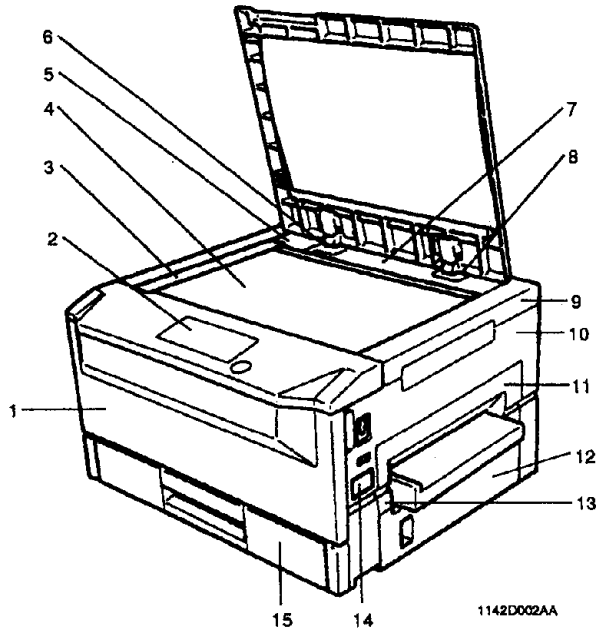


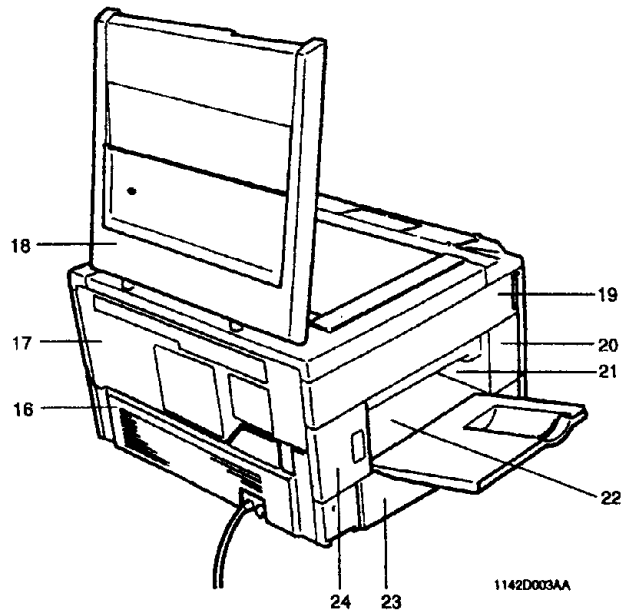
Lens Rail height setting screws (4)



2 DISASSEMBLY/REASSEMBLY

2-1. DOORS, COVERS, AND EXTERIOR PARTS: IDENTIFICATION AND REMOVAL PROCEDURES





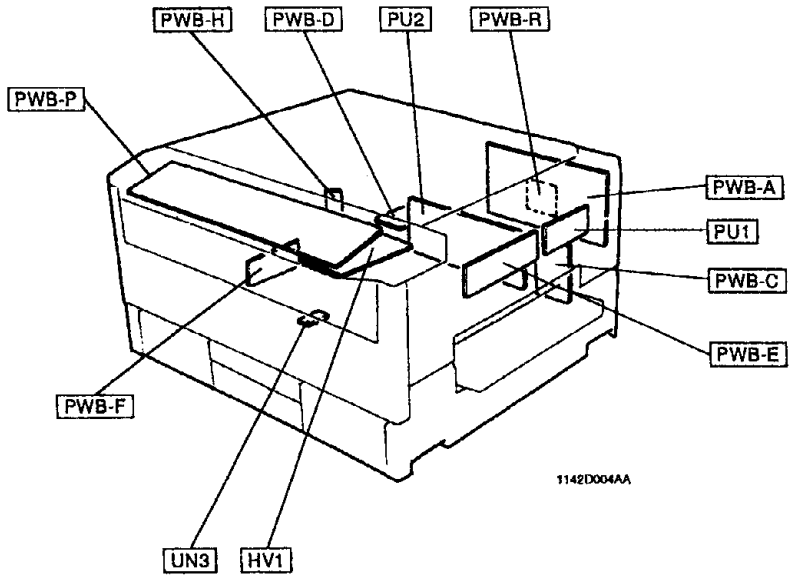
No.	Part Name	Removal Procedure
1	Front Door	Swing down the Front Door. → Remove one screw that secures the Belt. → Remove two screws that secure the Front Door (only on one side). → Slide the Door to the side from which the screws have been removed.
2	Control Panel	Swing down the Front Door. → Open the Right Door. → Remove the Middle Right, Upper Right, and Right Covers. → Release and swing up the Upper Half of the copier. → Remove the Upper Left Cover. → Remove two screws that secure the control panel and loosen another five screws that secure the control panel.
3	Original Scales	Remove two screws that secure the Scales.
4	Original Glass	
5	Rear Upper Cover (Small)	Remove the Original Cover. → Remove the Left Hinge Cover. → Remove the Screw Cover and one mounting screw of the Rear Upper Cover (Small).
6	Left Hinge Cover	Remove the Original Cover. → Remove one screw that secures the Left Hinge Cover.
7	Rear Upper Cover	Remove the Original Cover. → Remove the Right and Left Hinge Covers. → Remove the Rear Upper Cover (Small). → Open the Right Door. → Remove the Middle Right, Upper Right, and Right Covers. → Remove one screw that secures the Rear Upper Cover.
8	Right Hinge Cover	Remove the Original Cover. → Remove one screw that secures the Right Hinge Cover.
9	Upper Right Cover	Open the Right Door. → Remove the Middle Right Cover. → Remove the Right Cover. → Remove two screws that secure the Upper Right Cover.
10	Right Cover	Open the Right Door. → Remove the Middle Right Cover. → Remove the Upper Right Cover. → Remove two screws that secure the Right Cover.
11	Middle Right Cover	Open the Right Door. → Remove four screws that secure the Middle Right Cover.
12	Right Door	Open the Right Door and remove it by lifting it up.
13	Manual Bypass Table Mounting Bracket	Remove two screws that secure the Manual Bypass Table Mounting Bracket.
14	Counter Cover	Remove the Counter Cover by snapping if off.
15	Paper Drawer	Slide out the Paper Drawer and remove one screw that secures the Stopper at the rear left corner.
16	Rear Cover	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove two screws that secure the Rear Cover.
17	Upper Rear Cover	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove three screws that secure the Upper Rear Cover.
18	Original Cover	Remove the Original Cover by pulling it up.
19	Upper Left Cover	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove four screws that secure the Upper Left Cover.

No.	Part Name	Removal Procedure
20	Middle Front Left Cover	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove one screw that secures the Middle Front Left Cover.
21	Front Exit Cover	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove the Middle Front Left Cover. → Remove one screw that secures the Front Exit Cover.
22	Rear Exit Cover	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove the Middle Rear Left Cover. → Remove one screw that secures the Rear Exit Cover.
23	Lower Left Cover	Remove two screws that secure the Lower Left Cover.
24	Middle Rear Left Cover	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove one screw that secures the Middle Rear Left Cover.

MEMO

2-2. REMOVAL OF PWBs

- When removing a PWB, first go over "PRECAUTIONS FOR HANDLING THE PWBs" contained in SWITCHES ON PWBs and use the removal procedures given on the next page.
- Replacement of a PWB may call for readjustments or resetting of particular items.
- The removal procedures given on the next page omit the steps to unplug connectors and remove the PWB from the PWB support.



Symbol	Name	Removal Procedure
PWB-A	Master Board	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove three screws that secure the Upper Rear Cover.
PWB-C	Power Supply Board	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove the Rear Cover. → Remove four screws that secure the Power Supply Unit Cover.
PWB-D	Noise Filter Board	
PWB-E	Motor Drive Board	Open the Right Door. → Remove the Middle Right Cover. → Remove the Upper Right Cover. → Remove two screws that secure the Right Cover.
PWB-F	Fuse Board	Remove two screws that secure the Lower Rear Cover.
PWB-H	AE Sensor Board	Remove the Original Scales. → Remove the Original Glass.
PWB-P	Control Panel	Swing down the Front Door. → Open the Right Door. → Remove the Middle Right, Upper Right, and Right Covers. → Release and swing up the Upper Half of the copier. → Remove the Upper Left Cover. → Remove two screws that secure the control panel and loosen another five screws that secure the control panel.
PWB-R	RAM Board	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove three screws that secure the Upper Rear Cover.
PU1	Power Supply Unit	Open the Right Door. → Remove the Middle Right Cover. → Remove the Upper Right Cover. → Remove two screws that secure the Right Cover.
PU2	DC Power Supply Unit	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove the Rear Cover. → Remove four screws that secure the Power Supply Unit Cover.
HV1	High Voltage Unit	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Remove one screw that secures the High Voltage Unit.
UN3	ATDC Sensor	Swing down the Front Door. → Release and swing up the Upper Half of the copier. → Slide out the Imaging Unit. → Remove two screws that secure the Synchronizing Roller Guide Unit.

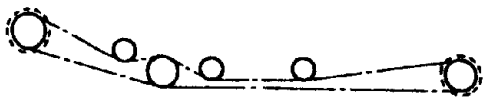
◆ Details of Readjustments/Resetting Involved In Replacement of PWB-R and UN3

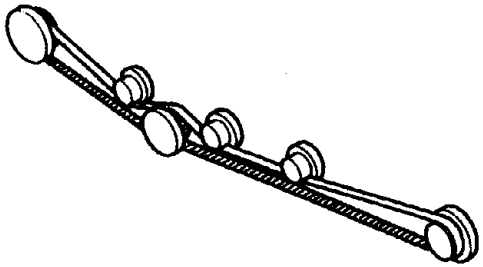
- When PWB-R is replaced:
  Carry out Memory Clear and then make the Tech. Rep. Program, User's Choice, and Adjust settings again.
- When UN3 is replaced:
  Discard the developer which had been used until UN3 was replaced, charge the Developing Unit with fresh developer, and adjust ATDC.

2-3. Belt Installations

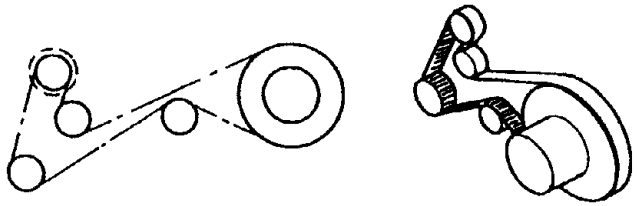
• Rear View

Drive/Suction Unit





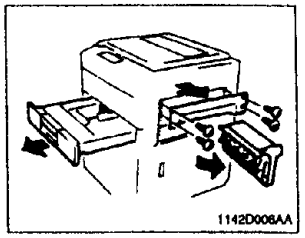
Paper Take-Up Unit



1142D005AA

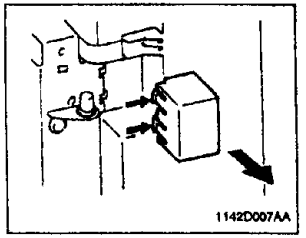
2-4. PAPER TAKE-UP/TRANSPORT SECTIONS

(1) Removal of the Paper Take-Up Unit



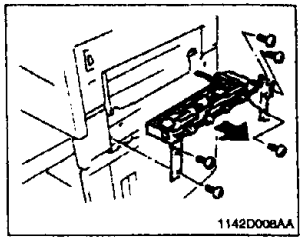
1142D006AA

1. Remove the Right Door.
2. Remove four screws to remove the Middle Right Cover.
3. Slide out the Paper Drawer.



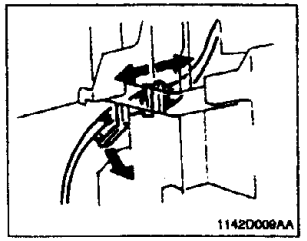
1142D007AA

4. Press the tabs at the two places indicated by the arrow and, at the same time, remove the cover.



1142D008AA

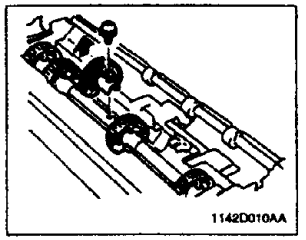
5. Remove five screws to remove the Paper Take-Up Unit.



1142D009AA

6. Remove the Locking wiring saddle to remove the harness.
7. Unplug the connector and remove the Paper Take-Up Unit.

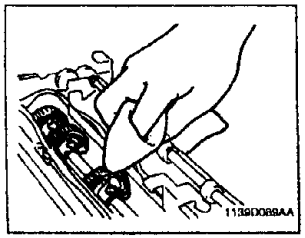
(2) Removal of the Paper Take-Up Rolls



1142D010AA

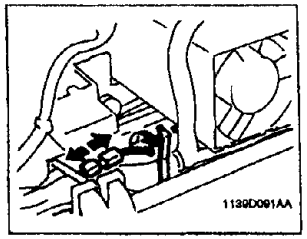
1. Remove tone screw to remove the Paper Take-Up Rolls.

(3) Cleaning of the Paper Take-Up Rolls

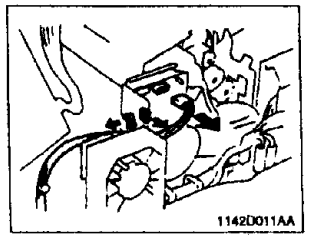


1. Remove the Paper Take-Up Unit from the copier.
2. Using a soft cloth dampened with alcohol, wipe clean the Paper Take-Up Rolls.

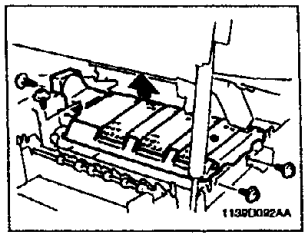
(4) Removal of the Suction Unit



1. Remove the Fusing Unit. (See p. D-35.)
2. Unplug the Suction Fan connector and remove the cable from the clamp.

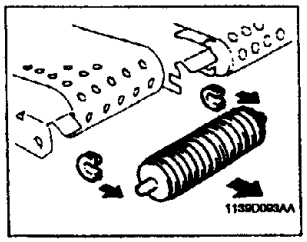


3. Unplug the Main Drive Motor connector and remove the harness from the edge cover and mini-clamp.

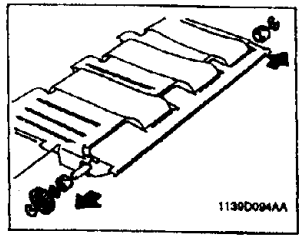


4. Remove four screws to remove the Suction Unit.

(5) Disassembly of the Suction Unit

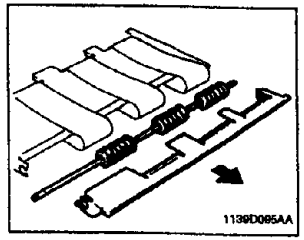


1. Remove the three Suction Drive Rolls and six bushings by pulling them in the direction of the arrow.

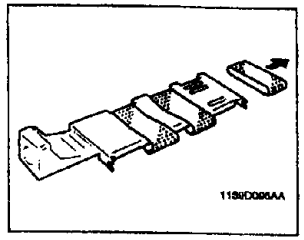


2. Snap off the three E-rings from the Suction Drive Unit.
3. Remove the gear and bushings.

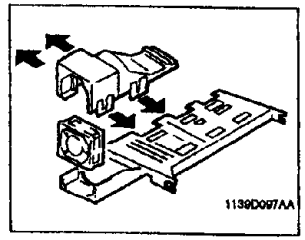
> ***NOTE***
>
> *Bushings of different materials are used: plastic at the front and metal in the rear. Ensure that the correct bushings are placed in the correct places at reinstallation.*



4. Remove the Pre-Fusing Guide Plate.
5. Remove the Suction Drive Unit.

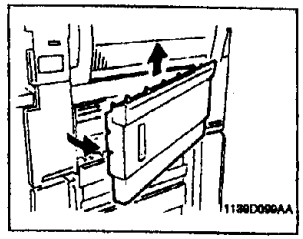


6. Remove the three belts.

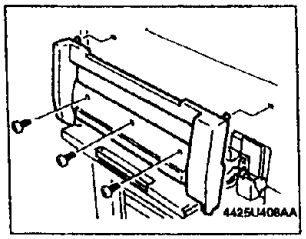


7. Remove the Duct Cover by carefully freeing the four catches.
8. Remove the Suction Fan.

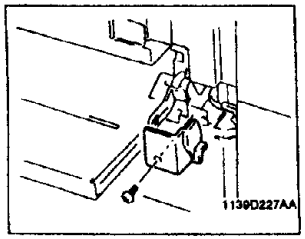
(6) Disassembly of the Multi Bypass Table (Option)



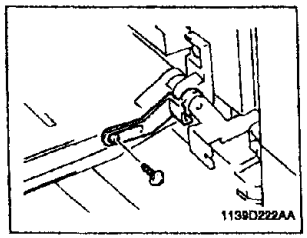
1. Remove the Right Door.



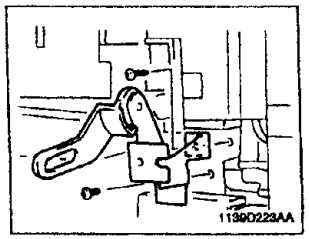
2. Remove three screws to remove the Large Cover.

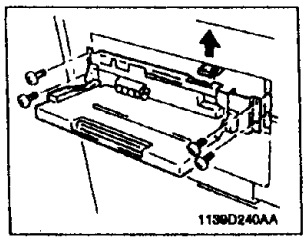


3. Remove one screw to remove the Small Cover.

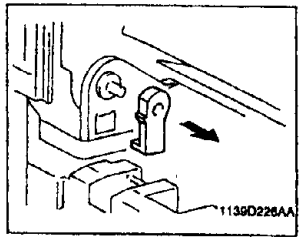


4. Remove three screws to remove the Guide Lever Unit.

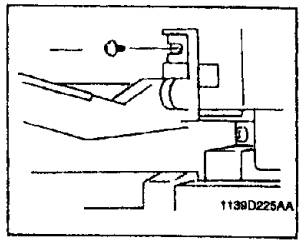




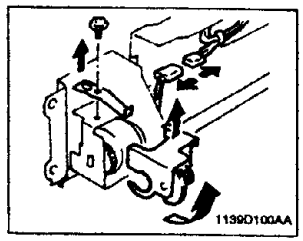
5. Remove four screws to remove the Multi Bypass Table.
   Unplug the Multi Bypass Table connector.



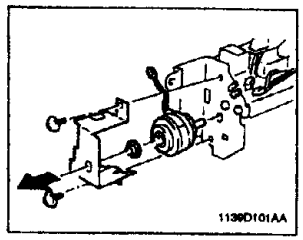
6. Remove the Guide Lever in the rear.



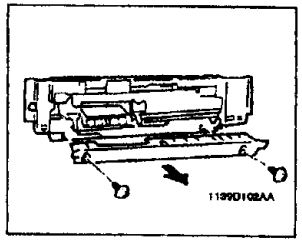
7. Remove one screw to remove the Manual Bypass Table.



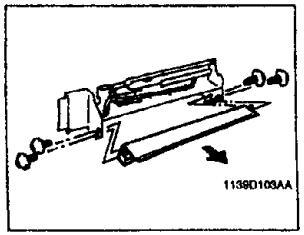
8. Unplug one connector.
9. Remove the flat spring.
10. Remove the Tension Unit.



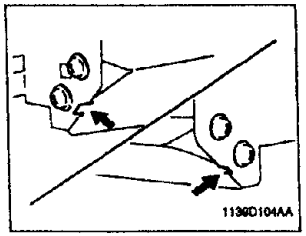
11. Remove two screws to remove the Clutch Mounting Bracket.



12. Remove two screws to remove the Lower Guide.

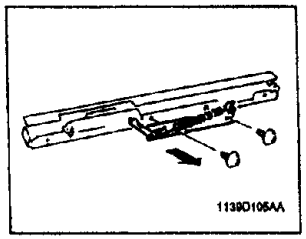


13. Remove four screws to remove the Separator Guide Plate Unit.

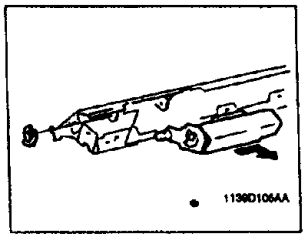


NOTE

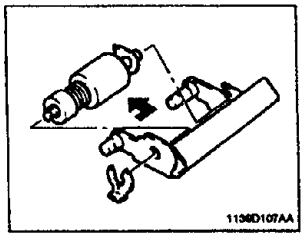
When reinstalling the Separator Guide Plate Unit, press the parts shown on the left up against the copier frame (both at front and rear).



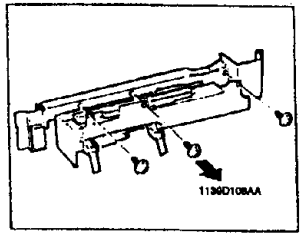
14. Remove two screws to remove the Lever.



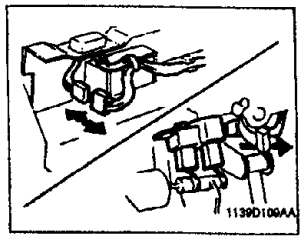
15. Snap off one C-clip and remove the Separator Unit.



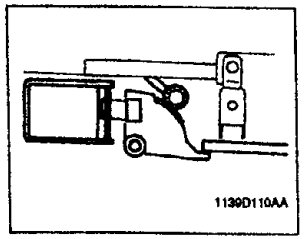
16. Snap off one C-clip and remove the Separator Roll Assy.



17. Remove three screws to remove the Solenoid Mounting Bracket.

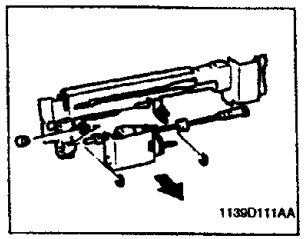


18. Unplug one solenoid connector.
19. Unplug one photosensor connector and remove the harness from the clamp.

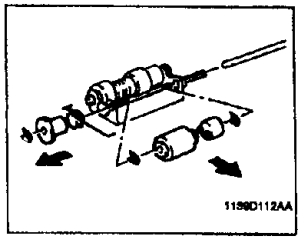


NOTE

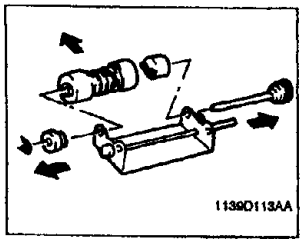
When reinstalling the Solenoid Mounting Bracket, make sure that the Solenoid is in the deenergized position.



20. Snap off the two C-clips to remove the Paper Take-Up Roll Unit.



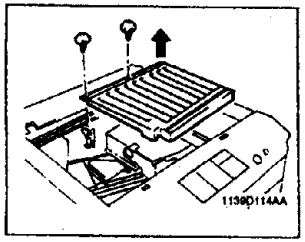
21. Snap off the three C-clips to remove the Paper Feed Roll.



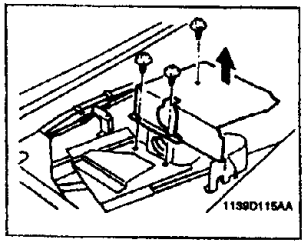
22. Snap off one C-clip and remove the Paper Take-Up Roll.

2-5. OPTICAL SECTION

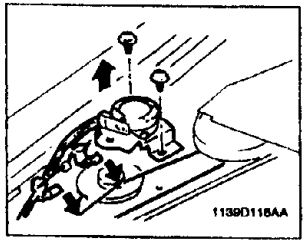
(1) Removal of the Lens Drive Cable



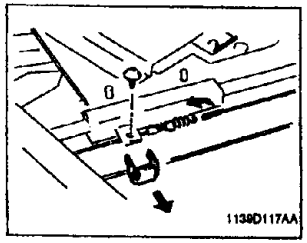
1. Remove two screws and the Optical Section Cover.



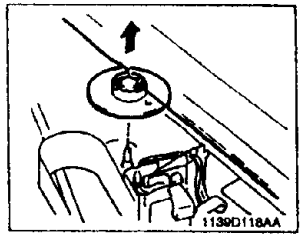
2. Remove three screws and the Lens Cover.



3. Remove two screws, two clamps and the Lens Motor Unit.

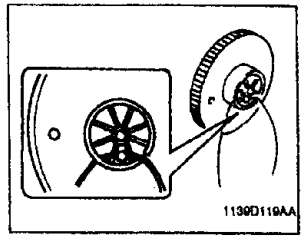


4. Remove one screw to remove the Cable Fixing Bracket.
5. Remove the spring.

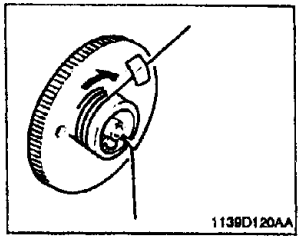


6. Remove the Cable Drive Gear and the Lens Drive Cable.

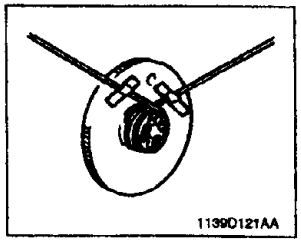
(2) Winding of the Lens Drive Cable



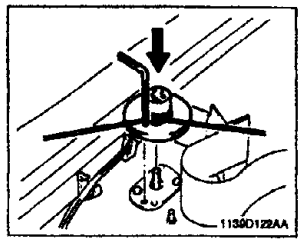
1. Hold the Cable Drive Gear in position with its Bead at the bottom.



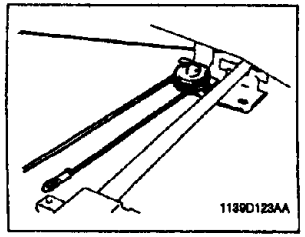
2. Wind the shorter length of the Cable three turns clockwise around the Cable Drive Gear, working from the back to the front side. Then tape it.



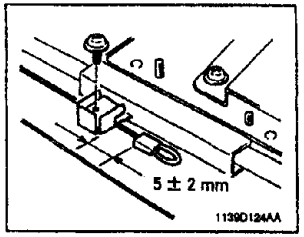
3. Wind the longer length of the Cable five turns counterclockwise around the Cable Drive Gear, working from the front to back side. Then tape it.



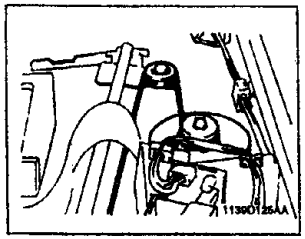
4. Slide the Cable Drive Gear onto its shaft and insert a wrench into the holes to position the Cable Drive Gear.



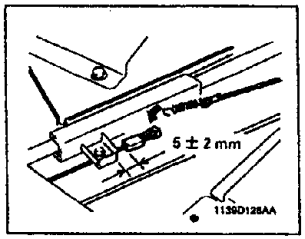
5. Pass the longer length of the Cable through the U-shaped hole in the Light Blocking Plate and wind it around the Pulley farther away from the Cable Drive Gear.



6. Temporarily secure the longer length of the Cable to the Cable Fixing Bracket, ensuring a distance of 5 ±2 mm for the dimension shown on the left.



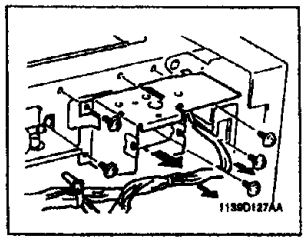
7. Wind the shorter length of the Cable around the Pulley which is nearer to the Cable Drive Gear.



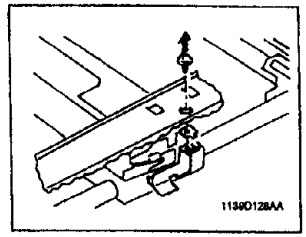
8. Hook the spring onto the shorter length of the Cable and pull it to hook onto the longer length of the Cable.
9. Check that the dimension noted in step 6 above measures 5 ±2 mm. Then, secure the Cable Fixing Bracket.
10. Remove the wrench and peel off the two pieces of tape.

(3) Removal of the Scanner Drive Cable

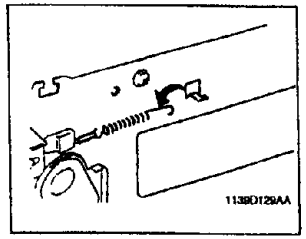
- Remove the Original Cover, Original Scales, and Original Glass.
- Remove the Middle Right, Upper Right, Right, Upper Left, and Upper Rear Covers.
- Remove the Left and Right Hinge Covers, Rear Upper Cover (Small), and Rear Upper Cover.



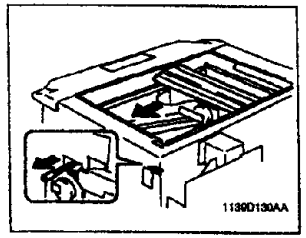
1. Remove the harness from the two clamps.
2. Remove four screws to remove the Document Feeder Mounting Bracket.
3. Remove one screw from the Plate.



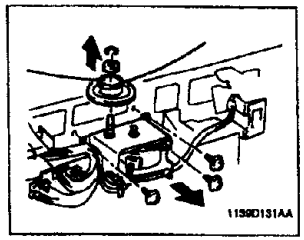
4. Align the Scanner with the rectangular hole in the upper copier frame and remove the screw from the Scanner Fixing Bracket.
5. Remove the Fixing Bracket.



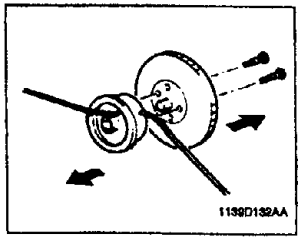
6. Unhook the spring to remove the shorter length of the Cable.



7. Move the 2nd/3rd Mirrors Carriage towards the Scanner Drive Gear so that the Cable slacks off and then remove the longer length of the Cable.



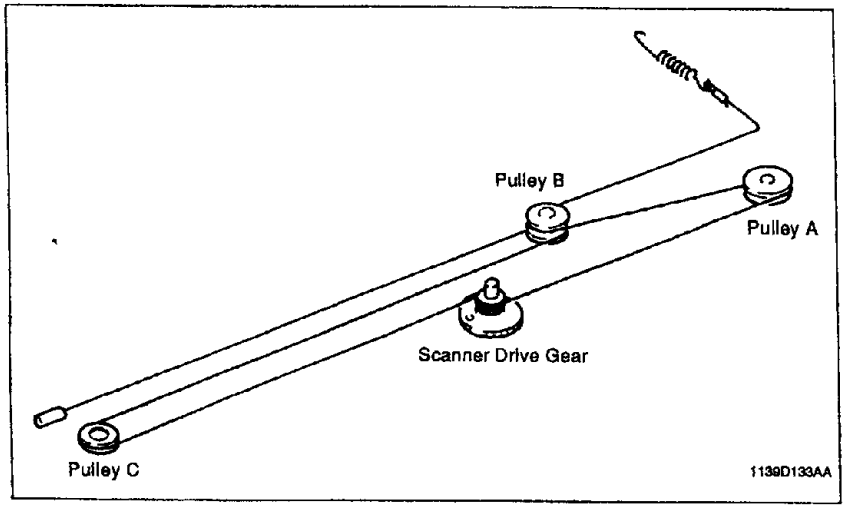
8. Remove three screws to remove the Scanner Motor Mounting Bracket.
9. Snap off one E-ring and remove the Scanner Drive Gear.

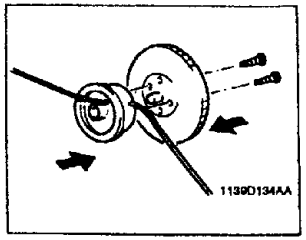


10. Remove two screws to remove the Pulley.
11. Remove the Cable.

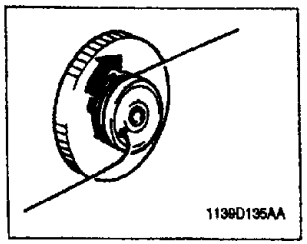
(4) Winding of the Scanner Drive Cable

◆ **Remark**
Whenever the Scanner Drive Cable has been rewound, be sure to make the "Adjustment of the Scanner/Mirrors Carriage Position." See p. D-62.

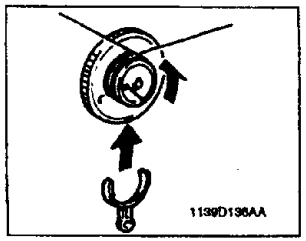




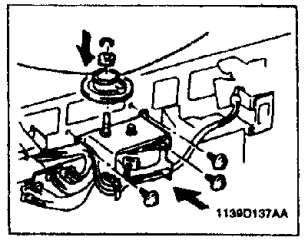
1. Fit the Pulley to the Scanner Drive Gear using two screws.



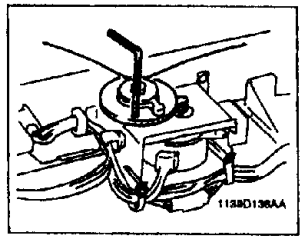
2. Wind the shorter length of the Cable 4-1/4 turns clockwise around the Pulley, working from the back to front side.



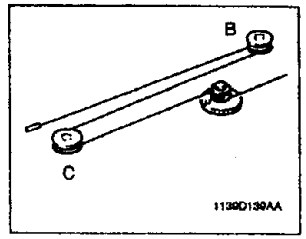
3. Wind the longer length of the Cable 3-1/2 turns counterclockwise around the Pulley, working from the front to back side. Then, slip the Cable Holding Jig onto the Pulley.



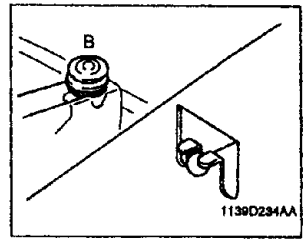
4. Fit the Scanner Drive Gear onto the Scanner Motor Mounting Bracket using one E-ring.
5. Secure the Scanner Motor Mounting Bracket to the frame using three screws.



6. Insert a wrench into the holes in the Scanner Drive Gear and the frame to position the Gear.

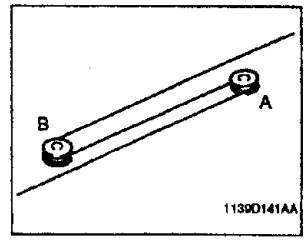


7. Wind the longer length of the Cable around Pulleys C and B and then secure it to the frame.



NOTE

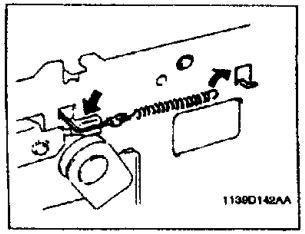
Wind the longer length of the Cable around the lower groove in Pulley B (of the two grooves). Position the terminal of the Cable as illustrated on the left.



8. Wind the shorter length of the Cable around Pulleys A and B.

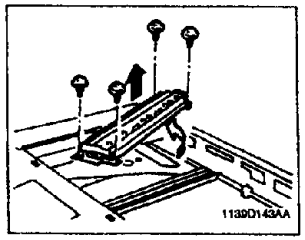
NOTE

Wind the shorter length of the Cable around the upper groove in Pulley B (two grooves).

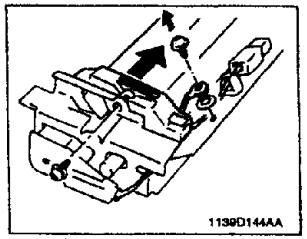


9. Fit the Cable into the groove in the Wire Guide and hook the spring.
10. Remove the wrench and Cable Holding Jig.

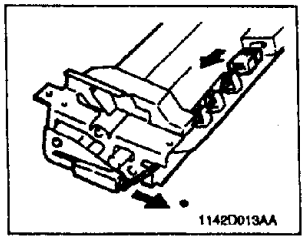
(5) Removal of the Scanner



1. Turn the Scanner Drive Gear to move the Scanner onto the right-hand side of the copier. Then, remove four screws to remove the Scanner.

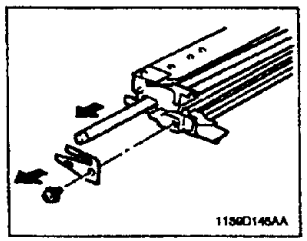


2. Remove one screw to remove the Wire Guide.
3. Remove one screw to remove the Ground Wire.

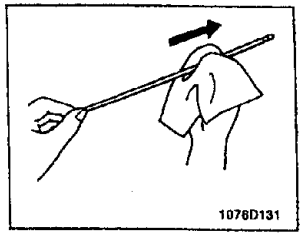


4. Remove the Thermal Fuse harness from three wiring saddle.
5. Unplug the Exposure Lamp Terminal connector and Thermal Fuse Terminal connector.

(6) Cleaning of the Exposure Lamp



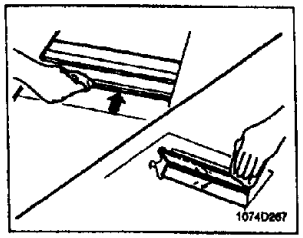
1. Remove one screw to remove the Exposure Lamp Terminal.
2. Slide out the Exposure Lamp.



3. Using a soft cloth dampened with alcohol, clean the Lamp by wiping its surface gently in one direction.

> ***NOTE***
>
> *When reinstalling the Lamp, use care not to allow the protruding navel of the Lamp to hit against the Lamp Reflector and that the protruding navel points toward the opening in the Lamp Reflector.*

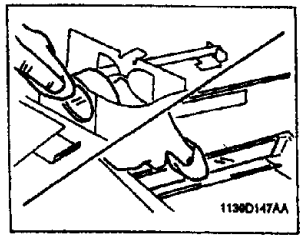
(7) Cleaning of the 1st/2nd/3rd Mirrors



1. Turn the Scanner Drive Gear to move the Scanner away from the Mirrors. Then, wipe clean the 1st/2nd/3rd Mirrors with a soft cloth.

> ***NOTE***
>
> *An alcohol-dampened cloth may be used if the Mirror is seriously contaminated.*

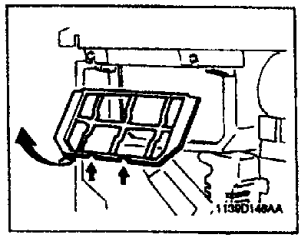
(8) Cleaning of the Lens and 4th Mirror



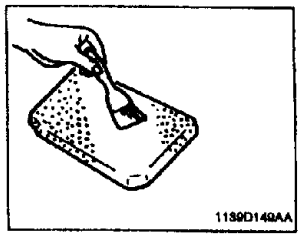
1. Gently dust off the surface of the Lens and 4th Mirror by using a dry soft cloth.

> ***NOTE***
>
> *An alcohol-dampened cloth may be used if the Lens or Mirror is seriously contaminated.*

(9) Cleaning of the Optical Section Cooling Fan Filter



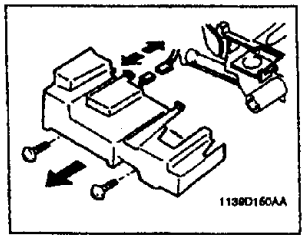
1. Unhook the Fan Cover at the bottom by slightly raising and, at the same time pulling, the two catches on the bottom.



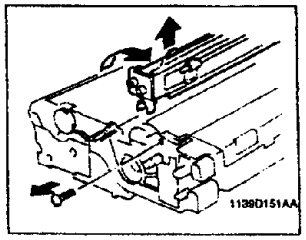
2. Clean the Filter with a brush or a vacuum cleaner.

2-6. Imaging Unit

(1) Disassembly, Cleaning, and Replacement and Starter Changing of the Imaging Unit

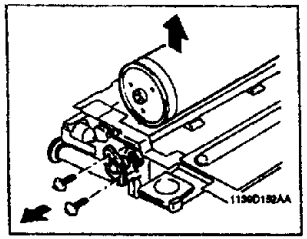


1. Remove the Imaging Unit from the copier.
2. Remove two screws to remove the Imaging Unit Cover.
3. Unplug the Counter connector.



4. Remove one screw to remove the PC Drum Charge Corona Unit.

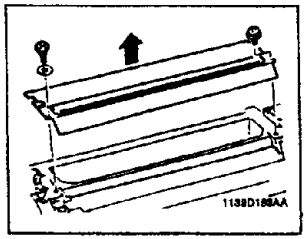
Replacement of the PC Drum



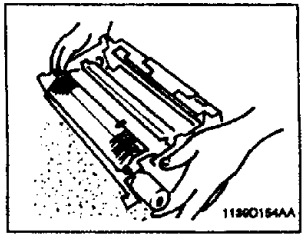
5. Remove two screws and one Drum Pin to remove the PC Drum.

> ***NOTE***
>
> *Whenever the PC Drum has been replaced, be sure to make the "Adjustments of the Optimum Exposure Setting in the Manual and Auto Mods." See pp. D-49 to D-50.*

Replacement of the Toner Scattering Prevention Plate

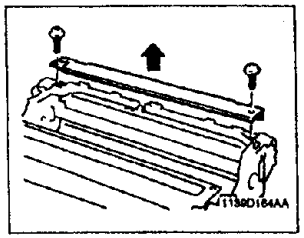


6. Remove one screw and one shoulder screw to remove the Toner Scattering Prevention Plate.

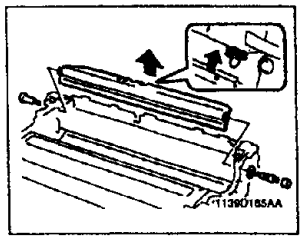


7. Tilt the Developing Unit to remove the developer.

Replacement of the Cleaning Blade



8. Remove two screws to remove the Lid.



9. Remove the spring.
10. Remove two screws, one spring, and one cap to remove the Cleaning Blade. Replace it with a new one.

> ***NOTE***
>
> *When the Cleaning Blade has been replaced, apply toner to the entire surface of the new Cleaning Blade.*

Applying Toner to Cleaning Blade

Apply toner to the entire surface of the Cleaning Blade. (Do not forget to coat the surfaces on both ends.)

↓

Install the PC Drum.

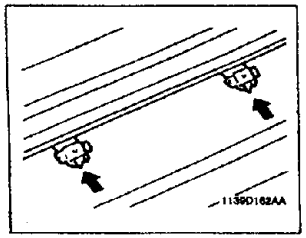
↓

Apply a thin coat of toner to the PC Drum.

↓

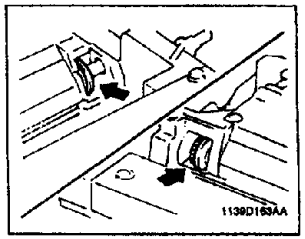
Turn the PC Drum 1/2 turns backward, then turn it one complete turn forward.

Cleaning of the PC Drum Paper Separator Fingers



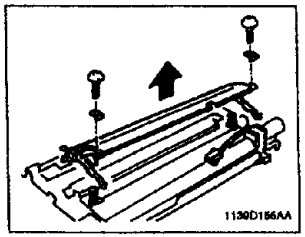
11. Using a soft cloth dampened with alcohol, wipe clean the Paper Separator Fingers.

Cleaning of the Ds Positioning Collars



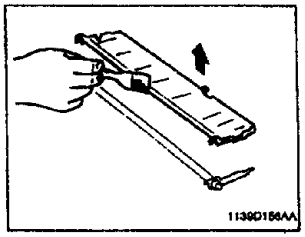
12. Using a soft cloth dampened with alcohol, wipe clean the Ds Positioning Collars.

Cleaning of the Paper Dust Remover



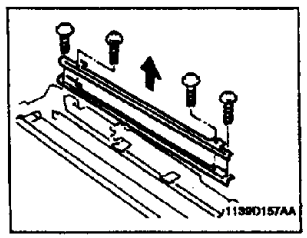
13. Remove two screws and two compression coil springs to remove the Synchronizing Roller Unit.

> **NOTE**
>
> *When removing the Synchronizing Roller Unit, use care not to lose the compression coil springs. At reinstallation, fit the close-coiled end of the springs to the bosses on the Imaging Unit.*

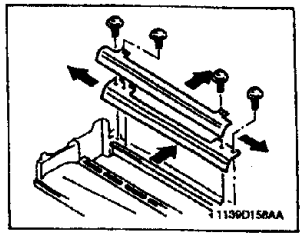


14. Remove the Synchronizing Roller.
15. Using a brush, whisk the dust and dirt off the Filter.

Replacement of the Toner Antispill Mylar

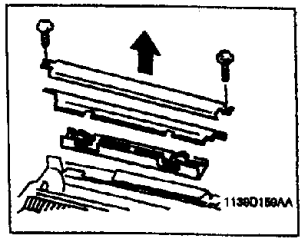


16. Remove two screws to remove the Bias Seal. (No Bias Seals are mounted in the copiers for the U.S.A., Canada, and Europe.)
17. Remove two screws to remove the Toner Antispill Mylar and replace the Mylar.

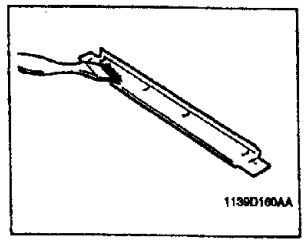


> **NOTE**
>
> *At reinstallation, press the Toner Antispill Mylar up against the Imaging Unit Housing and the rear side of the copier (in the directions of the arrows) and press the Bias Seal up against the Imaging Unit Housing and the front side of the copier (in the directions of the arrows).*

Cleaning of the Upper Pre-Image Transfer Guide Plate

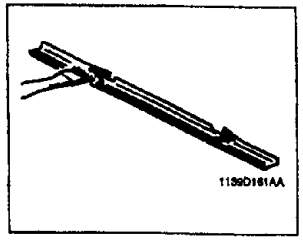


18. Remove two screws to remove the Upper Pre-Image Transfer Guide Plate.

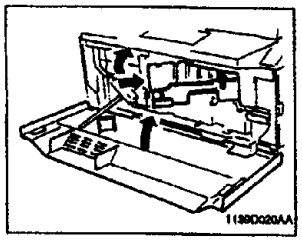


19. Using a brush, whisk toner and dust off the surface of the Upper Pre-Image Transfer Guide Plate.

Cleaning of the Magnet Roller Lower Filter

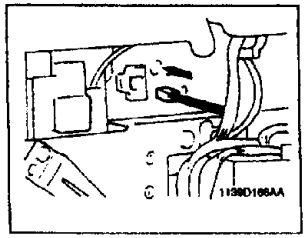


20. Using a brush, whisk toner and dust off the Magnet Roller Lower Filter. (No Magnet Roller Lower Filters are mounted in the copiers for the U.S.A., Canada, and Europe.)

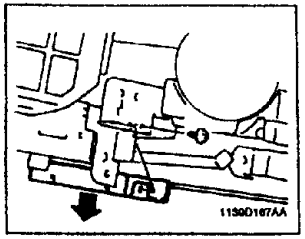


21. Refit the parts to the Imaging Unit and reinstall the Imaging Unit to the copier.
22. Charge fresh starter and make the ATDC adjustment. See p. D-51.

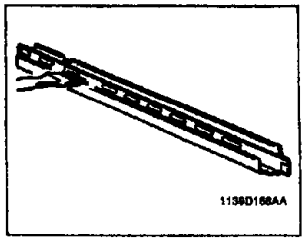
(2) Cleaning of the Main Erase Lamp



1. Go to the rear of the copier and unplug the connector of the Main Erase Lamp.



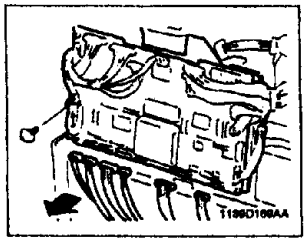
2. Remove the Imaging Unit.
3. Pull out the Toner Bottle Holder to the front.
4. Remove one screw to remove the Main Erase Lamp.



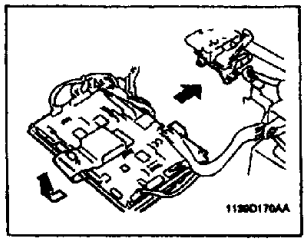
5. Using a brush or a soft cloth dampened with alcohol, clean the Erase Lamp.

> **NOTE**
> *Do not touch the Lamp with bare hands.*

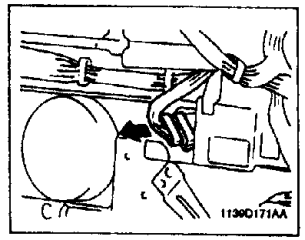
(3) Cleaning of the Image Erase Lamp



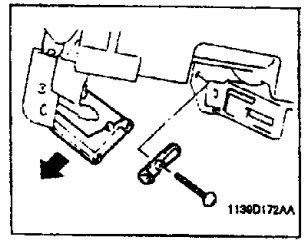
1. Unplug six connectors from the lower part of Master Board PWB-A.
2. Remove one screw to remove PWB-A.



3. Insert PWB-A into the copier to secure it.

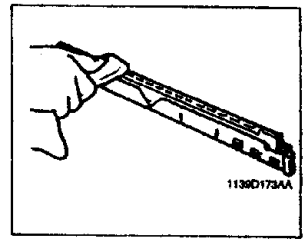


4. Go to the rear of the copier and unplug the connector of Image Erase Lamp.



5. Remove the Imaging Unit.
6. Remove one screw to remove the Image Erase Lamp.

> **NOTE**
> *When removing the Erase Lamp, use care not to lose the pressure spring in the rear.*

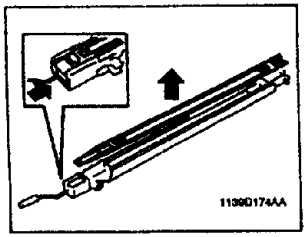


7. Using a brush or a soft cloth dampened with alcohol, clean the Erase Lamp.

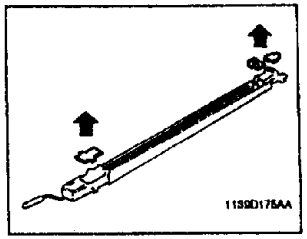
> **NOTE**
> *After the Erase Lamp has been cleaned, make the "Adjustment of the Unexposed Areas/Edge Erase Lamp Position." See p. D-61.*

4-7. PC DRUM CHARGE CORONA/IMAGE TRANSFER CORONA UNIT

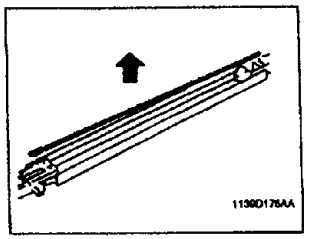
(1) Cleaning of the PC Drum Charge Corona Housing



1. Remove the Imaging Unit.
2. Remove the PC Drum Charge Corona Unit. (See p. D-26.)
3. Press the Mesh Holder on the front of the Corona Unit in the direction of the arrow to remove the Grid Mesh.

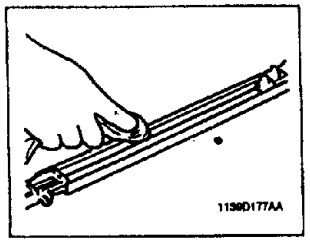


4. Remove the Cleaning Pad Cover.
5. Remove the End Caps from the front and rear ends of the Unit.



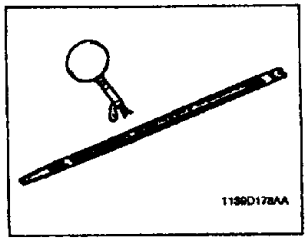
6. Remove the Comb Electrode.

> ***NOTE***
>
> *Use care not to deform the Electrode. When removing it, first snap off its spring end.*



7. Using a soft cloth dampened with alcohol, wipe the Housing clean of dirt.

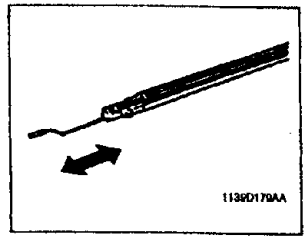
(2) Cleaning of the PC Drum Charge Corona Grid Mesh



1. Blow all foreign matter off the Grids with a blower brush.

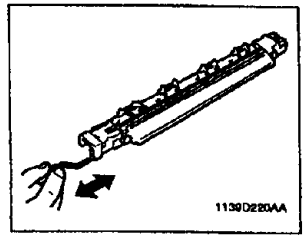
> ***NOTE***
>
> *If the blower brush is not effective in cleaning the Grids, use a soft cloth dampened with alcohol to clean serious contamination.*

(3) Cleaning of the Comb Electrode

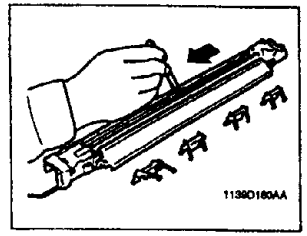


1. Clean the Comb Electrode using the Corona Unit Cleaning Lever.

(4) Cleaning of the Image Transfer/Paper Separator Coronas Wires

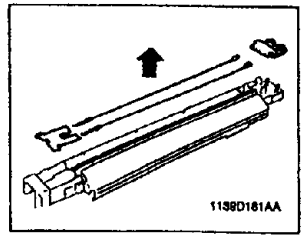


1. Clean the Image Transfer Corona Wire using the Corona Wire Cleaning Lever.



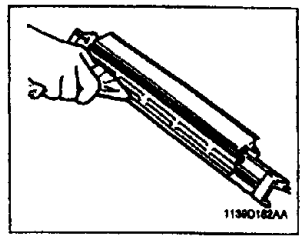
2. Remove the four Paper Guides.
3. Dampen a soft cloth with alcohol, hold it with a pair of tweezers, and wipe the Paper Separator Corona Wire gently in one direction. (Go from the hook to spring end.)

(5) Cleaning of the Image Transfer/Paper Separator Coronas Housing



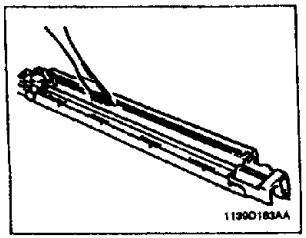
1. Remove the four Paper Guides.
2. Remove the two End Caps.
3. Remove the Image Transfer and Paper Separator Corona Wires.

> ***NOTE***
>
> *When removing the Wire, unhook the spring end first and use care to prevent break and deformation. Keep the Corona Wire Cleaning Lever (for the Image Transfer Corona) pressed all the way back in. Do not attempt to remove the Lower Pre-Image Transfer Guide Plate as it has been adjusted for correct height.*



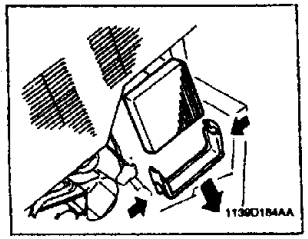
4. Using a soft cloth dampened with alcohol, wipe the Housing clean of dirt.

(6) Cleaning of the Lower Pre-Image Transfer Guide Plate



1. Using a brush, whisk dust off the Lower Pre-Image Transfer Guide Plate.

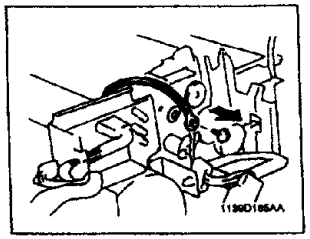
(7) Replacement of the Ozone Filter



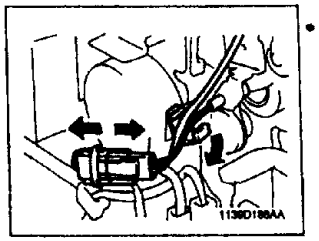
1. Press the Filter Cover Bracket in the direction of the arrows and pull it off.
2. Remove the Filter and replace it with a new one.

2-8. Fusing Unit

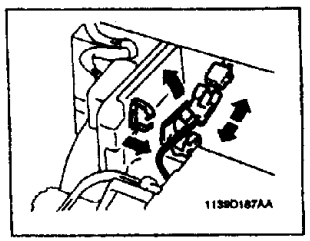
(1) Removal of the Fusing Unit



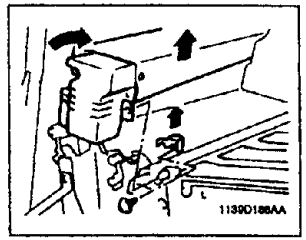
1. Remove one screw to remove the Ground Wire of the Fusing Unit.



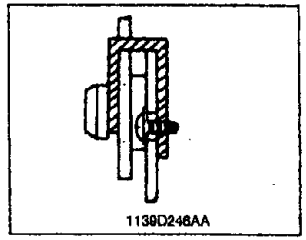
2. Unplug the Fusing Heater Lamp connector and remove the cable from the clamp.



3. Unplug the Fusing Thermistor connector and remove the cable from the two clamps.



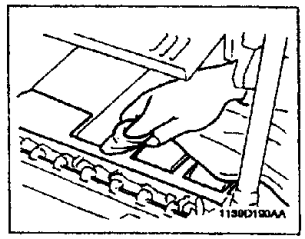
4. Remove one screw to remove the Fusing Unit Locking Plate.
5. Turning it in the direction of the arrow, remove the Fusing Unit.



NOTE

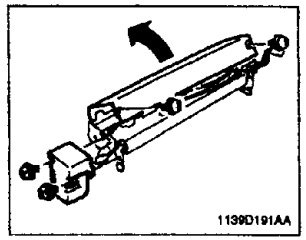
When reinstalling the Fusing Unit, install the Locking Plate as illustrated on the left.

(2) Cleaning of the Pre-Fusing Guide Plate

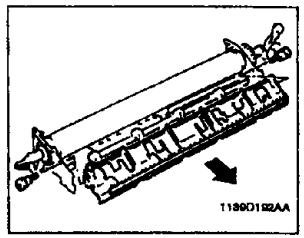


1. Using a soft cloth dampened with alcohol, wipe clean the Guide Plate.

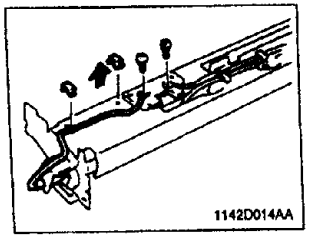
(3) Removal of the Upper Fusing Roller



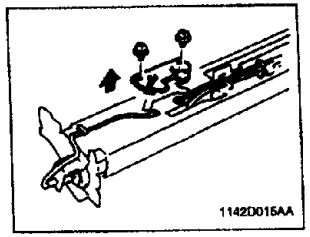
1. Remove two screws to remove the Fusing Unit Front Cover.
2. Remove two screws to remove the Fusing Unit Upper Cover.



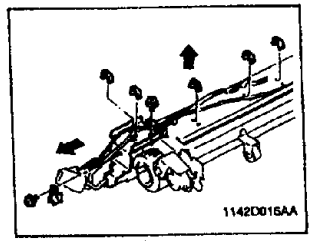
3. Remove two screws to remove the Upper Paper Separator Fingers Unit.



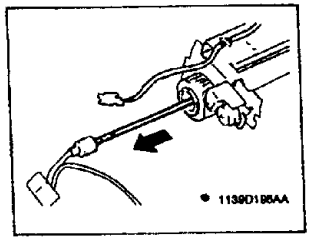
4. Remove two Lamp harness fixing screws and two harness holders.



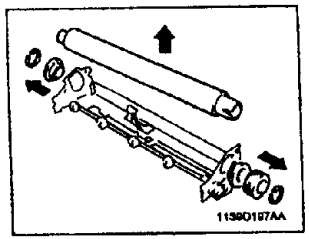
5. Remove two screws to remove the Fuse Holder Unit.



6. Remove four clamps that secure the Lamp harness at the rear of the copier and one clamp that secures the Thermistor harness.
7. Remove the cord holder and mounting bracket by removing two screws.

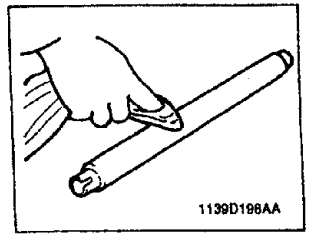


8. Slide out the Fusing Heater Lamp.



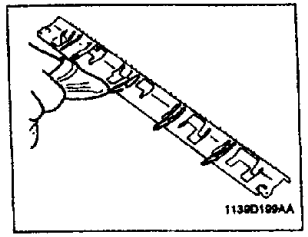
9. Remove two C-clips.
10. Remove one spur gear.
11. Remove two bushings.
12. Remove the Upper Fusing Roller.

(4) Cleaning of the Upper Fusing Roller



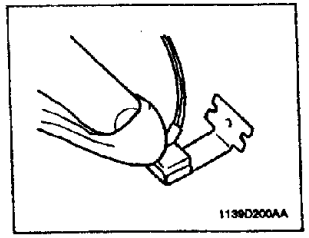
1. Using a soft cloth dampened with alcohol or silicone oil, wipe clean the Upper Fusing Roller.

(5) Cleaning of the Upper Paper Separator Fingers



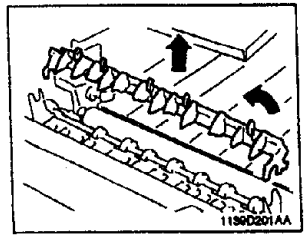
1. Using a soft cloth dampened with alcohol or silicone oil, wipe clean the Upper Paper Separator Fingers.

(6) Cleaning of the Fusing Thermistor

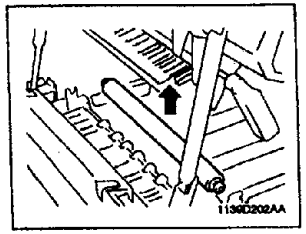


1. Remove one screw to remove the Fusing Thermistor.
2. Using a soft cloth dampened with alcohol or silicone oil, wipe clean the Thermistor.

(7) Removal of the Lower Fusing Roller

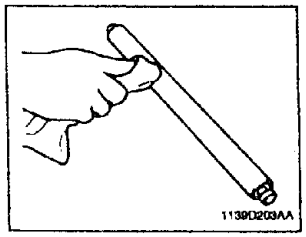


1. Turning it in the direction of the arrow, remove the Lower Paper Separator Fingers Unit.



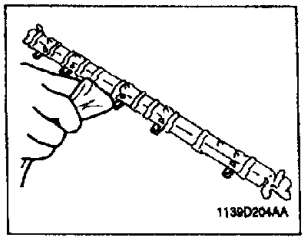
2. Remove the Lower Fusing Roller

(8) Cleaning of the Lower Fusing Roller



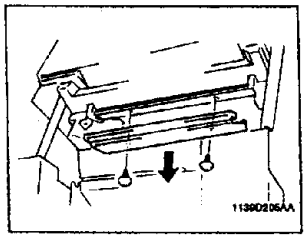
1. Using a soft cloth dampened with alcohol or silicone oil, wipe clean the Lower Fusing Roller.

(9) Cleaning of the Lower Paper Separator Fingers

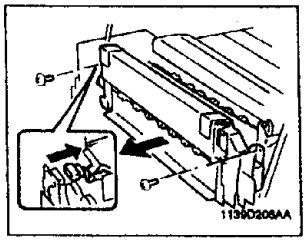


1. Using a soft cloth dampened with alcohol or silicone oil, wipe clean the Lower Paper Separator Fingers.

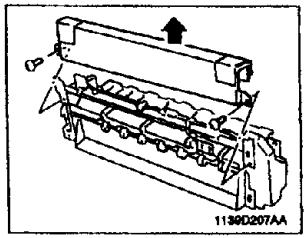
(10) Disassembly of the Exit/Duplex Switching Unit (Option)



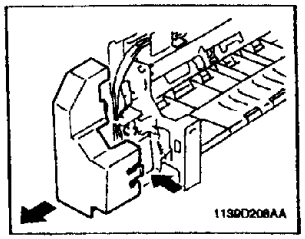
1. Remove two screws to remove the Upper Guide Plate.
2. Remove the Middle Front Lever Cover and Middle Rear Left Cover. See p. D-7.



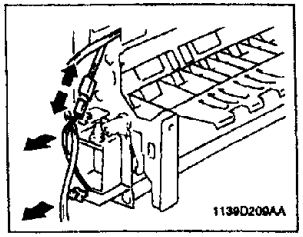
3. Remove two screws to remove the Exit/Duplex Switching Unit.
4. Unplug one connector.



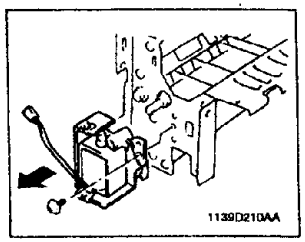
5. Remove two screws to remove the Cover.



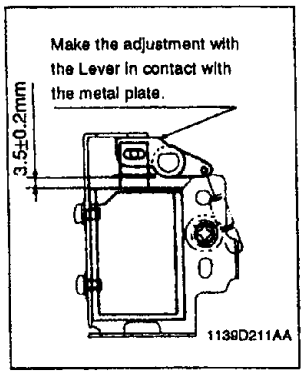
6. Remove the Solenoid Cover by unhooking its catches at three places.



7. Unplug the solenoid connector.
8. Remove the harness from the Solenoid Unit clamps at two places.

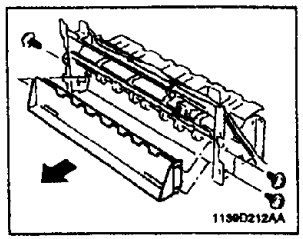


9. Remove one screw to remove the Solenoid Unit.

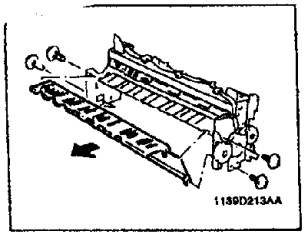


NOTE

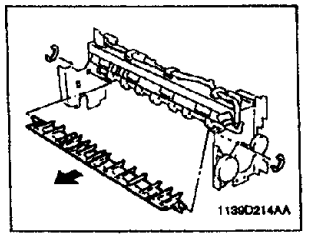
If the solenoid has been removed from the Solenoid Unit, make the adjustment shown on the left with the Solenoid Unit installed in the Exit/Duplex Switching Unit.



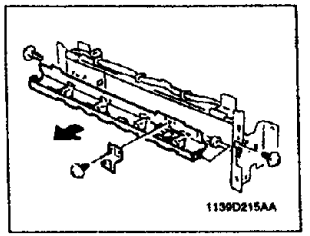
10. Remove three screws to remove the Copy Tray Holder.



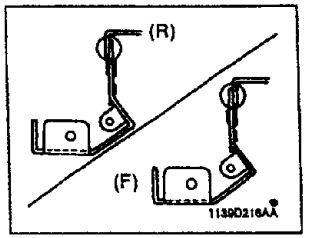
11. Remove four screws to remove the Lower Guide.



12. Snap off two E-rings to remove the Exit/Duplex Switching Plate.

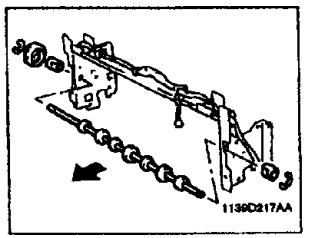


13. Remove one screw to remove the Photoswitch Mounting Bracket.
14. Remove two screws to remove the Exit Rolls Mounting Bracket Unit.

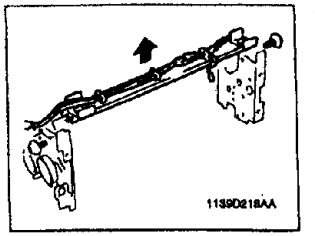


NOTE

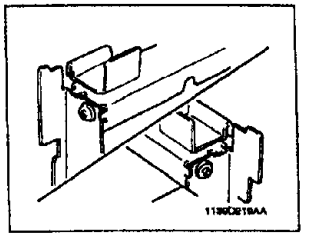
When reinstalling the Exit Rolls Mounting Bracket Unit, make sure that the Reinforcement Plate Unit is in contact with the Exit Rolls Mounting Bracket Unit as shown on the left.



15. Snap off two E-rings to remove the Exit Roller.



16. Remove the harness from the clamp.
17. Remove two screws to remove the Reinforcement Plate Unit.



NOTE

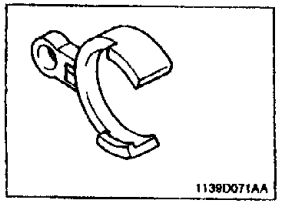
When reinstalling the Reinforcement Plate Unit, make sure that the Unit is in contact with the frame at the front and rear sides of the copier as shown on the left.

3 ADJUSTMENT

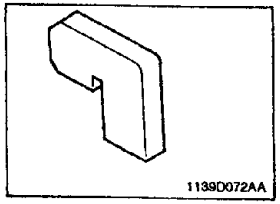
3-1. JIGS AND TOOLS USED

◆Important
- The following jigs can be used in common with the EP1080.
- For the Cable Holding jig ①, use that for EP4230.
- When adjusting the positions of the Scanner and Mirrors Carriage, use Jigs numbered ③ and ④.
- When adjusting the gap between the Doctor Blade and Sleeve Roller, use Jigs numbered ⑤ and ⑥.
- When adjusting the position of PC Drum Paper Separator Fingers, use Jigs numbered ⑤ and ⑦.

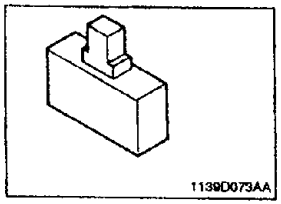
① Cable Holding Jig



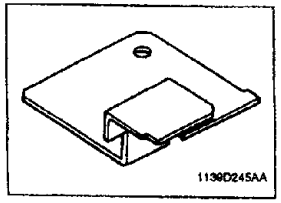
② Front Door Interlock Switch Actuating Jig



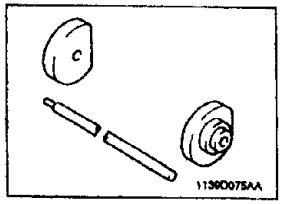
③ Scanner Positioning Jig



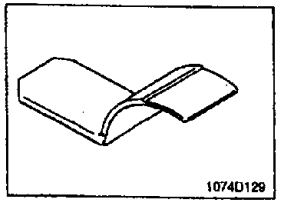
④ Scanner/Mirrors Carriage Positioning Jig



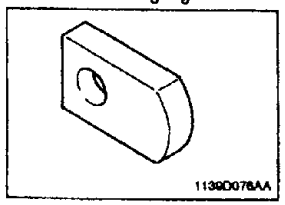
⑤ Sleeve/Magnet Roller Positioning Jig



⑥ D.B. Adjusting Jigs



⑦ PC Drum Paper Separator Fingers Positioning Jig



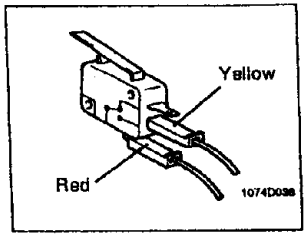
3-2. ADJUSTMENT REQUIREMENTS LIST

Adjustment Item	Requirements	Adjusting Point	Ref. Page
Max. Exposure Lamp Voltage	100 to 127V areas: 81 ±1 V 200 to 240V areas: 162 ±2 V	Control panel	D-46
Optimum Exposure Setting in the Manual Exposure Mode	Kodak Gray Scale: no image of the 1st step, faint image of the 2nd step	Control panel	D-49
Optimum Exposure Setting in the Auto Exposure Mode		Control panel	D-50
Manual Bypass Table Reference Position	(100 %) 20 ±2 mm	Manual Bypass Table	D-53
Paper Drawer Reference Position	(100 %) 20 ±2 mm	Drawer Front Panel	D-54
Full Size Leading Edge Registration	(100 %) 20 ±1.5 mm	Control panel	D-55
Enlargement Leading Edge Registration	(200 %) 40 ±3 mm	Control panel	D-57
Reduction Leading Edge Registration	(50 %) 10 ±1.5 mm	Control panel	D-58
Image Leading Edge Erase Width	0.5 to 6.5 mm	Control panel	D-59
Unexposed Areas/Edge Erase Lamp Position	Within 4 mm	Adjusting Screw for Unexposed Areas/Edge Erase Lamp position	D-61

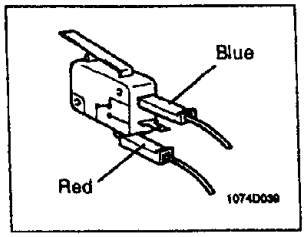
...ENTS OF SWITCHES

Microswitches

The following microswitches are used in various parts of this copier.



Wiring for the NO Type



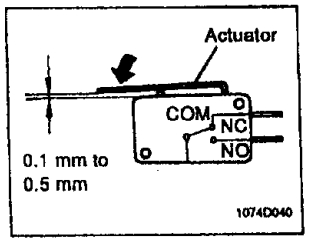
Wiring for the NC Type

NC (Normally-Closed) : Current flows between NC and COM when the actuator is open.

NO (Normally-Open) : Current flows between NO and COM when the actuator is closed.

COM (Common) : Common contact for NC and NO

Requirement

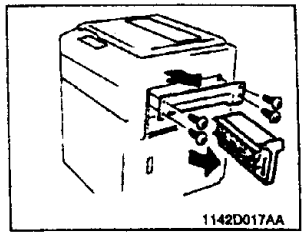


The gap between the switch and actuator should be 0.1 mm to 0.5 mm when the actuator is closed.

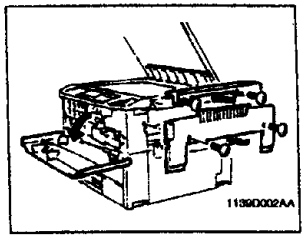
Out-of-Adjustment (When the actuator is closed)

- If the gap between the switch and actuator is too big, current does not at times flow to NC or NO.
- If there is no gap between the switch and actuator, the actuator is bent or the switch can be broken.

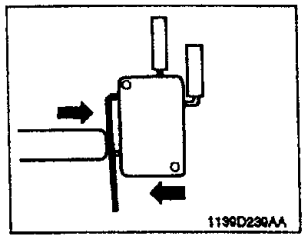
(1) Adjustment of Front Door Interlock Switch S21



1. Open the Right Door.
2. Remove the Middle Right Cover. (4 screws)



3. Remove the Upper Right Cover. (2 screws)
4. Remove the Right Cover. (2 screws)
5. Swing down the Front Door.



6. Loosen the two screws that secure Front Door Interlock Switch S21. Move S21 as far toward the front side of the copier as it will go and temporarily secure it in position.
7. Gently swing the Front Door closed and then tighten the two S21 mounting screws to specification.

- The Switch is wired for the NO type.

3-4. ELECTRICAL/IMAGE ADJUSTMENTS

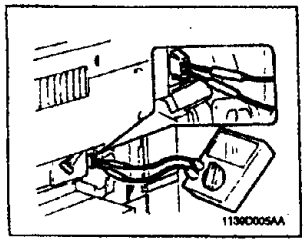
(1) Adjustment of the Maximum Exposure Lamp Voltage for the Manual Mode

◆**Requirement**

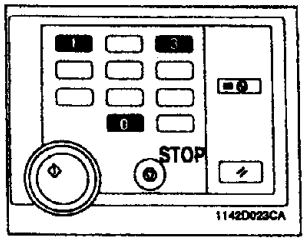
- Maximum Exposure Lamp voltage: 81 ±1V (RMS value)

◆**Important**

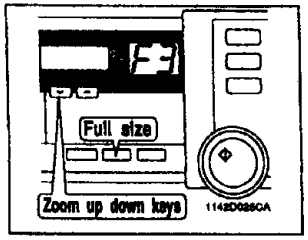
- After the maximum Exposure Lamp voltage has been adjusted, be sure to make the following adjustments: Optimum Exposure Setting in the Manual Mode and Optimum Exposure Setting in the Auto Mode.



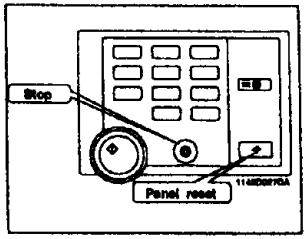
1. Remove the Middle Right Cover. (4 screws)
2. Insert the probes of the multimeter into the receptacles of the Exposure Lamp voltage measurement connector.



3. On the control panel, press the Stop Key, Multi-Copy Key "0," Stop Key, and Multi-Copy Key "1," in that order, to set the copier into a state ready to enter a particular Tech. Rep. Mode.
4. Press Multi-Copy Key "1" and then "3" to set the copier into the F3 Test Mode. (At this time, the Magnification Ratio Indicator shows the currently set value and the Multi-Copy Display shown "F3.")



5. Press the Full Size Key to select the Lamp voltage setting mode. (The Magnification Ratio Indicator shows "L + current setting.")
6. Press the Start Key to light up the Exposure Lamp and, using the Zoom Up/Down Keys, adjust to obtain the Lamp voltage of 81V.



7. Press the Stop Key to stop the F3 operation. (Or, the operation will be automatically completed in about 30 sec.)
8. Press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back into the normal mode.

> ***NOTE***
>
> ***For the Root Mean Square values and Mean values, see p. 47-48. Most testers, voltmeters, or multimeters used in the field show only the mean values.***

When using the testers, voltmeters, or multimeters which show only the mean value, not Rms values, carry out the following procedure.

1. Measure the line voltage.
2. Referring to the Mean Value Chart corresponding to each voltage area, see the figure under the voltage obtained in step 1.

If the line voltage is 125 V and Rms value is 81 V, for example, the mean value is 54.5 V. Therefore, it is recommended that the voltage be adjusted so that the mean value is set as close to 54.5 V as possible.

MEAN VALUE
CHART FOR 115/120/127V AREAS

V / Rms	104	105	106	107	108	109	110	111	112	113	
81.0	60.7	60.3	60.0	59.7	59.2	59.0	58.5	58.2	58.0	57.7	MEAN VALUE

V / Rms	114	115	116	117	118	119	120	121	122	123	
81.0	57.3	57.0	56.8	56.5	56.2	56.0	55.7	55.5	55.2	55.0	MEAN VALUE

V / Rms	124	125	126	127	128	129	130	131	132	133	
81.0	54.7	54.5	54.3	54.2	54.0	53.7	53.5	53.2	53.0	52.8	MEAN VALUE

V / Rms	134	135	136	137	138	139	140	
81.0	52.7	52.5	52.2	52.1	52.0	51.7	51.5	MEAN VALUE

MEAN VALUE
CHART FOR 200/220/240V AREAS

V / Rms	180	181	182	183	184	185	186	187	188	189	
162.0	135.9	135.2	134.5	133.8	133.2	132.6	131.9	131.4	130.8	130.2	MEAN VALUE

V / Rms	190	191	192	193	194	195	196	197	198	199	
162.0	129.7	129.1	128.6	128.1	127.6	127.1	126.6	126.1	125.7	125.2	MEAN VALUE

V / Rms	200	201	202	203	204	205	206	207	208	209	
162.0	124.7	124.2	123.9	123.5	123.1	122.7	122.2	121.9	121.5	121.1	MEAN VALUE

V / Rms	210	211	212	213	214	215	216	217	218	219	
162.0	120.7	120.4	120.0	119.7	119.2	119.0	118.6	118.2	118.0	117.6	MEAN VALUE

V / Rms	220	221	222	223	224	225	226	227	228	229	
162.0	117.2	117.0	116.7	116.4	116.1	115.7	115.5	115.2	114.9	114.6	MEAN VALUE

V / Rms	230	231	232	233	234	235	236	237	238	239	
162.0	114.2	114.0	113.7	113.5	113.2	112.9	112.7	112.4	112.1	111.9	MEAN VALUE

V / Rms	240	241	242	243	244	245	246	247	248	249	
162.0	111.6	111.4	111.1	110.9	110.6	110.4	110.2	109.9	109.7	109.5	MEAN VALUE

V / Rms	250	251	252	253	254	255	256	257	258	259	
162.0	109.2	111.4	111.1	110.9	110.6	110.4	110.2	109.9	109.7	109.5	MEAN VALUE

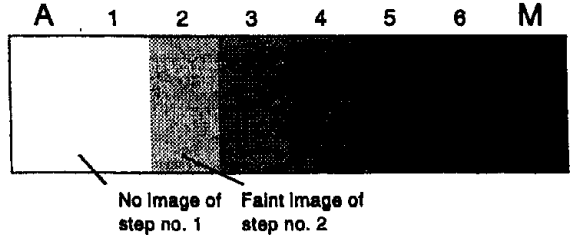
V / Rms	260	261	262	263	264	265	266	267	268	269	
162.0	107.1	106.9	106.6	106.4	106.2	106.0	105.7	105.6	105.4	105.2	MEAN VALUE

V / Rms	270	271	272	273	274	
162.0	105.1	104.9	104.7	104.5	104.2	MEAN VALUE

(2) Adjustment of the Optimum Exposure Setting In the Manual Mode

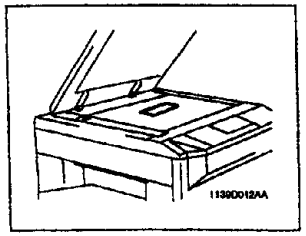
◆Requirement

- When the manual exposure setting is at the central indication, no image of step no. 1 of a Kodak Gray Scale should be produced on the copy, but a faint image of step no. 2 should be produced.
- Setting value range: 18 to 81

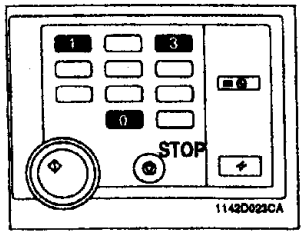


◆Important

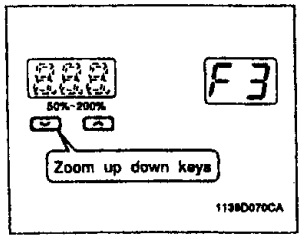
- This adjustment should be carried out only after completing "Adjustment of the Maximum Exposure Lamp Voltage for the Manual Mode" and "Adjustment of the Aperture Blades."



1. Place the Kodak Gray Scale lengthwise, face down, and at the center on the Original Glass. Place a sheet of pure white A3 or 11" × 17" paper over it and then lower the Original Cover.
2. Set the copier into the Manual Exposure Mode. Set the Exposure Setting to the central or fifth indication and enter 15 copies to be made by using the Multi-Copy Keys. (Use A3 paper.)
3. Press the Start Key.
   Check that the 15th copy meets the requirement given above.



4. If the exposure is out of adjustment, press the Stop Key, Multi-Copy Key "0," Stop Key, and Multi-Copy Key "1," in that order, to set the copier into a state ready to enter a particular Tech. Rep. Mode.
5. Press Multi-Copy Key "1" and then "3" to set the copier into the F3 Test Mode. (At this time, the Magnification Ratio Indicator shows the currently set value and the Multi-Copy Display shown "F3.")



6. Using the Zoom Up/Down Keys, vary the value on the Magnification Ratio Indicator as necessary.
7. After the adjustment has been made, press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back into the normal mode.

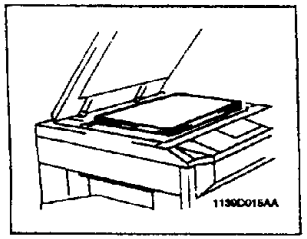
NOTE

Increase the value to make the image lighter.
Decrease the value to make the image darker.

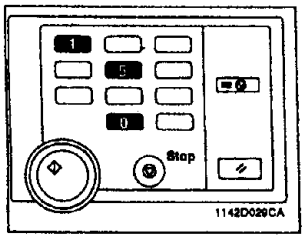
(3) Adjustment of the Optimum Exposure Setting in the Auto Mode

◆Important

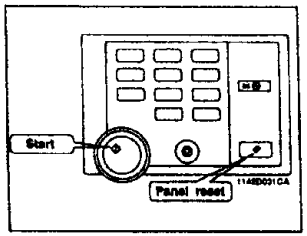
- This adjustment must be made after the optimum exposure setting in the Manual Mode has been adjusted.



1. Place about five sheets of A3 or 11" × 17" paper on the Original Glass and lower the Original Cover.



2. On the control panel, press the Stop Key, Multi-Copy Key "0," Stop Key, and Multi-Copy Key "1," in that order, to set the copier into a state ready to enter a particular Tech. Rep. Mode.
3. Press Multi-Copy Keys "1" and "5" to set the copier into the F5 Test Mode. (At this time, the Multi-Copy Display shows "F5.")



4. Press the Start Key to let the copier make the adjustment.
5. After the adjustment has been made, press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back into the normal mode.

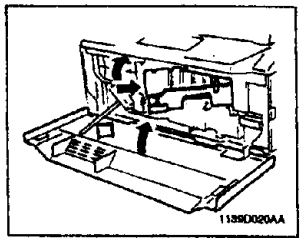
NOTE

Pressing the Start Key lets the copier make the adjustment of optimum exposure setting. During the adjustment, the Start Key is lit up orange. It turns to green as soon as the adjustment is completed. (It takes about 5 sec. to make the adjustment.) The Full Size Key can be used to alternately display on the Magnification Ratio Indicator either the adjusting value (AE Sensor memory level) or the voltage value (AE Sensor output).

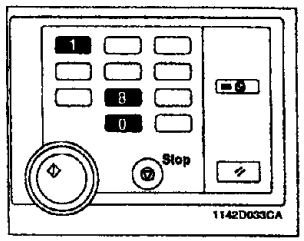
(4) Adjustment of the ATDC Sensor

◆Important

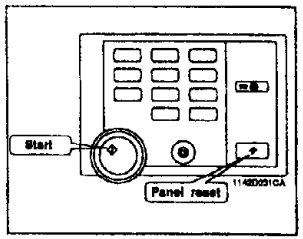
- This adjustment is not necessary when a new Imaging Unit has been installed. (The ATDC Sensor is automatically adjusted when the starter is charged and turn ON the Power Switch.)
- The adjustment must be made whenever the currently used Imaging Unit has been charged with new starter.



1. Load the starter.



2. On the control panel, press the Stop Key, Multi-Copy Key "0," Stop Key, and Multi-Copy Key "1," in that order, to set the copier into a state ready to enter a particular Tech. Rep. Mode.
3. Press Multi-Copy Keys "1" and "8" to set the copier into the F8 Test Mode. (At this time, the Multi-Copy Display shows "F8.")



4. Press the Start Key to let the copier make the ATDC Sensor adjustment automatically. (It takes about 5 min. for the copier to complete the adjustment procedure.)
5. After the adjustment has been made, press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back into the normal mode.

NOTE

The I/U Counter is automatically reset when the ATDC Sensor gain adjustment has been completed.
The Full Size Key can be used to alternately display the data on the Magnification Ratio Indicator, either the ATDC Sensor output voltage or ATDC Sensor gain.

(5) Adjustment of the Aperture Blades

◆Requirement

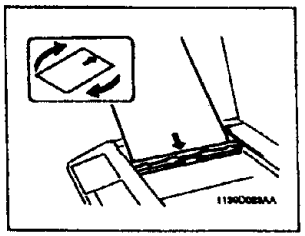
- There should be no dark or light bands running in the feeding direction on copies produced. (Adjust to obtain the center image density for all areas.)

◆Important

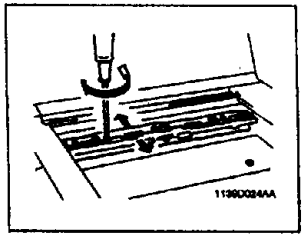
- If dark and light bands running in the feeding direction occur on copies, make this adjustment after checking the following.

1) The Drum Charge Corona Wire, Grid Mesh, and Image Transfer Corona Wire are free of dirt.
2) The surfaces of the Mirrors and Lens are free of dirt.
3) The surfaces of the Exposure Lamp and Main Erase Lamp are free of scratches and dirt.
4) The Cleaning Blade is free of waviness.

1. Make a copy under the following control panel setting.
   Original : A3 or A4 crosswise, 11" x 17" or 11" x 8-1/2" crosswise
   Paper : A3 or A4 crosswise, 11" x 17" or 11" x 8-1/2" crosswise
   Magnification ratio: 100 %
   Exposure : Manual (setting convenient for check)



2. Remove the Original Glass.
3. Turn the copy on the Copy Tray around as shown to reverse the leading and trailing edges and align it with the Aperture Blades.



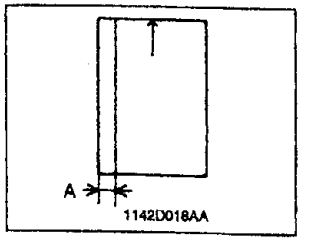
4. Adjust to obtain the center image density for all areas of the copy.

NOTE

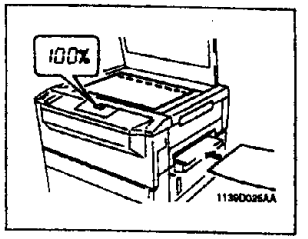
To make the image darker, move the Aperture Blade toward the Auxiliary Reflector.
To make the image lighter, move the Aperture Blade away from the Auxiliary Reflector.

(6) Adjustment of the Manual Bypass Table Reference Position

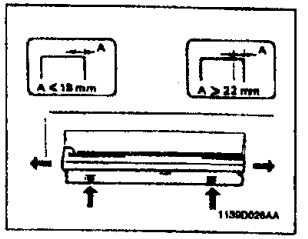
◆Requirement



- Ready a test chart (A3 or 11" x 17") as shown on the left. Draw a line on the chart at a point 20 mm from the left edge as shown.
- Dimension A on the copy should measure 20 ±2.0 mm.



1. Place the test chart face down on the Original Glass and align its rear left corner with the ▷ marker on the Original Width Scale on the left side of the platen. Then, lower the Original Cover.
2. Using the Manual Bypass Table, make two full size copies.
3. Using the second copy, compare the position of the reference line on the copy with that on the test chart.



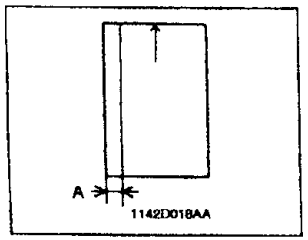
4. If the line does not meet the requirement, loosen the two screws that secure the Manual Bypass Table and move the Table as necessary in the direction of the arrows.

NOTE

If dimension A on the copy is smaller than 18 mm, move the Table to the front. If it is more than 22 mm, move the Table to the rear.
When an Automatic or Duplexing Document Feeder is mounted, it involves changing the Original Glass. This in turn results in the position of the Original Length Scale being slightly shifted toward the rear. This is corrected by installing the Original Positioning Plate.

(7) Adjustment of the Paper Drawer Reference Position

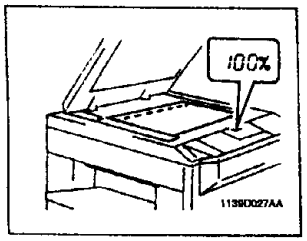
◆ **Requirement**



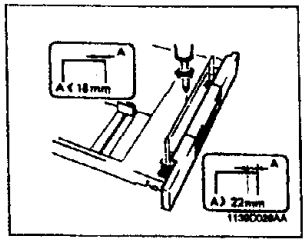
- Ready a test chart (A3 or 11" × 17") as shown on the left. Draw a line on the chart at a point 20 mm from the left edge as shown.
- Dimension A on the copy should measure 20 ±2.0 mm.

◆**Important**

- If the Paper Tray of the Drawer needs to be moved for adjustment, make sure that it is moved straight, not slantwise (as skewed feeding of paper could result).



1. Place the test chart face down on the Original Glass and align its rear left corner with the ▷ marker on the Original Width Scale on the left side of the platen. Then, lower the Original Cover.
2. Using the Paper Drawer, make two full size copies. (Use A3 or 11" × 17" paper.)
3. Using the second copy, compare the position of the reference line on the copy with that on the test chart.



4. If the line does not meet the requirement, slide out the Paper Drawer, loosen the four screws shown on the left, and move the Paper Tray as necessary to the front or rear.

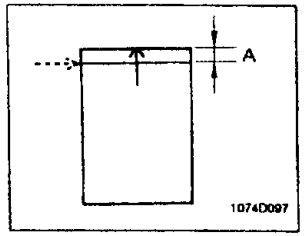
NOTE

If dimension A on the copy is smaller than 18 mm, move the Paper Tray to the rear. If it is more than 22 mm, move the Paper Tray to the front.

(8) Adjustment of the Leading Edge Registration

Full Size

◆**Requirement**



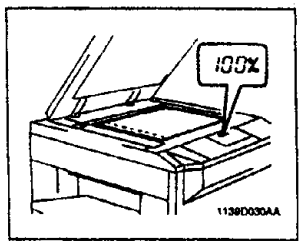
- Ready a test chart (A3 or 11" × 17") as shown on the left. Draw a line across the test chart at a point 20 mm from the leading edge and use it as the reference line.
  Dimension A at the center on the copy should meet the following requirements.

Mag. Ratio	Dimension A (mm)
Full Size (100 %)	20.0 ±1.5
Enlargement (200 %)	40.0 ±3
Reduction (50 %)	10.0 ±1.5

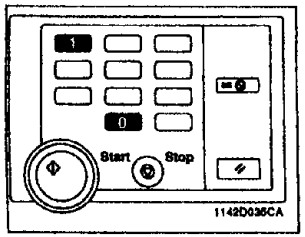
- Setting value range: 30 to 70
- Movement equivalent to 1 step of setting value: 0.28 mm

◆**Important**

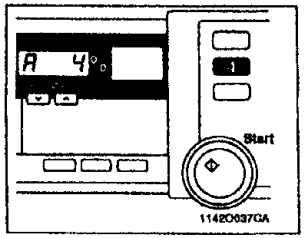
- After having set the copier into the Adjust Mode, make two single copies and use the second copy for the check. (The first copy represents the data before adjustment.)
- When full size leading edge registration has been adjusted, it affects leading edge registration in the enlargement and reduction mode. Be sure, therefore, to check for registration in these modes, too.



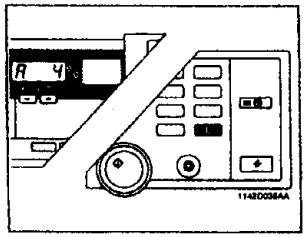
1. Place the test chart face down on the Original Glass and align its rear left corner with the ▷ marker on the Original Width Scale on the left side of the platen. Then, lower the Original Cover.
2. Make two single copies in full size mode (100 %) and check for leading edge registration on the second copy.
   (If it meets the requirement, go to "Adjustment of Enlargement Leading Edge Registration.")



3. If the registration does not meet the requirement, go to the control panel and press the Stop Key, Multi-Copy Key "0," Stop Key, and Multi-Copy Key "1," in that order, to set the copier into a state ready to enter a particular Tech. Rep. Mode.
4. Press the Stop Key and then press the Start Key to set the copier into the Adjust Mode. (At this time, the Magnification Ratio Indicator shows "A.")



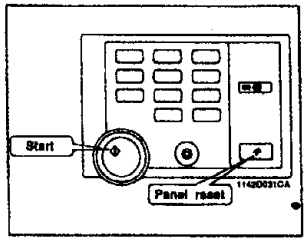
5. Press Multi-Copy Key "4" and press the Start Key. (Then, the Magnification Ratio Indicator shows "A4" and the Multi-Copy Display, the current setting value.)



6. Press the Clear Key to clear the current setting value.
7. With the old setting value used as reference, enter the new setting value using the appropriate Multi-Copy Keys.

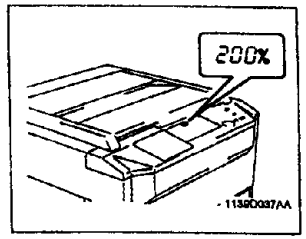
NOTE

If dimension A on the copy is smaller than 18.5 mm, decrease the setting value.
If dimension A on the copy is greater than 21.5 mm, increase the setting value.

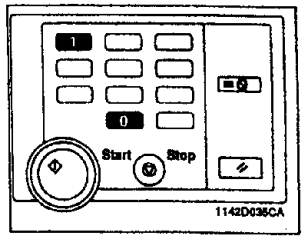


8. Press the Start Key to validate the setting.
9. Press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back to the normal mode.
10. Make two single copies and check for leading edge registration on the second copy. (If it does not meet the requirement, perform steps 3 through 10 again.)

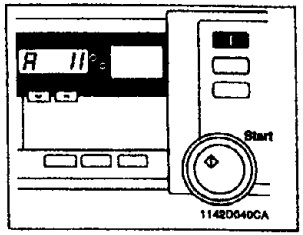
Enlargement



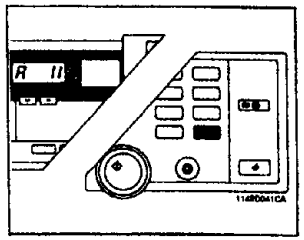
1. After the leading edge registration in the full size mode has been adjusted, make two single copies in an enlargement mode (200 %) and check for leading edge registration on the second copy.
(If the enlargement leading edge registration meets the requirement, go to "Adjustment of Reduction Leading Edge Registration.")



2. If the registration does not meet the requirement, go to the control panel and press the Stop Key, Multi-Copy Key "0," Stop Key, and Multi-Copy Key "1," in that order, to set the copier into a state ready to enter a particular Tech. Rep. Mode.
3. Press the Stop Key and then press the Start Key to set the copier into the Adjust Mode. (At this time, the Magnification Ratio Indicator shows "A.")



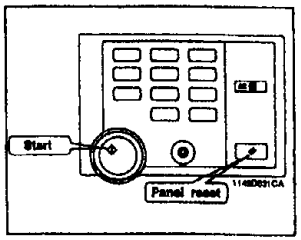
4. Press Multi-Copy Key "1" twice and press the Start Key. (Then, the Magnification Ratio Indicator shows "A 11" and the Multi-Copy Display, the current setting value.)



5. Press the Clear Key to clear the current setting value.
6. With the old setting value used as reference, enter the new setting value using the appropriate Multi-Copy Keys.

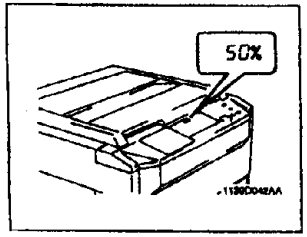
NOTE

If dimension A on the copy is smaller than 37.0 mm, decrease the setting value.
If dimension A on the copy is greater than 43.0 mm, increase the setting value.



7. Press the Start Key to validate the new setting.
8. Press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back to the normal mode.
9. Make two single copies and check for leading edge registration on the second copy. (If it does not meet the requirement, perform steps 2 through 9 again.)

Reduction



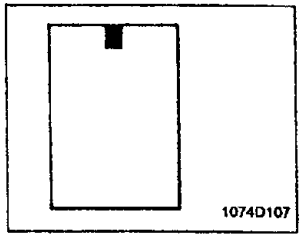
1. After the leading edge registration in an enlargement mode has been adjusted, make two single copies in a reduction mode (50 %) and check for leading edge registration on the second copy.
2. If the registration does not meet the requirement, adjust the enlargement leading edge registration a second time and ensure that leading edge registration both in an enlargement and reduction mode meets the requirement.

NOTE

If dimension A on the copy is smaller than 8.5 mm, increase the setting value in the enlargement mode. If dimension A on the copy is greater than 11.5 mm, decrease the setting value in the enlargement mode.

(9) Adjustment of the Image Leading Edge Erase Width

◆Requirement

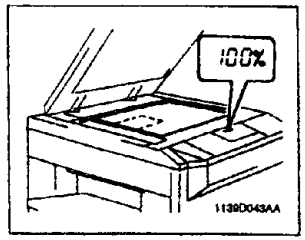


- Ready a test chart (A3 or 11" x 17") as shown on the left. Paint a 20 mm-long rectangle in black at the center of the test chart along its leading edge as shown. Adjust so that the erase width along the leading edge of the painted area measures 0.5 to 6.5 mm.

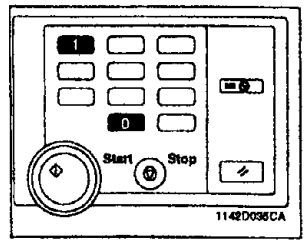
- Setting value range: 42 to 58
- Movement equivalent to 1 step of setting value: 0.75 mm
- Having a greater setting value results in a greater erase width.
- Having a smaller setting value results in a smaller erase width.

◆Important

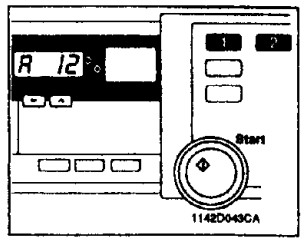
- This adjustment must be made after the leading edge registration adjustment has been completed.



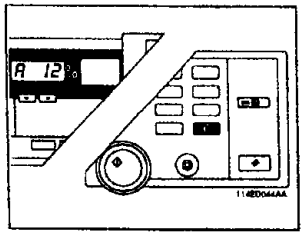
1. Place the test chart face down on the Original Glass and align its rear left corner with the ▷ marker on the Original Width Scale on the left side of the platen. Then, lower the Original Cover.
2. Make two single copies in full size mode (100 %) and check for leading edge erase width on the second copy.



3. If the erase width does not meet the requirement, go to the control panel and press the Stop Key, Multi-Copy Key "0," Stop Key, and Multi-Copy Key "1," in that order, to set the copier into a state ready to enter a particular Tech. Rep. Mode.
4. Press the Stop Key and then press the Start Key to set the copier into the Adjust Mode. (At this time, the Magnification Ratio Indicator shows "A.")



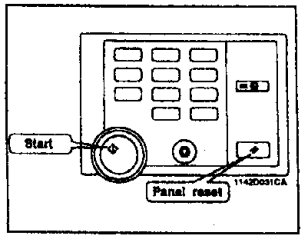
5. Press Multi-Copy Key "1 · 2" and press the Start Key. (Then, the Magnification Ratio Indicator shows "A 12" and the Multi-Copy Display, the current setting value.)



6. Press the Clear Key to clear the current setting value.
7. With the old setting value used as reference, enter the new setting value using the appropriate Multi-Copy Keys.

NOTE

If the erase width on the copy is less than 0.5 mm, increase the setting value.
If the erase width on the copy exceeds 6.5 mm, decrease the setting value.

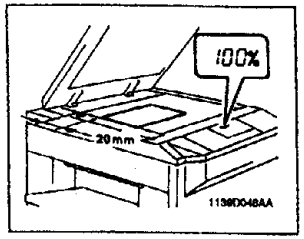


8. Press the Start Key to validate the setting.
9. Press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back to the normal mode.
10. Make two single copies and check for leading edge erase width on the second copy. (If it does not meet the requirement, perform steps 3 through 9 again.)

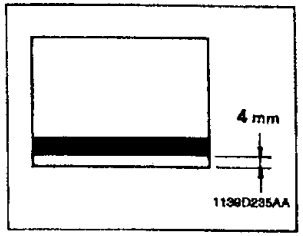
(10) Adjustment of the Unexposed Areas/Edge Erase Lamp Position

◆**Requirement**
- Edge erase width: Within 4 mm

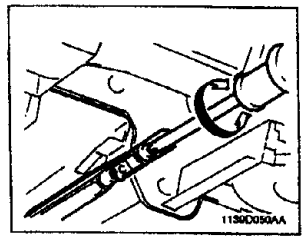
◆**Important**
- This adjustment must be made after the reference positions of the Manual Bypass Table and Paper Drawer have been adjusted.



1. Place a blank sheet of paper (A4 lengthwise) at a position about 20 mm to the front from the reference position on the Original Width Scale.
2. With the Original Cover raised, make a full size copy.



3. Check the erase width on the front edge and turn the edge erase width adjusting screw as necessary to obtain an width of less than 4 mm.



NOTE

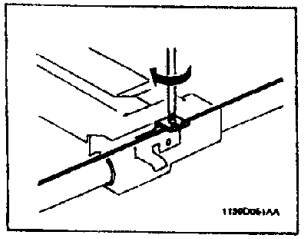
Loosening the screw will make the erase width smaller.
Tightening the screw will make the erase width greater.

3-5. OTHER ADJUSTMENTS

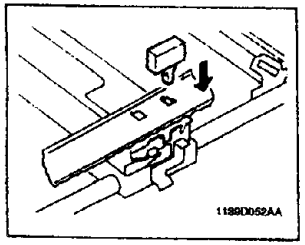
(1) Adjustment of the Scanner/Mirrors Carriage Position

◆**Requirement**

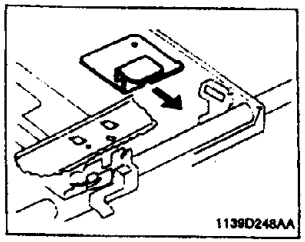
- With the Scanner positioned correctly with reference to the upper copier frame, there should be no gap between the Scanner/Mirrors Carriage and the Scanner/Mirrors Carriage Positioning Jig.



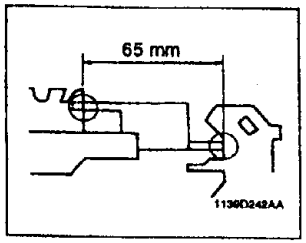
1. Remove the Original Cover, Original Scales, and Original Glass.
2. Temporarily tighten the screw on the Scanner Drive Cable Holding Bracket.



3. Align the rectangular hole in the upper copier frame with the U-groove in the Scanner, then insert the Scanner Positioning Jig into the hole.



4. Install the Scanner/Mirrors Carriage Positioning Jig between the Scanner and Mirrors Carriage.



5. Loosen the screw that has been temporarily tightened in step 2. Turn the helical gear of the Scan Pulley to press the Mirrors Carriage up against the Scanner/Mirrors Carriage Positioning Jig and the Scanner.
6. Tighten the screw on the Scanner Drive Cable Holding Bracket to the specified torque.

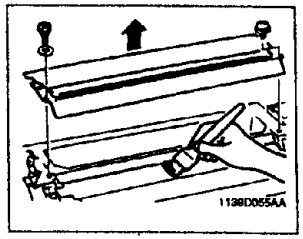
(2) Adjustment of the Gap Between the Doctor Blade and Sleeve Roller

◆**Requirement**

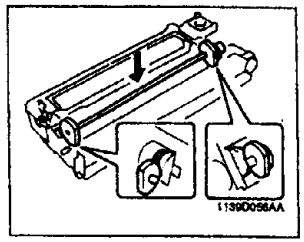
- The gap between the Doctor Blade and the Sleeve Roller should be 0.35 mm ±0.05 mm.

◆**Important**

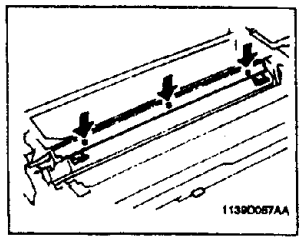
- Cover the PC Drum with the Drum Cloth to prevent it from being scratched.



1. Remove the Developer Scattering Prevention Plate.
2. Wipe the developer off the surface of the Sleeve Roller.



3. Install the Sleeve/Magnet Roller Positioning Jig onto the Imaging Unit.



4. Loosen the three screws securing the Doctor Blade in position. Insert the D.B. Adjusting Jigs into the space between the Doctor Blade and Sleeve Roller.
5. Press down the Doctor Blade until it positively contacts the D.B. Adjusting Jigs, then tighten the three screws to secure it in position.

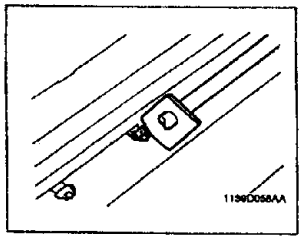
(3) Adjustment of the PC Drum Paper Separator Fingers Position

◆**Requirement**

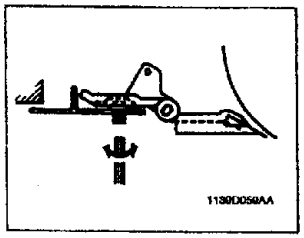
- The gap between the PC Drum and the PC Drum Paper Separator Fingers should be 1.0 ±0.5 mm when the Separator Solenoid is in the deenergized position.

◆**Important**

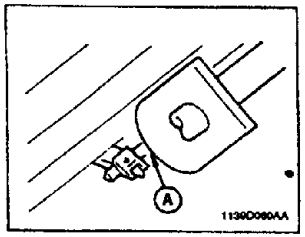
- Cover the PC Drum with the Drum Cloth to prevent it from being scratched.
- Use care not to deform the Separator Fingers during the adjustment procedure.
- Press part A shown below up against the PC Drum Paper Separator Fingers Positioning Jig for the adjustment (to prevent the Paper Separator Fingers from being deformed).



1. Install the Sleeve/Magnet Roller Positioning Jig, to which the PC Drum Paper Separator Fingers Positioning Jig has been fitted, onto the Imaging Unit.



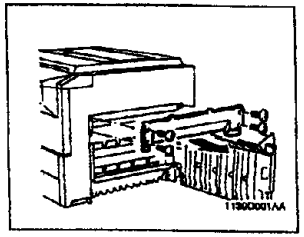
2. Turn the set screw on each of the two Finger Holders as necessary for the adjustment.



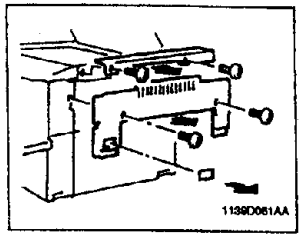
3. Ensure that part A contacts the PC Drum Paper Separator Fingers Positioning Jig when the Separator Solenoid is in the deenergized position.

4 MISCELLANEOUS

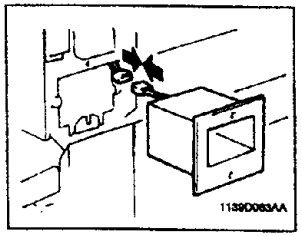
4-1. INSTALLATION OF THE PLUG-IN COUNTER MOUNTING BRACKET (OPTION)



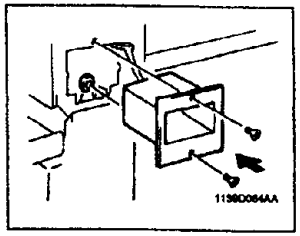
1. Open the Right Door.
2. Remove the Middle Right Cover.



3. Remove the Counter Cover.
4. Remove the Upper Right Cover.
5. Remove the Right Cover.



6. Connect the Plug-In Counter Connector.



7. Secure the Plug-In Counter Mounting Bracket in position by tightening the two screws.

EP1050

SWITCHES ON PWBs

MINOLTA

CONTENTS

1 PRECAUTIONS FOR HANDLING THE PWBs S-1

1-1. Transportation and Storage S-1
1-2. Replacement S-1

2 FUNCTIONS OF SWITCHES AND OTHER PARTS ON PWBs .. S-2

Master Board PWB-A S-2

3 TECH. REP. PROGRAM MODE S-4

1. Tech. Rep. Mode Setting Procedure S-4
2. Test Mode S-5
3. Tech. Rep. Choice Mode S-8
4. Counters Mode:
   PM Counter and Ports/Options Counter S-12
5. Paper Size Counter Mode S-14
6. Misfeed Counter Mode S-15
7. Malfunction Counter Mode S-17
8. Parts/Supplies Life Counter Mode S-18
9. Display Mode S-19

4 ADJUST MODE S-20

5 USER'S CHOICE MODE S-24

1 PRECAUTIONS FOR HANDLING THE PWBs

1. Transportation and Storage

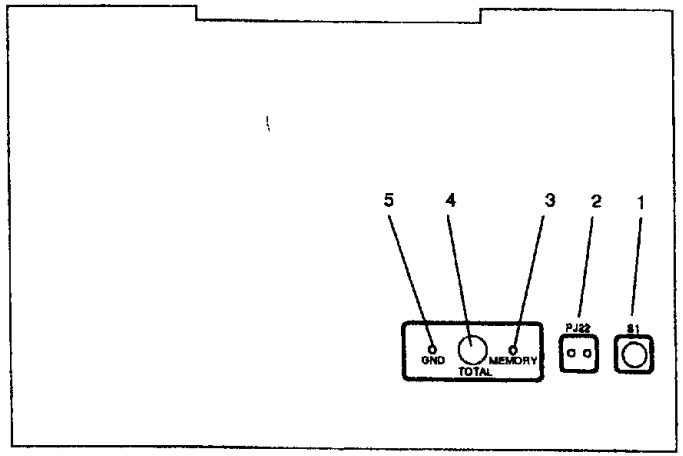
a) During transportation or when in storage, the PWBs must not be indiscriminately removed from their protective conductive cases or bags.
b) Protect the PWBs from any external force. Use care not to bend or damage them.
c) Once the PWB has been removed from its conductive case or bag, never place it directly on an object that is easily charged with static electricity (carpet, plastic bags, etc.).
d) Do not touch the IC pins or printed pattern on the PWB with bare hands.
e) Do not store or place PWBs in a location exposed to direct sunlight.

2. Replacement

a) Whenever replacing the PWB, make sure that the power cord of the copier has been unplugged.
b) Never attempt to unplug connectors from, or plug them to, the PWB when the copier remains ON.
c) Use care not to strap pins of an IC with a metal tool.

2 FUNCTIONS OF SWITCHES AND OTHER PARTS ON PWBs

Master Board PWB-A



1139D065AA

No.	Symbol	Name	Resetting	Function	Remark
1	S1	Trouble Reset Switch	After correcting the malfunction, press the Trouble Reset Switch.	Resets a malfunction including fusing and Exposure Lamp malfunctions.	A malfunction condition of, or misfeed in, the areas other than the Fusing Section and Exposure Lamp Section can be reset by opening and closing the Front Door after the condition has been cleared.
2	PJ22	Initialize Points	While creating a closed circuit across two terminals of PJ22, turn ON the Power Switch.	Clears the data other than the program memory, Counter counts, User's Choice, Adjust, and zoom ratios.	Use these points only if a malfunction is not reset by turning OFF and ON the Power Switch. When these points are used, it does not change the data settings made in the field as well as the factory-set adjustment data.
3	MEMORY	Memory Clear Test Point	While creating a closed circuit across the Memory Clear pin and GND pin, turn ON the Power Switch.	• Clears all data other than the counter counts, resetting it to the initial data. • Initializes the data settings made in the field as well as the factory-set adjustment data.	• Use this point if a malfunction condition is not reset by using the Initialize Points. • After memory clear, make the User's Choice settings and adjustment data settings again.
4	TOTAL	Total Clear Test Point	With the Power Switch in the ON position, close the circuit across the Total Clear Point and GND pin and keep it closed for 1 sec.	Clears the counts of the Electronic Counters (including the Service Counter).	Excludes the IU Counter.
5	GND	GND Test Point		Ground used for total clear and memory clear.	

Data/Conditions Changed at Initialize and Memory Clear

Item	Memory Clear	Initialize	Description
Misfeed/malfunction	O	O	Reset
User's/Tech. Rep. Choice	O	X	Reset to initial settings
Copy job program	O	X	All memory clear
Factory-adjusting data Magnification data (Mirror and Lens positions) Registration adjustment Focal length adjustment ATDC gain setting, etc.	O	X	Reset to initial settings

O: Data changed to factory settings.
X: Data not changed.

3 TECH. REP. PROGRAM MODE

- The Tech. Rep. Program Mode allows the Tech. Rep. to make various adjustments and settings, as well as to perform specific functions, for his/her service jobs performed in the field.

1. Tech. Rep. Mode Setting Procedure

Types of Tech. Rep. Modes

Multi-Copy Key	Mode Name
1	Test Mode
2	Tech. Rep. Choice Mode
4	Counters Mode: PM Counter and Ports/Options Counter
5	Paper Size Counter Mode

Multi-copy Key	Mode Name
6	Misfeed Counter Mode
7	Malfunction Counter Mode
8	Parts/Supplies Life Counter Mode
0	Display Mode

Setting Procedure

(1) Perform the following steps to set the copier into a state ready to enter a particular Tech. Rep. Mode. (At this time, the Magnification Ratio Indicator becomes blank.)
1) Press the Stop Key.
2) Press "0."
3) Press the Stop Key.
4) Press "1."

(2) With the copier in the state ready to enter a particular Tech. Rep. Mode, press the Multi-Copy Key corresponding to the desired Tech. Rep. Mode. This sets the copier into that particular Tech. Rep. Mode.

Leaving the Tech. Rep. Mode

To leave the particular Tech. Rep. Mode:
- Press the Panel Reset Key twice (to return the copier back into the normal mode).
- Turn OFF, then ON, the Power Switch.

2. Test Mode

- This mode allows the Tech. Rep. to perform various functional tests and adjustments.

Description of Each Test

Multi-Copy Key	Description	Setting Procedure	Mag. Ratio Indicator	Multi-Copy Display
1	• Paper passage test It is carried out in the normal mode and in a load OFF mode in which the Exposure Lamp, Developing Bias, Corona Units, and Erase Lamp are turned OFF. It checks the copier parts for operation.	1. Press the Start Key to start the test in either the normal (load ON) mode (the Zoom Ratio Indicator showing "ON") or the load OFF mode (Zoom Ratio Indicator showing "OFF"). * Use the Zoom Up/Down Keys to select the load ON or load OFF mode. 2. Press the Stop Key to stop the test. Or, the test is stopped when the paper port runs out of paper.	• ON • OFF	F1
2	• Adjustment of output for Drum Charge and Image Transfer Coronas The output should never be adjusted as it is only for factory setting.	———	———	F2
3	• Exposure Lamp voltage adjustment This test allows the Tech. Rep. to adjust the maximum Exposure Lamp voltage and the optimum exposure setting in the Manual Exposure Mode. • The test runs for 30 sec.	• Maximum Exposure Lamp voltage adjustment 1. Connect a multimeter to the Lamp Voltage Test Terminal. 2. Press the Full Size key to select the Maximum Exposure Lamp adjustment mode and press the Start key to start the test. 3. Adjust to obtain AC 81V using the Zoom Up/Down Keys. • Optimum exposure setting adjustment. 1. Select the optimum manual exposure mode using the Full Size Key. (The mode can be selected while the test is being run.) 2. Adjust the value using the Zoom Up/Down Keys. * Check for correct adjustment by making sample copies. * Make the "optimum exposure setting adjustment" after the "maximum Exposure Lamp voltage adjustment."	• Lamp voltage L50 (Initial setting) • Exposure setting 50 (Initial setting) 18 to 81 (Adjusting range)	F3
4	• Adjustment of output for Paper Separator Corona The output should never be adjusted as it is only for factory setting.	———	———	F4

Multi-Copy Key	Description	Setting Procedure	Mag. Ratio Indicator	Multi-Copy Display
5	• AE Sensor reference voltage setting This test automatically adjusts the AE Sensor memory level (adjustment value) and AE Sensor output. • It runs for about 5 sec.	1. Place five sheets of blank A3 paper (Minolta standard paper) on the Original Glass and press the Start Key to start the automatic adjustment procedure. * During the test run, use the Full Size Key to alternately display the AE Sensor memory level and AE Sensor output.	• Memory level 00 to FF • Output 0 to 512	F5
6	• Unexposed Areas/Edge Erase Lamp check This test checks whether the Unexposed Areas/Edge Erase Lamp LEDs are turned ON and OFF properly. • The test runs until the paper is fed out of the copier.	1. Press the Start Key with the Original Cover in the raised position. (The test starts only if the copier has completed warming up.) 2. The Exposure Lamp goes out and the Unexposed Areas/Edge Erase Lamp LEDs are turned ON to make a checkered pattern.	100	F6
8	• ATDC Sensor gain automatic adjustment • Run the F8 operation only when new starter has been charged. • The test runs for about 5 min. (Including agitation).	1. Press the Start Key to start the test in which the copier checks the ATDC Sensor for output. 2. The copier automatically supplies the starter and the Developing Unit is energized to agitate the starter. 3. The copier automatically checks the ATDC Sensor gain. 4. The test is completed. * During the test run, use the Full Size Key to alternately display the ATDC Sensor gain adjustment value and output voltage value.	• Gain 00 to 99 • Sensor output voltage 0 to 512 (x10mV)	F8
9	• I/U check Paperless adjustment of optimum exposure setting This test should never be run as it is only for factory setting.	———	———	F9
10	• Load control This test checks the Scanner and Unexposed Areas/Edge Erase Lamp for operation. It should never be run as it is only for factory setting.	———	———	FA

Test Mode Setting Procedure

(1) With the copier in the state ready to enter a particular Tech. Rep. Mode, press "1."
(2) Using the appropriate Multi-Copy Key, select the particular Test Mode operation to be run.
If you enter a wrong number, press the Clear Key and then enter the correct one.

Components Energized in the Test Mode

Component	F1	F2	F3	F4	F5	F6	F8	F9	FA
Main Drive Motor	O	O	O	O	O	O	O	O	
PC Drive Motor, Main Erase Lamp	O	O	O	O	O	O	O	O	
Unexposed Areas/Edge Erase Lamp	*		O	O	O	*	O		*
Ventilation and Cooling Fan Motors	O	O	O	O	O	O	O	O	
HV (PC Drum Charge Corona, Image Transfer Corona)	*	O				O	O	O	
Bias (Developing, Separator, Seal)	*		O	O	O	O	O	O	
Paper Transport Rollers	O					O			
Synchronizing Rollers	O					O			
Exposure Lamp	*		O		O	O		O	
Scanner	O		*		*	O		*	O
Paper Take-Up Roll	O					O			
Toner replenishing							O		
Paper Separator Fingers	O					O			
Misfeed detection	O					O			
Malfunction detection	O	O	O	O	O	O	O	O	O

*: F1 ..... Loads marked with * are OFF in the load OFF mode and are ON in the load ON mode.
F3 ..... The Scanner stops after having moved a distance of about 20 mm from its home position.
F5 ..... The Scanner stops after having moved a distance of about 20 mm from its home position.
F6 ..... The LEDs at alternate positions in the Unexposed Areas/Edge Erase Lamp are turned ON to make a checkered pattern.
F9 ..... The Scanner stops after having moved a distance of about 20 mm from its home position.
FA ..... The Unexposed Areas/Edge Erase Lamp is controlled in the same way as for A4 lengthwise paper.

3. Tech. Rep. Choice Mode

- This mode allows the Tech. Rep. to make various adjustments and settings, including copy charge counter settings, according to the needs of the user.

Description of Each Choice Mode

Code	Choice Mode Name	Description	Multi-Copy Key	Setting (*: Initial Setting)
C1	Paper Size Counter Mode	Selects the size of paper to be counted. (Count-up type) For the constant and conditions by which the count is increased, see Table 1 on p. S-10.	0	No count
			1	A3*
			2	A3, B4
			3	A3, B4, FLS
C2	Total Counter Mode	Sets the Total Counter to count up the number of copy processes carried out or the number of sheets of paper fed out. (Count-up type) For the constant and conditions by which the count is increased, see Table 1 on p. S-10.	0	1 count per 1 copy cycle. *
			1	Multiple count-up according to paper size and copy mode.
			2	Multiple count-up according to paper size and copy mode.
C4	Maintenance Call Reminder ON/OFF Mode	Selects whether to enable or disable the maintenance call reminder (IU Service Life Indicator).	0	The maintenance call reminder (IU Service Life Indicator) not shown.*
			1	The maintenance call reminder (IU Service Life Indicator) shown when needed.
C5	PM Counter Mode	Selects either the PM Counter or Copy Kit Counter (and, in the latter's case, selects whether to inhibit copying after the Counter has counted down to zero).	0	PM Counter*
			1	Copy Kit Counter (Copying not inhibited after the Counter has counted down to zero)
			2	Copy Kit Counter (Copying inhibited after the Counter has counted down to zero)
C6	Plug-In Counter Copying Enable/Disable Mode	Selects whether to enable or disable copying regardless of whether the Plug-In Counter is plugged in or not.	0	Permits copying even when the Plug-In Counter is not plugged in.*
			1	Inhibits copying when the Plug-In Counter is not plugged in.

Code	Choice Mode Name	Description	Multi-Copy Key	Setting (*: Initial Setting)
C7	50K Stop Mode	Selects whether or not to inhibit copying when a toner-empty condition is detected after the IU Counter has counted 50,000.	0	Disables 50K stop.
			1	Enables 50K stop.*
C15	Toner Empty Stop Mode	Selects whether or not to inhibit copying when the toner-to-carrier ratio becomes 2% or lower after a toner-empty condition has been detected.	0	Does not inhibit copying.*
			1	Inhibits copying.
C20	Leading Edge Erase Mode	Varies the width of erase on the leading edge. (in 3-mm increments)	0	Makes the leading edge erase width smaller.
			1	Makes the leading edge erase width greater.*
C21	Trailing Edge Erase Mode	Selects whether or not to erase the trailing edge. (in 6-mm increments)	0	Trailing edge not erased.
			1	Trailing edge erased.*
C23	Loop Length Adjustment Mode	Adjusts the length of the loop to be formed in paper before the Synchronizing Rollers.	See p. 11.	
C31	1-Sided Original Stop Position Adjustment Mode	Adjusts the position to stop the 1-sided original when the Automatic/Duplexing Document Feeder is used.	See p. 11.	
C90	ATDC Detection Level Mode	Sets the level at which the ATDC Sensor functions to maintain a target toner-to-carrier ratio of the developer.	See p. 11.	

NOTES:

- *When the PM Counter Mode (C-5) has been set to 0 or 1 and when the Maintenance Call Reminder ON/OFF Mode (C-4) has been set to 1, the IU Service Life Indicator lights up when the Counter counts down to zero. (At this time, a copy cycle can still be initiated.)*
- *When the PM Counter Mode (C-5) has been set to 2 or the 50K Stop Mode (C-7) has been set to 1, the IU Service Life Indicator lights up when the Counter counts to a given number regardless of the setting made for the Maintenance Call Reminder ON/OFF Mode (C-4). (At this time, a copy cycle cannot be initiated.)*
- *If the 50k Stop Mode (C-7) has been set to 1, the IU Service Life Indicator starts blinking during a copy cycle at 47.5K and lights up steadily at 55K or when a toner-empty condition is detected. (At this time, a copy cycle cannot be initiated.)*

Setting Procedure

(1) With the copier in the state ready to enter a particular Tech. Rep. Mode, press "2" to set the copier into the Tech. Rep. Choice Mode.
(2) Using the appropriate Multi-Copy Key, enter the Choice code number.
(3) Press the Start Key to validate the Choice Mode selected. Then, the Choice code appears on the Magnification Ratio Indicator and the current setting appears on the Multi-Copy Display.

Changing the Setting

(1) Obtain the Choice code, for which you wish to change the setting, on the Magnification Ratio Indicator.
(2) Press the Clear Key to clear the current setting.
(3) Press the Multi-Copy Key number which corresponds to the choice setting you wish to select.
(4) Press the Start Key to validate the new setting. (If the choice setting is illegal, i.e., if any number that is not available is entered, the setting is not updated and the number blinks on the Multi-Copy Display.)

Table 1

Copy Mode		1-Sided						Manual Bypass		
Paper Size Counter Mode C-1		Sizes other than those set			Set sizes					
Total Counter Mode C-2		0	1	2	0	1	2	0	1	2
Total		1			1	2	2	1		
Size		0			1	1	2	0		
Plug-In Counter Counting Mode	Counting Copies	1			1	2	2	1		
	Counting Copy Cycles	1			1	2	2	1		

0: No count 1: 1 count
2: 2 counts

NOTE: For counting in C-1 and C-2, see the Table above.

C-23: Loop Length Adjustment Mode

Multi-Copy Key	Setting		Initial Setting
47	−3	↑ Loop length decreased	
48	−2		
49	−1		
50	Standard (Approx. 7 mm)		*

Multi-Copy Key	Setting		Initial Setting
51	+1	Loop length increased ↓	
52	+2		
53	+3		

NOTE: Loop length varies in approx. 0.7 mm pitch for each step.

C-31: 1-Sided Original Stop Position Adjustment Mode

Multi-Copy Key	Setting	Initial Setting
43	Adjustment amount: Approx. -7 mm	*
↓	↓	
50	0mm	
↓	↓	
58	Approx. +8 mm	

NOTE: The amount of adjustment varies in approx. 1 mm pitch for each step.

C-90: ATDC Detection Level Mode

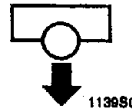
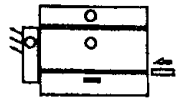
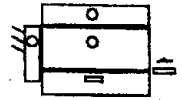
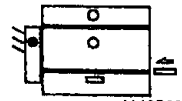
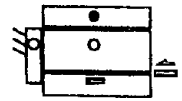
Multi-Copy Key	Setting	Initial Setting
48	Level 1 (T/C ratio: 4.0%)	
49	Level 2 (T/C ratio: 4.5%)	
50	Level 3 (T/C ratio: 5.0%)	*

Multi-Copy Key	Setting	Initial Setting
51	Level 4 (T/C ratio: 5.5%)	
52	Level 5 (T/C ratio: 6.0%)	
53	Level 6 (T/C ratio: 6.5%)	

4. Counters Mode: PM Counter and Ports/Options Counter

- This mode shows the counts of the PM Counter (count-down type) and the Ports/Options Counter (count-up type) across the Magnification Ratio Indicator and Multi-Copy Display. This helps the Tech. Rep. in determining when preventive maintenance is necessary or to provide information on the life of parts.

Types of Counters and Display Order

	Type	Monitor Display	Magnification Ratio Indicator	Multi-Copy Display
1	PM Counter	 1139S022AA	XXX	XX
2	Copier Drawer	 1142S001AA	XXX	XX
3	Manual Bypass	 1142S002AA	XXX	XX
4	S-104	 1142S003AA	XXX	XX
5	AF-3	 1142S004AA	XXX	XX

- PM Counter
  The number set for the PM Counter is decreased by one each time a copy cycle is completed. When the number reaches zero, the IU Service Life Indicator lights up, informing the user that the copier requires maintenance services as scheduled.
  After having counted down to zero, the PM Counter starts counting up.
- Ports/Options Counters
  Each of the Ports/Options Counters counts up the number of times a port or option has been used, providing reference data for the Tech. Rep. during maintenance services.

Setting a PM Counter Count

(1) With the copier in the state ready to enter a particular Tech. Rep. Mode, press "4" to set the copier into the Counters Mode and the PM Counter count appears across the Magnification Ratio Indicator and Multi-Copy Display. (At this time, the IU Service Life Indicator lights up.)
(2) Press the Paper Select Key to obtain the count of each of the Ports/Options Counters. The corresponding LED on the Monitor Display lights up when the count of that port or option is shown. After all counts have been shown, the copier then accepts a new setting of the PM Counter.
(3) Show the count of the PM Counter across the Magnification Ratio Indicator and Multi-Copy Display and press the Clear Key. (Pressing the Stop Key immediately after the Clear Key has been pressed will undo the clear command.)
(4) Using the Multi-Copy Keys, enter the new Counter count. (Any number consisting of up to five digits can be entered.)
(5) Press the Start Key to validate the new count.

Clearing a Ports/Options Counter

- Press the Paper Select Key as necessary to obtain the particular count to be cleared on the Magnification Ratio Indicator and Multi-Copy Display. Then, press the Clear Key to clear the count. Pressing the Stop Key immediately after the Clear Key has been pressed will undo the clear operation.

5. Paper Size Counter Mode

- This mode shows the counts of different sizes of paper used across the Magnification Ratio Indicator and Multi-Copy Display. When the count of a particular size of paper is shown, the corresponding Paper Size Indicator lights up.

Types of Counters and Display Order

Order	Paper Size
1	A3
2	A4
3	A5

Order	Paper Size
4	B4
5	FLS

Setting Procedure

(1) With the copier in the state ready to enter a particular Tech. Rep. Mode, press "5" to set the copier into the Paper Size Counter Mode.
(2) Press the Paper Select Key, and the first paper size count appears across the Magnification Ratio Indicator and Multi-Copy Display. Press the Paper Select Key to obtain the count of each Paper Size Counter. The corresponding Paper Size Indicator lights up when the count of that paper size is shown. After all counts have been shown, the copier is then ready to receive a clear command.

Clearing a Paper Size Counter

(1) Show the count of the Paper Size Counter to be cleared across the Magnification Ratio Indicator and Multi-Copy Display.
(2) Press the Clear Key.
Pressing the Stop Key immediately after the Clear Key has been pressed will undo the clear command.

NOTE: For a count of 100,000 or more, the Zoom Ratio Indicator shows the ten-thousands, thousands, and hundreds digits, while the Multi-Copy Display shows the millions and hundred-thousands digits, and the tens and ones digits, alternately.

Example:

Magnification Ratio Indicator	Multi-Copy Display
- - -	42
132	97

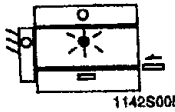
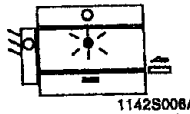
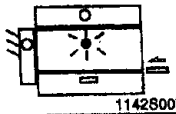
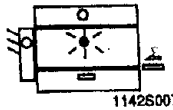
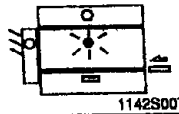
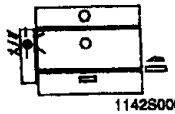
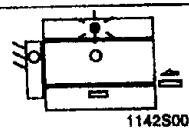
Shown alternately

Count: 4,213,297 copies

6. Misfeed Counter Mode

- This mode shows on the Magnification Ratio Indicator the number of paper misfeeds that has occurred at different locations in the copier. The Monitor Display tells the location of the misfeed, the count of which is currently given, by a lit LED. In this mode, the Misfeed Indicator is lit up.

Types of Misfeed Counters

Paper Select Key	Type	Monitor Display	Magnification Ratio Indicator	Multi-Copy Display
ON	Manual bypass port	 1142S005AA	XXX	J0
ON	Copier Drawer	 1142S006AA	XXX	J0
ON	Paper take-up/transport	 1142S007AA	XXX	J1
ON	Paper separator	 1142S007AA	XXX	J2
ON	Exit	 1142S007AA	XXX	J3
ON	S-104	 1142S006AA	XXX	JC
ON	AF-3	 1142S009AA	XXX	JC

NOTE

A malfunction or misfeed at areas other than the Fusing Unit and Exposure Lamp can be reset by closing the Front Door after the malfunction has been corrected or misfeed cleared.

Setting Procedure

(1) With the copier in the state ready to enter a particular Tech. Rep. Mode, press "6" to set the copier into the Misfeed Counter Mode.

(2) Press the Paper Select Key, and the first misfeed count appears on the Magnification Ratio Indicator. Press the Paper Select Key to obtain the count of each Misfeed Counter. The corresponding LED lights up on the Monitor Display when the misfeed count of that particular location is shown. After all counts have been shown, the copier is then ready to receive a clear command.

Clearing a Misfeed Counter

(1) Show the count of the Misfeed Counter to be cleared on the Magnification Ratio Indicator.

(2) Press the Clear Key.
Pressing the Stop Key immediately after the Clear Key has been pressed will undo the clear command.

7. Malfunction Counter Mode

- This mode shows on the Multi-Copy Display the number of malfunctions that occurred at different locations in the copier and options. At the same time, the Magnification Ratio Indicator shows the corresponding malfunction code.

Types of Malfunction Counters

Order	Monitor Display	Magnification Ratio Indicator	Multi-Copy Display	Description
1	 1139O3940A	000	X X	A Main Drive Motor malfunction
2		010	X X	A PC Drive Motor malfunction
3		04C	X X	A Cooling Fan Motor M9 malfunction
4		04E	X X	A Cooling Fan Motor M10 malfunction
5		070	X X	A Toner Replenishing Motor malfunction
6		400	X X	An Exposure Lamp malfunction
7		500	X X	An abnormally low fusing temperature during warm-up
8		510	X X	An abnormally low fusing temperature after completion of warm-up
9		520	X X	An abnormally high fusing temperature
10		600	X X	A Scanner drive system malfunction
11		610	X X	A Lens drive system malfunction
12		620	X X	A Mirror drive system malfunction
13		F10	X X	An AE Sensor malfunction
14		F30	X X	An ATDC Sensor malfunction
15		E1	X X	A starter charging failure
16		E2	X X	An ATDC automatic adjustment/IU Fuse blowing failure
17		Ar1	X X	Copier watchdog (circuit protector)
18		Ar2	X X	AF-3 watchdog (circuit protector)
19		Ar3	X X	S-104 watchdog (circuit protector)

Setting Procedure

(1) With the copier in the state ready to enter a particular Tech. Rep. Mode, press "7" to set the copier into the Malfunction Counter Mode.
(2) Press the Paper Select Key, and the first malfunction count, which is not zero, appears on the Multi-Copy Display. Press the Paper Select Key to obtain the count of each Malfunction Counter whose count is not zero. After all counts have been shown, the copier is then ready to receive a clear command.

Clearing a Malfunction Counter

(1) Press the Paper Select Key to show the count of the Malfunction Counter to be cleared on the Multi-Copy Display.
(2) Press the Clear Key to clear the count.

* If no malfunctions have occurred, the Zoom Ratio Indicator shows "ALL" and the Multi-Copy Display "0".

8. Parts/Supplies Life Counter Mode

- This mode shows on the Magnification Ratio Indicator and Multi-Copy Display the number of copy processes to which different parts or supplies have been subjected. Meanwhile, the Magnification Ratio Indicator also shows the symbol representing the part or supply.

Types of Parts/Supplies Life Counters

Order	Part/Supply	Magnification Ratio Indicator	Multi-Copy Display
1	Imaging Unit	IU	X X
2	PC Drum	Pc	X X
3	Developer	St	X X
4	Cleaning Blade	Cb	X X

NOTE 1: For each count, the Magnification Ratio Indicator shows the symbol representing the part/supply and the ten-thousands, thousands, and hundreds digits of the count, alternately. While the Multi-Copy Display shows the millions and hundred-thousands digits, and the tens and ones digits of the count, alternately.

Example:

Magnification Ratio Indicator	Multi-Copy Display
IU	01
345	78

Shown alternately

IU Count: 134,578 copy processes

Setting Procedure

(1) With the copier in the state ready to enter a particular Tech. Rep. Mode, press "8" to set the copier into the Parts/Supplies Life Counter Mode.
(2) Press the Paper Select Key, and the first life count appears on the Magnification Ratio Indicator and Multi-Copy Display. Press the Paper Select Key to obtain the count of each Part/Supply Life Counter. After all counts have been shown, the copier is then ready to receive a clear command.

Clearing a Life Counter

(1) Press the Paper Select Key to show the count of the Part/Supply Life Counter to be cleared.
(2) Press the Clear Key.
Pressing the Stop Key immediately after the Clear Key has been pressed will undo the clear command.
Note that the IU Counter is not cleared.

NOTE 2: All Part/Supply Life Counters are cleared automatically when the F8 operation is completed normally.

9. Display Mode

- This mode permits checking of the time it takes the copier to complete different functions. (This should only be used at the factory.)

Types of Displays

Multi-Copy Key	Description	Magnification Ratio Indicator (Time)	Multi-Copy Display (Code)
0	Warm-up time (×100 ms)	XXX	d0
1	First copy time (×100 ms)	XXX	d1
2	Multiple copy time (×100 ms)	XXX	d2
6	Display test mode	All Indicators blink.	d6

Setting Procedure

(1) With the copier in the state ready to enter a particular Tech. Rep. Mode, press "0" to set the copier into the Display Mode.
(2) Press the Multi-Copy Key that corresponds to the desired display type.
(3) Press the Clear Key. This makes the copier ready to accept entry of a new display type.

4 ADJUST MODE

- Whenever the RAM PWB has been replaced, or memory cleared for any reason, be sure to make the Adjust Mode settings exactly the same way as indicated on the label inside the Front Door (which are the factory settings).

Types of Adjust Modes

Multi-Copy Key	Mode Type	Mode Name	Description
0	A0	Lens Focal Length Adjustment	Adjusts the focal length of the Lens.
1	A1	Lens Full Size Position Correction	Corrects Lens-to-Lens variations in full size position.
2	A2	Mirror Full Size Position Correction	Corrects Mirror-to-Mirror variations in full size position.
3	A3	Feeding-Direction Magnification Adjustment	Adjusts the magnification ratio in the feeding direction in the scan mode.
4	A4	Full Size Registration Adjustment	Adjusts registration in the full size mode.
6	A6	Book-B Scan Registration Adjustment	Adjusts the Registration of B-Scan for Book mode.
11	A11	Enlargement/Reduction Registration Adjustment	Adjusts registration in the enlargement/reduction mode.
12	A12	Leading Edge Erase Width Adjustment	Adjusts the leading edge erase width provided by the Unexposed Areas/Edge Erase Lamp.
13	A13	Trailing Edge Erase Width Adjustment	Adjusts the trailing edge erase width provided by the Unexposed Areas/Edge Erase Lamp.

Setting Procedure

(1) With the copier in a state ready to enter a particular Tech. Rep. Mode, perform the following steps to set the copier into the Adjust Mode.
  1) Press the Stop Key.
  2) Press the Start Key.
(2) Press the Multi-Copy Key corresponding to the desired Adjust Mode number and press the Start Key. Then, the current setting value appears on the Multi-Copy Display.
(3) Press the Clear Key to clear the current setting value.
(4) Using the Multi-Copy Keys, enter the new setting value and then press the Start Key to validate the setting.
  If the setting value entered is illegal, it blinks.

Leaving the Adjust Mode

To leave the particular Adjust Mode:
- Press the Panel Reset Key twice.
- Turn OFF, then ON, the Power Switch.

A0: Lens Focal Length Adjustment

- Adjusts the position of installation of the Lens.

Setting Value	Description	Initial Setting
49	Short focal length	
50	Standard	*
51	Long focal length	

A1: Lens Full Size Position Correction (When A0 = 50)

- Corrects the magnification ratio in the crosswise direction by varying the Lens' full size position in 16 steps (1 step = 4 pulses).

Setting Value	Description	Initial Setting
42 ↕ 49	Correction: +26 ↕ Correction: +54	
50	Correction: +58	*
51 ↕ 57	Correction: +62 ↕ Correction: +86	

Add –24 to the above correction amount if A0 is set to 49.
Add +24 to the above correction amount if A0 is set to 51.

A2: Mirror Full Size Position Correction (When A0 = 50)

- Corrects the conjugation distance of the Mirror by varying the Mirror's full size position in 16 steps (1 step = 8 pulses).

Setting Value	Description	Initial Setting
42 ↕ 49	Correction: +46 ↕ Correction: +102	
50	Correction: +110	*
51 ↕ 57	Correction: +118 ↕ Correction: +166	

Add -46 to the above correction amount if A0 is set to 49.
Add +46 to the above correction amount if A0 is set to 51.

A3: Feeding-Direction Magnification Adjustment

- Adjusts the magnification ratio in the feeding direction by varying the scan speed in 16 steps (1 step = 0.5%).

Setting Value	Description	Initial Setting
42 ↕ 49	Correction: -4 ↕ Correction: -0.5	
50	Correction: 0	*
51 ↕ 57	Correction: +0.5 ↕ Correction: +3.5	

<A4: Full Size Registration Adjustment>

- Adjusts registration between the leading edge of the original and that of the image in the full size mode.

<A6: Book-B Scan Registration Adjustment>

- Adjusts the leading edge erase width in the Book-B scan.

<A11: Enlargement/Reduction Registration Adjustment>

- Adjusts registration between the leading edge of the original and that of the image in an enlargement or reduction mode, as adjusted at a ratio of ×2.0.

1 step = 0.28 mm

Setting Value	Description	Initial Setting
30 ↓ 49	Correction: -5.6 ↓ Correction: -0.28	
50	Correction: 0	*
51 ↓ 70	Correction: +0.28 ↓ Correction: +5.6	

A12: Leading Edge Erase Width Adjustment

- Adjusts the leading edge erase width.

1 step = 0.75 mm

Setting Value	Description	Initial Setting
42 ↓ 49	Correction: -6 ↓ Correction: -0.75	
50	Correction: 0	*
51 ↓ 58	Correction: +0.75 ↓ Correction: +6	

A13: Trailing Edge Erase Width Adjustment

- Adjusts the trailing edge erase width.

1 step = 0.72 mm

Setting Value	Description	Initial Setting
40 ↓ 49	Correction: -7.2 ↓ Correction: -0.72	
50	Correction: 0	*
51 ↓ 60	Correction: +0.72 ↓ Correction: +7.2	

5 USER'S CHOICE MODE

- The User's Choice Mode allows the user to program the copier (making priority and other settings) according to his/her particular needs.

Types of User's Choice Modes

Multi-Copy Key	Mode Name
4	Lightweight Original
12	AMS/Manual priority
13	Priority auto exposure level
14	Priority exposure mode/level
15	Finishing mode priority

Multi-Copy Key	Mode Name
20	Auto clear ON/OFF
21	Energy Saving Mode ON timing
23	Auto clear for Plug-In Counter
24	Sort/Non-Sort switching ON/OFF

Setting Procedure

(1) Hold down the Panel Reset Key for 3 seconds to set the copier into the User's Choice Mode.
(2) Press the Multi-Copy Key corresponding to the desired choice mode.
(3) Press the Start Key to validate the selection. At this time, the choice setting appears on the Multi-Copy Display.
(4) To change the choice setting, first press the Clear Key to clear the current setting.
(5) Press the appropriate Multi-Copy Key or Keys to enter the new setting.
(6) Press the Start Key to validate the entry.
If the setting is illegal, it blinks on the Multi-Copy Display.
(7) Press the Panel Reset Key to leave the User's Choice Mode.

Details of Choice Setting Options

- UCH-4 Lightweight Original

Determines whether or not to select the Lightweight Original Mode as the priority mode, valid only when the copier is equipped with an AF-3.

Multi-Copy Key	Description	Initial Setting
0	Lightweight Original Mode OFF	*
1	Lightweight Original Mode ON	

- UCH-12 Auto Size Mode/Manual priority

Specifies the priority mode selected automatically when the Power Switch is turned ON or Panel Reset Key pressed. (Without the AF-3, only Manual can be selected)

Multi-Copy Key	Description	Initial Setting
1	Auto Magnification Select (AMS)	
2	Manual	*

- UCH-13 Optimum exposure level

Determines the optimum exposure level in the Auto as well as Manual Exposure Mode.

Multi-Copy Key	Description	Initial Setting
46	Low level 4: -2.0	
47	Low level 3: -1.5	
48	Low level 2: -1.0	
49	Low level 1: -0.5	

Multi-Copy Key	Description	Initial Setting
50	Standard: ±0	*
51	High level 1: +0.5	
52	High level 2: +1.0	

- UCH-14 Priority manual exposure mode/level

Determines the priority exposure mode, either Auto or Manual.

- If priority is given to Manual, this mode also specifies the priority exposure level (EXP) in the Manual Exposure Mode.
- If priority is given to Auto, this mode also specifies the priority exposure level (EXP) automatically selected when the mode is switched from Auto to Manual.

Multi-Copy Key	Description	Initial Setting
0	Priority Auto Exposure Mode/EXP 1	
1	Priority Auto Exposure Mode/EXP 2	
2	Priority Auto Exposure Mode/EXP 3	
3	Priority Auto Exposure Mode/EXP 4	
4	Priority Auto Exposure Mode/EXP 5	*
5	Priority Auto Exposure Mode/EXP 6	
6	Priority Auto Exposure Mode/EXP 7	
7	Priority Auto Exposure Mode/EXP 8	
8	Priority Auto Exposure Mode/EXP 9	

Multi-Copy Key	Description	Initial Setting
10	Priority Manual Exposure Mode/EXP 1	
11	Priority Manual Exposure Mode/EXP 2	
12	Priority Manual Exposure Mode/EXP 3	
13	Priority Manual Exposure Mode/EXP 4	
14	Priority Manual Exposure Mode/EXP 5	
15	Priority Manual Exposure Mode/EXP 6	
16	Priority Manual Exposure Mode/EXP 7	
17	Priority Manual Exposure Mode/EXP 8	
18	Priority Manual Exposure Mode/EXP 9	

- UCH-15 Finishing mode priority

Determines the priority finishing mode selected when the Power Switch is turned ON. It is valid only when the copier is equipped with a Sorter.

Multi-Copy Key	Description	Initial Setting
0	Non-Sort	*
1	Sort	

• UCH-22 Auto clear ON/OFF

Determines whether or not to activate automatically the auto clear (panel reset) function after the lapse of 60 sec. after a copy cycle has been completed or a Key on the control panel operated.

Multi-Copy Key	Description	Initial Setting
0	Auto clear is not activated.	
1	Auto clear is activated (after 1 min.)	*

• UCH-21 Energy Saving Mode ON timing

Specifies whether to enable or disable the Energy Saving Mode and defines the period of time it takes the copier to enter the Energy Saving Mode after a copy cycle has been completed or a Key operated.

Multi-Copy Key	Description	Initial Setting
0	Energy Saving Mode disabled	*
1	Energy Saving Mode enabled (1 min.)	
2	Energy Saving Mode enabled (2 min.)	
3	Energy Saving Mode enabled (3 min.)	
4	Energy Saving Mode enabled (4 min.)	
5	Energy Saving Mode enabled (5 min.)	

Multi-Copy Key	Description	Initial Setting
6	Energy Saving Mode enabled (6 min.)	
7	Energy Saving Mode enabled (7 min.)	
8	Energy Saving Mode enabled (8 min.)	
9	Energy Saving Mode enabled (9 min.)	
10	Energy Saving Mode enabled (10 min.)	

• UCH-23 Auto clear for Plug-In Counter

Determines whether or not to initialize the copier when the Plug-In Counter is pulled out.

Multi-Copy Key	Description	Initial Setting
0	Copier is not initialized.	
1	Copier is initialized when the Plug-In Counter is pulled out.	*

• UCH-24 Sort/Non-Sort switching ON/OFF

Specifies whether to enable or disable the function that automatically switches between the Sort and Non-Sort Mode depending on the number of originals loaded in the AF-3 or the number of copies to be made.

The mode is switched as detailed below when this choice is set to ON:

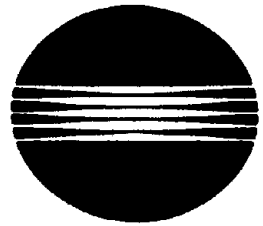
(1) The Sorter is switched into the Non-Sort Mode if a copy cycle is initiated using a single original in the Sort Mode.

(2) The Sorter is switched into the Sort Mode if a copy cycle is initiated using two or more originals in the Non-Sort Mode.

Multi-Copy Key	Description	Initial Setting
0	Sort/Non-Sort switching OFF	
1	Sort/Non-Sort switching ON	*

EP1050

TROUBLESHOOTING



MINOLTA

CONTENTS

*: Only when options are used

1 INTRODUCTION

1-1. General Precautions T-1
1-2. How to Use This Book T-1
1-3. Reading the Text T-1

2 PAPER TRANSPORT FAILURE

1. Paper Misfeed T-2
   1-1. Misfeed Detected When Copier is Turned ON T-5
   1-2. Paper Take-Up Misfeed T-6
   1-3. Bypass Port Misfeed (*Multi Bypass Table) T-10
   1-4. Transport/Separator Misfeed T-12
   1-5. Fusing/Exit Misfeed T-16
2. Wrinkles in Paper T-18
3. Double Feed T-18
4. Skewed Feed T-19

3 MALFUNCTIONS

1. Self-Diagnostic Function T-21
   1-1. C0000: Main Drive Motor's failure to turn T-24
   C0001: Main Drive Motor turning at abnormal timing
   1-2. C0010: PC Drive Motor's failure to turn T-26
   C0011: PC Drive Motor turning at abnormal timing
   1-3. C004C: Cooling Fan Motor's failure to turn T-28
   C004E: Power Supply Unit Cooling Fan Motor's failure to turn
   1-4. C0070: Toner Replenishing Motor's failure to turn T-30
   C0071: Toner Replenishing Motor turning at abnormal timing
   1-5. C0400: Exposure Lamp's failure to turn ON T-32
   C0410: Exposure Lamp turning ON at abnormal timing
   1-6. C0500: Warming-up failure T-34
   C0510: Abnormally low fusing temperature
   C0520: Abnormally high fusing temperature

CONTENTS

1-7. C0600: Scanner Motor malfunction T-36
C0610: Lens Motor malfunction
C0620: Mirror Motor malfunction
1-8. C0F10: Faulty AE Sensor level T-38
C0F30: ATDC Sensor malfunction
2. Power is not Turned ON T-40
3. E1, E2 ..... T-42

1 INTRODUCTION

1-1. General Precautions

1. When servicing the copier with its covers removed, use utmost care to prevent your hands, clothing, and tools from being caught in revolving parts including the chains and gears.
2. Before attempting to replace parts and unplugging connectors, make sure that the power cord of the copier has been unplugged from the wall outlet.
3. Never create a closed circuit across connector pins except those specified in the text and on the printed circuit.
4. When creating a closed circuit and measuring a voltage across connector pins specified in the text, be sure to use the green wire (GND).
5. When the user is using a word processor or personal computer from the wall outlet of the same line, take necessary steps to prevent the circuit breaker from opening due to overloads.
6. Keep all disassembled parts in good order and keep tools under control so that none will be lost or damaged.

1-2. How to Use This Book

1. If a component on a PWB or any other functional unit including a motor is defective, the text only instructs you to replace the whole PWB or functional unit and does not give troubleshooting procedure applicable within the defective unit.
2. All troubleshooting procedures contained herein assume that there are no breaks in the harnesses and cords and all connectors are plugged into the right positions.
3. For the removal procedures of covers and parts, see DIS/REASSEMBLY, ADJUSTMENT.
4. The troubleshooting procedures are given in the order of greater frequency of trouble or order of operation.
5. The procedures preclude possible malfunctions due to noise and other external causes.

1-3. Reading the Text

1. The paper transport failure troubleshooting procedures are given according to the symptom. First identify the location where the paper is present and start the procedure for that particular location. For malfunction troubleshooting, start with step 1 and onward.
2. Make checks in numerical order of steps and, if an item is checked okay, go to the next step.

Pattern 1

Step	Check Item	Result	Action
1	Is --?	YES	Do this.
2	Go to step 2 if it checks okay.		

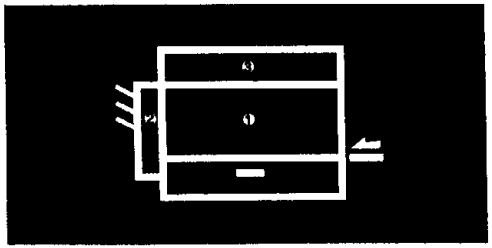
Pattern 2

Step	Check Item	Result	Action
1	Is --?	YES	Do this.
		NO	Check that.
2		Go to step 2 if it checks okay.	

2 PAPER TRANSPORT FAILURE

1. Paper Misfeed

When a paper misfeed occurs in the copier, the corresponding Misfeed Location Monitor LED on the control panel blinks to let the user know where the misfeed has occurred. If an LED lights up steadily, it indicates that there might be a sheet of paper present at that particular location in the copier. If a paper misfeed occurs very frequently, carry out the necessary troubleshooting procedures according to the location of the misfeed.



1142T005AA

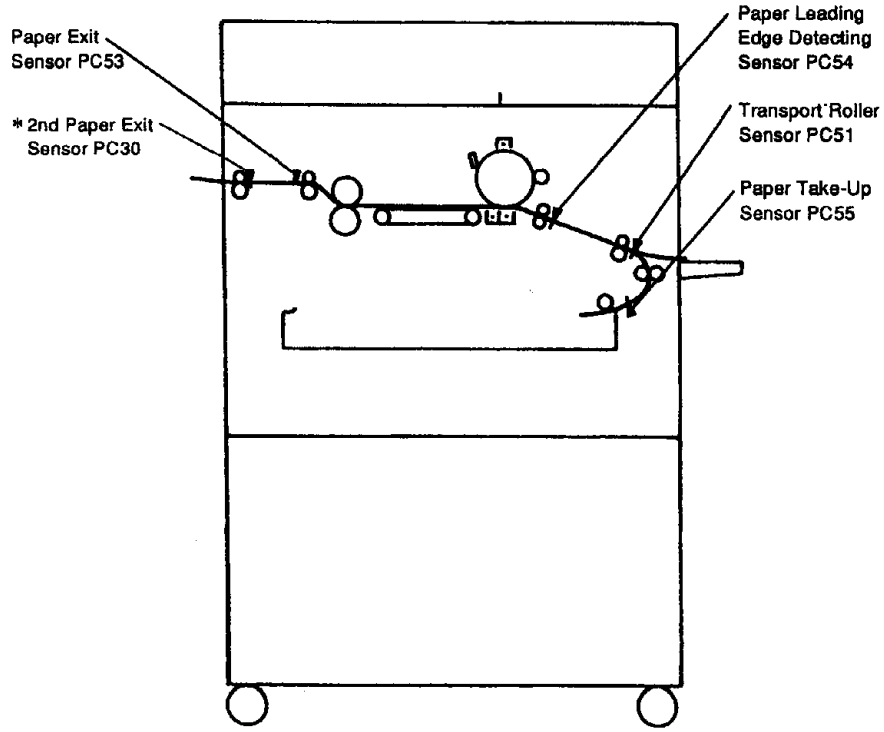
Blinking Light	There is a misfeed at that location.
Steady Light	There might be a sheet of paper stopped at that location.

*: When option is installed

Blinking LED	Misfeed Location	
①	Paper take-up/Bypass port/Vertical transport/Transport/Separator/Fusing/Exit	
②	Sorter	*
③	Automatic/Document Feeder	*

The paper misfeed, is detected by the following sensors.

*: When option is installed
(Exit/Duplex Switching Unit)



1142T004AA

● Here is an at-a-glance listing of misfeed detections made by the various sensors of the copier.

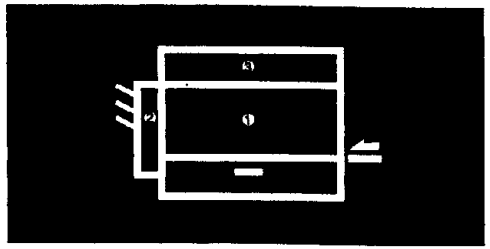
A: Misfeed Detected in Conjunction with Leading Edge Detection

Blinking LED	Location	Description	Timer Start	Sensor Timing
①	Before the Paper Take-Up Sensor	Take-up failure	Paper take-up start	Paper Take-Up Sensor (leading edge)
	Before the Transport Roller	Leading edge detection by the Transport Roller Sensor	Leading edge detection by the Paper Take-Up Sensor	Transport Roller Sensor (leading edge)
	Before the Paper Leading Edge Detecting Sensor	Leading edge detection by the Paper Leading Edge Detecting Sensor	Leading edge detection by the Transport Roller Sensor	Paper Leading Edge Detecting Sensor (leading edge)
	From Image Transfer Corona to Fusing Unit	Leading edge detection by the Paper Exit Sensor	TRON signal	Paper Exit Sensor (leading edge)
	Exit Section	Leading edge detection by the 2nd Paper Exit Sensor	Leading edge detection by the Paper Exit Sensor	2nd Paper Exit Sensor (leading edge)

B: Misfeed Detected in Conjunction with Trailing Edge Detection

Blinking LED	Location	Description	Timer Start	Sensor Timing
①	Vertical Transport Section	Trailing edge detection by the Paper Take-Up Sensor	Leading edge detection by the Paper Take-Up Sensor	Paper Take-Up Sensor (trailing edge)
	Near the Transport Roller Sensor	Trailing edge detection by the Transport Roller Sensos	TRON signal	Transport Roller Sensor (trailing edge)
	Near the Paper Leading Edge Detecting Sensor	Trailing edge detection by the Paper Leading Edge Detecting Sensor	Trailing edge detection by the Transport Roller Sensor	Paper Leading Edge Detecting Sensor (trailing edge)
	From the Suction to Fusing Unit	Trailing edge detection by the Paper Exit Sensor	Trailing edge detection by the Paper Leading Edge Detecting Sensor	Paper Exit Sensor (trailing edge)
	From the Fusing Unit to Exit Section	Trailing edge detection by the 2nd Paper Exit Sensor	Trailing edge detection by the Paper Exit Sensor	2nd Paper Exit Sensor (trailing edge)

1-1. Misfeed Detected When Copier is Turned ON



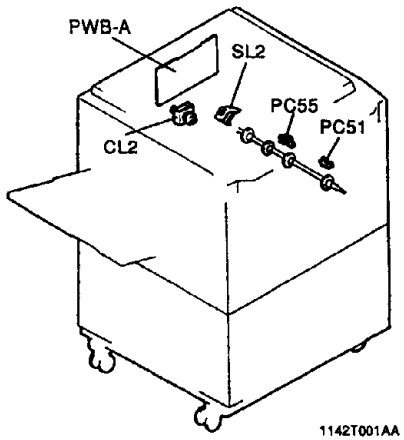
1142T005AA

Procedure

1. Check for lit LED and remove a sheet of paper if present at the LED location.
2. If an LED or LEDs light up again, perform the following procedure.

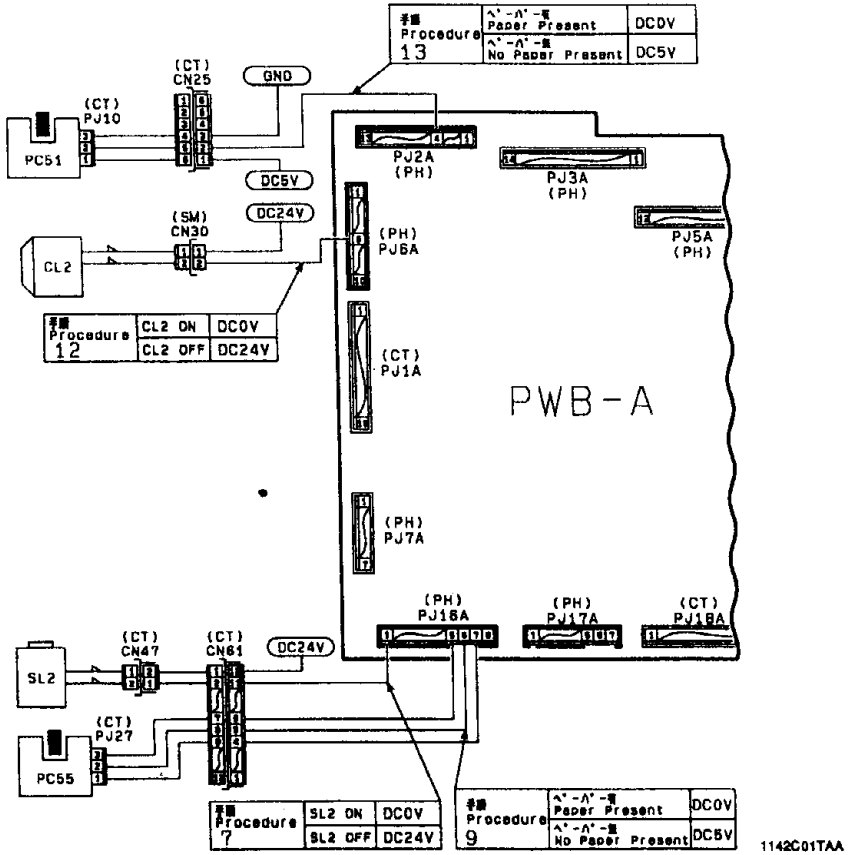
Lit LED	Paper Location	Sensor	Action
①	Drawer	Paper Take-Up Sensor PC55	See step 9 on p. T-9 (Copier Take-Up Misfeed Clearing Procedure).
	Transport Roller	Transport Roller Sensor PC51	See step 13 on p. T-9 (Copier Take-Up Misfeed Clearing Procedure).
	Synchronizing Roller	Paper Leading Edge Detecting Sensor PC54	See step 2 on p. T-13 (Transport/Separator Misfeed Clearing Procedure).
	Exit Section	Paper Exit Sensor PC53	See step 8 on p. T-17 (Fusing/Exit Misfeed Clearing Procedure).
		2nd Paper Exit Sensor PC30	See step 8 on p. T-17 (Fusing/Exit Misfeed Clearing Procedure).

1-2. Paper Take-Up Misfeed



1142T001AA

Symbol	Name
PC51	Transport Roller Sensor
PC55	Paper Take-Up Sensor
SL2	Paper Take-Up Solenoid
CL2	Paper Transport Clutch
PWB-A	Master Board

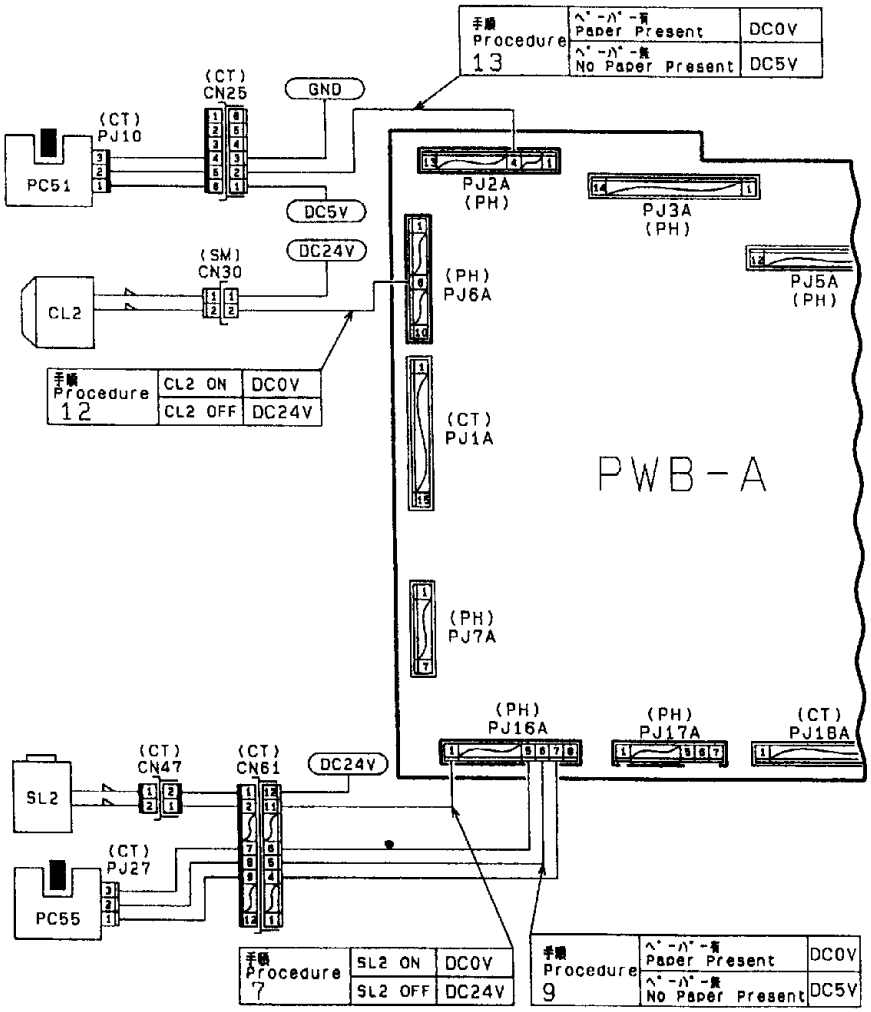


1142C01TAA

◆ Paper Take-Up Misfeed Clearing Procedure

Symptom	Step	Check Item	Result	Action
• Paper is not taken up at all. • Paper is stationary before the Paper Take-Up Sensor.	1	Is the paper being used up to product specifications?	NO	Instruct the user to use the paper that is up to product specifications.
	2	Is the paper curled, waved, or damp?	YES	Change the paper. Instruct the user in how to store the paper.
	3	Are the Separator Fingers on both sides of the Drawer in position?	NO	Instruct the user to load the paper so that it rests under the Fingers.
	4	Are the Separator Fingers deformed?	YES	Replace the Fingers.
	5	Is the Trailing Edge Stop or Edge Guide in good position?	NO	Instruct the user in how to position the Edge Stop or Guide.
	6	Are the Paper Take-Up Rolls deformed, worn, or dirty with paper dust?	YES	Clean or replace the Paper Take-Up Rolls.
	7	Is a signal being output from PWB-A to the Paper Take-Up Solenoid?	YES	Adjust the Solenoid stroke. Check the Solenoid.
		* Does the voltage across PJ16A-1 on PWB-A and GND change from DC24V to DC0V when the Start Key is pressed?	NO	Replace PWB-A.
	8	Is the Clutch Spring deformed or worn?	YES	Replace the Clutch Spring.

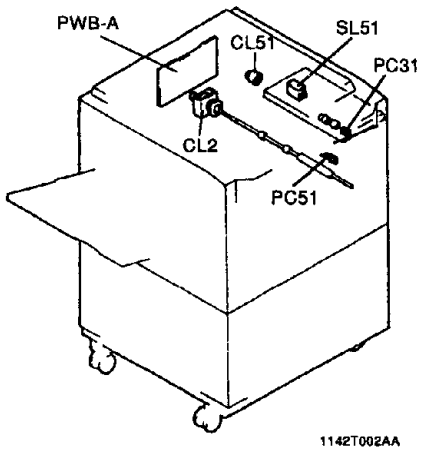
Continued on next page



1142C01TAA

Symptom	Step	Check Item	Result	Action
• Paper is stationary before the Vertical Transport Roller. • Paper is stationary at the Vertical Transport Roller.	9	Is the output signal from the Paper Take-Up Sensor being properly input to PWB-A? * Does the voltage across PJ16A-6 on PWB-A and GND change from DC5V to DC0V when the Paper Take-Up Sensor is blocked?	YES	Replace PWB-A.
			NO	Check the Actuator for operation. Check the Paper Take-Up Sensor.
	10	Are the Vertical Transport Rollers deformed, worn, or dirty with paper dust?	YES	Clean or replace the Vertical Transport Rollers.
	11	Are the Paper Take-Up Guide Plate and Vertical Transport Guide Plate dirty or deformed?	YES	Clean, correct, or replace the Guide Plate.
	12	Is a signal being output from PWB-A to the Clutch? * Does the voltage across PJ6A-6 on PWB-A and GND change from DC24V to DC0V when the Start Key is pressed?	YES	Check the Clutch.
			NO	Replace PWB-A.
• Paper is stationary near the Transport Roller.	13	Is the output signal from Transport Roller Sensor PC51 being properly input to PWB-A? * Does the voltage across PJ2A-4 on PWB-A and GND change from DC5V to DC0V when PC51 is blocked?	YES	Replace or check the PWB-A.
			NO	Check the Actuator for operation. Check PC51.
	14	Are the Transport Rollers deformed, worn, or dirty with paper dust?	YES	Clean or replace the Transport Rollers.

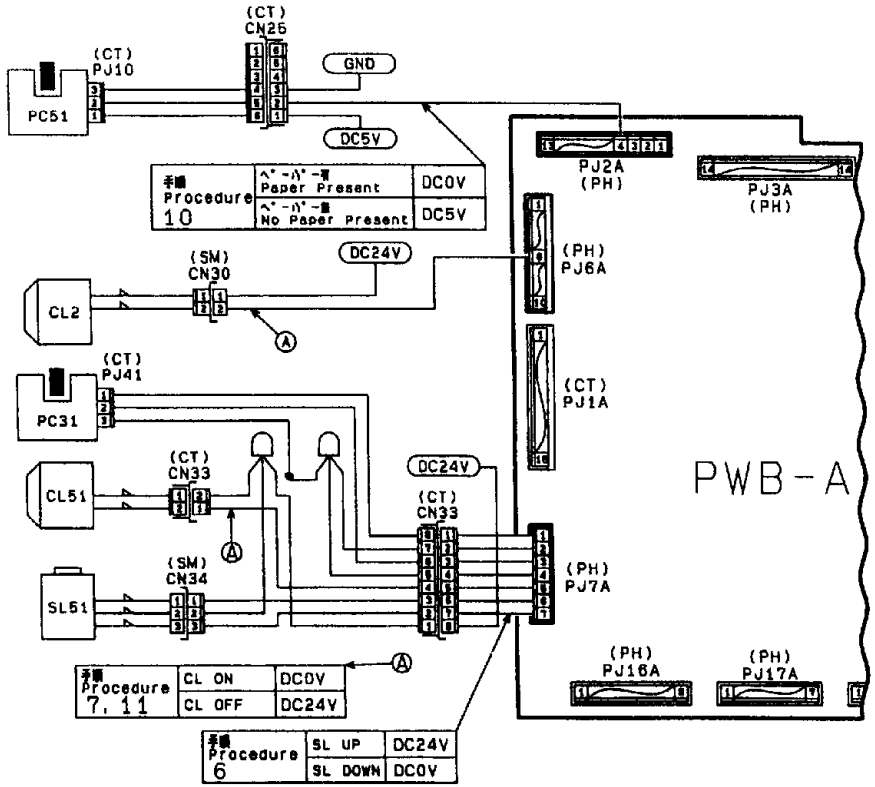
1-3. Bypass Port Misfeed



1142T002AA

	Symbol	Name
*	PC31	Paper Empty Sensor (MB-1)
	PC51	Transport Roller Sensor
*	SL51	Paper Take-Up Solenoid (MB-1)
	CL2	Paper Transport Clutch
*	CL51	Paper Take-Up Clutch (MB-1)
	PWB-A	Master Board

*: When the optional Multi Bypass Table MB-1 is installed

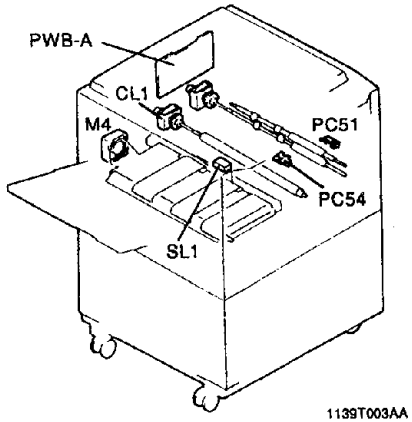


1142C02TAA

◆ Bypass Port Misfeed Clearing Procedure (Single. Multi)

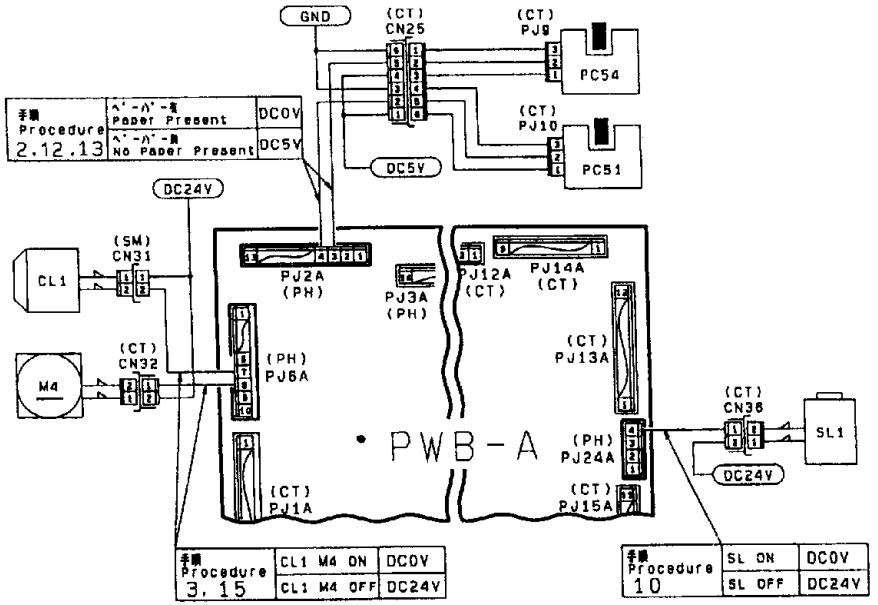
Symptom	Step	Check Item	Result	Action
	1	Does the misfeed occur when the Manual Bypass Table is used?	YES	Perform the troubleshooting procedure for "Transport/Separator Misfeed."
	2	Is paper taken up and fed in properly from the Drawer?	NO	Perform the troubleshooting procedure for "Copier Take-Up and Transport/Separator Misfeed."
	3	Is the paper detected when placed on the Multi Bypass Table?	NO	Check Paper Empty Sensor PC31 (MB-1)
• Paper is not taken up at all.	4	Is the paper being used up to product specifications?	NO	Instruct the user to use the paper that is up to product specifications.
	5	Is the paper curled, waved, or damp?	YES	Change the paper. Instruct the user in how to store the paper.
	6	Are the Paper Take-Up Rolls pressed against the paper stack when the Start Key is pressed? * Does the voltage across PJ7A-7 on PWB-A and GND change from DC24V to DC0V when the Start Key is pressed?	YES	Adjust the stroke of the Solenoid. (MB-1) Check the Solenoid.
			NO	Replace PWB-A.
	7	Does the voltage across PJ7A-5 on PWB-A and GND change from DC24V to DC0V when the Start Key is pressed?	YES	Check the Clutch.
			NO	Replace PWB-A.
	8	Is the Pressure Pad or Guide Plate deformed or dirty?	YES	Clean or replace the Pressure Pad or Guide Plate.
	9	Are the Paper Take-Up Rolls deformed, worn, or dirty with paper dust?	YES	Clean or replace the Paper Take-Up Rolls.
• Paper is stationary near the Transport Roller.	10	Does the voltage across PJ2A-4 on PWB-A and GND change from DC5V to DC0V when Transport Roller Sensor PC51 is blocked by a sheet of paper?	NO	Check the Actuator for operation. Check PC51.
	11	Does the voltage across PJ6A-6 on PWB-A and GND change from DC24V to DC0V when the Start Key is pressed?	YES	Check the Clutch.
			NO	Replace PWB-A.
	12	Is the Transport Roller or Guide Plate of the copier deformed, worn, or dirty with paper dust?	YES	Clean or replace the Vertical Transport Roller or Guide Plate.

1-4. Transport/Separator Misfeed



1139T003AA

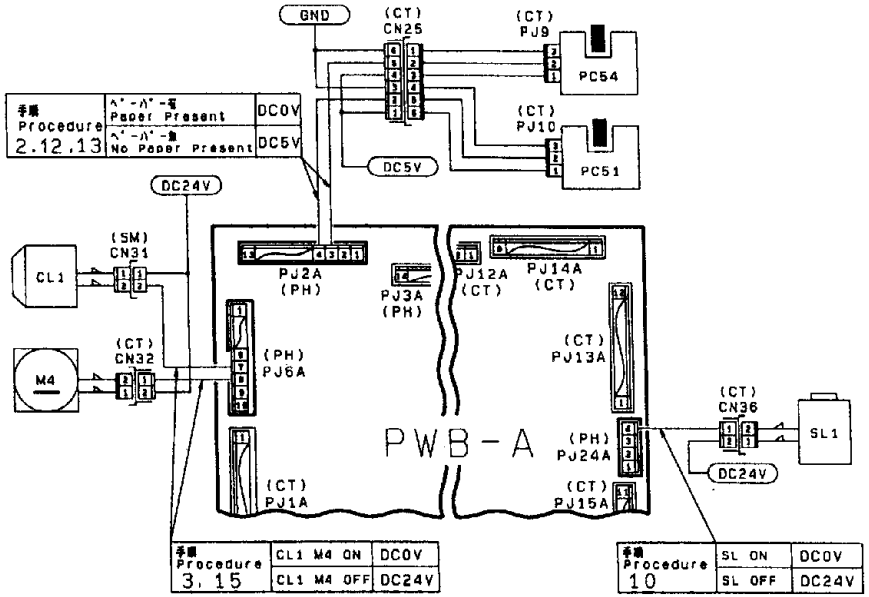
Symbol	Name
PC51	Transport Roller Sensor
PC54	Paper Leading Edge Detecting Sensor
SL1	Separator Solenoid
CL1	Synchronizing Roller Clutch
M4	Suction Fan Motor
PWB-A	Master Board



1139C04TAA

● Transport/Separator Misfeed Clearing Procedure

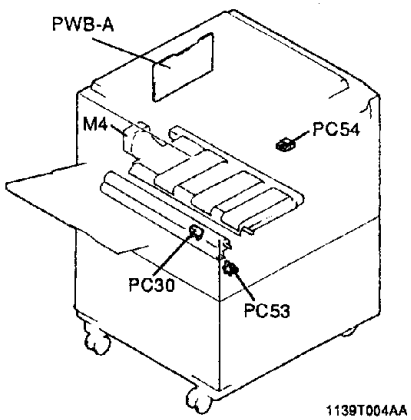
Symptom	Step	Check Item	Result	Action
• Paper is stationary before the Synchronizing Roller.	1	Is the paper curled, waved, or damp?	YES	Change the paper. Instruct the user in how to store the paper.
	2	Does the voltage across PJ2A-3 on PWB-A and GND change from DC5V to DC0V when Paper Leading Edge Detecting Sensor PC54 is blocked by a sheet of paper?	YES	Replace PWB-A.
			NO	Check the Actuator for operation. Check PC54.
	3	Do the Synchronizing Rollers turn?	YES	Check the Clutch.
		* Does the voltage across PJ6A-7 on PWB-A and GND change from DC24V to DC0V after the Start Key has been pressed?	NO	Replace PWB-A.
	4	Is a given length of loop formed before the Synchronizing Roller?	NO	Adjust the loop length or clean or replace the Transport Rollers.
• Paper is stationary near the PC Drum.	5	Is the Pre-Image Transfer Guide Plate deformed or dirty?	YES	Correct or clean the Guide Plate.
	6	Is the Corona Unit Cleaning Lever (Lower) in correct position?	NO	Place the Lever in position.
	7	Are the Image Transfer/Paper Separator Corona Wires deteriorated or dirty?	YES	Clean or replace the Wires.
	8	Are the Paper Guides deformed or dirty?	YES	Clean or replace the Paper Guides.
	9	Are the Synchronizing Rollers deformed, worn, or dirty with paper dust?	YES	Clean or replace the Synchronizing Rollers.



1139C04TAA

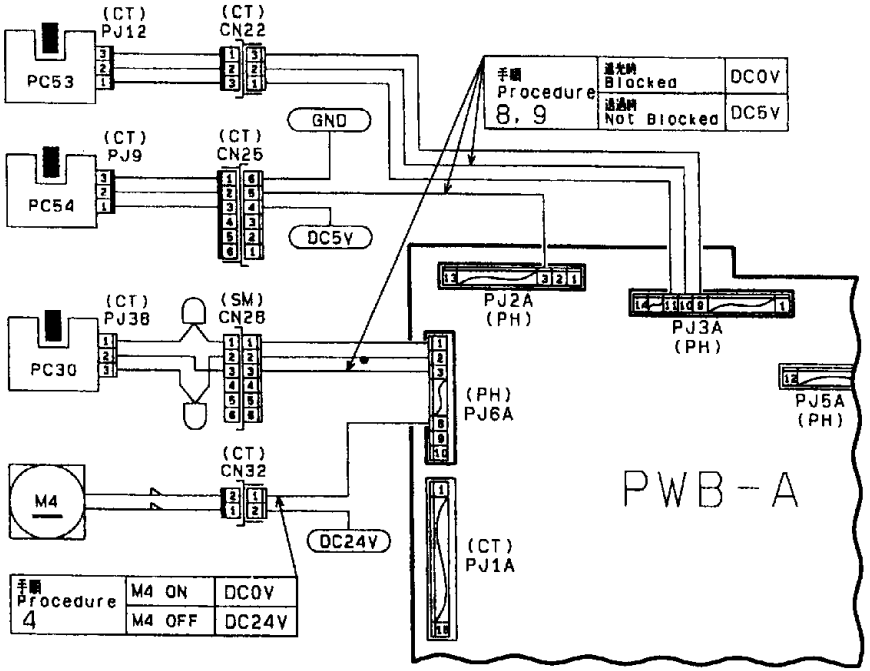
Symptom	Step	Check Item	Result	Action
• Paper is wedged at the Paper Separator Fingers.	10	Does the voltage across PJ24A-4 on PWB-A and GND change from DC24V to DC0V after the Start Key has been pressed?	YES	Adjust the Solenoid, or check the Paper Separator Fingers for operation and clearance.
			NO	Replace PWB-A.
	11	Are the Paper Separator Fingers deformed or dirty?	YES	Correct or clean, or replace, the Paper Separator Fingers.
• Paper is stationary before the Suction Belts.	12	Is the voltage across PJ2A-4 on PWB-A and GND DC5V when Transport Roller Sensor PC51 is unblocked?	NO	Check the Actuator for operation. Check PC51.
	13	Does the voltage across PJ2A-3 on PWB-A and GND change from DC0V to DC5V when Paper Leading Edge Detecting Sensor PC54 is unblocked?	YES	Replace PWB-A.
			NO	Check the Actuator for operation. Check PC54.
	14	Do the Suction Belts turn properly?	YES	Check the Belts and Drive Gear.
	15	Is Suction Fan Motor M4 turning when the Start Key is pressed?	YES	Check the DC24V line. Check M4.
		* Does the voltage across PJ6A-8 on PWB-A and GND change from DC24V to DC0V when the Start Key is pressed?	NO	Replace PWB-A.

1-5. Fusing/Exit Misfeed



1139T004AA

Symbol	Name
PC53	Paper Exit Sensor
PC30	2nd Paper Exit Sensor
PC54	Paper Leading Edge Detecting Sensor
M4	Suction Fan Motor
PWB-A	Master Board



1142C03TAA

◆ Fusing/Exit Misfeed Clearing Procedure

Symptom	Step	Check Item	Result	Action
• Paper is stationary before the Fusing Roller.	1	Is the paper curled, waved, or damp?	YES	Change the paper. Instruct the user in how to store the paper.
	2	Is the Guide Plate dirty with toner?	YES	Clean the Guide Plate. Check for possible scattering of toner.
	3	Do the Suction Belts turn properly?	YES	Check the Belts and Drive Gear.
	4	Is Suction Fan Motor M4 turning when the Start Key is pressed?	YES	Check the DC24V line. Check M4.
		* Does the voltage across PJ6A-8 on PWB-A and GND change from DC24V to DC0V when the Start Key is pressed?	NO	Replace PWB-A.
• The leading edge of the paper is stationary near the Fusing Roller.	5	Are the Fusing Rollers scratched or dirty? Or, has the replacement time arrived for the Rollers?	YES	Clean or replace the Rollers.
	6	Are the Paper Separator Fingers dirty with toner or worn? Are their edges damaged?	YES	Clean or replace the Fingers.
	7	Is the Oil Roller dirty? Or, has the replacement time arrived for the Roller?	YES	Clean or replace the Roller.
• Paper is stationary after the Paper Exit Roller/Rolls.	8	Does the voltage across PJ3A-10 on PWB-A and GND change from DC0V to DC5V when Paper Exit Sensor PC53 is not blocked by a sheet of paper? Does the voltage across PJ6A-3 on PWB-A and GND change from DC5V to DC0V when 2nd Paper Exit Sensor PC30 is blocked by a sheet of paper?	NO	Check the Actuator for operation. Check PC53 or PC30, or both.
	9	Does the voltage across PJ2A-3 on PWB-A and GND change from DC0V to DC5V when Paper Leading Edge Detecting Sensor PC54 is blocked by a sheet of paper?	YES	Replace PWB-A.
			NO	Check the Actuator for operation. Check PC54.

2. Wrinkles in Paper

Step	Cause		Check Item	Result	Action
1	Paper		Is the problem solved when new paper is used?	YES	Change the paper (that is up to product specifications). Instruct the user in how to store the paper.
2	Paper Take-Up Section		Is the paper taken up and fed in properly?	NO	Check the Drawer and Paper Take-Up Roll and adjust, clean, and/or replace the parts as necessary. (See "Skewed Feed" that appears later.)
3	Transport Section		Are any of the Belts left slack or the Suction Deck dirty?	YES	Replace the three Belts at once or clean the Suction Deck.
4	Fusing Unit	Pre-Fusing Guide Plate	Is the Guide Plate damaged or dirty with toner?	YES	Clean or replace the Guide Plate.
5		Thermistor	Is the Thermistor damaged or dirty with toner?	YES	Clean or replace the Thermistor.
6			Is the Thermistor in positive contact with the Upper Fusing Roller?	NO	Move the Thermistor Mounting Bracket up or down as necessary so that the Thermistor comes in positive contact with the Upper Fusing Roller.
7		Fusing Rollers	Has the Roller replacement time arrived?	YES	Replace the Rollers.
8		Width of area of contact between the Upper and Lower Fusing Rollers	Does the location of wrinkles change when the position of the left and right Pressure Springs are changed?	YES	Replace the two Pressure Springs at once.

3. Double Feed

Step	Cause		Check Item	Result	Action
1	Paper		Is the problem solved when new paper is used?	YES	Change the paper (that is up to product specifications). Instruct the user in how to store the paper.
2	Paper Take-Up Section	Paper Take-Up Roll	Is the Paper Take-Up Roll dirty, or has its replacement time arrived?	YES	Clean or replace the Paper Take-Up Roll.
3		Paper Separator Roll (MB-1)	Is the Paper Separator Roll dirty?	YES	Clean the Paper Separator Roll.

4. Skewed Feed

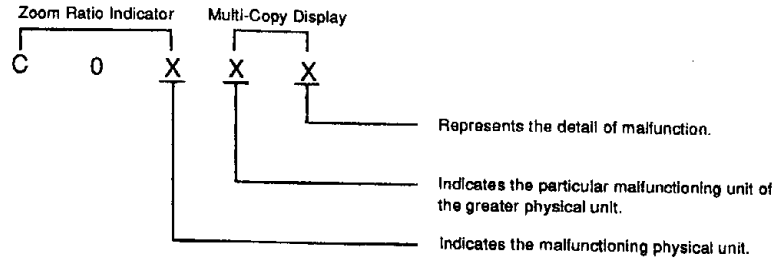
Step	Cause		Check Item	Result	Action
1	Paper		Is the problem solved when new paper is used?	YES	Change the paper (that is up to product specifications). Instruct the user in how to store the paper.
2	Paper Take-Up Section	Paper Take-Up Roll	Is the Paper Take-Up Roll dirty, or has its replacement time arrived?	YES	Clean or replace the Paper Take-Up Roll.
3		Paper Separator Roll (MB-1)	Is the Paper Separator Roll dirty?	YES	Clean the Paper Separator Roll.
4	Transport Section	Paper Dust Remover	Is the Paper Dust Remover dirty with paper dust?	YES	Clean the Paper Dust Remover and Upper Synchronizing Roller.
5		Transport Rollers	Are the Transport Rollers dirty or worn? Or Has their replacement time arrived?	YES	Adjust the loop length in the Adjust Mode. Clean or replace the Transport Rollers.
6		Synchronizing Rollers	Are the Synchronizing Rollers dirty or worn? Or Has their replacement time arrived?	YES	Adjust the loop length in the Adjust Mode. Clean or replace the Synchronizing Rollers.
7		Suction Unit	Are any of the Belts left slack or the Suction Deck dirty?	YES	Replace the three Belts at once or clean the Suction Deck.
8	Pre-Fusing Guide Plate		Is the Guide Plate damaged or dirty with toner?	YES	Clean or replace the Guide Plate.

MEMO

3 MALFUNCTIONS

1. Self-Diagnostic Function

The copier CPU is capable of self-diagnosis of the copier conditions and, when detecting a malfunction, it shows the corresponding malfunction code across the Zoom Ratio Indicator and Multi-Copy Display. Each malfunction code indicates the particular part which has developed a malfunction and the type of malfunction. A listing follows showing all malfunction codes and the description and possible causes of each malfunction.



* Copier

	Code	Description	Possible Cause
Drive	C0000	Main Drive Motor's failure to turn	• Defective M2 • Defective PWB-A • Overloaded rolls/roller, gear, and belt
	C0001	Main Drive Motor turning at abnormal timing	• Defective M2 • Defective PWB-A
	C0010	PC Drive Motor's failure to turn	• Defective M1 • Defective PWB-A • Overloaded gear
	C0011	PC Drive Motor turning at abnormal timing	• Defective M1 • Defective PWB-A
	C004C	Cooling Fan Motor's failure to turn	• Defective M9 • Defective PWB-A
	C004E	Power Supply Unit Cooling Fan Motor's failure to turn	• Defective M10 • Defective PWB-A
	C0070	Toner Replenishing Motor's failure to turn	• Defective Toner Hopper Position Sensor PC112 • Defective M8 • Defective PWB-A
	C0071	Toner Replenishing Motor turning at abnormal timing	• Defective Toner Hopper Position Sensor PC112 • Defective M8 • Defective PWB-A

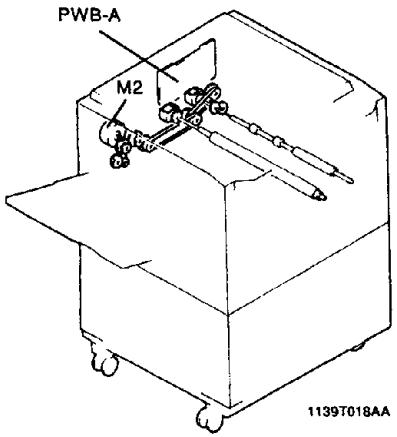
	Code	Description	Possible Cause
Exposure Lamp	C0400	Exposure Lamp's failure to turn ON	• LA1 out • Defective PWB-A • Blown Exposure Lamp Thermal Fuse TS2 • Defective Power Supply Unit PU1 • Defective AE Sensor
	C4100	Exposure Lamp turning ON at abnormal timing	• Defective PWB-A • Defective Power Supply Unit PU1 • Defective AE Sensor
Fusing Unit	C0500	Warming-up failure	• Defective PWB-A • Defective Fusing Thermal Fuse TF1 • Defective Fusing Thermistor TH1 • Defective SSR • Fusing Heater Lamp H1 out
	C0510	Abnormally low fusing temperature	• Defective PWB-A • Defective Fusing Thermal Fuse TF1 • Defective Fusing Thermistor TH1 • Defective SSR • Fusing Heater Lamp H1 out
	C0520	Abnormally high fusing temperature	• Defective PWB-A • Defective SSR • Defective Fusing Thermistor TH1
Optical Section	C0600	Scanner Motor malfunction	• Defective Scanner Motor M5 • Defective Scanner Reference Position Sensor PC81 • Defective Motor Drive Board PWB-E • Defective PWB-A
	C0610	Lens Motor malfunction	• Defective Lens Motor M6 • Defective Lens Reference Position Sensor PC90 • Defective Motor Drive Board PWB-E • Defective PWB-A
	C0620	Mirror Motor malfunction	• Defective Mirror Motor M7 • Defective Mirror Reference Position Sensor PC86 • Defective Motor Drive Board PWB-E • Defective PWB-A

	Code	Description	Possible Cause
Sensors	C0F10	Faulty AE Sensor level	• Defective AE Sensor Board PWB-H • Exposure Lamp LA1 out • Defective PWB-A • Defective Power Supply Unit PU1
	C0F30	ATDC Sensor malfunction	• Defective ATDC Sensor UN3 • ATDC Sensor connection failure • Defective PWB-A

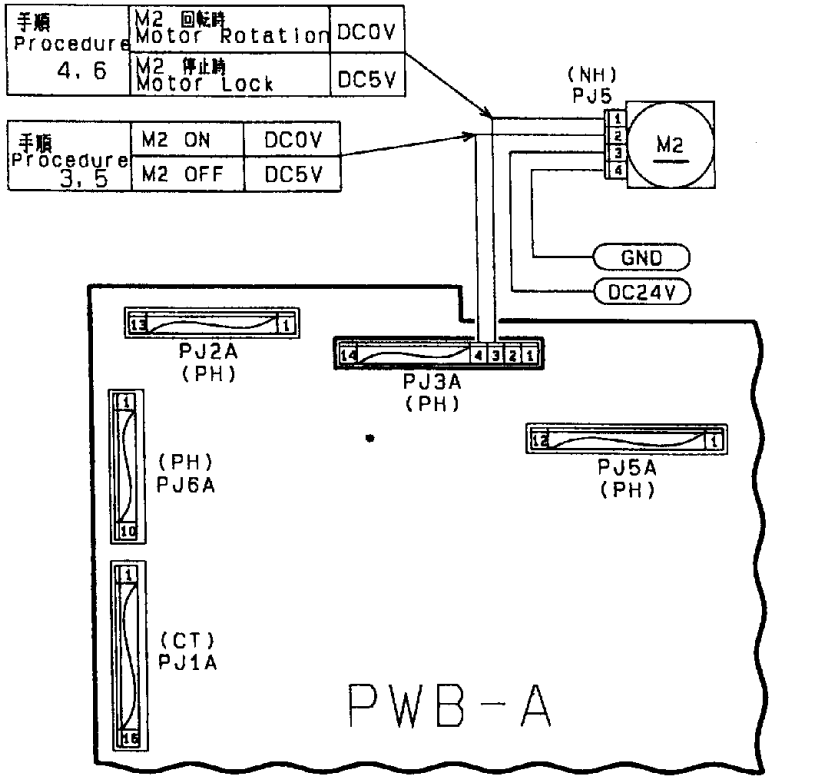
* Malfunctions for Other Options

	Code	Description	Possible Cause
S-104	C0b60	Faulty Bin movement (Defective Bin Moving Motor)	• Bin Moving Motor M1 • Bin Upper Limit Interlock Switch S1 • Bin Lower Limit Interlock Switch S2
	C0b61	Faulty Bin movement (Defective drive)	• Bin Moving Motor M1
	C0b62	Faulty Bin movement (Defective Bin Positioning Sensor)	• Bin Positioning Sensor PC3
	C0b63	Faulty Bin movement (Defective Bin Lower Limit Position Sensor)	• Bin Lower Limit Position Sensor PC4
	C0b64	Faulty Bin movement (M1 speed detection failure)	• Bin Moving Pulse Sensor PC1

1-1. C0000: Main Drive Motor's failure to turn
C0001: Main Drive Motor turning at abnormal timing

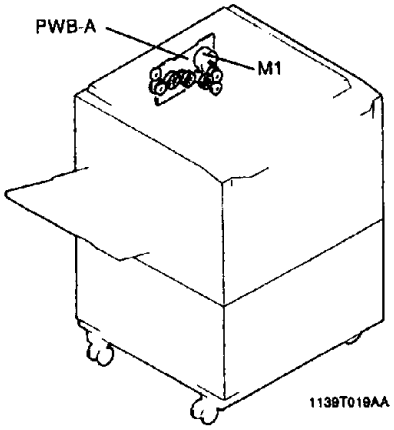


Symbol	Name
M2	Main Drive Motor
PWB-A	Master Board



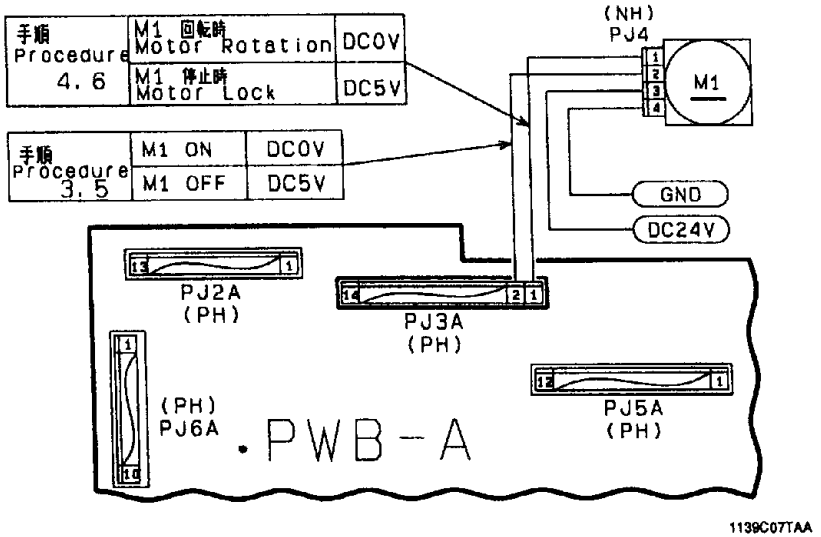
Step	Check Item	Result	Action
1	Is C0001 being shown?	YES	Begin with step 5.
2	Does M2 start to turn when the Start Key is pressed?	YES	Check rolls/rollers and gears for possible overload.
3	Does the voltage across PJ3A-4 on PWB-A and GND change from DC5V to DC0V when the Start Key is pressed?	NO	Replace PWB-A.
4	Does the voltage across PJ3A-3 on PWB-A and GND remain DC5V when the Start Key is pressed?	YES	Replace M2.
		NO	Replace PWB-A.
5	Does the voltage across PJ3A-4 on PWB-A and GND remain DC0V when the Power Switch is turned ON?	YES	Replace PWB-A.
6	Does the voltage across PJ3A-3 on PWB-A and GND remain DC0V when the Power Switch is turned ON?	YES	Replace M2.
		NO	Replace PWB-A.

1-2. C0010: PC Drive Motor's failure to turn
C0011: PC Drive Motor turning at abnormal timing

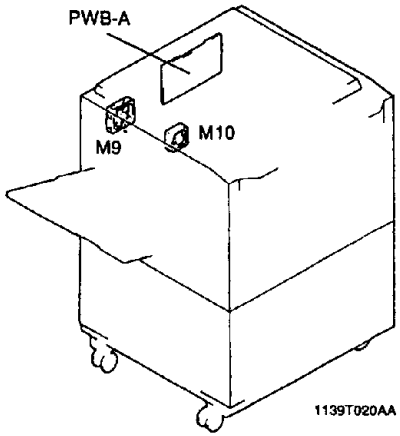


Symbol	Name
M1	PC Drive Motor
PWB-A	Master Board

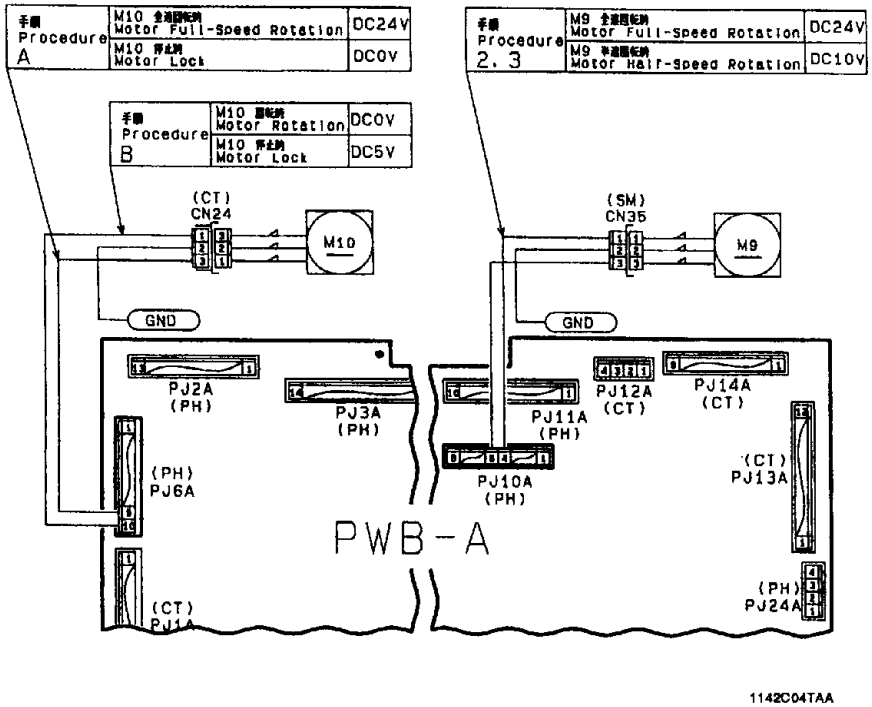
Step	Check Item	Result	Action
1	Is C0011 being shown?	YES	Begin with step 5.
2	Does M1 start to turn when the Start Key is pressed?	YES	Check gears for possible overload.
3	Does the voltage across PJ3A-2 on PWB-A and GND change from DC5V to DC0V when the Start Key is pressed?	NO	Replace PWB-A.
4	Does the voltage across PJ3A-1 on PWB-A and GND remain DC5V when the Start Key is pressed?	YES	Replace M1.
		NO	Replace PWB-A.
5	Does the voltage across PJ3A-2 on PWB-A and GND remain DC0V when the Power Switch is turned ON?	YES	Replace PWB-A.
6	Does the voltage across PJ3A-1 on PWB-A and GND remain DC0V when the Power Switch is turned ON?	YES	Replace M1.
		NO	Replace PWB-A.



1-3. C004C: Cooling Fan Motor's failure to turn
C004E: Power Supply Unit Cooling Fan Motor's failure to turn



Symbol	Name
M9	Cooling Fan Motor
M10	Power Supply Unit Cooling Fan Motor
PWB-A	Master Board



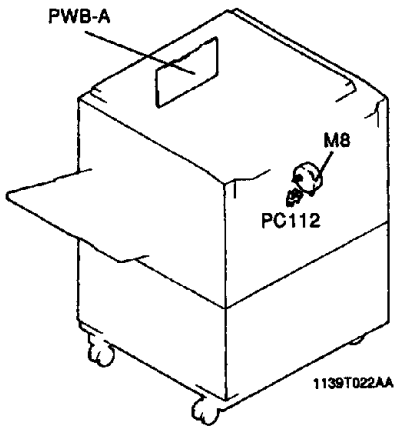
C004C

Step	Check Item	Result	Action
1	Is M9 turning at low speed when the Power Switch is in the ON position?	NO	Begin with step 3.
2	Does the voltage across PJ10A-4 on PWB-A and GND change from DC10V to DC24V when the Start Key is pressed?	YES	Replace M9.
		NO	Replace PWB-A.
3	Is the voltage across PJ10A-4 on PWB-A and GND DC10V when the Power Switch is in the ON position?	YES	Replace M9.
		NO	Replace PWB-A.

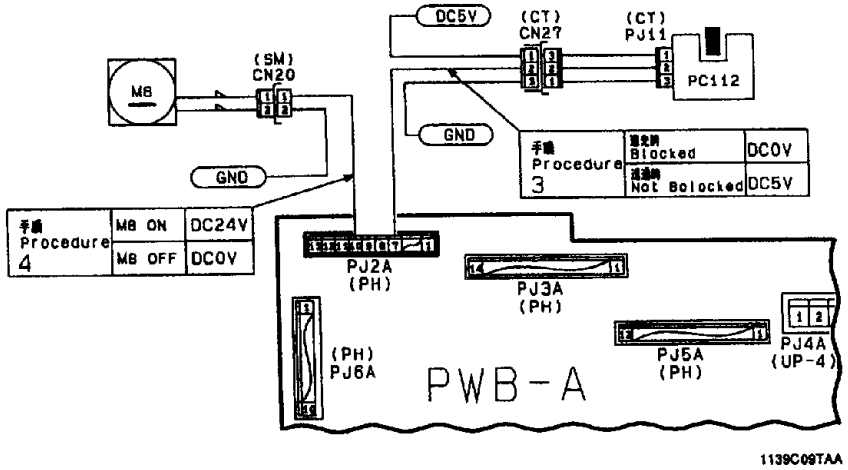
C004E

Step	Check Item	Result	Action
A	Does the voltage across PJ6A-9 on PWB-A and GND change from DC0V to DC24V when the Start Key is pressed?	NO	Replace PWB-A.
B	Does the voltage across PJ6A-10 on PWB-A and GND change from DC5V to DC0V when the Start Key is pressed?	YES	Replace PWB-A.
		NO	Replace M10.

1-4. C0070: Toner Replenishing Motor's failure to turn
C0071: Toner Replenishing Motor turning at abnormal timing

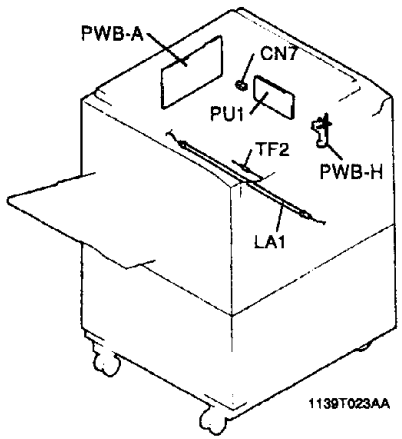


Symbol	Name
PC112	Toner Hopper Home Position Sensor
M8	Toner Replenishing Motor
PWB-A	Master Board

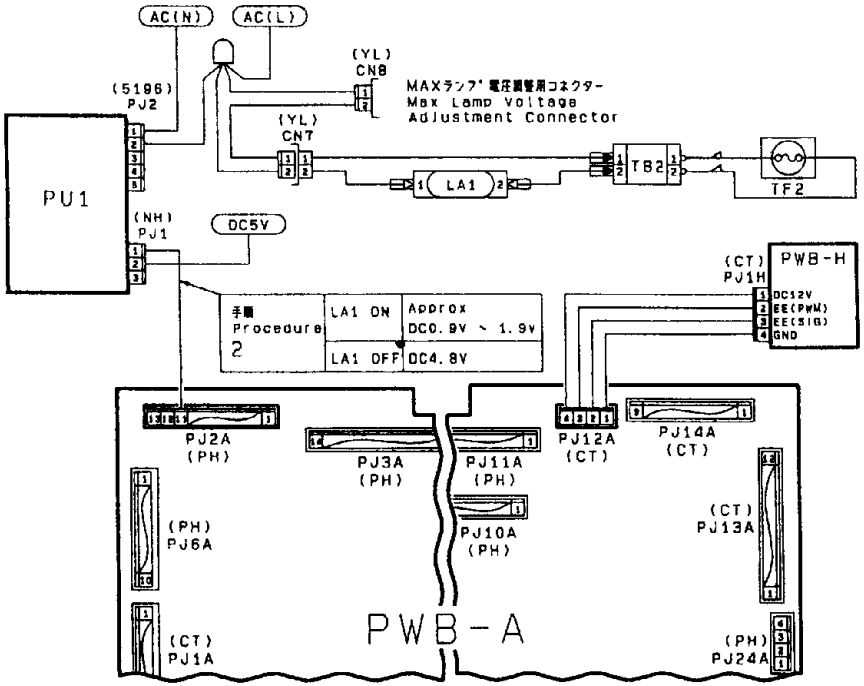


Step	Check Item	Result	Action
1	Is C0071 being shown?	YES	Begin with step 3.
2	Does the Toner Bottle turn when two or three copies are made with the Original Cover raised?	YES	Perform step 3.
		NO	Perform step 4.
3	Make two or three copies with the Original Cover raised. Does the voltage across PJ2A-7 on PWB-A and GND change to DC0V when the Toner Bottle is stopped and to DC5V when the Bottle is turned during the copy cycle?	YES	Replace PWB-A.
		NO	Check the Bottle Holder or PC112.
4	Make two or three copies with the Original Cover raised. Does the voltage across PJ2A-10 on PWB-A and GND change to DC0V when the Toner Bottle is stopped and to DC24V when the Bottle is turned during the copy cycle?	YES	Replace M8.
		NO	Replace PWB-A.

1-5. C0400: Exposure Lamp's failure to turn ON
C0410: Exposure Lamp turning ON at abnormal timing



Symbol	Name
LA1	Exposure Lamp
TF2	Exposure Lamp Thermal Fuse
PWB-A	Master Board
PWB-H	AE Sensor Board
PU1	Power Supply Unit



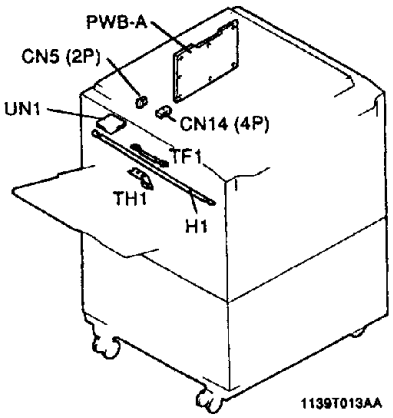
C0400

Step	Check Item	Result	Action
1	Does LA1 light up when the Start Key is pressed?	YES	Check the photo receiver of the AE Sensor for contamination. Replace PWB-H or PWB-A.
2	Does the voltage across PJ2A-11 on PWB-A and GND become DC4.3V or less when LA1 turns ON?	NO	Replace PWB-A.
3	Disconnect CN7 (2P). Is there continuity across CN7-1 and 2 on the LA1 side?	NO	Check LA1 and TF2 for continuity.
4	Is the voltage across PJ2-1 and 2 on PU1 AC100V?	YES	Replace PU1.
		NO	Check DC Power Supply Unit PU2 and Power Supply Board PWB-C.

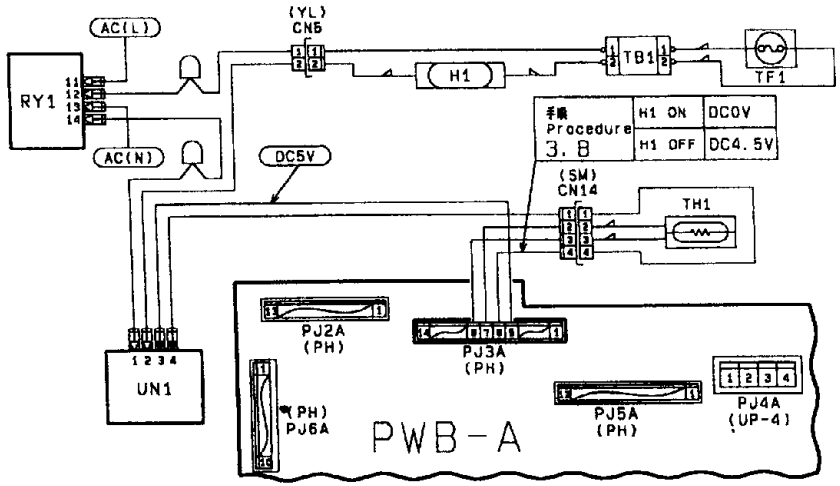
C0410

Step	Check Item	Result	Action
A	Does LA1 turn ON when the Power Switch is turned ON or in the standby state?	NO	Check to see if the photo receiver of the AE Sensor is receiving extraneous light. Replace PWB-H or PWB-A.
B	Does the voltage across PJ2A-11 on PWB-A and GND remain DC4.3V or lower when the Power Switch is turned ON or in the standby state?	YES	Replace PWB-A.
		NO	Replace PU1.

1-6. C0500: Warming-up failure
C0510: Abnormally low fusing temperature
C0520: Abnormally high fusing temperature



Symbol	Name
H1	Fusing Heater Lamp
TF1	Fusing Thermal Fuse
TH1	Fusing Thermistor
PWB-A	Master Board
UN1	SSR



C0500, C0510

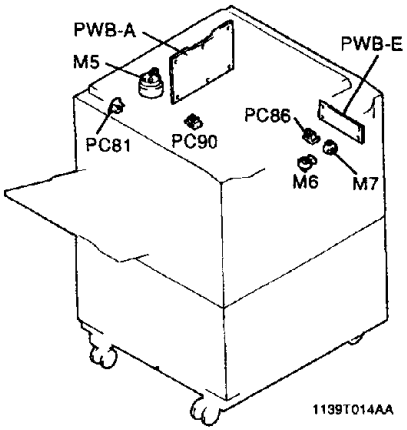
* After resetting a C0510 condition, C0500 will be shown if the same problem recurs. For this reason, the same troubleshooting procedure is used for C0500 and C0510.

Step	Check Item	Result	Action
1	Does H1 light up when the Power Switch is turned ON?	YES	Check TH1 for installation or clean it.
		NO	Begin with step 3.
2	Disconnect CN14 (4P). Is the resistance across CN14-2 and 3 on the TH1 side infinity?	YES	Replace TH1.
		NO	Replace PWB-A.
3	Does the voltage across PJ3A-6 on PWB-A and GND change from DC4.5V to DC0V when the Front Door is closed with the Power Switch in the ON position?	NO	Replace PWB-A.
4	Disconnect CN5 (2P). Is there continuity across CN5-1 and 2 on the Fusing Unit side?	YES	Replace UN1.
		NO	Check H1 and TF1 for continuity.

C0520

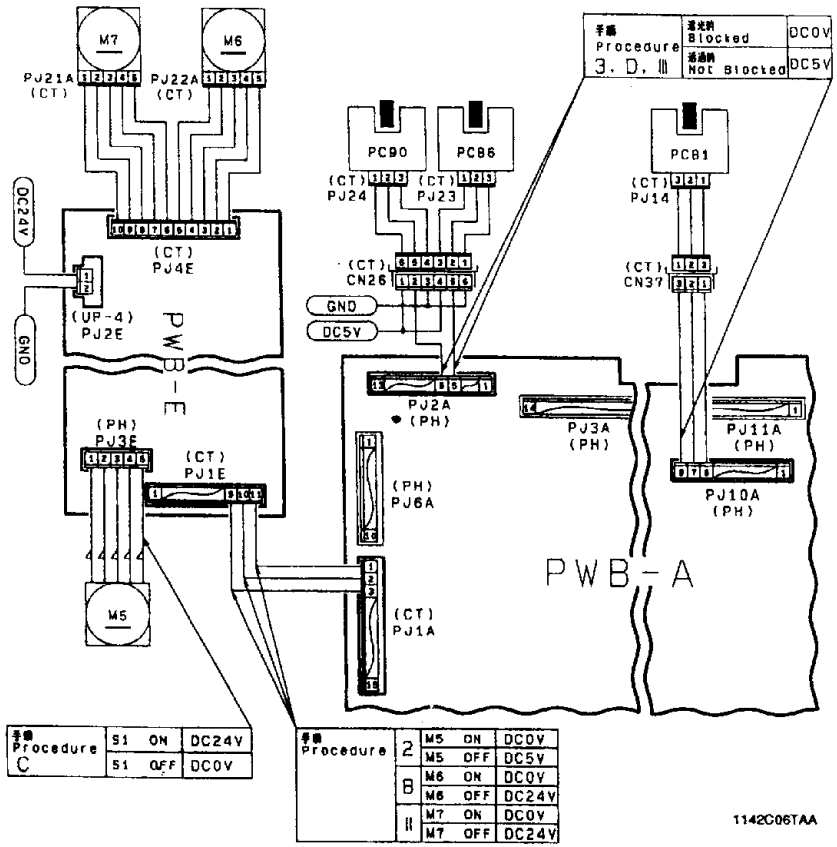
Step	Check Item	Result	Action
A	Does H1 remain lit up even after the copier has completed warming up?	YES	Begin with step B.
		NO	Begin with step C.
B	Does the voltage across PJ3A-6 on PWB-A and GND remain DC0V even after the copier has completed warming up?	YES	Replace PWB-A.
		NO	Replace UN1.
C	Disconnect CN14 (4P). Is the circuit across CN14-2 and 3 on the Fusing Unit side short-circuited?	YES	Replace TH1.
		NO	Replace PWB-A.

1-7. C0600: Scanner Motor malfunction
C0610: Lens Motor malfunction
C0620: Mirror Motor malfunction



1139T014AA

Symbol	Name
M5	Scanner Motor
M6	Lens Motor
M7	Mirror Motor
PC81	Scanner Reference Position Sensor
PC86	Mirror Reference Position Sensor
PC90	Lens Reference Position Sensor
PWB-A	Master Board
PWB-E	Motor Drive Board



1142C06TAA

C0600

Step	Check Item	Result	Action
1	Does the Scanner start moving after the Power Switch has been turned ON?	YES	Perform step 3.
2	Does the voltage across PJ1A-3 on PWB-A and GND change from DC5V to DC0V after the Power Switch has been turned ON?	YES	Replace PWB-E or M5.
		NO	Replace PWB-A.
3	Does the voltage across PJ10A-8 on PWB-A and GND change from DC5V to DC0V when PC81 is blocked?	YES	Check the Scanner Drive Cable for tension and overload. Or, replace PWB-A.
		NO	Check PC81.

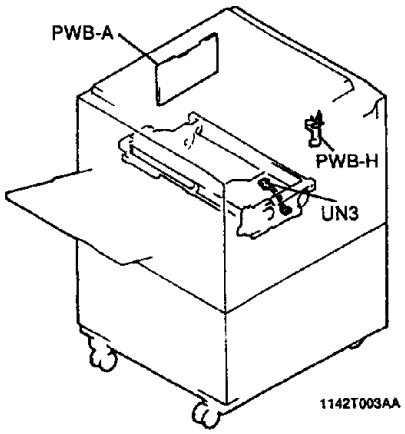
C0610

Step	Check Item	Result	Action
A	Does M6 start turning after the Power Switch has been turned ON?	YES	Perform step D.
B	Does the voltage across PJ1A-1 on PWB-A and GND change from DC24V to DC0V after the Power Switch has been turned ON?	NO	Replace PWB-A.
C	Is the voltage across PJ3E-5 on PWB-E and GND DC24V after the Power Switch has been turned ON?	YES	Replace PWB-E or M6.
		NO	Check the 24V line.
D	Does the voltage across PJ2A-6 on PWB-A and GND change from DC5V to DC0V when PC90 is blocked (in the full size and enlargement position)?	YES	Check the Lens Drive Cable for tension and overload. Or, replace PWB-A.
		NO	Check PC90.

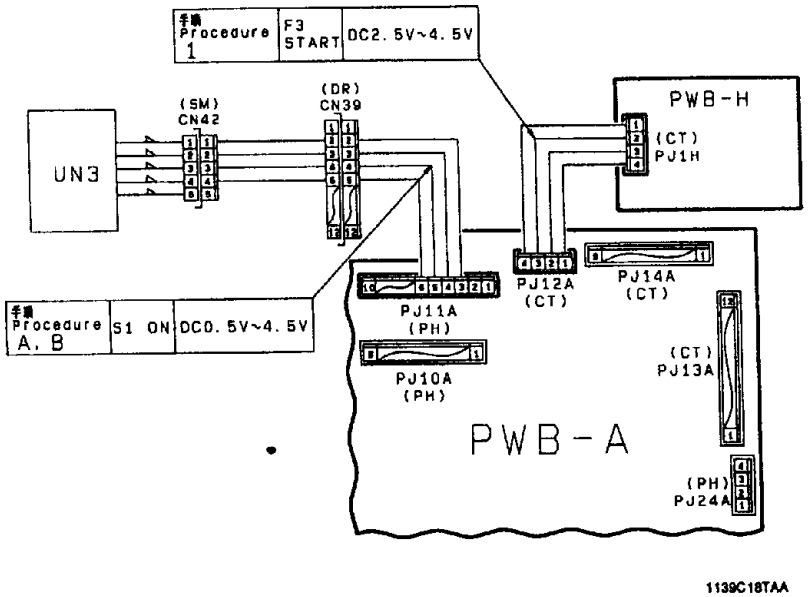
C0620

Step	Check Item	Result	Action
I	Does M7 start turning?	YES	Perform step III.
II	Does the voltage across PJ1A-2 on PWB-A and GND change from DC24V to DC0V when the Mirror moves?	YES	Replace PWB-E or M7.
		NO	Replace PWB-A.
III	Does the voltage across PJ2A-5 on PWB-A and GND change from DC5V to DC0V when PC86 is blocked?	YES	Check for overload. Or, replace PWB-A.
		NO	Check PC86.

1-8. C0F10: Faulty AE Sensor level
C0F30: ATDC Sensor malfunction



Symbol	Name
PWB-A	Master Board
PWB-H	AE Sensor Board
UN3	ATDC Sensor



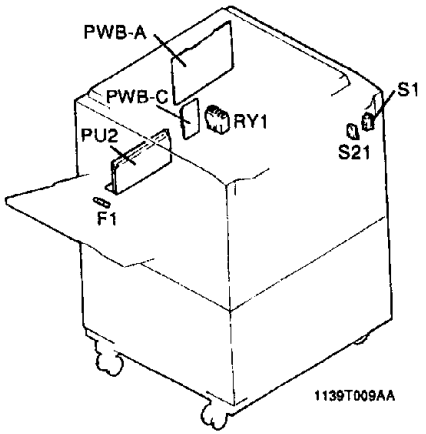
C0F10

Step	Check Item	Result	Action
1	Is the voltage across PJ12A-3 on PWB-A and GND in the range between DC2.5V and DC4.5V when the Start Key is pressed in the F3 operation?	YES	Replace PWB-A.
		NO	Check the photo receiver of the AE Sensor for contamination or replace PWB-H.

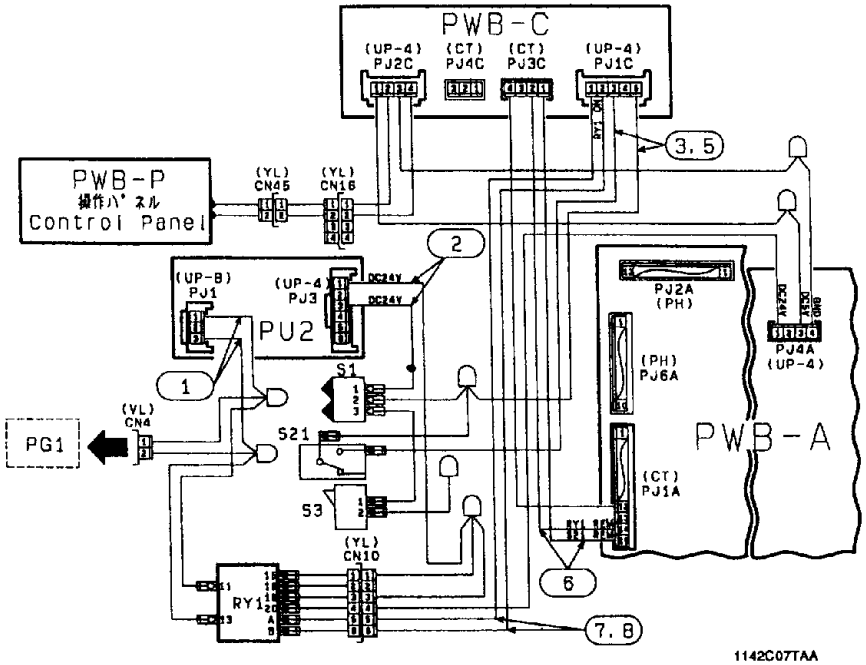
C0F30

Step	Check Item	Result	Action
A	Is the voltage across PJ11A-5 on PWB-A and GND DC0V after the Power Switch has been turned ON?	YES	Check the ATDC Sensor and the connection between the Imaging Unit and copier.
B	Is the voltage across PJ11A-5 on PWB-A and GND in the range between DC0.5V and DC4.5V after the Start Key has been pressed?	YES	Replace PWB-A.
		NO	Replace the ATDC Sensor.

2. Power is not Turned ON



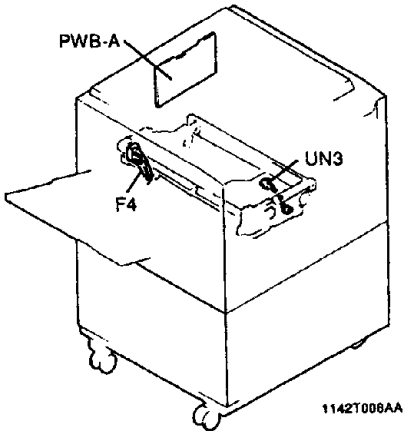
Symbol	Name
PWB-A	Master Board
PWB-C	Power Supply Board
PU2	DC Power Supply Unit
S1	Power Switch
S21	Front Door Interlock Switch
RY1	Main Relay
F1	Fuse



Symptom	Step	Check Item	Result	Action
Power is not supplied to the copier at all.	1	Is the voltage across PJ1-1 and 3 of PU2 AC100V?	NO	Check F1 or line voltage.
	2	Is the voltage across PJ3-1 of PU2 and GND, and across PJ3-3 on PU2 and GND, DC24V?	NO	Check F1 of PU2 or replace PU2.
	3	Is the voltage across PJ1C-3 on PWB-C and GND, and across PJ1C-5 on PWB-C and GND, DC24V?	NO	Check S1 and S21.
	4	Is LD1 on PWB-A lit up?	NO	Check F1 of PWB-C or replace PWB-C.
Only the control panel indicators light up. RY1 is not energized.	5	Is the voltage across PJ1C-3 on PWB-C and GND DC24V?	NO	Check S21.
	6	Is the voltage across PJ1A-14 on PWB-A and GND, and across PJ1A-15 on PWB-A and GND, near DC0V?	NO	Replace PWB-A.
	7	Is the voltage across PJ1C-2 on PWB-C and GND DC24V after the Power Switch has been turned ON?	NO	Replace PWB-C.
	8	Is the voltage across PJ1C-1 on PWB-C and GND DC0V after the Power Switch has been turned ON?	NO	Check RY1.

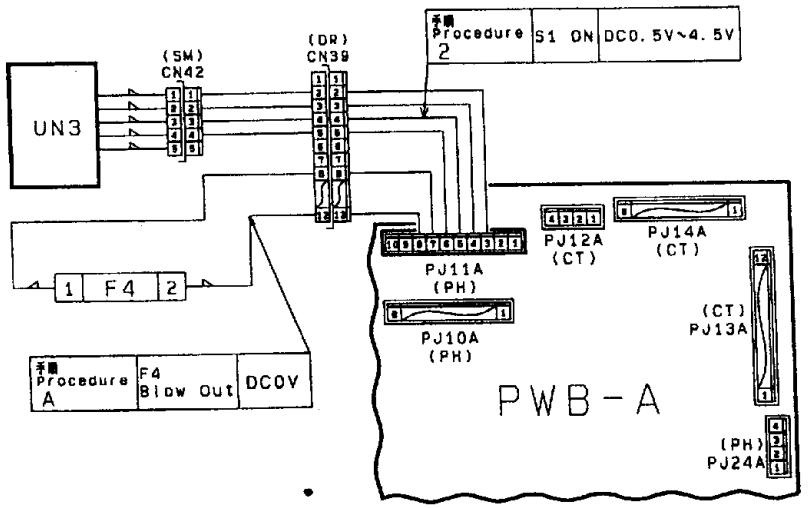
* If the problem persists even after the above procedures, the harness is probably short-circuited. Check the harnesses.

3. E1, E2



1142T006AA

Symbol	Name
UN3	ATDC Sensor
F4	I/U Fuse
PWB-A	Master Board



1139C20TAA

Code	Step	Check Item	Result	Action
E1	1	Is the seal peeled off the opening or starter been fully charged?	NO	Peel off the seal and turn the Power Switch OFF, then ON.
	2	Is the voltage across PJ11A-5 on PWB-A and GND in the range between DC0.5V and DC4.5V after the Start Key has been turned ON?	YES	Replace PWB-A.
			NO	Replace the ATDC Sensor.
E2	A	Is the voltage across PJ11A-8 on PWB-A and GND 0V (is F4 blown)?	YES	Replace PWB-A.
			NO	Replace F4 or PWB-A.

EP1050

PARTS MANUAL-2

MINOLTA

The ADF Kit, Multiple Bypass MB-1 and Mount Kit are used in common with the EP1080. Therefore, please refer to the EP1080 Parts Manual as necessary

ADFキット・マルチ手差し(MB-1)、マウントキットはEP1080と共通ですので、EP1080のパーツマニュアルを使用して下さい。

PREFACE 前書き

1. The part numbers listed in Parts Manual 2 are those which were assigned to the parts making up the machine at the time the machine was originally introduced onto the market. The part numbers listed in all revised Parts Manuals from 3 and onward are only the most up-to-date part numbers of those parts which have been newly added, those old and new parts which are non-interchangeable and those parts which are interchangeable. Also included are the numbers of those parts the use of which has been discontinued.

2. Parts whose numbers are preceded by an asterisk in the Index Column on the List Page are parts to be used in only certain market areas. Therefore, please check the number in the Area column on the List Page and then compare it with the numbers given in the Area Chart on Page Ⅱ to find out which part number is applicable to your own area.
   NOTE: Parts for only certain Market Areas: The part numbers for these parts vary according to market area. In other cases, these parts are used in only restricted areas.

3. The Index Number on the List Page is composed of two numbers and two letters. Generally, only A is used as the first letter of the two letters. However, sometimes B, C, D, etc. are used when one part in the illustration, such as an electrical part or a part which varies according to market area, has two or more part numbers. The second letter of the two letters represents the modification history of that part.

4. The Area Number is listed in the Area Column for only those parts used in certain market areas. This Area Number represents the area listed opposite to it in the Chart given on Page Ⅱ. Parts having no Area Number listed in the Area Column can be used in all market areas.

5. In Parts Manual 2, the Remarks Column has been left blank. In all revised Parts Manuals from 3 and onward, the machine numbers of those machines in which the part is non-interchangeable are listed. A dash before such machine numbers means that all machines having serial numbers up to and including the number listed are included. A dash after such machine numbers means that all machines having serial numbers from that number and onward are included.

6. In the exploded views in this parts manual, parts (Screws & Washers, etc.) which are indicated with a "four-digit" number are listed in numerical order in the section "SCREWS AND WASHERS". Please check these "four-digit" numbers with the part numbers ("ten-digit" number) which should be used for ordering the parts.

7. All parts numbers consist of "ten digits" which should all be quoted when ordering a part. The price of parts can be obtained by referring to the "Parts Price List" which is separately issued.

1．パーツマニュアルNo.2には、販売当初の機械を構成している部品が記載されています。No.3以降の改訂版には、廃止された部品、新設された部品、互換性のない旧、新部品、そして互換性のある部品は最新の部品だけが記載されます。

2．リスト部の表示番号に※印がある部品は仕向部品ですので、地域No.をⅡページの地域No.対比表で照合して、国内の部品番号を使用してください。
注）仕向部品……地域により部品番号が異なる、または、一部地域にだけ使用されている部品。

3．リスト部の表示番号は、部品図の番号をあらわす2桁の数字と2桁の補助記号より構成されています。
補助記号の1桁目は、一般にはAだけですが、仕向部品、電気部品のように1つの部品図で複数の部品番号をあらわしている場合にA、B、C、…となっています。補助記号の2桁目は部品の変更経歴をあらわしています。

4．リスト部の地域No.は仕向部品にだけ記載されており、Ⅱページでその部品の使用されている地域をあらわしています。地域No.のないものは全地域使用部品です。

5．パーツマニュアルNo.2では、リスト部の備考欄は空欄になっています。No.3以降の改訂版では互換性のない部品がある場合に対象機械番号が記載されます。
機械番号の前に一記号がある場合は、その番号以前の機械が対象、後に一記号がある場合には、その番号以降の機械が対象です。

6．ネジ・ワッシャー類は、数字4桁の表示番号を使用しています。ネジ・ワッシャー部で照合の上、10桁の部品番号を使用してください。

7．部品番号は10桁で構成されています。注文は必ず10桁の部品番号を使用してください。

8．このパーツマニュアルの内容は予告なく変更されることがあります。

AREA CHART 地域No.対比表

AREA No. 地域No.	AREA 該当地域	(JAPAN) 国内	AREA No. 地域No.	AREA 該当地域	(JAPAN) 国内
0400	METRIC	○	2500	115V	
0406	METRIC (EXCEPT EUROPE)	○	2504	115V/120V	
0510	100/115/120V	○	2520	120V	
0511	100/115/120/127V	○	2534	120V (EXCEPT USA/CANADA)	
0514	100/127V	○	2535	120/200/220/240V	
0600	100V	○	2550	127V	
0702	EXCEPT USA/CANADA	○	2600	200/220/240V	
0703	EXCEPT EUROPE	○	2606	200V	
0710	EXCEPT USA/CANADA/EUROPE	○	2607	200V/220V/240V (EXCEPT OCEANIA)	
0737	JAPAN/HONG KONG/TAIWAN/SINGAPORE/S.ARABIA/ S.AFRICA/OCEANIA	○	2612	220/240V	
1000	JAPAN	○	2704	USA/CANADA	
2000	EXCEPT JAPAN		2706	EUROPE	
2300	INCH		2715	EXCEPT JAPAN/EUROPE	
2309	INCH/EUROPE		2720	USA/CANADA/EUROPE	
2310	INCH (220V)				
2400	METRIC (EXCEPT JAPAN)				
2402	METRIC (EXCEPT JAPAN/EUROPE)				

We recommend that you cross out from your Parts Manuals those parts numbers which do not apply to your area so that no error is made when ordering parts.
注文時の部品番号まちがいを防ぐために、マニュアル内の国内以外の部品番号をあらかじめ削除しておくことをおすすめします。

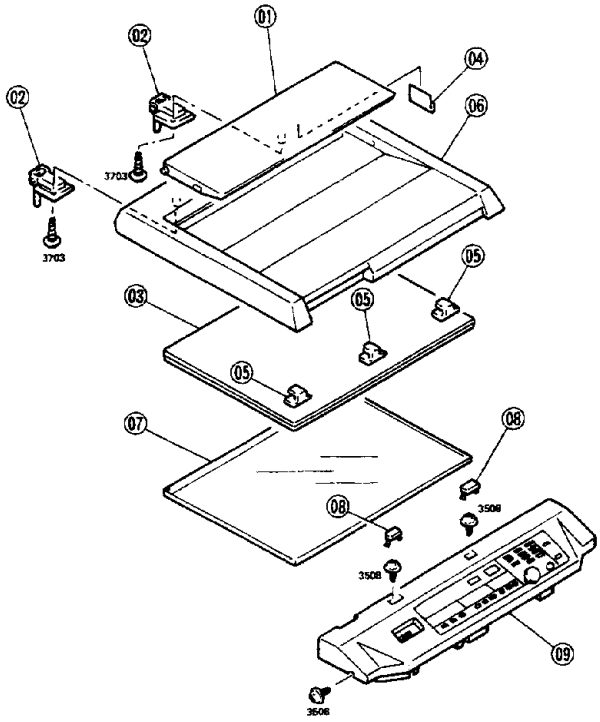
THE PARTS MANUAL IS EFFECTIVE WITH MACHINES SERIALLY NUMBERED XX 0251 AND ONWARDS.
このパーツマニュアルは、機械番号 XX 0251 以降を対象に作成したものです。

CONTENTS 目次

1. HOUSING I ····· 外装部I ····· 1
2. HOUSING II ····· 外装部II ····· 3
3. OPTIICAL FRAMES ····· 光学フレーム部 ····· 5
4. UPPER FRAMES ····· 上フレーム部 ····· 7
5. LOWER FRAMES ····· 下フレーム部 ····· 9
6. EXPOSURE LAMP SECTION ····· 露光ランプ部 ····· 11
7. LENS SECTION ····· レンズ部 ····· 13
8. OPTICAL DRIVE SECTION ····· 光学駆動部 ····· 15
9. PAPER TAKE-UP SECTION ····· 給紙部 ····· 17
10. HOPPER SECTION ····· ホッパー部 ····· 19
11. IMAGING UNIT I ····· イメージングユニットI ····· 21
12. IMAGING UNIT II ····· イメージングユニットII ····· 23
13. PAPER TRANSPORT SECTION ····· 搬送部 ····· 25
14. VACUUM SECTION ····· サクション部 ····· 27
15. FUSING SECTION ····· 定着器 ····· 29
16. ELECTRICAL COMPONENTS ····· 電装部 ····· 31
17. PAPER TRAY UNIT ····· ペーパートイレユニット ····· 33
18. WIRING ACCESSORIES AND JIGS ····· 配線部品・治具 ····· 35
19. ASSEMBLED PARTS ····· ユニット部品 ····· 37
20. SCREW AND WASHERS ····· ネジ・ワッシャー部 ····· 39
21. NUMERICAL INDEX ····· 索引 ····· 40

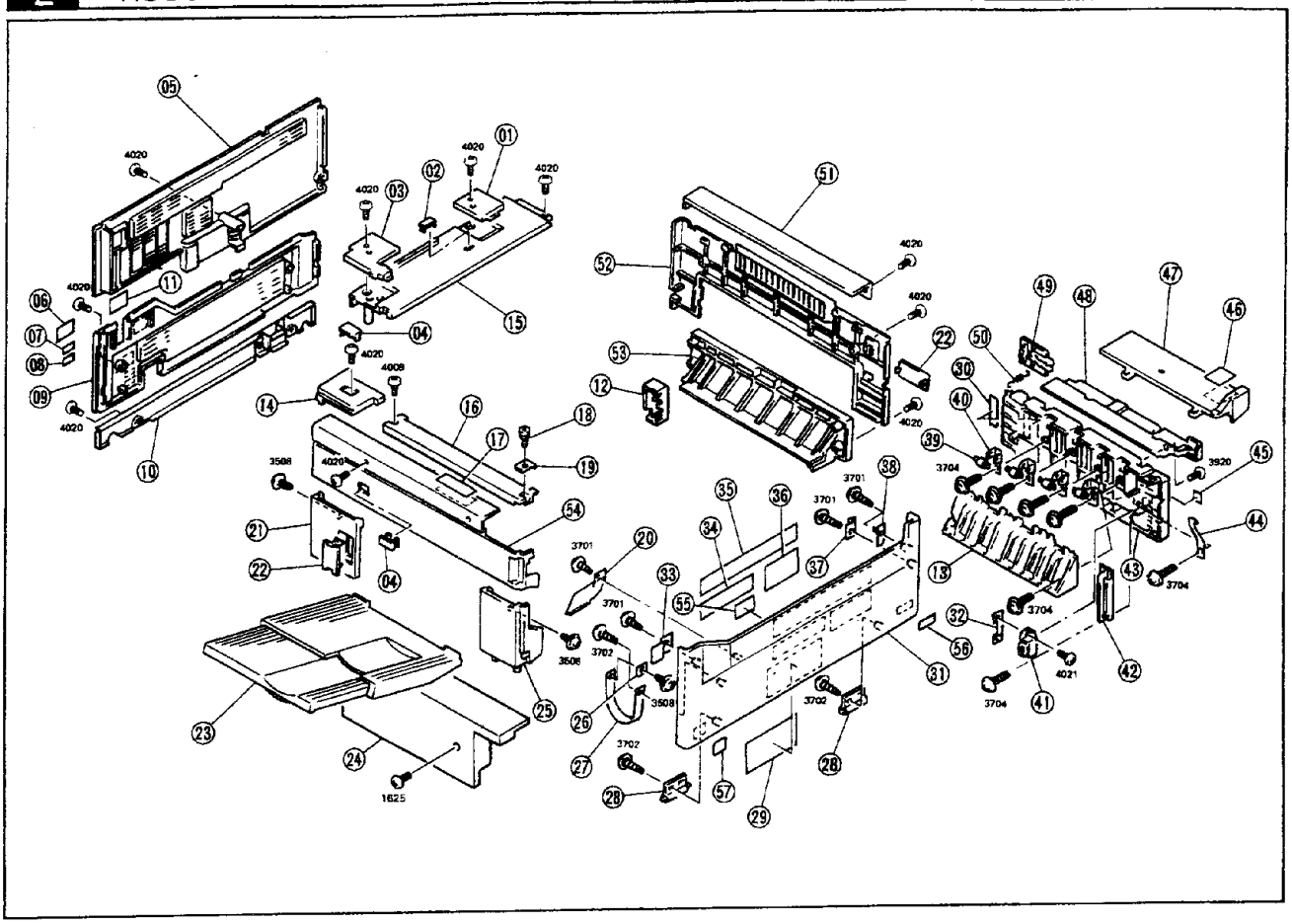
Note: Most of the parts for this machine are used in common with EP1080. Therefore, the Commonly Used Parts List has been omitted from this parts manual. Those parts having 1142 for the four leftmost digits of their part number are parts that are unique to this machine. Parts having a different number for the four leftmost digits of their part number are parts that are used in common with the EP1080.

注) 本製品は、ほとんどの部品がEP1080と共通ですので、本マニュアルでは「共通使用部品部」を作成しておりません。部品番号の上4桁「1142」の部品が本製品の専用部品です。その他の部品がEP1080と共通部品です。



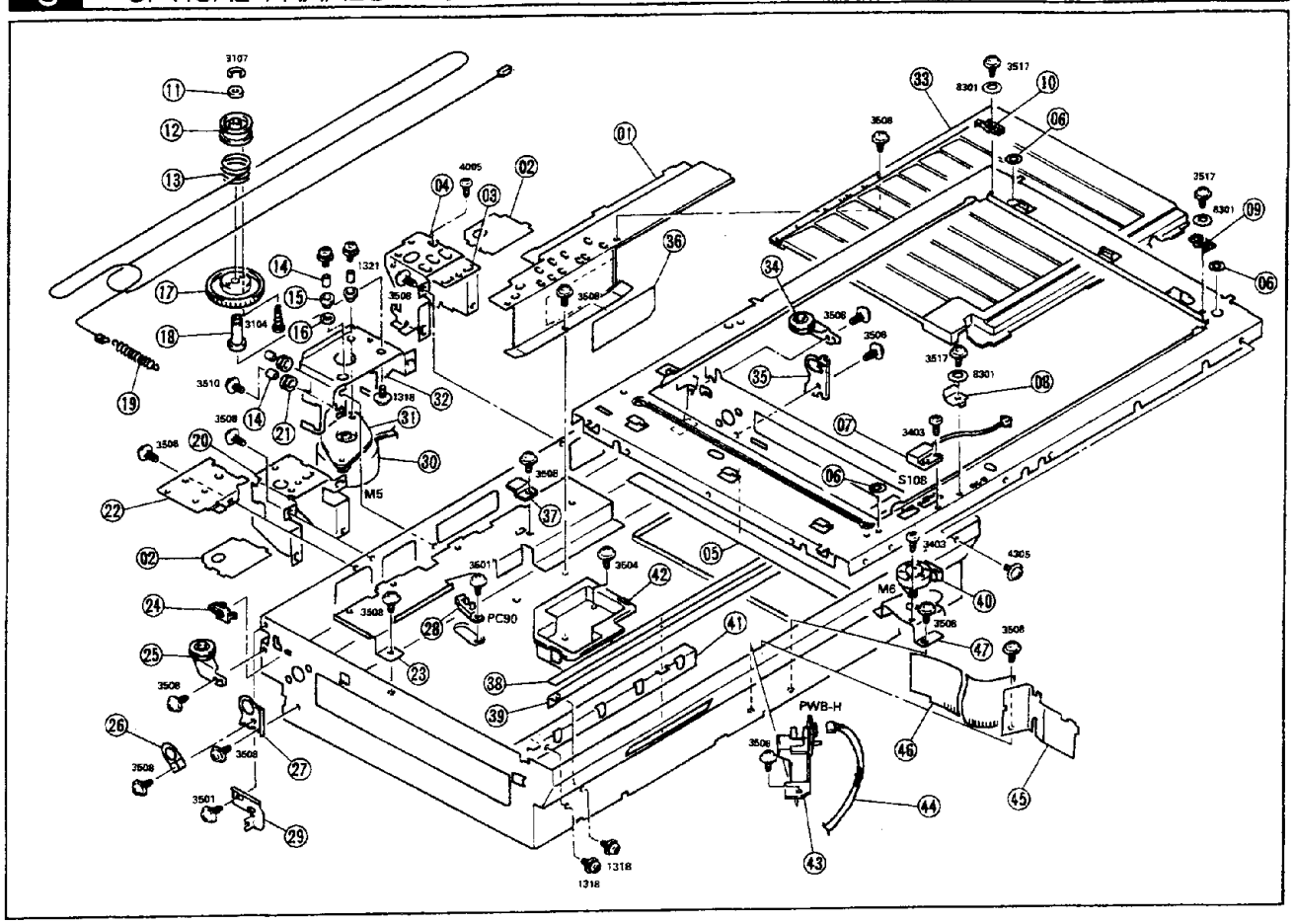
PARTS MANUAL

INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-1702-02	ORIGINAL HOLDER ｵﾘｼﾞﾅﾙﾎﾙﾀﾞｰ	1		
02AA	1139-1705-01	HINGE ﾋﾝｼﾞ	2		
03AA	1139-1704-02	PAD ﾊﾟｯﾄﾞ	1		
04AA	1139-1728-01	POLYESTER FILM ﾎﾟﾘｴｽﾃﾙﾌｨﾙﾑ	1		
05AA	1139-1703-02	SLIDER ｽﾗｲﾀﾞｰ PAD ﾊﾟｯﾄﾞ	3		
*06AA	1139-1729-01	ORIGINAL COVER ｵﾘｼﾞﾅﾙｶﾊﾞｰ	1	1000	
*06BA	1139-1701-03	ORIGINAL COVER ｵﾘｼﾞﾅﾙｶﾊﾞｰ	1	2000	
*07AA	1139-0154-01	ORIGINAL GLASS ｵﾘｼﾞﾅﾙｶﾞﾗｽ	1	1000	
*07BA	1139-0155-01	ORIGINAL GLASS ｵﾘｼﾞﾅﾙｶﾞﾗｽ	1	2300	
*07CA	1139-0157-02	ORIGINAL GLASS ｵﾘｼﾞﾅﾙｶﾞﾗｽ	1	2400	
08AA	1139-1044-01	COVER ｶﾊﾞｰ	2		
*09AA	1142-0111-04	CONTROL PANEL ｿｳｻﾊﾟﾈﾙ	1	1000	
*09BA	1142-0115-04	CONTROL PANEL ｿｳｻﾊﾟﾈﾙ	1	2310	
*09CA	1142-0113-04	CONTROL PANEL ｿｳｻﾊﾟﾈﾙ	1	2402	
*09DA	1142-0112-04	CONTROL PANEL ｿｳｻﾊﾟﾈﾙ	1	2704	
*09EA	1142-0114-03	CONTROL PANEL ｿｳｻﾊﾟﾈﾙ	1	2706	
*09FA	1142-0116-02	CONTROL PANEL ｿｳｻﾊﾟﾈﾙ	1	2534	

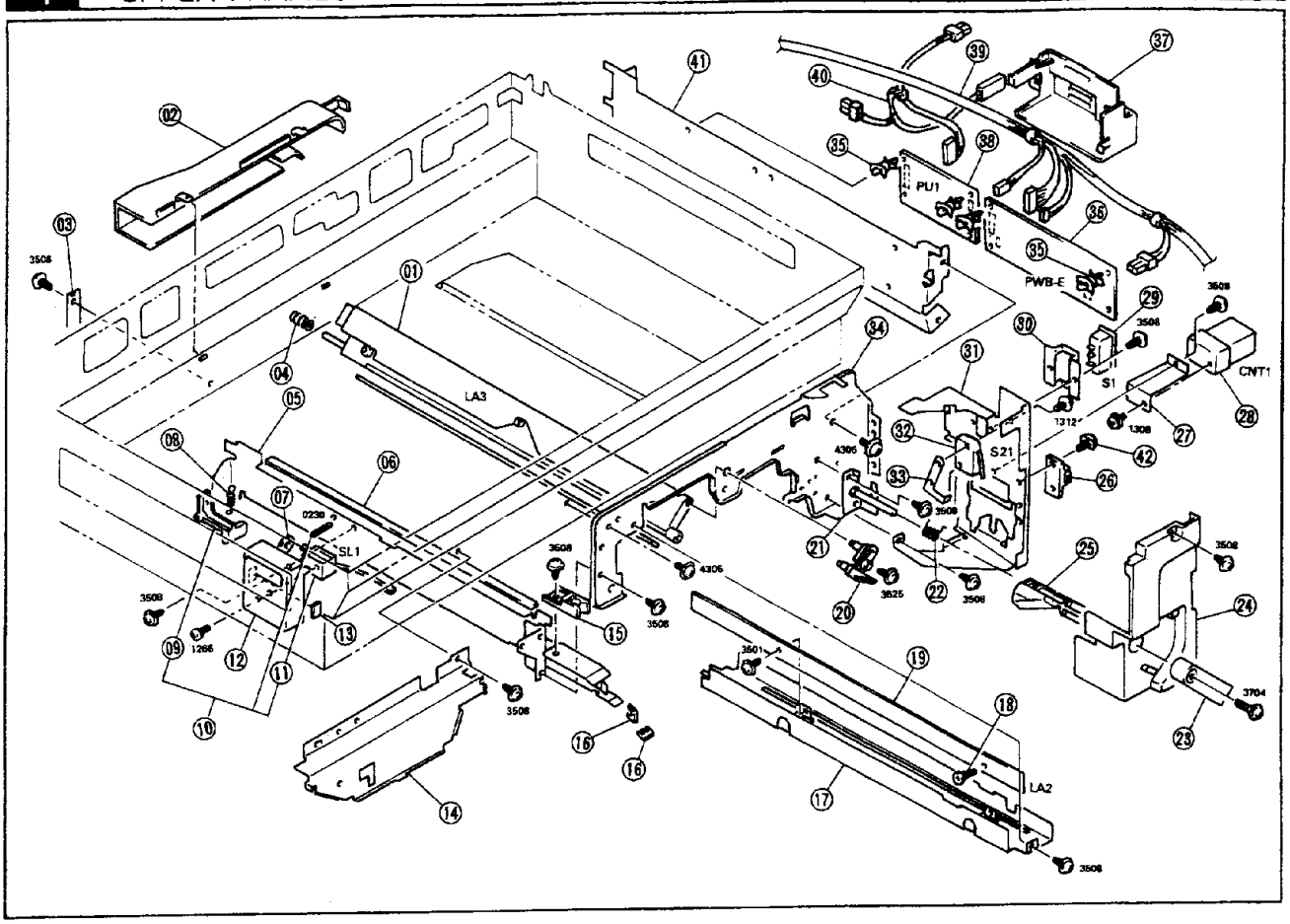


PARTS MANUAL

INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-1035-01	COVER RIGHT カバー ミギ	1		
02AA	1139-1727-01	COVER カバー	1		
03AA	1139-1042-01	COVER LEFT カバー ヒダリ	1		
04AA	1139-1039-01	COVER カバー	2		
05AA	1139-1006-02	TOP COVER-UPR ウエカバーアッパー	1		
*06AA	1500-2341-07	LABEL CAUTION ラベル	1	2704	
*07AA	1132-7304-01	LABEL T10A H 250V ラベル	1	2607	
*07BA	1061-7351-01	LABEL CB11 NORTH EUROPE ラベル	1	2706	
*08AA	1500-2331-60	LABEL 250V 15A ラベル	1	0511	
*08BA	1067-7301-01	LABEL 250V 10A ラベル	1	2600	
*08CA	1061-7352-01	LABEL CB12 NORTH EUROPE ラベル	1	2706	
09AA	1139-1007-02	REAR COVER-MID ウシロカバーミドル	1		
*10AA	1142-1008-02	REAR COVER-LWR ウシロ シタカバー	1	1000	
*10BA	1142-1010-01	REAR COVER-LWR ウシロ シタカバー	1	2000	
*11AA	1142-7302-01	LABEL CAUTION ラベル	1	2706	
12AA	1142-3101-02	COVER カバー	1		
13AA	1142-3108-01	GUIDE ガイド	1		
14AA	1139-1041-01	COVER カバー	1		
15AA	1139-1002-02	TOP COVER-RR ウエ ウシロカバー	1		
*16AA	1139-1753-13	WIDTH SCALE ハバスケール	1	1000	
*16BA	1139-1754-13	WIDTH SCALE ハバスケール	1	2300	
*16CA	1139-1755-13	WIDTH SCALE ハバスケール	1	2400	
17AA	1139-7311-02	LABEL PUSH ラベル オス	1		
18AA	1065-1360-01	SHOULDER SCREW ダボスクリュー	1		
19AA	1053-3869-01	PLATE SPRING プレートスプリング	1		
*20AA	1139-1045-01	PLATE プレート	1	2706	
21AA	1139-1033-01	LEFT COVER-MID REAR ヒダリ ナカカバー ウシロ	1		
22AA	1139-1015-01	COVER カバー	2		
*23AA	1139-0169-01	TRAY トレイ	1	1000	
*23BA	1139-0156-02	TRAY トレイ	1	2000	
24AA	1142-1037-02	LEFT COVER-LWR ヒダリ シタカバー	1		
25AA	1139-1031-02	LEFT COVER-MID FRONT ヒダリ ナカカバー マエ	1		
26AA	1053-3103-01	PLATE プレート	1		
27AA	1139-1022-01	BAND バンド	1		
28AA	1139-1017-02	HINGE ヒンジ	2		
*29AA	1142-7320-01	LABEL ラベル カミヅマリジョリ	1	1000	
*29BA	1142-7321-01	LABEL JAM REMOVAL ラベル	1	2000	
30AA	1142-7301-01	SEAL シール	1		
*31AA	1142-1001-01	FRONT COVER マエカバー	1	0702	
*31BA	1139-1047-01	FRONT COVER マエカバー	1	2704	
32AA	1139-3141-01	BRACKET MAGNET CATCH トリツケバンコ マグネットキャッチ	1		
33AA	1139-1040-01	PLATE プレート	1		
*34AA	1139-7328-01	LABEL AVOID ラベル	1	2704	
*35AA	1139-7317-01	LABEL MT TONER 101C ラベル トナーボトル	1	1000	
*35BA	1139-7318-01	LABEL TONER BOTTLE MT TONER 101A ラベル	1	2715	
*35CA	1139-7319-01	LABEL TONER BOTTLE MT TONER 101B ラベル	1	2706	
36AA	1139-7332-01	LABEL ラベル	1		
37AA	1033-3102-01	PLATE プレート	1		
38AA	1139-1018-01	PLATE プレート	1		
39AA	1139-3103-01	ROLL ロール	4		
40AA	1139-3104-01	HOLDER ROLL ホルダー ロール	4		
41AA	1273-3535-01	MAGNET CATCH マグネットキャッチ	1		
42AA	1139-3142-01	HANDLE トップ	1		
43AA	1142-3105-03	RIGHT COVER-LWR ミギ シタカバー	1		
44AA	1139-3109-01	PLATE SPRING プレートスプリング	1		
45AA	1139-7302-02	LABEL R1 ラベル	1		
46AA	1139-7312-01	LABEL MANUAL FEED ラベル テサシコピー	1		
47AA	1139-3130-02	TABLE テーブル	1		
48AA	1139-3144-01	GUIDE ガイド	1		
49AA	1139-3145-01	COVER カバー	1		
50AA	1139-3146-01	TENSION SPRING ヒッパリスプリング	1		
51AA	1139-1009-01	TOP COVER-RT ウエミギカバー	1		
52AA	1139-1003-02	RIGHT COVER-UPR ミギ ウエカバー	1		
53AA	1139-1004-01	RIGHT COVER-MID ミギ ナカカバー	1		
54AA	1139-1005-02	LEFT COVER-UPR ヒダリ ウエカバー	1		
*55AA	1139-7336-01	LABEL ラベル コウオンコートチェウイ	1	1000	
*56AA	1139-7347-01	LABEL CS PRO ラベル CS PRO	1	0702	
*57AA	1139-7337-01	LABEL ラベル コウオンコートランボール	1	1000	



INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-1536-02	LIGHT SHIELD PLATE シャコウバン	1		
02AA	1139-1316-01	PLATE プレート	2		
03AA	1139-1330-01	ADJUSTING PLATE チョウセイバン	1		
04AA	1139-1314-01	BRACKET RIGHT トリツケバン ミギ	1		
05AA	1139-1321-01	SHEET シート	1		
06AA	1076-1365-01	WASHER ワッシャー	3		
07AA	9334-2320-31	REED SWITCH (S108) リードスイッチ	1		
08AA	1139-1318-12	SUPPORT ORI GLASS サポート ガラスコウカガラス	1		
09AA	1139-1319-12	SUPPORT ORI GLASS サポート ガラスコウカガラス	1		
10AA	1139-1320-12	SUPPORT ORI GLASS サポート ガラスコウカガラス	1		
11AA	1139-1614-01	COLLAR カラー	1		
12AA	1139-1613-01	PULLEY プーリー	1		
13AA	1139-1601-02	WIRE ワイヤー	1		
14AA	1139-1625-01	SLEEVE スリーブ	5		
15AA	1139-1621-01	RETAINING RING コムワッシュ	2		
16AA	1200-1462-01	WASHER ワッシャー	1		
17AA	1139-1603-01	GEAR 119T ギヤー	1		
18AA	1139-1604-01	SHAFT シャフト	1		
19AA	1139-1611-02	TENSION SPRING ヒッパリスプリング	1		
20AA	1139-1313-03	BRACKET LEFT トリツケバン ヒダリ	1		
21AA	1139-1620-01	RETAINING RING コムワッシュ	3		
22AA	1139-1333-02	BRACKET トリツケバン	1		
23AA	1139-1325-01	GUIDE PLATE HARNESS ガイドバン ハーネス	1		
24AA	1139-1612-01	GUIDE WIRE ガイド ワイヤー	1		
25AA	1139-0211-01	PULLEY プーリー	1		
26AA	1139-1331-02	STOPPER ストッパープレート	1		
27AA	1139-1326-01	BRACKET LEFT トリツケバン ヒダリ	1		
28AA	9335-1310-41	PHOTO INTERRUPTER (PC90) フォトインタラプター	1		
29AA	1139-1615-01	SET PLATE セットプレート	1		
30AA	9314-1310-43	MOTOR (M5) モーター	1		
31AA	1139-1624-01	RUBBER STRIP ゴム	1		
32AA	1139-1602-02	BRACKET MOTOR トリツケバン モーター	1		
33AA	1139-1532-02	COVER カバー	1		
34AA	1139-0210-01	PULLEY プーリー	1		
35AA	1139-1327-01	BRACKET RIGHT トリツケバン ミギ	1		
36AA	1139-1539-01	LIGHT SHIELD シャコウタイ	1		
37AA	1139-1422-01	CORD CLAMP コードオサエ	1		
38AA	1139-1337-01	TAPE テープ	1		
39AA	1139-1329-01	RAIL 1ST SLIDER レール ダイ1 スライダー	1		
40AA	9314-1310-21	MOTOR (M6) モーター	1		
41AA	1139-1315-01	RAIL 2ND SLIDER レール ダイ2 スライダー	1		
42AA	1139-1324-02	HOLDER ホルダー	1		
43AA	1139-0106-01	PW BOARD-H(WITH IC) (PWB-H) プリントバン H	1		
44AA	1139-6827-02	HARNESS ハーネス	1		
45AA	1139-1535-02	BRACKET SHIELD トリツケバン シャコウタイ	1		
46AA	1139-1533-01	SHIELD シャコウタイ	1		
47AA	1139-1530-01	BRACKET MOTOR トリツケバン モーター	1		

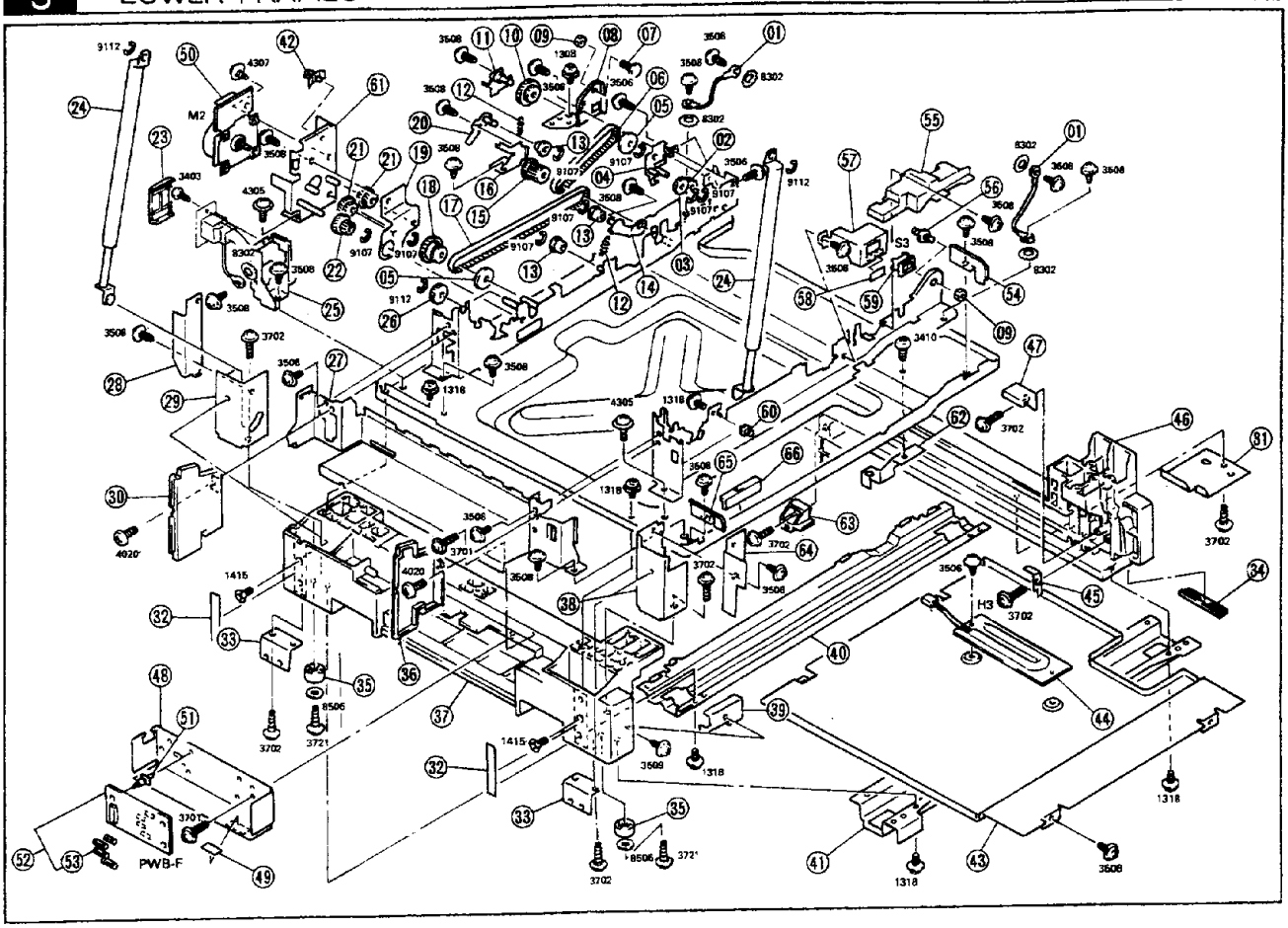


PARTS MANUAL

INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-6523-03	PWB-LAMP(NO IC) (LA3)	1		
		ﾎﾞｰﾄﾞﾗﾝﾌﾟ			
02AA	1139-4504-01	DUCT	1		
		ﾀﾞｸﾄ			
03AA	1139-2305-01	BRACKET	1		
		ﾄﾘﾂﾌﾞﾊﾞﾝ			
04AA	1066-1283-01	PRESSURE SPRING	1		
		ｱｯｼｭｸｽﾌﾟﾘﾝｸﾞ			
05AA	1139-2005-01	RAIL IU	1		
		ﾚｰﾙ ｲﾒｰｼﾞﾕﾆｯﾄ			
06AA	1139-2029-01	SPONGE	1		
		ｽﾎﾟﾝｼﾞ			
07AA	1139-5328-01	SPONGE	1		
		ｽﾎﾟﾝｼﾞ			
08AA	1139-4038-01	TENSION SPRING	1		
		ﾃﾝｼｮﾝｽﾌﾟﾘﾝｸﾞ			
09AA	1139-4036-01	LEVER	1		
		ﾚﾊﾞｰ			
10AA	1139-0751-01	SOLENOID ASSY	1		
		ｿﾚﾉｲﾄﾞｱｯｾﾝ			
11AA	9321-2310-22	SOLENOID (SL1)	1		
		ｿﾚﾉｲﾄﾞ			
12AA	1139-4035-01	HOLDER SOLENOID	1		
		ﾎﾙﾀﾞｰ ｿﾚﾉｲﾄﾞ			
13AA	1139-4232-01	SPONGE	1		
		ｽﾎﾟﾝｼﾞ			
14AA	1139-1038-01	COVER	1		
		ｶﾊﾞｰ			
15AA	1139-5015-01	LOCK LEVER	1		
		ﾛｯｸﾚﾊﾞｰ			
16AA	1139-2030-01	EDGE COVER	2		
		ｴｯｼﾞｶﾊﾞｰ			
17AA	1139-4031-02	BRACKET TUBE LAMP	1		
		ﾄﾘﾂﾌﾞﾊﾞﾝ ﾁｭｰﾌﾞﾗﾝﾌﾟ			
18AA	1139-4033-02	SHOULDER SCREW	1		
		ﾀﾞﾝｽﾈｼﾞ			
19AA	9351-1310-11	BOARD LAMP (LA2)	1		
		ﾎﾞｰﾄﾞﾗﾝﾌﾟ			
20AA	1139-4034-03	HOLDER PWB-LAMP	1		
		ﾎﾙﾀﾞｰ ﾎﾞｰﾄﾞﾗﾝﾌﾟ			
21AA	1139-0225-01	AXLE PLATE	1		
		ｼｬｸﾊﾞﾝ			
22AA	1139-2026-01	TORSION SPRING	1		
		ﾈｼﾞﾘｽﾌﾟﾘﾝｸﾞ			
23AA	1139-2027-02	LOCK RELEASE LEVER	1		
		ﾛｯｸﾘﾘｰｽﾚﾊﾞｰ			
24AA	1139-1023-02	COVER	1		
		ｶﾊﾞｰ			
25AA	1139-2033-03	LOCK LEVER	1		
		ﾛｯｸﾚﾊﾞｰ			
26AA	1500-2640-04	MAGNET CATCH	1		
		ﾏｸﾞﾈｯﾄｷｬｯﾁ			
27AA	1139-2304-02	BRACKET COUNTER	1		
		ﾄﾘﾂﾌﾞﾊﾞﾝ ｶｳﾝﾀｰ			
28AA	9323-1310-11	COUNTER (CNT1)	1		
		ｶｳﾝﾀｰ			
29AA	9332-5310-11	SWITCH MAIN (S1)	1		
		ｽｲｯﾁ ﾒｲﾝ			
30AA	1139-2319-01	BRACKET SWITCH	1		
		ﾄﾘﾂﾌﾞﾊﾞﾝ ｽｲｯﾁ			
31AA	1139-2301-01	BRACKET MICRO SWITCH	1		
		ﾄﾘﾂﾌﾞﾊﾞﾝ ﾏｲｸﾛｽｲｯﾁ			
32AA	9331-2310-21	MICROSWITCH (S21)	1		
		ﾏｲｸﾛｽｲｯﾁ			
33AA	1076-1203-02	PLATE NUT	1		
		ﾌﾟﾚｰﾄﾅｯﾄ			

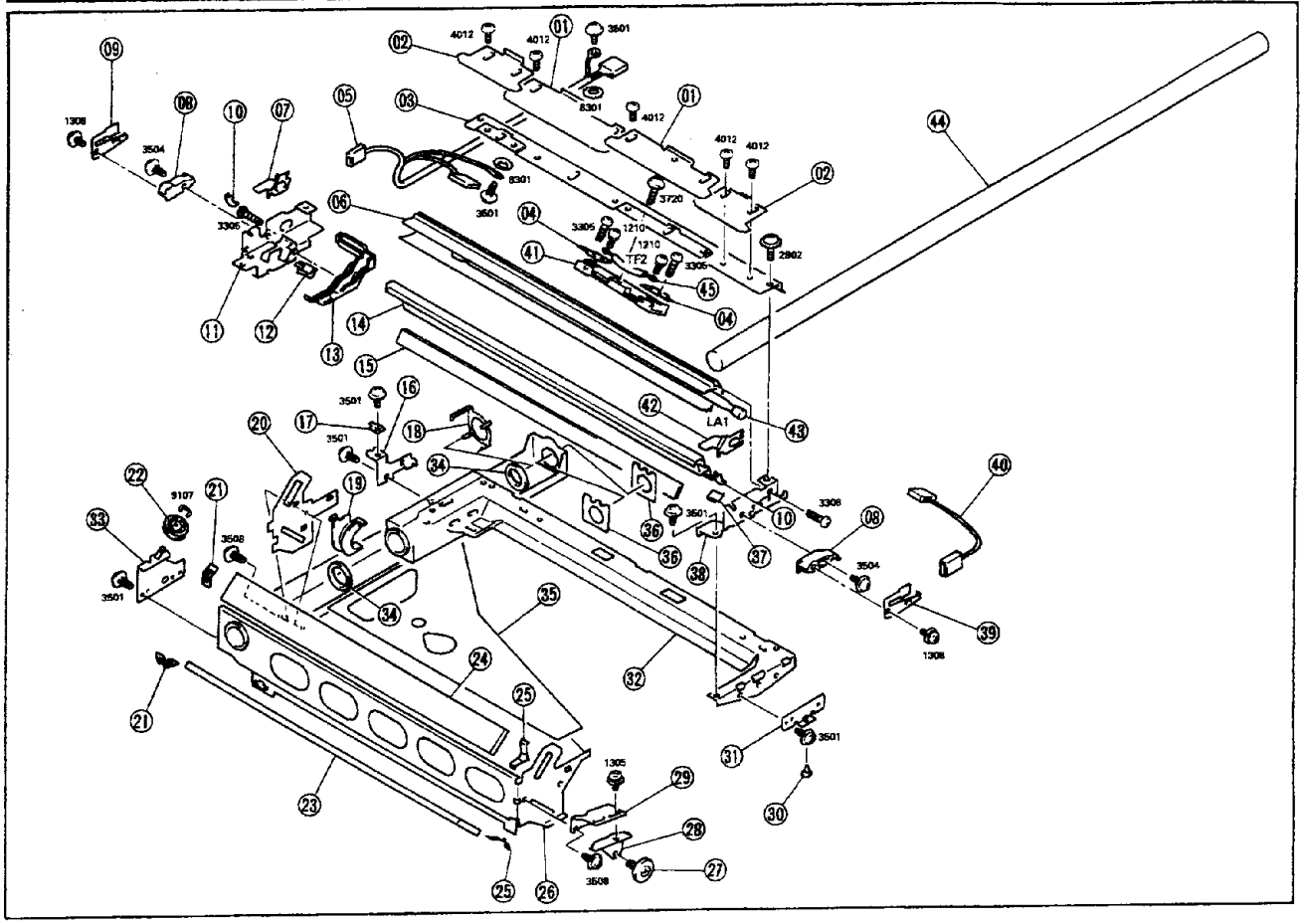
INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
34AA	1139-2002-02	FRAME	1		
		ﾌﾚｰﾑ			
35AA	9384-1900-56	PWB SUPPORT 6.35H	8		
		ﾎﾞｰﾄﾞｻﾎﾟｰﾄ			
36AA	1139-0105-02	PW BOARD-E(WITH IC) (PWB-E)	1		
		ﾌﾟﾘﾝﾄﾎﾞｰﾄﾞ E			
37AA	1139-2316-02	COVER PU1	1		
		ｶﾊﾞｰ			
*38AA	9325-3010-31	PWB-REGULATOR(W/IC) (PU1)	1	0511	
		ﾚｷﾞｭﾚｰﾀｰ			
*38BA	9325-3010-21	PWB-REGULATOR(W/IC) (PU1)	1	2600	
		ﾚｷﾞｭﾚｰﾀｰ			
*39AA	1142-6801-03	HARNESS	1	0406	
		ﾊｰﾈｽ			
*39BA	1142-6805-01	HARNESS	1	2309	
		ﾊｰﾈｽ			
40AA	1139-6806-02	HARNESS	1		
		ﾊｰﾈｽ			
41AA	1139-2004-02	RAINFORCE PLATE	1		
		ｽﾁｬｳﾊﾞﾝ			
42AA	1053-1324-01	TAPPING SCREW	2		
		ﾀｯﾋﾟﾝｸﾞﾈｼﾞ			

5 LOWER FRAMES 下フレーム部



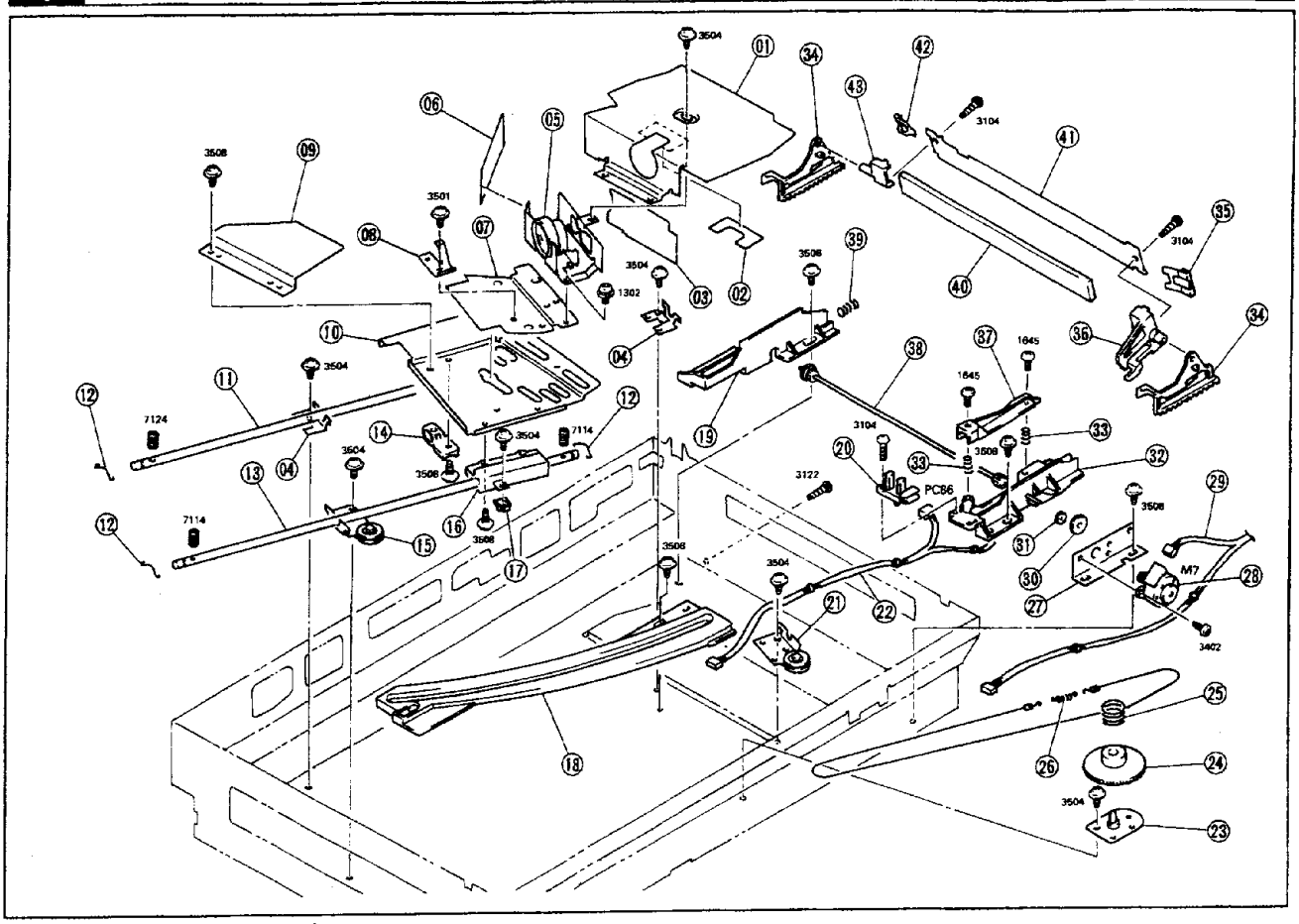
INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称		QTY 員数	AREA 地域	REMARKS 備考
01AA	1061-6845-03	GROUND WIRE アースコード		2		
02AA	1139-3136-01	GEAR 16T ギヤー		1		
03AA	1300-3122-32	GEAR 18T ギヤー		1		
04AA	1139-0230-02	BRACKET ブラケバン		1		
05AA	1139-2525-01	WASHER ワッシャー		2		
06AA	1054-5331-01	TIMING BELT タイミングベルト		1		
07AA	1100-1362-11	SHOULDER SCREW タンネジ		1		
08AA	1139-2008-02	SUPPORT シジバン		1		
09AA	1052-2306-01	NUT ナット		2		
10AA	1139-2518-01	PLY GEAR 36/30T プリーリギヤー		1		
11AA	1139-0213-01	BRACKET ブラケバン		1		
12AA	1139-2530-01	TENSION SPRING ヒッパリスプリング		2		
13AA	1067-2513-01	PULLEY プーリー		3		
14AA	1139-0243-01	BRACKET ブラケバン		1		
15AA	1139-2516-01	PLY GEAR 30/20T プリーリギヤー		1		
16AA	1139-2521-01	BRACKET ブラケバン		1		
17AA	1139-2515-01	TIMING BELT タイミングベルト		1		
18AA	1139-2512-01	PLY GEAR 30/30T プリーリギヤー		1		
19AA	1139-2502-01	BRACKET ブラケバン		1		
20AA	1139-0214-02	BRACKET ブラケバン		1		
21AA	1139-2503-01	GEAR 16/56T ギヤー		2		
22AA	1139-2505-01	GEAR 16/24T ギヤー		1		
23AA	9384-2310-41	COVER カバー		1		
24AA	1139-2009-01	BALANCER バランサー		2		
25AA	1139-2320-01	BRACKET ブラケバン	HARNESS ハーネス	1		
26AA	1139-2507-01	GEAR 20T ギヤー		1		
27AA	1139-5508-02	BRACKET ブラケバン	TRAY トレイ	1		
28AA	1139-1034-01	SUPPORT PLATE シジバン		1		
29AA	1139-3210-01	BRACKET ブラケバン	BALANCER バランサー	1		
30AA	1139-1014-01	COVER カバー	REAR ウシロ	1		
31AA	1142-3007-01	PLATE プレート		1		
32AA	1142-7301-01	SEAL シール		2		
33AA	1139-3211-01	BRACKET ブラケバン	HANDLE トッテ	2		
34AA	1139-3215-01	HANDLE トッテ		2		
35AA	1065-2053-01	RUBBER FOOT ゴムアシ		2		
36AA	1139-1013-01	COVER カバー	FRONT マエ	1		
37AA	1142-3201-02	LEFT RAIL ヒダリレール	CASSETTE カセット	1		
38AA	1139-3209-01	BRACKET ブラケバン	BALANCER バランサー	1		
39AA	1139-3216-01	STOPPER ストッパー		1		
40AA	1142-3204-01	REINFORCE PLATE ヨセックバン	REAR ウシロ	1		
41AA	1142-3203-01	REINFORCE PLATE ヨセックバン	FRONT マエ	1		
42AA	9384-1900-61	PWB SUPPORT 6.35H キバンブサポート		1		
*43AA	1142-3059-02	HOLDER ホルダー	HEATER ヒーター	1	0737	
*44AA	9352-6310-11	HEATER ヒーター	PAPER (H3) ペーパー	1	0737	
45AA	1139-3214-01	PLATE プレート		2		
46AA	1142-3202-02	RIGHT RAIL ミギレール	CASSETTE カセット	1		
47AA	1139-3212-02	POSITIONING PLATE イチヨメバン	FRONT マエ	1		
48AA	1142-2301-01	BRACKET ブラケバン	PW BOARD-F プリントキバン F	1		
*49AA	1500-2341-07	LABEL CAUTION ラベル		1	2704	
50AA	9314-2310-11	PWB-MOTOR(WITH IC) モータードライブユニット	(M2)	1		
51AA	9384-1900-56	PWB SUPPORT 6.35H キバンブサポート		4		
52AA	1139-0107-23	PW BOARD-F(NO IC) プリントキバン F	(PWB-F)	1		
53AA	9346-3310-21	FUSE 3A ヒューズ 3A		4		
54AA	1139-1020-01	BRACKET ブラケバン		1		
55AA	1139-2308-02	GUIDE ガイド	HARNESS ハーネス	1		
56AA	1139-2035-01	PIN ピン		1		
*57AA	1139-2322-01	HOLDER ホルダー	SWITCH スイッチ	1	0737	
*58AA	1500-2340-87	LABEL ラベル サービスマン		1	1000	
*58BA	1500-2340-88	LABEL DEHUMIDIFIER ラベル		1	2402	
*59AA	9332-5310-21	SWITCH スイッチ	(S3)	1	0737	
60AA	1139-5550-01	PIN ピン		1		
61AA	1139-0212-01	BRACKET ブラケバン	PWB-MOTOR モータードライブ	1		
62AA	1139-3023-01	BRACKET ブラケバン		1		
63AA	1139-3213-02	POSITIONING PLATE イチヨメバン	REAR ウシロ	1		
64AA	1139-1032-02	SUPPORT PLATE シジバン		1		
65AA	1139-1019-01	BRACKET ブラケバン		1		
66AA	1139-2028-01	EDGE COVER エッジカバー	EDGE COVER エッジカバー	1		

6 EXPOSURE LAMP SECTION 露光ランプ部



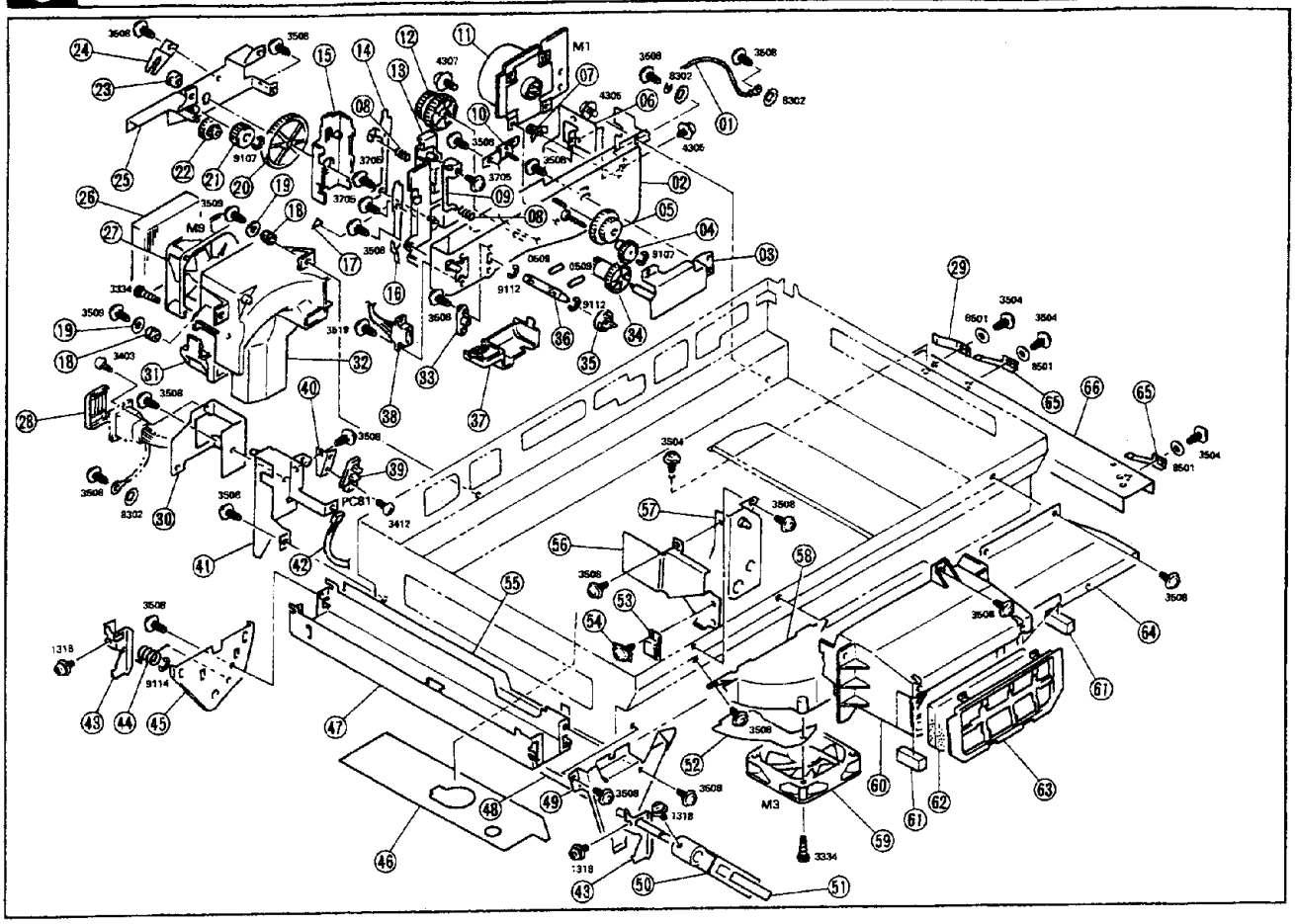
PARTS MANUAL

INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1065-1405-03	APERTURE BLADE ムラトリハ゛ン	2		
02AA	1139-1410-01	APERTURE BLADE ムラトリハ゛ン	2		
03AA	1139-1409-03	BRACKET トリツケハ゛ン APE BLADE ムラトリハ゛ン	1		
04AA	1028-3873-01	TERMINAL タ゛ーミナル	2		
05AA	1139-6807-02	HARNESS ハーネス	1		
06AA	1139-1403-01	REFRECTOR ハンシャキョウ	1		
07AA	1139-1405-01	REFRECTOR REAR ハンシャキョウ ウシロ	1		
08AA	1080-1401-03	HOLDER ホルタ゛ー	2		
09AA	1139-1424-01	TERMINAL REAR タ゛ーミナル ウシロ	1		
10AA	1033-4803-01	BUSH フ゛ッシュ	2		
11AA	1139-1401-03	REAR FRAME ウシロフレーム	1		
12AA	1067-1311-03	PLATE SPRING フ゛レートスフ゜リング゛	1		
13AA	1139-1421-02	GUIDE HARNESS カイト゛ ハーネス	1		
14AA	1139-1406-01	REFRECTOR ハンシャキョウ	1		
15AA	1139-1301-01	MIRROR 1ST ミラー タ゛イ1	1		
16AA	1139-1412-01	BRACKET WIRE トリツケハ゛ン ワイヤー	1		
17AA	1139-1413-01	SET PLATE セツエハ゛ン	1		
18AA	1139-1336-01	SUPPORT PLATE サホ゜ートフ゜レート	1		
19AA	1139-1457-01	GUIDE カイト゛	1		
20AA	1139-1453-02	FRAME フレーム	1		
21AA	1065-1504-02	PLATE SPRING フ゛レートスフ゜リング゛	2		
22AA	1139-1608-01	BALL BEARING ホール゛ヘ゛アリング゛	1		
23AA	1139-1303-01	MIRROR 3RD ミラー タ゛イ3	1		
24AA	1139-1302-01	MIRROR 2ND ミラー タ゛イ2	1		
25AA	1065-1506-02	PLATE SPRING フ゛レートスフ゜リング゛	2		
26AA	1139-0153-03	2ND SLIDER タ゛イ2 スライタ゛ー	1		
27AA	1139-1473-01	BALL BEARING ホール゛ヘ゛アリング゛	1		
28AA	1139-1452-01	BRACKET ROLL トリツケハ゛ン ロール	1		
29AA	1139-1451-01	BRACKET トリツケハ゛ン	1		
30AA	1067-1415-02	GUIDE カイト゛	1		
31AA	1139-1411-02	BRACKET トリツケハ゛ン	1		
32AA	1139-0158-02	1ST SLIDER タ゛イ1 スライタ゛ー	1		
33AA	1139-1458-02	BRACKET トリツケハ゛ン	1		
34AA	1139-1334-02	PAD パット゛	2		
35AA	1139-1461-01	LIGHT SHIELD シャコウタ゛イ	1		
36AA	1139-1626-01	SHEET シート	2		
37AA	1139-1418-02	PLATE SPRING フ゛レートスフ゜リング゛	1		
38AA	1139-1402-03	FRONT FRAME マエフレーム	1		
39AA	1139-1423-01	TERMINAL FRONT タ゛ーミナル マエ	1		
40AA	1139-6808-01	HARNESS ハーネス	1		
41AA	1139-1416-01	HOLDER THERMAL FUSE ホルタ゛ー ホント゛ヒュース゛	1		
42AA	1139-1404-01	REFRECTOR FRONT ハンシャキョウ マエ	1		
※43AA	9351-2310-31	TUBE LAMP (LA1) チューフ゛ランフ゜	1	0511	
※43BA	9351-2310-41	TUBE LAMP (LA1) チューフ゛ランフ゜	1	2600	
44AA	1139-1328-02	SHAFT シャフト	1		
45AA	1139-0403-02	THERMAL FUSE (TF2) ホント゛ヒュース゛	1		

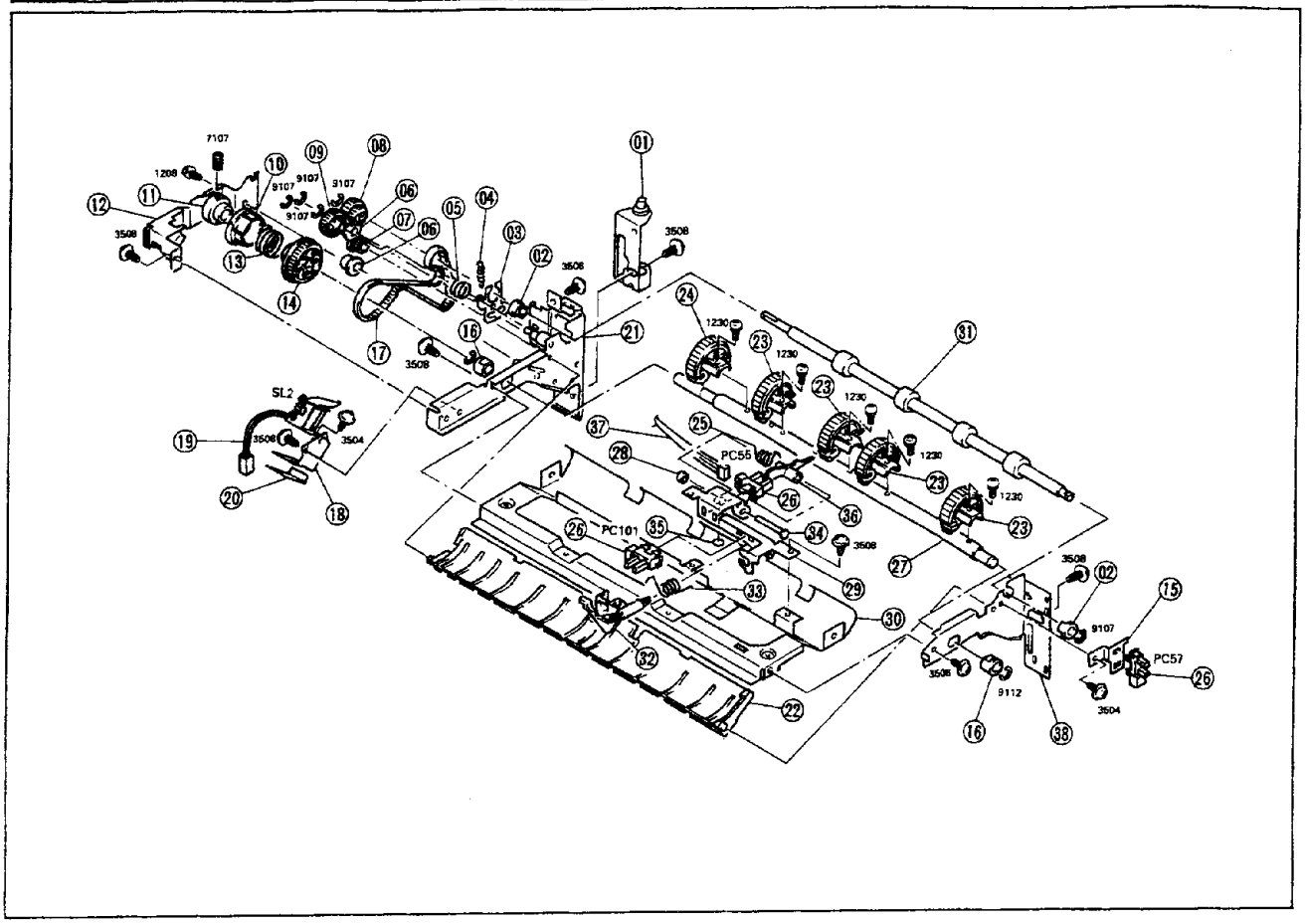


PARTS MANUAL

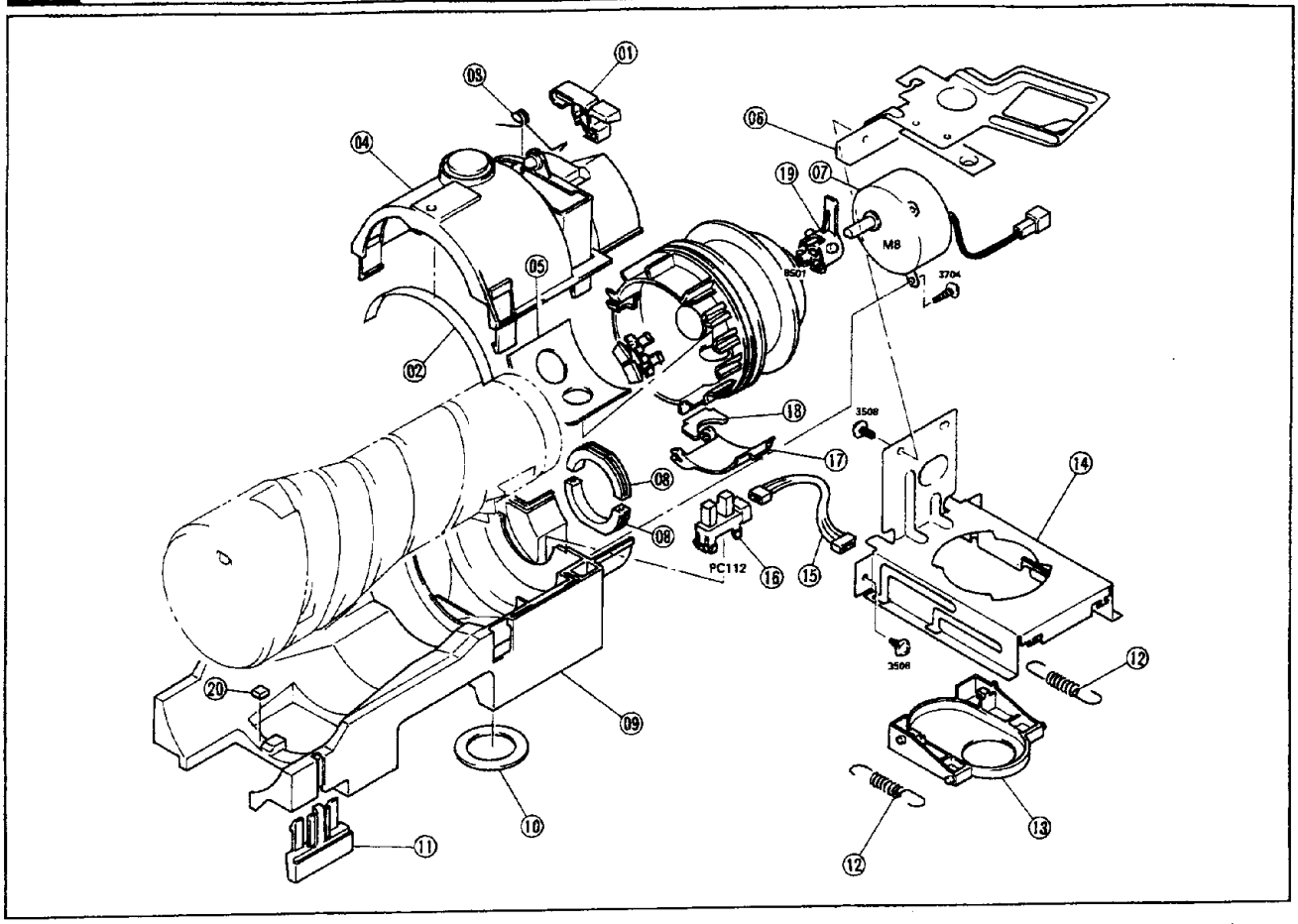
INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-1531-02	COVER LENS カバー レンズ	1		
02AA	1139-1537-01	SPONGE スポンジ	1		
03AA	1139-1538-01	POLYESTER FILM ポリエステルフィルム	1		
04AA	1139-1529-01	SUPPORT PLATE サポートプレート	2		
05AA	1139-0189-02	LENS レンズ	1		
06AA	1139-1534-02	POLYESTER FILM ポリエステルフィルム	1		
07AA	1139-0207-03	BRACKET LENS トリファカバン レンズ	1		
08AA	1139-1505-03	PLATE SPRING プレートスプリング	1		
09AA	1139-1516-02	GUIDE PLATE ガイドカバン	1		
10AA	1139-1508-03	BASE FRAME ベースフレーム	1		
11AA	1139-1522-01	SHAFT REAR シャフト 050	1		
12AA	1139-1523-02	SPRING スプリング	4		
13AA	1139-1521-01	SHAFT FRONT シャフト マエ	1		
14AA	1139-1514-01	BUSHING ブシュウ	1		
15AA	1139-0201-01	WIRE PULLEY ワイヤープーリー	1		
16AA	1139-1513-02	HOLDER ホルダー	1		
17AA	1139-1509-01	SUPPORT PLATE WIRE サポイトカバン ワイヤー	1		
18AA	1139-1510-01	CAM 0 カム	1		
18BA	1139-1511-01	CAM - カム -	1		
18CA	1139-1512-01	CAM + カム +	1		
19AA	1139-1556-01	RAIL REAR レール 050	1		
20AA	9335-1310-41	PHOTO INTERRUPTER (PC86) フォトインタラプター	1		
21AA	1139-0202-01	WIRE PULLEY ワイヤープーリー	1		
22AA	1139-6826-02	HARNESS ハーネス	1		
23AA	1065-0229-01	BRACKET トリファカバン	1		
24AA	1065-1757-01	PLY GEAR 108T プーリーギヤー	1		
25AA	1139-1525-12	WIRE ワイヤー	1		
26AA	1139-1518-12	TENSION SPRING ヒッパリスプリング	1		
27AA	1139-1561-01	BRACKET MOTOR トリファカバン モーター	1		
28AA	9314-1310-31	MOTOR (M7) モーター	1		
29AA	1139-6825-01	HARNESS ハーネス	1		
30AA	1139-1557-01	GEAR 12/36T ギヤー	1		
31AA	1139-1558-01	GEAR 12/15T ギヤー	1		
32AA	1139-1555-02	RAIL FRONT レール マエ	1		
33AA	1400-1133-08	PRESSURE SPRING アッシュスプリング	2		
34AA	1139-1553-02	RACK GEAR ラックギヤー	2		
35AA	1139-1564-01	PLATE SPRING FRONT プレートスプリング マエ	1		
36AA	1139-1551-02	HOLDER ホルダー	1		
37AA	1139-1563-01	CAM カム	1		
38AA	1139-1559-01	GEAR 14/18T ギヤー	1		
39AA	1400-1132-06	PRESSURE SPRING アッシュスプリング	1		
40AA	1139-1304-01	MIRROR 4TH ミラー ダイ4	1		
41AA	1139-1560-01	BRACKET MIRROR トリファカバン ミラー	1		
42AA	1139-1562-01	PLATE SPRING プレートスプリング	1		
43AA	1139-1552-01	HOLDER ホルダー	1		



INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1067-6850-01	GROUND WIRE	1		
02AA	1139-0226-01	FRAME	1		
03AA	1139-0215-01	BRACKET	1		
04AA	1139-2565-01	GEAR 20T	1		
05AA	1139-2561-01	GEAR 24/60T	1		
06AA	1139-2333-01	BRACKET	1		
07AA	9384-1900-55	PWB SUPPORT 9.53H	1		
08AA	1400-1122-04	PRESSURE SPRING	2		
09AA	1139-4024-01	TERMINAL	1		
10AA	1139-0228-01	AXLE PLATE	1		
11AA	9314-2310-11	PWB-MOTOR(WITH IC) (M1)	1		
12AA	1139-2555-01	GEAR 30/35T	1		
13AA	1139-4021-02	HOLDER TERMINAL	1		
14AA	1139-4022-01	TERMINAL	1		
15AA	1139-4025-01	COVER	1		
16AA	1139-4023-01	TERMINAL	1		
*17AA	0951-7105-03	LABEL	1	2000	
18AA	1132-2044-01	SPACER	2		
19AA	1200-1431-01	WASHER	2		
20AA	1139-2557-01	GEAR 56T	1		
21AA	1139-2567-02	GEAR 29T	1		
22AA	1139-2563-01	GEAR 14/18T	1		
23AA	1200-3131-03	BUSHING	1		
24AA	1139-2559-01	GROUND PLATE	1		
25AA	1139-0216-01	BRACKET	1		
*26AA	1139-4509-02	OZONE FILTER	1	0703	
*26BA	1139-4514-01	OZONE FILTER	1	2706	
27AA	9313-1310-32	FAN MOTOR (M9)	1		
28AA	9384-2310-41	COVER	1		
29AA	1139-4512-01	GROUND PLATE	1		
30AA	1139-2321-01	BRACKET HARNESS	1		
31AA	1139-4508-01	HOLDER FILTER	1		
32AA	1139-4501-02	DUCT FAN MOTOR	1		
33AA	1065-2753-01	BUSHING	1		
34AA	1139-2553-01	GEAR 14/27T	1		
35AA	1139-2560-01	JOINT	1		
36AA	1139-2558-02	SHAFT	1		
37AA	1139-4506-01	DUCT	1		
38AA	1139-6818-02	HARNESS	1		
39AA	9335-1310-51	PHOTO INTERRUPTER (PC81)	1		
40AA	1139-1317-01	BRACKET PHOTO INT	1		
41AA	1139-0206-02	BRACKET BALANCER	1		
42AA	1139-6815-01	HARNESS	1		
43AA	1139-2014-01	PAWL	2		
44AA	1139-2016-01	TORSION SPRING	1		
45AA	1139-2020-01	BRACKET	1		
46AA	1139-2041-02	SHIELD	1		
47AA	1139-2021-02	BRACKET	1		
48AA	1139-2018-01	SHAFT	1		
49AA	1139-2019-01	BRACKET ●	1		
50AA	1077-2101-02	LOCK RELEASE LEVER	1		
51AA	1139-7310-01	LABEL OPEN	1		
52AA	1139-1652-01	COVER	1		
53AA	1500-2640-04	MAGNET CATCH	1		
54AA	1053-1324-01	TAPPING SCREW	2		
55AA	1139-2040-01	SHIELD	1		
56AA	1139-2323-01	BRACKET MAGNET CATCH	1		
57AA	1139-0205-01	BRACKET BALANCER	1		
58AA	1139-1651-01	DUCT FAN MOTOR	1		
59AA	9313-1310-21	FAN MOTOR (M3)	1		
60AA	1139-1010-03	COVER	1		
61AA	1139-1011-01	SPONGE	2		
62AA	1139-1012-02	FILTER	1		
63AA	1139-1036-03	SET PLATE	1		
64AA	1139-1030-01	BRACKET CONTROL PANEL	1		
65AA	1139-4515-01	PLATE SPRING	2		
66AA	1139-4505-02	BRACKET	1		



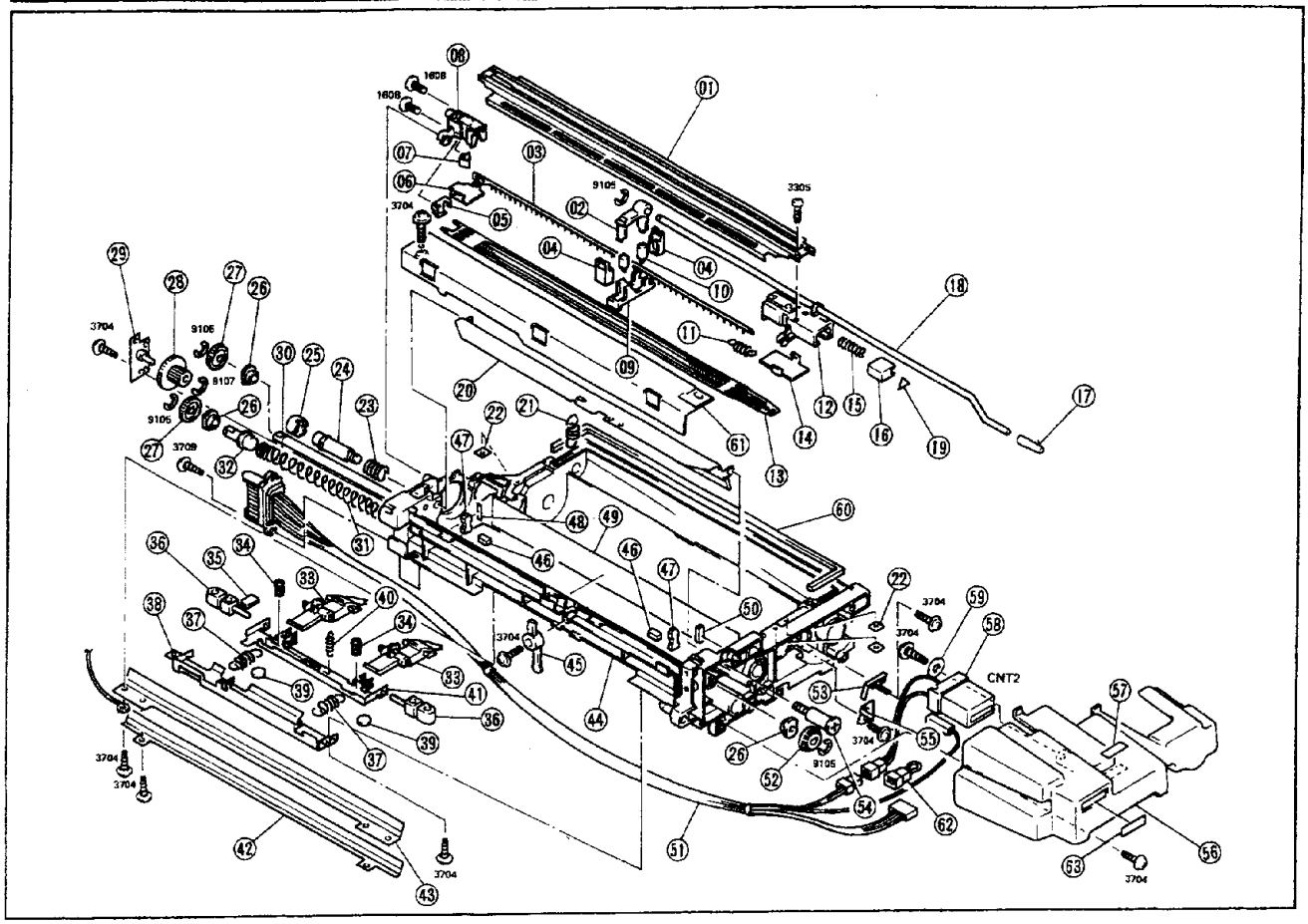
INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称		QTY 員数	AREA 地域	REMARKS 備考
01AA	1142-3106-01	AXLE PLATE		1		
02AA	1200-3121-07	BUSHING		2		
03AA	1139-0224-01	BRACKET		1		
04AA	1139-3079-01	TENSION SPRING		1		
05AA	1139-3099-01	TORSION SPRING		1		
06AA	1067-2513-01	PULLEY		2		
07AA	1067-2566-01	PULLEY 18T		1		
08AA	1139-3137-01	PLY GEAR 24/16T		1		
09AA	1139-3074-01	GEAR 18T		1		
10AA	1139-3009-02	RATCHET		1		
11AA	1139-3008-01	ARBOR		1		
12AA	1139-3057-01	BRACKET		1		
13AA	1139-3010-02	TORSION SPRING		1		
14AA	1139-3007-02	PULLEY 54T		1		
15AA	1139-3134-01	BRACKET	PHOTO INT	1		
16AA	1200-3134-16	BUSHING		2		
17AA	1142-3065-01	TIMING BELT		1		
18AA	1139-3068-01	BRACKET	SOLENOID	1		
19AA	9321-2310-32	SOLENOID	(SL2)	1		
*20AA	1139-2346-01	PLATE		1	2535	
21AA	1142-0220-02	REAR FRAME		1		
22AA	1139-3108-03	GUIDE		1		
23AA	1139-3001-01	ROLLER		4		
*24AA	1139-3001-01	ROLLER		1	0400	
25AA	1139-3131-01	TORSION SPRING		1		
26AA	9335-1010-21	PHOTO INTERRUPTER	(PC55,57,101)	3		
27AA	1139-3002-02	SHAFT		1		
28AA	1200-2105-05	COLLAR		1		
29AA	1139-3053-03	BRACKET	PHOTO INT	1		
30AA	1139-3003-13	GUIDE PLATE		1		
31AA	1139-3110-01	ROLLER		1		
32AA	1139-3051-02	ACTUATOR		1		
33AA	1065-3095-01	TORSION SPRING		1		
34AA	1200-5212-04	PIN		1		
35AA	1139-3156-01	SEAL		1		
36AA	1139-3127-01	ACTUATOR		1		
37AA	1139-6828-23	HARNESS		1		
38AA	1142-3005-01	FRONT FRAME		1		



PARTS MANUAL

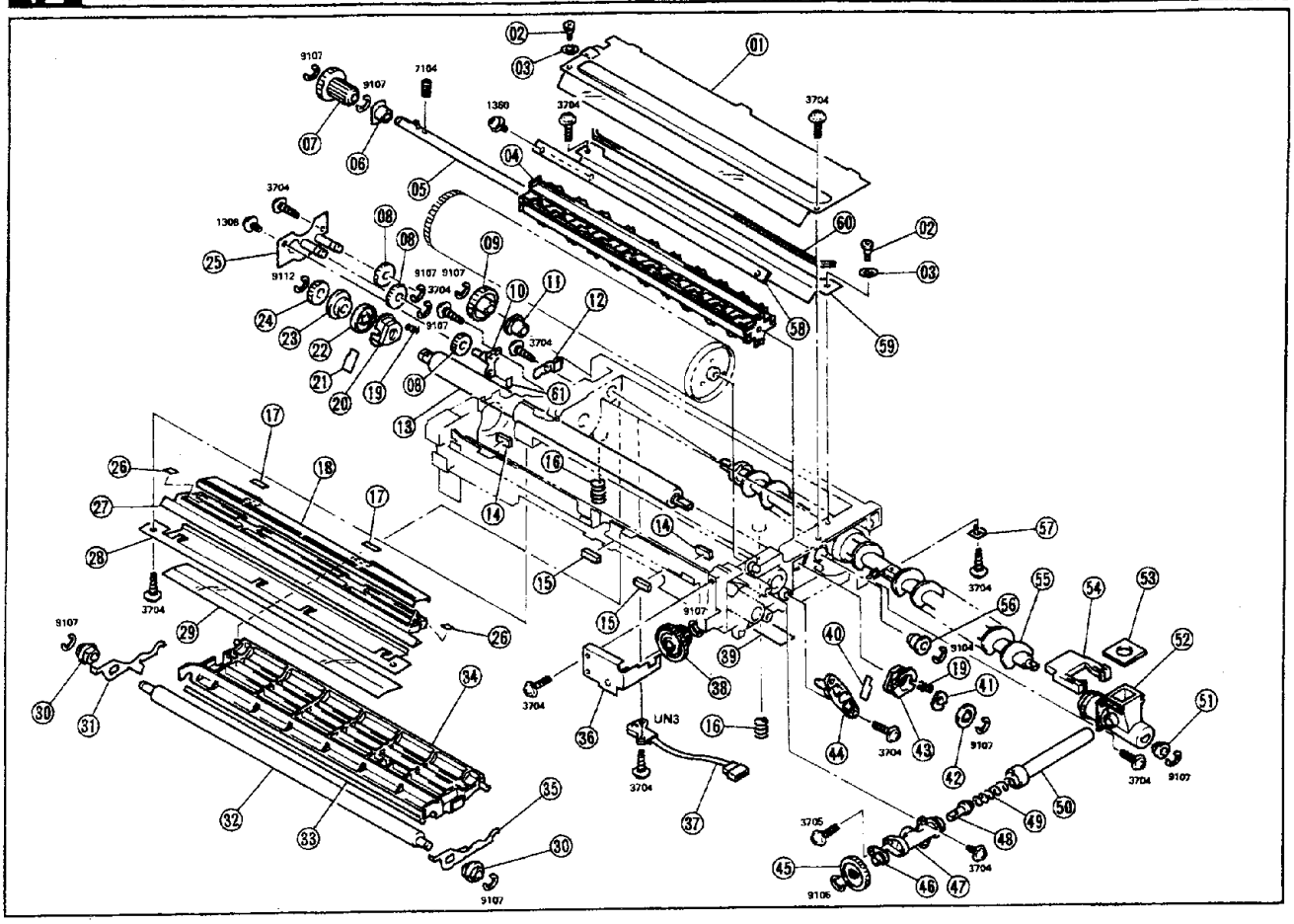
INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-5021-01	LOCK LEVER ロックレバー	1		
02AA	1139-5026-01	POLYESTER FILM ポリエステルフィルム	1		
03AA	1139-5022-01	TORSION SPRING ネジリスプリング	1		
04AA	1139-5002-02	COVER カバー	1		
05AA	1139-5010-01	SPONGE スポンジ	1		
06AA	1139-5013-02	BRACKET トリクブカバン	1		
07AA	9312-1310-22	MOTOR (M8) モーター	1		
08AA	1139-5023-01	SUPPORT サポート	2		
09AA	1139-5003-02	HOPPER BODY TONER BOTTLE ホッパーボディ トナーボトル	1		
10AA	1139-5009-01	SPONGE スポンジ	1		
11AA	1139-5020-02	LEVER レバー	1		
12AA	1139-5006-01	TENSION SPRING ヒッパリスプリング	2		
13AA	1139-5005-01	SHUTTER シャッター	1		
14AA	1139-5004-03	FRAME フレーム	1		
15AA	1139-6815-01	HARNESS ハーネス	1		
16AA	9335-1010-21	PHOTO INTERRUPTER (PC112) フォトインタラプター	1		
17AA	1139-5012-02	LID フタ	1		
18AA	1139-5017-02	SPONGE スポンジ	1		
19AA	1139-5024-02	DETECTING PLATE ケンシュツバン	1		
*20AA	1142-5029-01	CUSHION クッション	1	27D6	

INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考



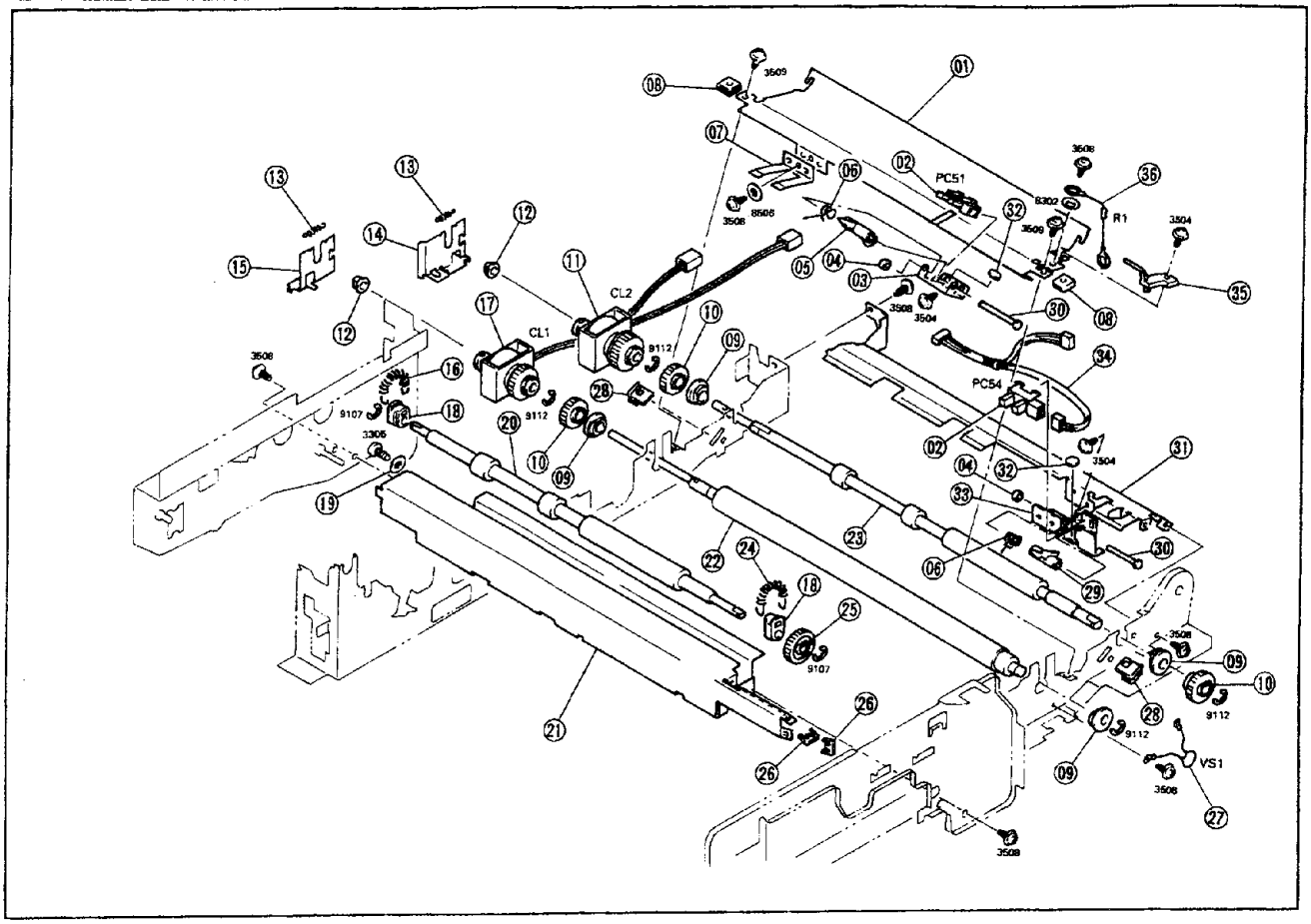
PARTS MANUAL

INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-4254-01	HOUSING ハウジング	1		
02AA	1139-4256-01	SUPPORT サポート	1		
03AA	1139-4253-02	CORONA PLATE チャージカバン	1		
04AA	1139-4260-01	HOLDER ホルダー	2		
05AA	1139-4262-01	TERMINAL ターミナル	1		
06AA	1139-4265-01	COVER カバー	1		
07AA	1139-4255-01	TERMINAL ターミナル	1		
08AA	1139-4252-01	HOLDER REAR ホルダー リヤ	1		
09AA	1139-4258-01	HOLDER ホルダー	1		
10AA	1139-4257-01	ROLL CLEANING ロール クリーニング	2		
11AA	1139-4263-01	TENSION SPRING ヒッパリスプリング	1		
12AA	1139-4251-01	HOLDER FRONT ホルダー マエ	1		
13AA	1139-4261-01	GUID ガリット	1		
14AA	1139-4264-01	COVER カバー	1		
15AA	1400-1134-07	PRESSURE SPRING アッシュスプリング	1		
16AA	1035-4904-01	HOLDER ホルダー	1		
17AA	1139-4069-01	CAP キャップ	1		
18AA	1139-4259-01	SHAFT シャフト	1		
*19AA	0951-7105-03	LABEL ラベル	1	2000	
20AA	1139-5711-04	CLEANING BLADE クリーニングブレード	1		
21AA	1132-5504-01	TENSION SPRING ヒッパリスプリング	1		
22AA	1100-3130-08	PLATE NUT アレートナット	3		
23AA	1400-1154-06	PRESSURE SPRING アッシュスプリング	1		
24AA	1139-5710-02	SHOULDER SCREW ダンネジ	1		
25AA	1036-4524-02	SLIDER スライダー	1		
26AA	1067-5508-01	BUSHING ブッシング	3		
27AA	1067-5509-01	GEAR 22T ギヤー	2		
28AA	1139-5719-01	GEAR 16/16T ギヤー	1		
29AA	1139-0250-01	AXLE PLATE シックバン	1		
30AA	1139-5729-01	SHAFT シャフト	1		
31AA	1139-5715-01	TRANSPORT COIL ハンソウコイル	1		
32AA	1067-5507-01	SHAFT シャフト	1		
33AA	1139-0161-01	SEPARATOR フンリザメ	2		
34AA	1139-4233-01	SET SCREW ムタネジ	2		
35AA	1139-4232-01	SPONGE スポンジ	1		
36AA	1139-4214-02	SHAFT シャフト	2		
37AA	1139-4217-01	TENSION SPRING ヒッパリスプリング	2		
38AA	1139-4218-01	BRACKET トリツケバン	1		
39AA	1139-4234-01	SPONGE スポンジ	2		
40AA	1139-4216-02	TENSION SPRING ヒッパリスプリング	1		
41AA	1139-4213-01	BRACKET SEPARATOR トリツケバン フンリザメ	1		
*42AA	1139-5728-02	REGULATING PLATE フンエンボウシバン	1	0710	
43AA	1139-5726-01	REGULATING PLATE フンエンボウシバン	1		
44AA	1139-5702-03	DEVELOPING HOUSING ケンゾウソウジ	1		
45AA	1139-4219-01	LEVER レバー	1		
46AA	1139-5720-01	SPONGE スポンジ	2		
47AA	1139-5721-02	SPONGE スポンジ	2		
48AA	1139-5723-01	PAD パット	1		
49AA	1139-5722-01	POLYESTER FILM ポリエステルフィルム	1		
50AA	1139-5725-01	SPONGE スポンジ	1		
51AA	1139-6819-03	HARNESS ● ハーネス	1		
52AA	1139-5730-01	GEAR 18T ギヤー	1		
53AA	1139-5215-01	TERMINAL ターミナル	1		
54AA	1139-5713-01	SHOULDER SCREW ダンネジ	1		
55AA	1139-5228-01	SET PLATE メウエバン	1		
56AA	1139-5704-02	COVER COUNTER カバー カウンター	1		
*57AA	1500-2340-33	LABEL ラベル コクアブチュウイ	1	1000	
*58AA	9323-1310-11	COUNTER (CNT2) カウンター	1	2720	
*59AA	1200-1511-01	WASHER ワッシャー	1	2720	
60AA	1139-5219-01	SPONGE スポンジ	1		
61AA	1139-5701-02	COVER カバー	1		
*62AA	1139-6845-01	CONNECTOR 2P コネクター	1	0710	
*63AA	1139-5742-01	LABEL ラベル	1	0710	



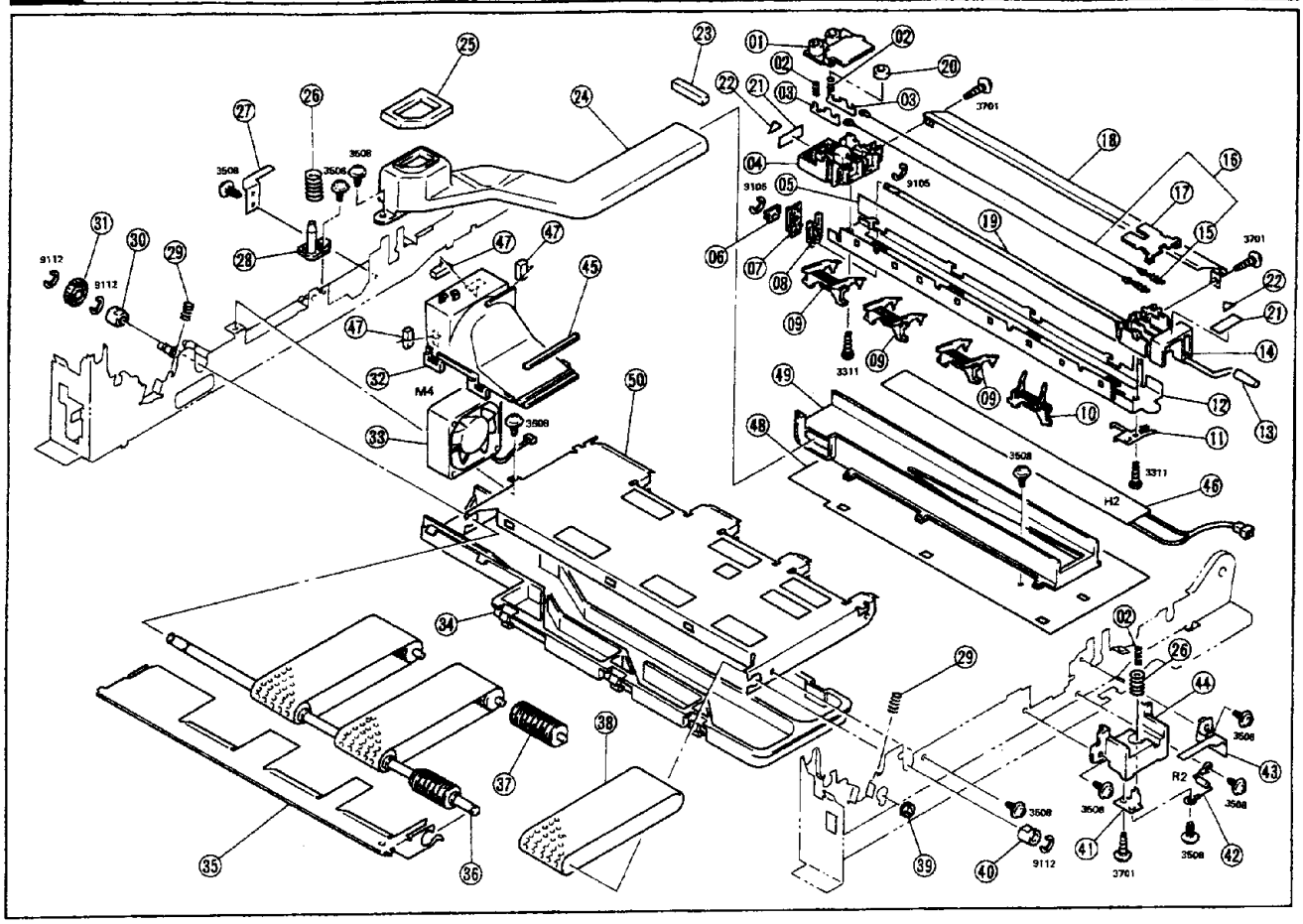
PARTS MANUAL

INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-5222-01	LID フタ	1		
02AA	1139-5249-01	SHOULDER SCREW ショウルダネジ	2		
03AA	1139-5250-01	PLATE SPRING プレートスプリング	2		
04AA	1139-5214-01	BUCKET ROLLER バケットローラー	1		
05AA	1139-5207-01	SHAFT シャフト	1		
06AA	1032-1606-02	BUSHING ブッシュ	1		
07AA	1139-5220-01	GEAR 23/24T ギア	1		
08AA	1139-5221-01	GEAR 22T ギア	3		
09AA	1139-5223-01	GEAR 30T ギア	1		
10AA	1139-0254-13	AXLE PLATE シャフトバン	1		
11AA	1139-5216-01	BUSHING ブッシュ	1		
12AA	1139-5231-01	SET PLATE オサエバン	1		
13AA	1139-5218-02	MAGNET ROLLER マグネットローラー	2		
14AA	1139-5724-02	MAT マット	2		
15AA	1139-5725-01	SPONGE スポンジ	2		
16AA	1139-3256-02	PRESSURE SPRING プッシュスプリング	2	0710	
*17AA	1139-5255-01	SPONGE スポンジ	1	0710	
*18AA	1139-5229-01	GROUND PLATE アースバン	2		
19AA	1400-1226-03	PRESSURE SPRING プッシュスプリング	1		
20AA	1139-0753-01	BUSHING ブッシュ REAR ウシロ	1		
21AA	1139-5252-02	POLYESTER FILM ポリエステルフィルム REAR ウシロ	1		
22AA	1139-5246-01	BALL BEARING ボールベアリング	1		
23AA	1139-5206-01	ROLL ロール	1		
24AA	1139-5224-12	GEAR 22T ギア	1		
25AA	1139-0252-12	BRACKET トリツケバン	1		
*26AA	1139-5254-01	SPONGE スポンジ	2	0710	
27AA	1139-5226-01	ANTISPILL PLATE トナーヒコウボウシバン	1		
28AA	1139-3257-01	GUIDE PLATE ガイドバン ANTI PLATE トナーヒコウボウシバン	1		
29AA	1139-3255-02	POLYESTER FILM ポリエステルフィルム	1		
30AA	1067-3517-01	BUSHING ブッシュ	2		
31AA	1139-3259-01	HOLDER-RR ウシロホルダー	1		
32AA	1139-3250-01	ROLLER ローラー	1		
33AA	1139-3253-01	CLEANING PAD クリーニングパット	1		
34AA	1139-3252-03	GUIDE PLATE ガイドバン	1		
35AA	1139-3258-01	HOLDER-FNT マエホルダー	1		
36AA	1139-0251-01	BRACKET トリツケバン	1		
37AA	1067-6071-01	ATDC UNIT ATDCセンサー (UN3)	1		
38AA	1139-5734-01	GEAR 18/30T ギア	1		
*39AA	1139-5248-01	POLYESTER FILM ポリエステルフィルム	1	2720	
40AA	1139-5253-01	POLYESTER FILM ポリエステルフィルム FRONT マエ	1		
41AA	1139-5240-01	BUSHING ブッシュ	1		
42AA	1139-5204-01	ROLL ロール	1		
43AA	1139-0752-01	BUSHING ブッシュ FRONT マエ	1		
44AA	1139-5703-01	SUPPORT シジバン DRUM ドラム	1		
45AA	1139-5731-01	GEAR 30T ギア	1		
46AA	1067-5515-01	BUSHING ブッシュ	1		
47AA	1139-5732-01	DUCT ダクト	1		
48AA	1139-5738-01	PIN ピン	1		
49AA	1139-5733-01	TRANSPORT COIL ハンソウコイル	1		
50AA	1139-5707-01	TONER PIPE トナーパイプ ●	1		
51AA	1200-3211-08	BUSHING ブッシュ	1		
52AA	1139-5233-02	CONVEYOR DUCT ハンソウダクト	1		
53AA	1139-5235-01	SPONGE スポンジ	1		
54AA	1139-5251-01	GUIDE ガイド	1		
55AA	1139-5217-05	CONVEYOR ROLLER ハンソウローラー	1		
56AA	1065-5106-01	BUSHING ブッシュ	1		
57AA	1139-3260-01	PLATE プレート	2		
58AA	1052-1603-01	REGULATING PLATE キセイバン	1		
59AA	1139-5209-01	BRACKET トリツケバン REG PLATE キセイバン	1		
60AA	1139-5225-02	SPONGE スポンジ	1		
61AA	1139-5256-01	POLYESTER FILM ポリエステルフィルム	1		



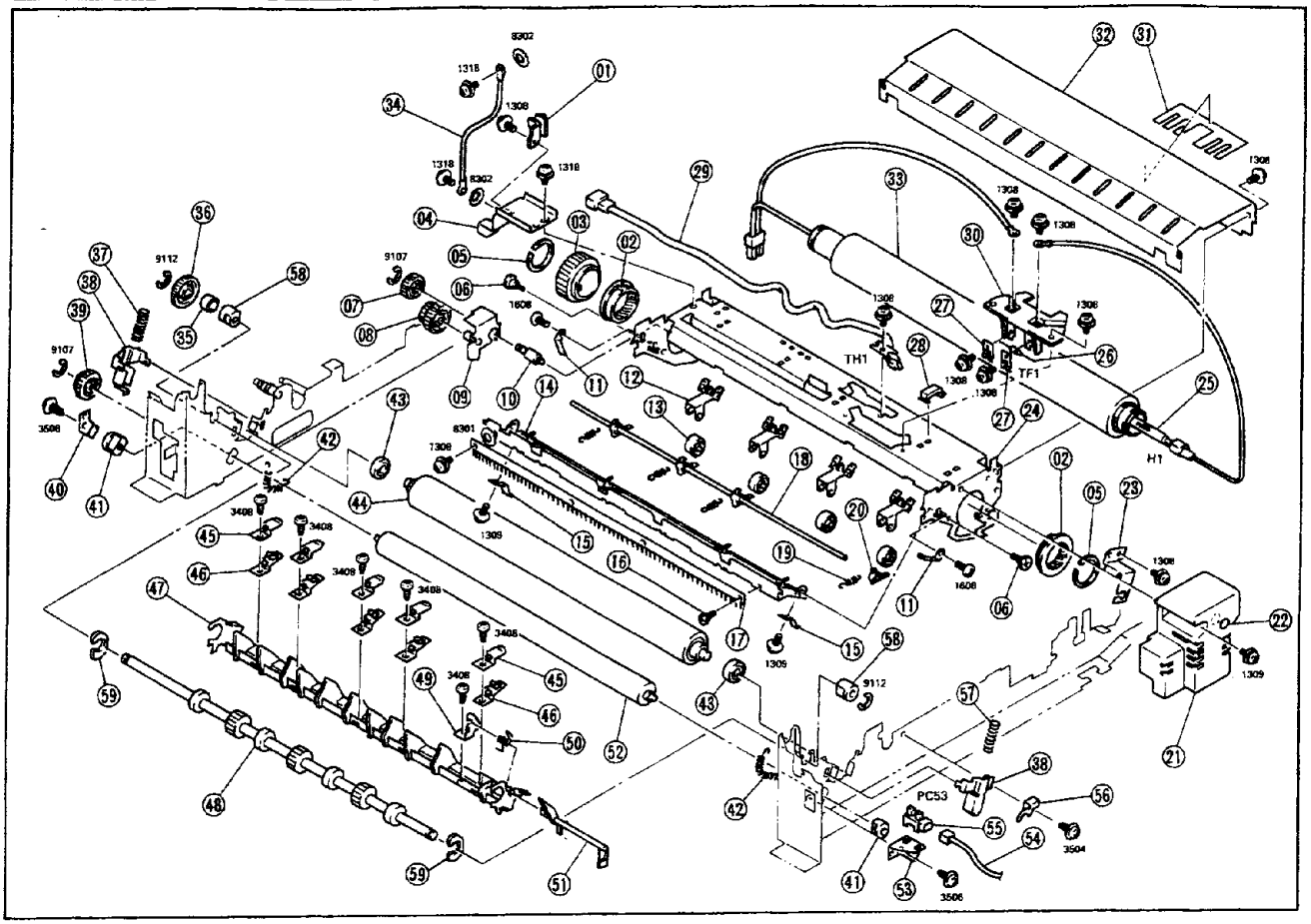
PARTS MANUAL

INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-3124-01	GUIDE PLATE ガイドパン	1		
02AA	9335-1010-21	PHOTO INTERRUPTER (PC51,54) フォトインタラプター	2		
03AA	1139-3129-01	BRACKET PHOTO INT ブラケットパン フォトインタラプター	1		
04AA	1200-2105-05	COLLAR カラー	2		
05AA	1139-3127-01	ACTUATOR アクチュエーター	1		
06AA	1139-3131-01	TORSION SPRING ネジリスプリング	2		
07AA	1139-4074-01	PLATE SPRING プレートスプリング	1		
08AA	1076-3109-01	GUIDE ガイド	2		
09AA	1200-3231-05	BUSHING ブシュウ	4		
10AA	1139-3114-01	GEAR 16T ギヤー	3		
11AA	9322-1410-51	CLUTCH (CL2) クラッチ	1		
*12AA	1200-3123-07	BUSHING ブシュウ	2	2706	
*13AA	1400-2534-03	TENSION SPRING ヒッパリスプリング	2	2706	
*14AA	1139-2528-01	SUPPORT PLATE ササエパン	1	2706	
*15AA	1139-2527-01	SUPPORT PLATE ササエパン	1	2706	
16AA	1139-3118-01	TENSION SPRING ヒッパリスプリング	1		
17AA	9322-1011-01	CLUTCH TIMING (CL1) クラッチ タイミング	1		
18AA	1139-3102-01	BUSHING ブシュウ	2		
19AA	1200-1422-02	WASHER ワッシャー	1		
20AA	1139-3115-01	ROLLER ローラー	1		
21AA	1139-3119-01	GUIDE PLATE ガイドパン	1		
*22AA	1142-3122-01	ROLLER ローラー	1	0400	
*22BA	1139-3122-01	ROLLER ローラー	1	2300	
23AA	1139-3112-03	ROLLER ローラー	1		
24AA	1273-3505-01	TENSION SPRING ヒッパリスプリング	1		
25AA	1139-3117-01	GEAR 18T ギヤー	1		
26AA	1139-2030-01	EDGE COVER エッジカバー	2		
27AA	1139-0420-01	VARISTOR (VS1) バリスター	1		
28AA	1139-3123-01	SPACER スペーサー	2		
29AA	1139-3126-01	ACTUATOR アクチュエーター	1		
30AA	1200-5212-04	PIN ピン	2		
31AA	1139-3121-02	GUIDE PLATE ガイドパン	1		
32AA	1139-3147-01	SPONGE スポンジ	2		
33AA	1139-3132-01	BRACKET PHOTO INT ブラケットパン フォトインタラプター	1		
34AA	1139-6814-02	HARNESS ハーネス	1		
35AA	1139-3143-01	LEVER レバー	1		
36AA	1139-0405-01	RESISTOR (R1) テイコウ	1		



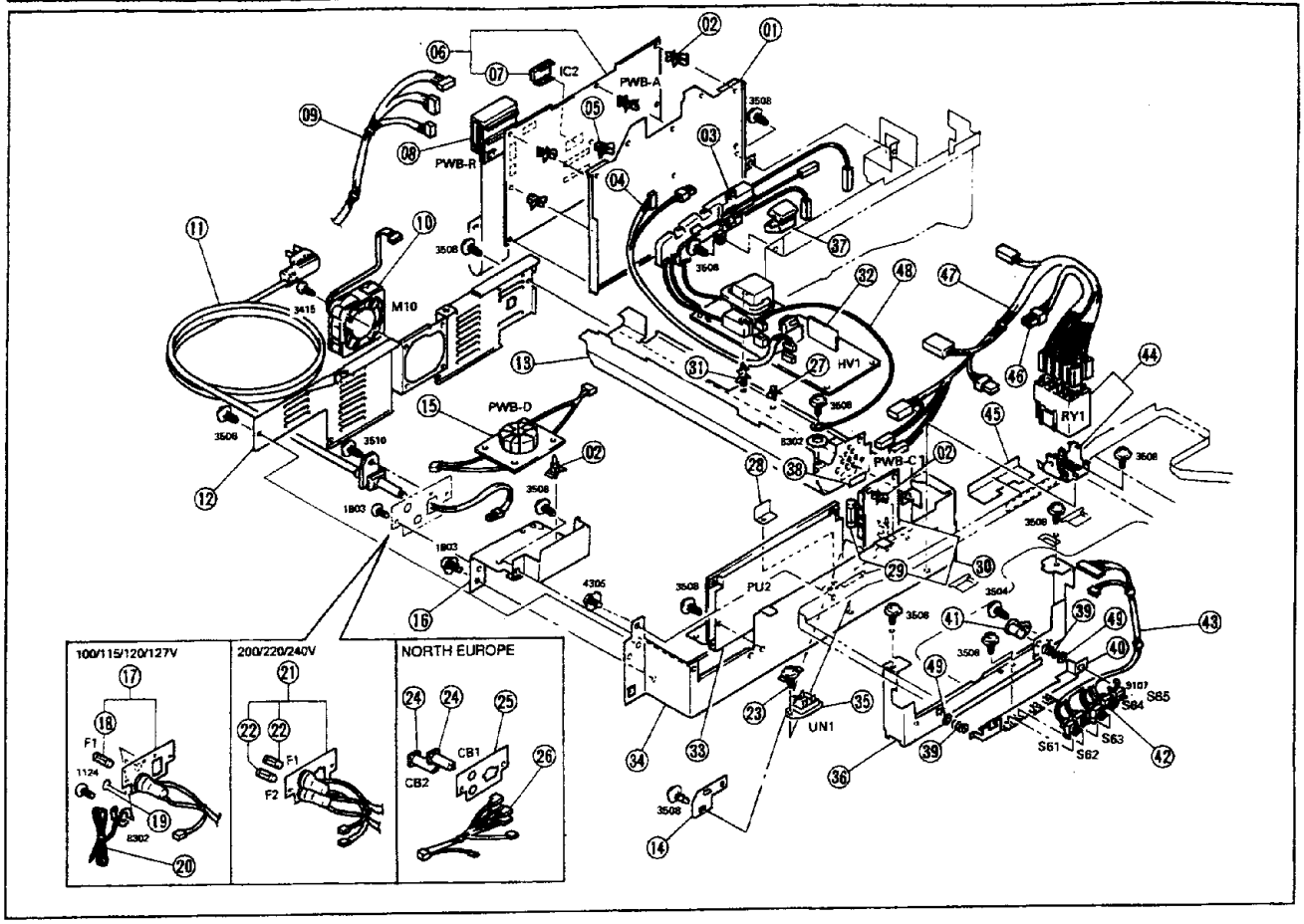
PARTS MANUAL

INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-4054-01	COVER カバー	1		
02AA	1400-1122-04	PRESSURE SPRING プッシュスプリング	3		
03AA	1139-4057-01	TERMINAL ターミナル	2		
04AA	1139-4052-01	HOLDER REAR ホルダー リヤ	1		
05AA	1139-0755-01	GUIDE ガイド	1		
06AA	1139-4065-01	SUPPORT サポート	1		
07AA	1139-4058-02	CLEANING PAD RIGHT クリーニングパット ミギ	1		
08AA	1139-4059-01	CLEANING PAD LEFT クリーニングパット ヒダリ	1		
09AA	1139-4067-01	GUIDE ガイド	3		
10AA	1139-4068-01	GUIDE ガイド	1		
11AA	1139-4064-01	PLATE SPRING プレートスプリング	1		
12AA	1139-4056-01	HOUSING ハウジング	1		
13AA	1139-4069-01	CAP キャップ	1		
14AA	1139-4051-01	HOLDER FRONT ホルダー マエ	1		
15AA	1400-2110-01	TENSION SPRING テンションスプリング	2		
16AA	1139-0756-01	CORONA WIRE チャージワイヤー	2		
17AA	1139-4053-02	COVER カバー	1		
18AA	1139-0754-01	GUIDE PLATE ガイドプレート	1		
19AA	1139-4066-01	SHAFT シャフト	1		
*20AA	9326-1310-61	FERRITE CORE フェライトコア	1	2706	
*21AA	1500-2340-33	LABEL ラベル コウアツチュウイ	2	1000	
*22AA	0951-7105-03	LABEL ラベル	2	2000	
23AA	1139-4513-01	SPONGE スポンジ	1		
24AA	1139-4502-01	DUCT ダクト	1		
25AA	1139-4507-01	SPONGE スポンジ	1		
26AA	1400-1167-05	PRESSURE SPRING プッシュスプリング	2		
27AA	1139-3251-02	GROUND PLATE アースプレート	1		
28AA	1139-4072-01	AXLE PLATE シャフトホルダー	1		
29AA	1139-5548-01	PRESSURE SPRING プッシュスプリング	2		
30AA	1200-3134-16	BUSHING ブッシング	1		
31AA	1139-2509-01	GEAR 21T ギヤー	1		
32AA	1139-3504-02	DUCT FAN MOTOR ダクト ファンモーター	1		
33AA	9313-1210-81	FAN MOTOR (M4) ファンモーター	1		
34AA	1139-3502-01	DUCT ダクト	1		
*35AA	1142-5502-01	GUIDE PLATE ガイドプレート	1	0400	
*35BA	1139-5502-01	GUIDE PLATE ガイドプレート	1	2300	
36AA	1139-3503-01	ROLLER ローラー	1		
37AA	1136-3604-01	ROLL ロール	3		
38AA	1054-5466-01	VACUUM BELT サクションベルト	1 set		
39AA	1031-4403-01	GROMMET エンドカバー	1		
40AA	1274-3603-01	BUSHING ブッシング	1		
41AA	1139-4073-01	TERMINAL ターミナル	1		
42AA	1139-0413-01	RESISTOR (R9)	1		
43AA	1139-4075-01	HOLD PLATE ホルダープレート	1		
44AA	1139-4071-02	HOLDER ホルダー	1		
45AA	1139-3508-01	SPONGE スポンジ	1		
*46AA	9352-6310-31	HEATER DRUM (H2) ヒーター ドラム	1	0737	
47AA	1067-5021-01	SPONGE スポンジ	3		
48AA	1139-4510-01	BRACKET DUCT ブラケット ダクト	1		
49AA	1139-4503-01	DUCT TRANS CORONA ダクト チャージワイヤー	1		
50AA	1139-3501-12	FRAME TRANSPORT フレーム サクション	1		



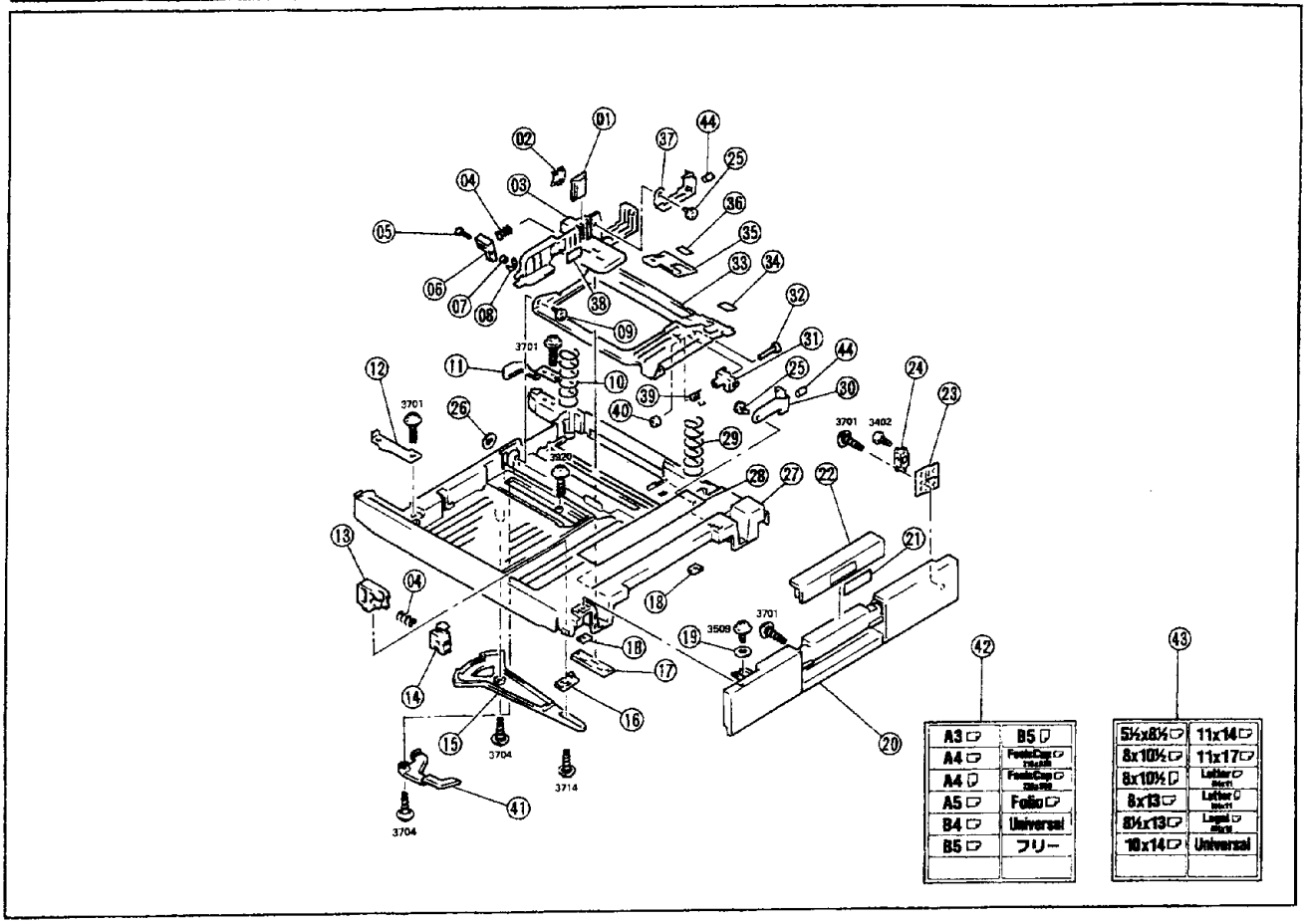
PARTS MANUAL

INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-5551-01	GUIDE ガイド	1		
02AA	1139-5531-01	BUSHING ブッシング	2		
03AA	1139-5532-01	GEAR 36T ギヤー	1		
04AA	1139-5506-02	SUPPORT PLATE TUBE LAMP シンバン チューブランプ	1		
05AA	1500-2610-01	C-RING C リング	2		
06AA	1100-1340-05	SHOULDER SCREW ダンネジ	2		
07AA	1139-5534-01	GEAR 18T ギヤー	1		
08AA	1139-5552-02	GEAR 15/20T ギヤー	1		
09AA	1139-0249-01	BRACKET トリツケバン	1		
10AA	1139-5554-01	PIN ピン	1		
11AA	1139-5538-01	PLATE SPRING プレートスプリング	2		
12AA	1136-5806-01	HOLDER ROLL ホルダー ロール	4		
13AA	1038-4701-01	ROLL ロール	4		
14AA	1139-5503-03	GUIDE PLATE ガイドバン	1		
15AA	1139-5546-01	PLATE SPRING プレートスプリング	2		
16AA	1100-1320-05	SHOULDER SCREW ダンネジ	1		
17AA	1036-3702-04	NEUTRALIZING BRUSH ESブラシ	1		
18AA	1139-5549-01	SHAFT シャフト	1		
19AA	1065-5857-01	TENSION SPRING ヒッパリスプリング	4		
20AA	1054-4753-01	SEPARATOR ハンリツチ	6		
21AA	1139-5535-01	COVER カバー	1		
22AA	1139-7306-01	LABEL M1 ラベル	1		
23AA	1139-5507-02	SUPPORT PLATE シジバン	1		
24AA	1139-5501-03	FRAME フレーム	1		
*25AA	9352-2310-43	TUBE LAMP HEATER (H1) チューブランプ ヒーター	1	0600	
*25BA	9352-2310-53	TUBE LAMP HEATER (H1) チューブランプ ヒーター	1	2504	
*25CA	9352-2310-93	TUBE LAMP HEATER (H1) チューブランプ ヒーター	1	2550	
*25DA	9352-2410-11	TUBE LAMP HEATER (H1) チューブランプ ヒーター	1	2606	
*25EA	9352-2313-01	TUBE LAMP HEATER (H1) チューブランプ ヒーター	1	2612	
26AA	9346-3310-61	THERMAL FUSE (TF1) サントヒューズ	1		
27AA	1139-5511-02	TERMINAL ターミナル	2		
28AA	1139-5558-01	CORD CLAMP コードオサエ	11		
29AA	9372-2310-21	THERMISTOR (TH1) サーミスター	1		
30AA	1139-5536-03	BRACKET THERMAL FUSE トリツケバン サントヒューズ	1		
31AA	1139-5559-01	POLYESTER FILM ポリエステルフィルム	1		
32AA	1139-5505-03	COVER カバー	1		
33AA	1139-5562-01	FUSING ROLLER-UPR クエイチャクローラー	1		
34AA	1061-6845-03	GROUND WIRE アースコード	1		
35AA	1139-5544-01	COLLAR カラー	1		
36AA	1300-3132-12	GEAR 24T ギヤー	1		
37AA	1139-5553-01	PRESSURE SPRING アッシュクスプリング	1		
38AA	1139-5513-01	HOLDER PRE SPRING ホルダー アッシュクスプリング	2		
39AA	1139-2022-01	GEAR 22T ギヤー	1		
40AA	1139-5512-01	SUPPORT サポート	1		
41AA	1139-5561-01	BUSHING ブッシング	2		
42AA	1139-5560-01	TENSION SPRING ヒッパリスプリング	2		
43AA	1065-5871-01	BALL BEARING ボールベアリング	2		
*44AA	1139-5527-01	FUSING ROLLER-LWR シタ クイチャクローラー	1	0400	
*44BA	1139-5522-01	FUSING ROLLER-LWR シタ クイチャクローラー	1	2300	
45AA	1054-3773-01	REINFORCE PLATE ホキョウバン	5		
46AA	1054-3765-13	PLATE SPRING プレートスプリング	5		
47AA	1139-5504-02	GUIDE PLATE ガイドバン	1		
48AA	1139-5523-03	ROLLER EXIT ローラー イドリ	1		
49AA	1139-5514-02	BRACKET LEVER トリツケバン レバー	1		
50AA	1139-5543-01	TORSION SPRING ネジリスプリング	1		
51AA	1139-5542-01	LEVER レバー	1		
*52AA	1139-5526-01	CLEANING ROLLER クリーニングローラー	1	0400	
*52BA	1139-5525-01	CLEANING ROLLER クリーニングローラー	1	2300	
53AA	1139-5510-02	BRACKET トリツケバン	1		
54AA	1139-6816-02	HARNESS ハーネス	1		
55AA	9335-1010-21	PHOTO INTERRUPTER (PC53) フォトインタラプター	1		
56AA	1139-5509-02	SUPPORT サポート	1		
57AA	1139-5539-03	PRESSURE SPRING アッシュクスプリング	1		
58AA	1200-3134-16	BUSHING ブッシング	2		
59AA	1139-5516-01	SPACER スペーサー	2		

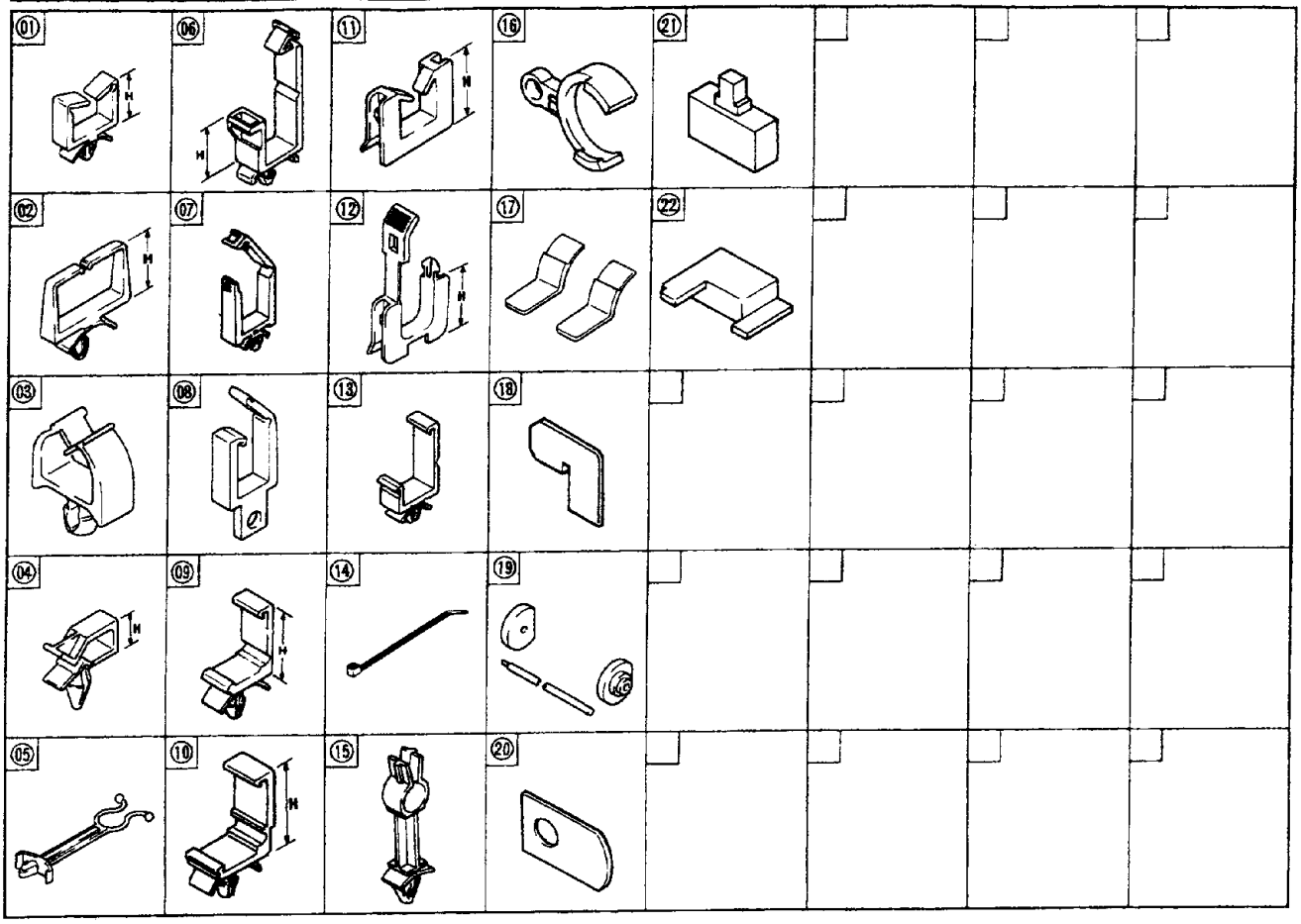


PARTS MANUAL

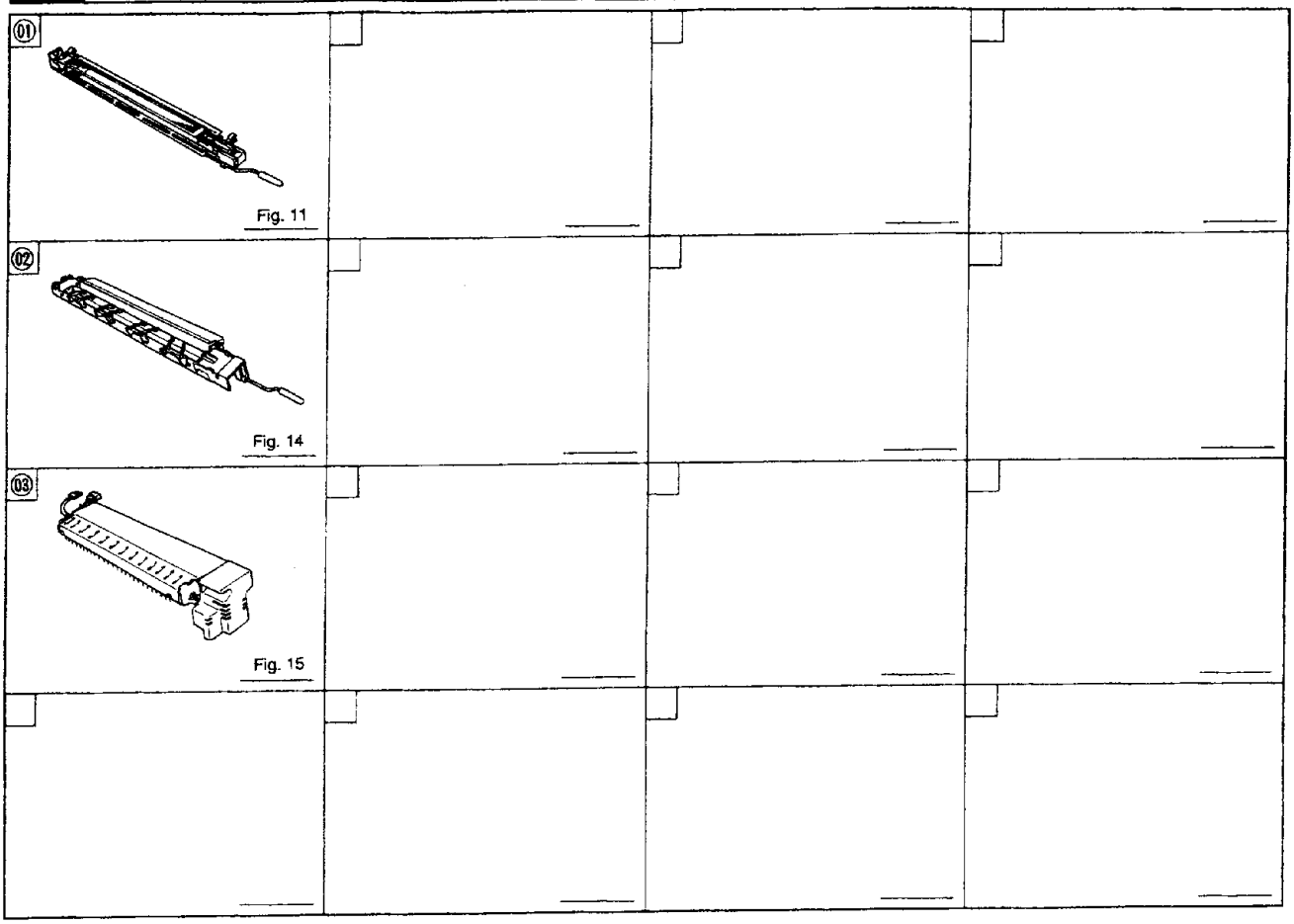
INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-2306-02	BRACKET トリクバハン PW BOARD-A プリントキバン A	1		
02AA	9384-1900-56	PWB SUPPORT 6.35H キバンフホート	14		
03AA	1139-2302-02	GUIDE カイト HARNESS ハーネス	1		
04AA	1139-6820-01	HARNESS ハーネス	1		
05AA	9384-1900-61	PWB SUPPORT 6.35H キバンフホート	3		
*06AA	1142-0102-02	PW BOARD-A(WITH IC) (PWB-A) プリントキバン A	1	0703	
*06BA	1142-0101-02	PW BOARD-A(WITH IC) (PWB-A) プリントキバン A	1	2706	
07AA	1142-6601-02	IC (IC2) IC	1		
08AA	1139-0118-03	PW BOARD-R(WITH IC) (PWB-R) プリントキバン R	1		
09AA	1142-6802-02	HARNESS ハーネス	1		
*10AA	9313-1310-11	FAN MOTOR (M10) ファンモーター	1	0703	
*10BA	9313-1311-31	FAN MOTOR (M10) ファンモーター	1	2706	
*11AA	9381-4320-22	POWER CORD テンケ゛ンコート゛	1	0514	
*11BA	9381-4210-51	POWER CORD テンケ゛ンコート゛	1	2500	
*11CA	9381-4110-21	POWER CORD テンケ゛ンコート゛	1	2520	
*11DA	9381-4310-81	POWER CORD テンケ゛ンコート゛	1	2600	
*11EA	9381-4310-91	POWER CORD NORTH EUROPE テンケ゛ンコート゛	1	2706	
12AA	1139-2309-02	COVER カハ゛ー	1		
13AA	1139-2317-02	BRACKET トリクバハン PWB-HV コクアトランス	1		
14AA	1142-2302-01	PLATE フ゜レート	1		
*15AA	1139-0104-01	PW BOARD-D(WITH IC) NF (PWB-D) プリントキバン D ノイス゛フィルター	1	0511	
*15BA	1139-0109-01	PW BOARD-D(WITH IC) NF (PWB-D) プリントキバン D ノイス゛フィルター	1	2600	
16AA	1139-2311-02	BRACKET PW BOARD-D トリクバハン プリントキバン D	1		
*17AA	1139-0141-04	FUSE HOLDER ヒュース゛ホルタ゛ー	1	0511	
*18AA	9346-3720-51	FUSE 15A (F1) ヒュース゛ 15A	1	0511	
*19AA	1500-2320-02	LABEL EARTH ラヘ゛ル アース	1	0514	
*20AA	9381-1807-05	EARTH CORD GREEN アースコート゛ ミト゛リ	1	2600	
*21AA	1142-0142-04	FUSE HOLDER ヒュース゛ホルタ゛ー	2	2600	
*22AA	9346-3621-01	FUSE 10A (F1,2) ヒュース゛ 10A	2		
23AA	1053-1324-01	TAPPING SCREW タッヒ゛ンク゛ネシ	2		
*24AA	9346-3320-32	CIRCUIT BREAKER NORTH EUROPE (CB1,2) サーキットフ゛レーカー	2	2706	
*25AA	1142-2336-03	BRACKET NORTH EUROPE トリクバハン	1	2706	
*26AA	1142-6806-01	HARNESS NORTH EUROPE ハーネス	1	2706	
27AA	9384-1900-55	PWB SUPPORT 9.53H キバンフホート	2		
28AA	1139-2345-01	POLYESTER FILM ホ゜リエステルフィルム	1		
29AA	9346-3620-31	FUSE 2A ヒュース゛ 2A	1		
30AA	1139-0103-03	PW BOARD-C(WITH IC) (PWB-C) プリントキバン C	1		
31AA	9384-1900-57	PWB SUPPORT 9.53H キバンフホート	4		
*32AA	1139-6206-02	PWB-HV(WITH IC) (HV1) コクアトランス	1	0710	
*32BA	1139-6221-02	PWB-HV(WITH IC) (HV1) コクアトランス	1	2720	
*33AA	9325-2310-22	PWB-PU(WITH IC) (PU2) テンケ゛ンユニット	1	0510	
*33BA	9325-2310-42	PWB-PU(WITH IC) (PU2) テンケ゛ンユニット	1	2550	
*33CA	9325-2310-32	PWB-PU(WITH IC) (PU2) テンケ゛ンユニット	1	2600	
34AA	1139-2310-02	MOUNTING PLATE PWB-PU トリクバハン テンケ゛ンユニット	1		
*35AA	9343-4310-21	TRIAC MODULE (UN1) トライアックモシ゛ュール	1	0511	
*35BA	9343-4210-21	TRIAC MODULE (UN1) トライアックモシ゛ュール	1	2600	
*35CA	9343-4720-81	TRIAC MODULE NORTH EUROPE (UN1) トライアックモシ゛ュール	1	2706	
36AA	1139-3043-01	BRACKET トリクバハン	1		
*37AA	9326-1410-11	FERRITE CORE フェライトコア	1	2706	
*38AA	1500-2340-33	LABEL ラヘ゛ル コクアト゛ヨウ	1	1000	
39AA	1273-3048-01	PRESSURE SPRING アッシュスフ゛リング゛	2		
40AA	1139-3044-01	BRACKET DET SWITCH トリクバハン テンケンスイッチ	1		
41AA	1065-3090-01	BRACKET トリクバハン	1		
42AA	9332-1310-11	DETECTING SWITCH (S61-65) テンケンスイッチ	5		
*43AA	1142-6803-01	HARNESS ハーネス	1	0703	
*43BA	1142-6804-01	HARNESS ハーネス	1	2706	
*44AA	9341-2620-31	RELAY (RY1) リレー	1	0703	
*44BA	9341-2110-11	RELAY (RY1) リレー	1	2706	
45AA	1139-2347-01	POLYESTER FILM ホ゜リエステルフィルム	1		
46AA	1139-6813-01	HARNESS ハーネス	1		
*47AA	1139-6804-13	HARNESS ハーネス	1	0511	
*47BA	1139-6805-13	HARNESS ハーネス	1	2600	
48AA	1139-6821-03	HARNESS ハーネス	1		
49AA	1200-1346-12	WASHER ワッシャー	2		



INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	1139-3019-01	GUIDE ガイド	1		
02AA	1139-3020-02	PLATE SPRING プレートスプリング	1		
03AA	1139-3012-02	GUIDE PLATE ガイドトバン	2		
04AA	1139-3014-02	PRESSURE SPRING アッシュスプリング	1		
05AA	1139-3045-02	SHAFT シャフト	1		
06AA	1139-3013-02	LEVER レバー	1		
07AA	1200-2226-22	COLLER カラー	1		
08AA	4425-3002-01	STOPPER RING 3D トメリング	1		
09AA	1139-3039-02	PIN ピン	1		
10AA	1139-3031-02	PRESSURE SPRING アッシュスプリング	1		
11AA	1139-3077-03	STOPPER ストッパー	1		
12AA	1139-3082-01	SUPPORT PLATE サポートプレート	1		
13AA	1139-3016-01	STOP ストッパー	1		
14AA	1139-3017-01	LOCK LEVER ロックレバー	1		
15AA	1139-3040-12	LEVER レバー	1		
16AA	1139-3018-01	SPACER スペーサー	1		
17AA	1139-3071-01	SLIDER スライダー	1		
18AA	1139-3153-01	PLATE NUT プレートナット	4		
19AA	1200-1531-04	WASHER ワッシャー	4		
*20AA	1139-3036-01	CASSETTE COVER カセットカバー	1	1000	
*20BA	1139-3022-02	CASSETTE COVER カセットカバー	1	2000	
*21AA	1139-7305-01	LABEL ラベル フリー	1	1000	
*21BA	1139-7307-02	LABEL UNIVERSAL ラベル	1	2000	
*22AA	1139-3150-01	COVER カバー	1	1000	
*22BA	1139-3151-13	COVER カバー	1	2000	
23AA	1139-3015-01	BRACKET トリヤクバン MAGNET CATCH マグネットキャッチ	1		
24AA	4425-3366-01	MAGNET CATCH マグネットキャッチ	1		
25AA	1139-3035-01	PIN ピン	2		
26AA	1200-1342-02	WASHER ワッシャー	1		
27AA	1139-3011-04	CASSETTE BODY カセットボディ UPPER ウエ	1		
*28AA	1139-7322-01	LABEL ラベル ヨウシノセットホウコク	1	1000	
*28BA	1139-7323-01	LABEL PAPER LOADING ラベル	1	2000	
29AA	1139-3030-01	PRESSURE SPRING アッシュスプリング	1		
30AA	1139-3037-01	PAWL フメ FRONT マエ	1		
31AA	1139-3034-01	LOCK LEVER ロックレバー	1		
32AA	1200-5232-10	SHAFT シャフト	1		
33AA	1139-3026-02	LIFTING PLATE オシアゲバン UPPER ウエ	1		
34AA	1139-3032-01	FRICTION SHEET マサツバン	1		
35AA	1139-3027-02	SLIDE PLATE スライドバン	1		
36AA	1139-3033-01	FRICTION SHEET マサツバン	1		
37AA	1139-3038-01	PAWL フメ REAR ウシロ	1		
38AA	1139-7308-01	LABEL MAX ラベル	1		
39AA	1139-3089-01	TORSION SPRING ネジリスプリング	1		
40AA	1200-2105-02	COLLAR カラー	1		
41AA	1142-3042-01	LEVER レバー	1		
*42AA	1139-7345-01	LABEL PAPER SIZE ラベル ペーパーサイズ OPTION オプション	1	0400	
*43AA	1139-7346-01	LABEL PAPER SIZE ラベル ペーパーサイズ OPTION オプション	1	2300	
*44AA	1200-2125-01	RETAINING RING コームプラシュ	2	2706	



INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考
01AA	9384-1900-64	WIRING SADDLE 13.0H ワイヤーサドル	7		
01BA	9384-1900-65	WIRING SADDLE 18.0H ワイヤーサドル	10		
02AA	9384-1310-81	WIRING SADDLE 6.4H ワイヤーサドル	8		
03AA	9384-1720-41	WIRING SADDLE ワイヤーサドル	26		
04AA	9384-1820-31	WIRING SADDLE 8.0H ワイヤーサドル	5		
05AA	9384-1310-51	WIRING SADDLE ワイヤーサドル	6		
06AA	9384-1921-01	WIRING SADDLE 14.4H ワイヤーサドル	3		
06BA	9384-1921-11	WIRING SADDLE 9.2H ワイヤーサドル	10		
06CA	9384-1921-21	WIRING SADDLE 36.1H ワイヤーサドル	5		
06DA	9384-1921-31	WIRING SADDLE 17.3H ワイヤーサドル	1		
07AA	9384-1110-61	WIRING SADDLE 21.5H ワイヤーサドル	2		
07BA	9384-1211-01	WIRING SADDLE 19.2H ワイヤーサドル	2		
07CA	9384-1310-11	WIRING SADDLE 5.2H ワイヤーサドル	7		
07DA	9384-1310-41	WIRING SADDLE 14.2H ワイヤーサドル	6		
08AA	9384-1920-71	WIRING SADDLE 18.5H ワイヤーサドル	1		
09AA	9384-1900-53	WIRING SADDLE 18.7H ワイヤーサドル	7		
10AA	9384-1900-54	WIRING SADDLE 23.0H ワイヤーサドル	18		
11AA	9384-2010-21	EDGE COVER 8.5H エッジカバー	14		
11BA	9384-2800-36	EDGE COVER 15H エッジカバー	6		
12AA	9384-2010-31	EDGE COVER 15.4H エッジカバー	11		
12BA	9384-2010-41	EDGE COVER 25.0H エッジカバー	4		
13AA	9384-1311-01	WIRING SADDLE 27H ワイヤーサドル	1		
14AA	9384-1311-11	CABLE TIE 104L ケーブルバンド	3		
15AA	9384-1900-52	SD CLIF 6.35H SDクリップ	1		
16AA	1054-7901-01	JIG CABLE HOLDING ジグ ワイヤーホルダ	1		
17AA	1139-7901-01	JIG D.B. ADJUSTING ジグ D.Bチョウセイ	2		
18AA	1139-7902-02	JIG INTERLOCK ジグ インターロックスイッチ	1		
19AA	1139-0759-01	JIG DS ジグ DS	1		
20AA	1139-7906-01	JIG SEPARATOR ジグ セパレータ	1		
21AA	1139-7907-01	JIG 1ST SLIDER ジグ ダイイチスライダー	1		
22AA	1139-7908-03	JIG SLIDER ジグ スライダー	1		



INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	QTY 員数	AREA 地域	REMARKS 備考	COMPOSITION 構成部品
01AA	1139-0368-01	DRUM CHARGE CORONA ドラムチャージユニット	1			Fig. 11 ⑦ ～ ⑱
*02AA	1139-0366-01	TRANS/SEP CORONA トランスファチャージユニット	1	0703		Fig. 14 ① ～ ⑬
*02BA	1139-0367-01	TRANS/SEP CORONA トランスファチャージユニット	1	2706		Fig. 14 ① ～ ㉘
*03AA	1139-0355-01	FUSING UNIT ドライヤユニット	1	0600		Fig. 15 ① ～ ⑬
*03BA	1139-0345-01	FUSING UNIT ドライヤユニット	1	2504		Fig. 15 ① ～ ㉓
*03CA	1139-0348-01	FUSING UNIT ドライヤユニット	1	2550		Fig. 15 ① ～ ㉝
*03DA	1139-0347-01	FUSING UNIT ドライヤユニット	1	2606		Fig. 15 ① ～ ㉝
*03EA	1139-0346-01	FUSING UNIT ドライヤユニット	1	2612		Fig. 16 ① ～ ㉝

20 SCREWS AND WASHERS ネジ・ワッシャー部

INDEX 表示番号	PART NO. 部品番号	PART NAME 部品名称	ILLUST 図
0230	9754-1608-08	SPRING ROLL PIN スプリングロールピン	
0509	9752-2012-50	PIN ピン	
1124	9642-0408-21	SCREW ネジ	
1208 1210 1230 1266	9644-0306-13 9644-0308-13 9644-0408-13 9644-0204-07	SCREW ネジ	
1302 1305 1308 1309 1312 1318 1321 1360	9646-0305-13 9646-0306-13 9646-0308-13 9646-0310-13 9646-0316-13 9646-0408-13 9646-0412-13 9646-0306-21	SCREW ネジ	
1415	9648-0408-13	SCREW ネジ	
1608 1625 1645	9654-0308-01 9654-0408-03 9654-0312-01	SCREW ネジ	
1803	9659-0408-01	SCREW ネジ	
2802	9658-0306-13	SCREW ネジ	
3104 3122	9656-0308-13 9656-0314-13	TAPPING SCREW タッピングネジ	
3305 3306 3311 3334	9732-0308-13 9732-0310-13 9732-0408-13 9732-0434-13	TAPPING SCREW タッピングネジ	
3402 3403 3408 3410 3412 3415	9733-0306-13 9733-0308-13 9733-0406-13 9733-0408-13 9733-0412-13 9733-0425-13	TAPPING SCREW タッピングネジ	
3501 3504 3506 3508 3509 3510 3517 3519 3525	9735-0306-13 9735-0308-13 9735-0406-13 9735-0408-13 9735-0410-13 9735-0412-13 9735-0305-13 9735-0312-13 9735-0420-13	TAPPING SCREW タッピングネジ	
3701 3702 3703 3704 3705 3709 3714 3720 3721	9739-0408-13 9739-0410-13 9739-0412-13 9739-0308-13 9739-0306-13 9739-0310-13 9739-0312-13 9739-0310-07 9739-0416-07	TAPPING SCREW タッピングネジ	
3920	9742-0408-14	TAPPING SCREW タッピングネジ	
4005 4009 4012 4020 4021	9743-0408-13 9743-0308-01 9743-0306-13 9743-0408-14 9743-0308-14	TAPPING SCREW タッピングネジ	
4305 4307	9770-0408-13 9770-0308-13	TAPPING SCREW タッピングネジ	
7104 7107 7114 7124	9684-0308-08 9684-0406-08 9684-0312-08 9684-0310-08	SET SCREW 六角ネジ	
8301 8302	9712-0300-13 9712-0400-13	WASHER ワッシャー	
8501 8506	9716-0300-01 9716-0400-01	WASHER ワッシャー	
9105 9107 9112 9114	9721-0300-01 9721-0400-01 9721-0600-01 9721-0700-01	RETAINING RING Eリング	

21 NUMERICAL INDEX 索引

PART NO. 部品番号	FIG. 図番	INDEX 表示番号	QTY 員数
0951-7105-03	08	17AA	1
0951-7105-05	11	19AA	1
0953-7105-01	02	22AA	2
1028-3873-01	06	04AA	2
1031-4403-01	14	39AA	1
1032-1606-02	12	06AA	1
1033-3102-01	02	37AA	1
1033-4805-01	11	10AA	2
1035-6904-01	11	16AA	1
1036-3702-04	15	17AA	1
1036-4524-02	11	25AA	1
1038-4701-01	15	23AA	4
1052-1603-01	12	58AA	1
1052-2306-01	05	09AA	2
1053-1324-01	04	42AA	2
1053-1324-01	08	54AA	2
1053-1324-01	16	23AA	2
1053-3105-01	02	26AA	1
1053-3869-01	02	19AA	1
1054-3765-13	15	46AA	5
1054-3773-01	15	45AA	5
1054-4753-01	15	20AA	4
1054-5351-01	05	06AA	1
1054-5466-01	14	38AA	1 set
1054-7901-01	18	16AA	1
1061-6845-03	05	01AA	2
1061-6845-05	15	34AA	1
1061-7351-01	02	07BA	1
1061-7352-01	02	08CA	1
1065-0229-01	07	25AA	1
1065-1360-01	02	18AA	1
1065-1605-03	06	01AA	2
1065-1504-02	06	21AA	2
1065-1506-02	06	25AA	2
1065-1757-01	07	24AA	1
1065-2053-01	05	35AA	2
1065-2755-01	08	33AA	1
1065-3090-01	16	41AA	1
1065-3095-01	09	33AA	1
1065-5106-01	12	56AA	1
1065-5857-01	15	19AA	2
1065-5871-01	15	43AA	2
1066-1283-01	04	04AA	1
1067-1311-03	06	12AA	1
1067-1415-02	06	30AA	1
1067-2513-01	05	13AA	3
1067-2513-01	09	04AA	1
1067-2566-01	09	07AA	1
1067-3517-01	12	30AA	3
1067-5021-01	14	47AA	3
1067-5328-01	04	07AA	1
1067-5507-01	08	32AA	1
1067-5508-01	11	26AA	3
1067-5509-01	11	27AA	2
1067-5515-01	12	46AA	1
1067-6073-01	12	07AA	1
1067-6850-01	08	01AA	1
1067-7303-01	02	08BA	1
1076-1205-02	04	33AA	1
1076-1365-01	03	06AA	3
1076-3109-01	15	08AA	2
1077-2101-02	08	09AA	1
1080-1401-03	06	08AA	2
1100-1320-05	15	16AA	1
1100-1340-05	15	06AA	2
1100-1362-11	05	07AA	1
1100-3130-08	11	22AA	2
1132-1204-01	08	18AA	1
1132-5504-01	11	21AA	1
1132-7304-01	02	07AA	1
1136-3604-01	14	37AA	3
1136-5806-01	15	12AA	4
1139-0103-03	16	30AA	1
1139-0104-01	16	15AA	1
1139-0105-02	04	36AA	1
1139-0106-01	03	43AA	1
1139-0107-23	05	52AA	1
1139-0109-01	16	15BA	1
1139-0118-03	16	08AA	1
1139-0141-04	16	17AA	1
1139-0155-03	06	29AA	1
1139-0156-01	01	02AA	1
1139-0155-01	01	07BA	1
1139-0156-02	02	25BA	1
1139-0157-02	01	07CA	1
1139-0158-02	06	32AA	1
1139-0161-01	03	33AA	2
1139-0169-01	02	23AA	1
1139-0189-02	07	05AA	1
1139-0201-01	07	23AA	1
1139-0202-01	07	21AA	1
1139-0205-01	08	57AA	1
1139-0206-02	08	41AA	1
1139-0207-03	07	07AA	1
1139-0210-01	03	34AA	1
1139-0211-01	03	35AA	1
1139-0212-01	05	61AA	1
1139-0213-01	05	11AA	1
1139-0214-02	05	20AA	1
1139-0215-01	08	03AA	1
1139-0216-01	08	05AA	1
1139-0224-01	09	03AA	1
1139-0225-01	04	21AA	1
1139-0226-01	08	02AA	1
1139-0228-01	08	10AA	1
1139-0230-02	05	04AA	1
1139-0243-01	05	14AA	1
1139-0249-01	15	09AA	1
1139-0250-01	11	29AA	1
1139-0251-01	12	36AA	1
1139-0252-01	12	25AA	1
1139-0254-15	12	10AA	1
1139-0345-01	19	03BA	1
1139-0346-01	19	03EA	1
1139-0347-01	19	03DA	1
1139-0348-01	19	03CA	1
1139-0355-01	19	03AA	1
1139-0366-01	19	02AA	1
1139-0367-01	19	02BA	1
1139-0368-01	19	01AA	1
1139-0403-02	06	05AA	1
1139-0405-01	13	36AA	1
1139-0413-01	14	42AA	1
1139-0420-01	13	27AA	1
1139-0751-01	01	10AA	1
1139-0752-01	12	43AA	1
1139-0753-01	12	20AA	1
1139-0754-01	14	18AA	1
1139-0755-01	14	05AA	1
1139-0756-01	14	16AA	2
1139-0759-01	18	19AA	1
1139-1002-02	02	15AA	1
1139-1003-02	02	52AA	1
1139-1004-01	02	53AA	1
1139-1005-02	02	54AA	1
1139-1006-01	02	55AA	1
1139-1007-02	02	09AA	1
1139-1009-01	02	51AA	1
1139-1010-03	08	60AA	1
1139-1011-01	08	61AA	2
1139-1012-02	08	62AA	1
1139-1013-01	05	36AA	1
1139-1014-01	05	30AA	1
1139-1015-01	02	22AA	2
1139-1017-02	02	28AA	2
1139-1018-01	02	38AA	1
1139-1019-01	05	65AA	1
1139-1020-01	05	54AA	1
1139-1022-01	02	27AA	1
1139-1023-02	04	24AA	1
1139-1030-01	08	64AA	1
1139-1031-02	02	25AA	1
1139-1032-02	05	64AA	1
1139-1033-01	02	21AA	1
1139-1034-01	05	28AA	1
1139-1035-01	02	01AA	1
1139-1036-03	08	63AA	1
1139-1038-01	04	14AA	1
1139-1039-01	02	04AA	1
1139-1040-01	02	33AA	1
1139-1041-01	02	14AA	1
1139-1042-01	02	03AA	1
1139-1044-01	01	08AA	1
1139-1045-01	02	20AA	1
1139-1047-01	02	31BA	1
1139-1301-01	06	15AA	1
1139-1302-01	06	24AA	1
1139-1303-01	06	23AA	1
1139-1304-01	06	40AA	1
1139-1313-03	05	20AA	1
1139-1314-01	05	04AA	1
1139-1315-01	05	41AA	1
1139-1316-01	03	02AA	2
1139-1317-01	08	40AA	1
1139-1318-12	03	08AA	1
1139-1319-12	03	09AA	1
1139-1320-12	03	10AA	1
1139-1321-01	03	05AA	1
1139-1324-02	03	22AA	1
1139-1325-01	03	23AA	1
1139-1326-01	03	27AA	1
1139-1327-01	03	35AA	1
1139-1328-02	06	44AA	1
1139-1329-01	06	39AA	1
1139-1330-01	03	03AA	1
1139-1331-02	03	26AA	1
1139-1333-02	03	22AA	1
1139-1334-02	06	34AA	1
1139-1336-01	06	18AA	1
1139-1337-01	03	38AA	1
1139-1401-03	06	11AA	1
1139-1402-03	06	38AA	1
1139-1403-01	06	06AA	1
1139-1404-01	06	42AA	1
1139-1405-01	06	07AA	1
1139-1406-01	06	14AA	1
1139-1409-03	06	03AA	1
1139-1410-01	06	02AA	2
1139-1411-02	06	31AA	1
1139-1412-01	06	16AA	1
1139-1413-01	06	17AA	1
1139-1416-01	06	41AA	1
1139-1418-02	06	37AA	1
1139-1421-02	06	13AA	1
1139-1422-01	06	37AA	1
1139-1425-01	06	39AA	1
1139-1424-01	06	09AA	1
1139-1451-01	06	29AA	1
1139-1452-01	06	28AA	1
1139-1453-02	06	20AA	1
1139-1457-01	06	19AA	1
1139-1458-02	06	33AA	1
1139-1461-01	06	35AA	1
1139-1473-01	06	27AA	1
1139-1505-03	07	08AA	1
1139-1508-03	07	10AA	1
1139-1509-01	07	12AA	1
1139-1510-01	07	18BA	1
1139-1511-01	07	18CA	1
1139-1512-01	07	16AA	1
1139-1513-02	07	14AA	1
1139-1514-01	07	09AA	1
1139-1515-02	07	26AA	1
1139-1518-12	07	13AA	1
1139-1521-01	07	11AA	1
1139-1522-01	07	25AA	4
1139-1523-02	07	23AA	4
1139-1529-01	07	04AA	2
1139-1530-01	03	47AA	1
1139-1531-02	07	01AA	1
1139-1532-02	03	35AA	1
1139-1533-02	03	46AA	1
1139-1534-02	07	06AA	1
1139-1535-02	03	45AA	1
1139-1536-02	03	01AA	1
1139-1537-01	07	02AA	1
1139-1538-01	07	03AA	1
1139-1539-01	03	36AA	1
1139-1531-02	07	36AA	1
1139-1532-01	07	43AA	2
1139-1555-02	07	44AA	2
1139-1555-02	07	32AA	1
1139-1556-01	07	19AA	1
1139-1557-01	07	30AA	1
1139-1558-01	07	31AA	1
1139-1559-01	07	38AA	1
1139-1560-01	07	41AA	1
1139-1561-01	07	27AA	1
1139-1562-01	07	42AA	1
1139-1563-01	07	37AA	1
1139-1544-01	07	21AA	1
1139-1601-02	03	13AA	1
1139-1602-02	03	32AA	1
1139-1603-01	03	17AA	1
1139-1604-01	03	18AA	1
1139-1608-01	06	22AA	1
1139-1611-02	03	19AA	1
1139-1612-01	03	24AA	1
1139-1613-01	03	12AA	1
1139-1614-01	03	11AA	1
1139-1615-01	03	29AA	1
1139-1620-01	03	21AA	3
1139-1621-01	03	15AA	2
1139-1624-01	03	31AA	1
1139-1625-01	03	14AA	2
1139-1626-01	06	36AA	1
1139-1651-01	08	58AA	1
1139-1652-01	08	52AA	1
1139-1701-03	01	06BA	1
1139-1702-02	01	01AA	1
1139-1703-02	01	05AA	1
1139-1704-02	01	03AA	1
1139-1705-01	01	02AA	2
1139-1727-01	02	02AA	1
1139-1728-01	01	04AA	1
1139-1729-01	01	06AA	1
1139-1753-13	02	16AA	1
1139-1754-13	02	16BA	1
1139-1755-13	02	16CA	1

21 NUMERICAL INDEX 索 引

PART NO. 部品番号	FIG. 図番	INDEX 表示番号	QTY 員数
1139-2002-02	04	34AA	1
1139-2004-02	04	41AA	1
1139-2005-01	04	05AA	1
1139-2008-02	05	08AA	1
1139-2009-01	05	24AA	2
1139-2014-01	08	43AA	2
1139-2016-01	08	44AA	1
1139-2018-01	08	48AA	1
1139-2019-01	08	49AA	1
1139-2020-01	08	45AA	1
1139-2021-02	08	47AA	1
1139-2022-01	15	39AA	1
1139-2026-01	04	22AA	1
1139-2027-02	04	23AA	1
1139-2028-01	05	66AA	1
1139-2029-01	04	06AA	1
1139-2030-01	04	16AA	2
1139-2030-02	13	26AA	2
1139-2033-03	04	25AA	1
1139-2035-01	05	56AA	1
1139-2040-01	08	55AA	1
1139-2041-02	08	46AA	1
1139-2301-01	04	31AA	1
1139-2302-02	16	03AA	1
1139-2304-02	04	27AA	1
1139-2305-01	04	03AA	1
1139-2306-02	16	01AA	1
1139-2308-02	05	55AA	1
1139-2309-02	16	12AA	1
1139-2310-02	16	34AA	1
1139-2311-02	16	16AA	1
1139-2316-02	04	37AA	1
1139-2317-02	14	13AA	1
1139-2319-01	04	30AA	1
1139-2320-01	05	25AA	1
1139-2321-01	08	30AA	1
1139-2322-01	05	57AA	1
1139-2323-01	08	56AA	1
1139-2333-01	08	06AA	1
1139-2345-01	16	28AA	1
1139-2346-01	09	20AA	1
1139-2367-01	16	45AA	1
1139-2502-01	05	19AA	1
1139-2503-01	05	21AA	2
1139-2505-01	05	22AA	1
1139-2507-01	05	26AA	1
1139-2509-01	14	31AA	1
1139-2512-01	05	18AA	1
1139-2515-01	05	17AA	1
1139-2516-01	05	15AA	1
1139-2518-01	05	10AA	1
1139-2521-01	05	14AA	1
1139-2525-01	05	05AA	2
1139-2527-01	13	15AA	1
1139-2528-01	13	14AA	1
1139-2530-01	05	12AA	2
1139-2553-01	08	34AA	1
1139-2555-01	08	12AA	1
1139-2557-01	08	20AA	1
1139-2558-02	08	36AA	1
1139-2559-01	08	24AA	1
1139-2560-01	08	35AA	1
1139-2562-01	08	05AA	1
1139-2563-01	08	22AA	1
1139-2565-01	08	04AA	1
1139-2567-02	08	21AA	1
1139-3001-01	09	23AA	4
1139-3001-01	09	24AA	1
1139-3002-02	09	27AA	1
1139-3003-13	09	30AA	1
1139-3007-02	09	14AA	1
1139-3008-01	09	11AA	1
1139-3009-02	09	10AA	1
1139-3010-02	09	13AA	1
1139-3011-04	17	27AA	1
1139-3012-02	17	03AA	1
1139-3013-02	17	04AA	2
1139-3014-02	17	06AA	2
1139-3015-01	17	23AA	1
1139-3016-01	17	13AA	1
1139-3017-01	17	14AA	1
1139-3018-01	17	16AA	1
1139-3019-01	17	01AA	1
1139-3020-02	17	02AA	1
1139-3022-02	17	20BA	1
1139-3023-01	05	62AA	1
1139-3026-02	17	33AA	1
1139-3027-02	17	35AA	1
1139-3030-01	17	29AA	1
1139-3031-02	17	10AA	1
1139-3032-01	17	34AA	1
1139-3033-01	17	36AA	1
1139-3034-01	17	31AA	2
1139-3035-01	17	25AA	1
1139-3036-01	17	20AA	1
1139-3037-01	17	30AA	1
1139-3038-01	17	37AA	1
1139-3039-02	17	09AA	1
1139-3040-12	17	15AA	1
1139-3043-01	16	36AA	1
1139-3044-02	16	40AA	1
1139-3045-02	17	05AA	1
1139-3051-02	09	12AA	1
1139-3053-03	09	29AA	1
1139-3057-01	09	12AA	1
1139-3068-01	09	18AA	1
1139-3071-01	17	17AA	1
1139-3074-01	09	09AA	1
1139-3077-03	17	11AA	1
1139-3079-01	09	04AA	1
1139-3082-01	17	12AA	1
1139-3089-01	17	19AA	1
1139-3099-01	09	05AA	2
1139-3102-01	13	18AA	1
1139-3103-01	02	39AA	4
1139-3104-01	02	40AA	4
1139-3108-03	09	22AA	1
1139-3109-01	02	44AA	1
1139-3110-01	09	31AA	1
1139-3112-03	13	23AA	1
1139-3114-01	13	39AA	1
1139-3115-01	13	20AA	1
1139-3117-01	13	25AA	1
1139-3118-01	13	16AA	1
1139-3119-01	13	21AA	1
1139-3121-02	13	31AA	1
1139-3122-01	13	22BA	1
1139-3123-01	13	28AA	2
1139-3124-01	13	01AA	1
1139-3126-01	13	29AA	1
1139-3127-01	09	06AA	1
1139-3127-02	09	05AA	1
1139-3129-01	13	03AA	1
1139-3130-02	02	47AA	1
1139-3131-01	09	25AA	1
1139-3131-01	13	33AA	1
1139-3132-01	13	33AA	1
1139-3134-01	09	15AA	1
1139-3136-01	05	02AA	1
1139-3137-01	09	08AA	1
1139-3141-01	02	32AA	1
1139-3142-01	02	42AA	1
1139-3143-01	13	35AA	1
1139-3144-01	02	48AA	1
1139-3145-01	02	49AA	1
1139-3146-01	02	50AA	1
1139-3147-01	13	32AA	1
1139-3150-01	17	22AA	1
1139-3151-13	17	22BA	1
1139-3153-01	17	18AA	4
1139-3156-01	09	35AA	1
1139-3209-01	05	38AA	1
1139-3210-01	05	29AA	1
1139-3211-01	05	53AA	2
1139-3212-02	05	47AA	1
1139-3213-02	05	63AA	1
1139-3214-01	05	45AA	2
1139-3215-01	05	34AA	1
1139-3216-01	05	39AA	1
1139-3250-02	12	52AA	1
1139-3251-02	12	27AA	1
1139-3252-03	12	36AA	1
1139-3253-01	12	33AA	1
1139-3255-02	12	29AA	1
1139-3256-02	12	16AA	2
1139-3257-03	12	28AA	1
1139-3258-01	12	35AA	1
1139-3259-01	12	31AA	2
1139-3260-01	12	57AA	2
1139-3501-12	14	50AA	1
1139-3502-01	14	34AA	1
1139-3503-01	14	36AA	1
1139-3504-02	14	32AA	1
1139-3508-01	14	45AA	1
1139-4021-02	08	13AA	1
1139-4022-05	08	14AA	1
1139-4023-01	08	16AA	1
1139-4024-01	08	09AA	1
1139-4025-01	08	15AA	1
1139-4031-02	04	17AA	1
1139-4033-02	04	18AA	1
1139-4034-05	04	20AA	1
1139-4035-01	04	12AA	1
1139-4036-01	04	09AA	1
1139-4038-01	04	08AA	1
1139-4051-01	14	14AA	1
1139-4052-01	14	04AA	1
1139-4053-02	14	17AA	1
1139-4054-01	14	01AA	1
1139-4056-01	14	18AA	1
1139-4057-01	14	03AA	2
1139-4058-02	14	07AA	1
1139-4059-01	14	08AA	1
1139-4064-01	14	11AA	1
1139-4065-01	14	02AA	1
1139-4066-01	14	19AA	1
1139-4067-01	14	09AA	3
1139-4068-01	14	10AA	1
1139-4069-01	14	17AA	1
1139-4069-02	14	15AA	1
1139-4071-02	14	44AA	1
1139-4072-01	14	28AA	1
1139-4073-01	14	41AA	1
1139-4074-01	13	07AA	1
1139-4075-01	14	43AA	1
1139-4213-01	11	41AA	1
1139-4214-02	11	36AA	2
1139-4216-02	11	40AA	1
1139-4217-01	11	37AA	2
1139-4218-01	11	38AA	1
1139-4219-01	11	45AA	1
1139-4232-01	04	13AA	1
1139-4252-01	11	35AA	1
1139-4253-01	11	34AA	2
1139-4253-02	11	39AA	2
1139-4254-01	11	01AA	1
1139-4255-01	11	07AA	1
1139-4256-01	11	02AA	1
1139-4257-01	11	10AA	2
1139-4258-01	11	09AA	1
1139-4259-01	11	18AA	1
1139-4260-01	11	06AA	2
1139-4261-01	11	12AA	1
1139-4262-01	11	03AA	1
1139-4263-01	11	11AA	1
1139-4264-01	11	14AA	1
1139-4265-01	11	08AA	1
1139-4501-02	08	32AA	1
1139-4502-01	14	24AA	1
1139-4503-01	14	49AA	1
1139-4504-01	04	02AA	1
1139-4505-02	08	66AA	1
1139-4506-01	08	67AA	1
1139-4507-01	14	25AA	1
1139-4508-01	08	31AA	1
1139-4509-02	08	26AA	1
1139-4510-01	14	48AA	1
1139-4512-01	08	29AA	1
1139-4513-01	14	23AA	1
1139-4514-01	08	26BA	1
1139-4515-01	08	65AA	2
1139-5002-02	10	04AA	1
1139-5003-02	10	09AA	1
1139-5004-05	10	14AA	1
1139-5005-01	10	13AA	1
1139-5006-01	10	12AA	2
1139-5009-01	10	10AA	1
1139-5010-01	10	05AA	1
1139-5012-02	10	17AA	1
1139-5013-02	10	06AA	1
1139-5015-01	06	15AA	1
1139-5017-02	10	08AA	1
1139-5020-02	10	11AA	1
1139-5021-01	10	01AA	1
1139-5022-01	10	03AA	1
1139-5023-01	10	08AA	2
1139-5024-02	10	19AA	1
1139-5026-01	10	02AA	1
1139-5204-01	12	42AA	1
1139-5206-01	12	23AA	1
1139-5207-01	12	05AA	1
1139-5209-01	12	59AA	1
1139-5214-01	12	04AA	1
1139-5215-01	11	53AA	1
1139-5216-01	12	11AA	1
1139-5217-05	12	55AA	1
1139-5218-02	12	58AA	1
1139-5219-01	11	60AA	1
1139-5220-01	12	07AA	1
1139-5221-01	12	08AA	3
1139-5225-01	12	01AA	1
1139-5225-02	12	60AA	1
1139-5226-01	12	27AA	1
1139-5228-01	11	55AA	1
1139-5229-01	12	18AA	1

21 NUMERICAL INDEX 索 引

PARTS MANUAL

PART NO. 部品番号	FIG. 図番	INDEX 表示番号	QTY 員数
1139-5231-01	12	12AA	1
1139-5233-02	12	52AA	1
1139-5235-01	12	53AA	1
1139-5240-01	12	61AA	1
1139-5248-01	12	22AA	1
1139-5248-02	12	39AA	1
1139-5249-01	12	02AA	2
1139-5250-01	12	03AA	2
1139-5251-01	12	54AA	1
1139-5252-02	12	21AA	1
1139-5253-01	12	40AA	1
1139-5254-01	12	26AA	2
1139-5255-01	12	17AA	2
1139-5256-01	12	62AA	1
1139-5501-03	14	26AA	1
1139-5502-01	14	35BA	1
1139-5503-03	15	14AA	1
1139-5504-02	15	47AA	1
1139-5505-03	15	32AA	1
1139-5506-02	15	04AA	1
1139-5507-02	15	23AA	1
1139-5508-02	15	27AA	1
1139-5509-02	15	56AA	1
1139-5510-02	15	53AA	1
1139-5512-01	15	27AA	2
1139-5513-01	15	40AA	1
1139-5514-01	15	38AA	1
1139-5514-02	15	49AA	1
1139-5516-01	15	59AA	1
1139-5523-01	15	44BA	1
1139-5525-03	15	48AA	1
1139-5525-01	15	52BA	1
1139-5526-01	15	52AA	1
1139-5527-01	15	44AA	2
1139-5528-01	15	02AA	2
1139-5532-01	15	03AA	1
1139-5534-01	15	07AA	1
1139-5535-01	15	21AA	1
1139-5536-03	15	30AA	1
1139-5538-01	15	11AA	1
1139-5539-03	15	57AA	1
1139-5542-01	15	51AA	1
1139-5543-01	15	50AA	1
1139-5544-01	15	35AA	1
1139-5548-01	15	15AA	2
1139-5548-01	14	29AA	1
1139-5549-01	15	18AA	1
1139-5550-01	05	60AA	1
1139-5551-01	15	01AA	1
1139-5552-02	15	08AA	1
1139-5553-01	15	37AA	1
1139-5554-01	15	10AA	1
1139-5558-01	15	28AA	11
1139-5559-01	15	31AA	1
1139-5560-01	15	42AA	2
1139-5561-01	15	41AA	1
1139-5562-01	15	33AA	1
1139-5701-02	11	61AA	1
1139-5702-03	11	44AA	1
1139-5703-01	11	44AA	1
1139-5704-02	11	56AA	1
1139-5707-01	12	50AA	1
1139-5710-02	11	24AA	1
1139-5711-04	11	64AA	1
1139-5713-01	11	54AA	1
1139-5715-01	11	31AA	1
1139-5719-01	11	28AA	1
1139-5720-01	11	46AA	2
1139-5721-02	11	47AA	1
1139-5722-01	11	49AA	1
1139-5723-01	11	48AA	1
1139-5724-02	12	16AA	2
1139-5725-01	12	15AA	2
1139-5726-01	11	43AA	1
1139-5728-02	11	42AA	1
1139-5729-01	11	30AA	1
1139-5730-01	12	45AA	1
1139-5731-02	12	47AA	1
1139-5732-01	12	49AA	1
1139-5733-01	12	38AA	1
1139-5734-01	12	58AA	1
1139-5738-01	12	63AA	1
1139-5742-02	12	32AA	1
1139-6206-02	16	32BA	1
1139-6221-02	16	01AA	1
1139-6523-03	04	07AA	1
1139-6804-13	16	47AA	1
1139-6805-13	16	47BA	1
1139-6806-02	04	40AA	1
1139-6807-02	06	05AA	1
1139-6808-01	06	46AA	1
1139-6813-01	13	46AA	1
1139-6814-02	15	34AA	1
1139-6815-01	08	42AA	1
1139-6815-02	10	15AA	1
1139-6816-02	15	54AA	1
1139-6818-02	08	38AA	1
1139-6819-03	11	51AA	1
1139-6820-01	16	04AA	1
1139-6821-03	16	48AA	1
1139-6825-02	07	22AA	1
1139-6826-02	07	22AA	1
1139-6827-02	03	44AA	1
1139-6828-23	09	37AA	1
1139-6845-01	11	62AA	1
1139-7302-02	17	21AA	1
1139-7305-01	17	21AA	1
1139-7306-01	15	22AA	1
1139-7307-02	17	21BA	1
1139-7308-01	17	58AA	1
1139-7310-01	08	51AA	1
1139-7311-01	02	17AA	1
1139-7312-01	02	46AA	1
1139-7317-01	02	35AA	1
1139-7318-01	02	35BA	1
1139-7319-01	02	35CA	1
1139-7322-01	17	28AA	1
1139-7323-01	17	28BA	1
1139-7328-01	02	34AA	1
1139-7332-01	02	56AA	1
1139-7336-01	02	55AA	1
1139-7337-01	02	57AA	1
1139-7345-01	17	42AA	1
1139-7346-01	17	63AA	1
1139-7347-01	08	56AA	1
1139-7901-02	18	57AA	1
1139-7902-02	18	18AA	1
1139-7906-01	18	20AA	1
1139-7907-01	18	21AA	1
1139-7908-03	18	22AA	1
1142-0101-02	16	22BA	1
1142-0102-02	16	06AA	1
1142-0111-04	01	09AA	1
1142-0112-04	01	09DA	1
1142-0113-04	01	09CA	1
1142-0114-03	01	09EA	1
1142-0115-04	01	09BA	1
1142-0116-02	01	09FA	1
1142-0142-04	16	21AA	1
1142-0220-02	09	21AA	1
1142-1001-01	02	31AA	1
1142-1008-02	02	10AA	1
1142-1010-01	02	10BA	1
1142-1057-02	02	24AA	1
1142-2301-01	05	48AA	1
1142-2302-01	16	14AA	1
1142-2336-03	16	25AA	1
1142-3005-01	09	38AA	1
1142-3007-01	05	31AA	1
1142-3046-02	05	43AA	1
1142-3059-02	05	43BA	1
1142-3065-01	09	17AA	1
1142-3101-02	02	12AA	1
1142-3105-03	02	43AA	1
1142-3106-01	09	01AA	1
1142-3108-01	02	13AA	1
1142-3122-01	13	22AA	1
1142-3201-02	05	37AA	1
1142-3202-02	05	46AA	1
1142-3205-01	05	41AA	1
1142-3206-01	05	40AA	1
1142-5029-01	10	20AA	1
1142-5502-01	14	35AA	1
1142-6601-02	16	07AA	1
1142-6801-03	04	39AA	1
1142-6802-02	16	09AA	1
1142-6803-01	16	43AA	1
1142-6804-01	16	43BA	1
1142-6805-01	04	39BA	1
1142-6806-01	16	26AA	1
1142-7301-01	02	30AA	2
1142-7301-01	05	32AA	2
1142-7302-01	02	11AA	1
1142-7320-01	02	29AA	1
1142-7321-02	02	29BA	1
1142-7322-02	17	26AA	1
1200-1346-02	16	49AA	2
1200-1346-12	16	49AA	2
1200-1422-02	13	19AA	1
1200-1431-01	08	19AA	2
1200-1442-01	08	19AA	1
1200-1511-01	11	59AA	1
1200-1531-04	17	19AA	1
1200-2105-02	17	40AA	1
1200-2105-05	09	28AA	1
1200-2105-05	13	04AA	2
1200-2125-01	17	44AA	2
1200-2226-22	17	07AA	1
1200-3121-07	09	02AA	2
1200-3123-07	13	12AA	2
1200-3134-03	08	16AA	2
1200-3134-16	09	16AA	2
1200-3134-16	14	30AA	2
1200-3134-16	15	58AA	2
1200-3211-08	12	51AA	1
1200-3231-05	12	09AA	4
1200-3232-04	09	34AA	2
1200-5212-04	13	30AA	2
1200-5232-10	17	32AA	1
1273-3048-01	16	39AA	2
1273-3505-01	02	41AA	2
1273-3535-01	02	41AA	1
1274-3603-01	14	40AA	1
1300-3122-32	05	03AA	1
1300-3132-12	15	36AA	1
1400-1122-04	07	08AA	1
1400-1122-06	14	02AA	3
1400-1132-06	07	39AA	1
1400-1133-08	07	33AA	2
1400-1134-07	11	15AA	1
1400-1154-06	11	23AA	1
1400-1167-05	16	26AA	2
1400-1226-03	12	19AA	2
1400-2110-01	14	15AA	2
1400-2554-03	13	13AA	2
1500-2320-02	16	19AA	1
1500-2351-60	02	08AA	1
1500-2360-33	11	57AA	1
1500-2340-33	14	21AA	2
1500-2340-35	16	38AA	1
1500-2340-87	05	58AA	1
1500-2340-88	05	58BA	1
1500-2341-07	02	04AA	1
1500-2341-07	05	49AA	2
1500-2610-01	15	05AA	2
1500-2640-04	04	26AA	1
1500-2640-04	08	53AA	1
1425-3902-01	07	09AA	1
9312-1310-22	10	07AA	1
9313-1210-81	14	33AA	1
9313-1310-11	16	10AA	1
9313-1310-18	08	59AA	1
9313-1310-32	08	27AA	1
9313-1311-31	16	10BA	1
9314-1310-21	03	40AA	1
9314-1310-31	07	57AA	1
9314-1310-31	03	30AA	1
9314-2310-11	05	50AA	1
9314-2310-11	08	11AA	1
9321-2310-22	04	12AA	1
9321-2310-32	09	11AA	1
9322-1011-31	13	17AA	1
9322-1410-51	14	11AA	1
9323-1310-11	04	28AA	1
9323-1310-11	11	58AA	1
9325-2310-22	16	33AA	1
9325-2310-32	16	33CA	1
9325-2310-45	16	33BA	1
9325-3010-21	04	38BA	1
9325-3010-31	04	38AA	1
9326-1310-61	14	59AA	1
9326-1310-11	16	37AA	1
9331-2310-21	04	32AA	1
9332-1310-11	16	42AA	5
9332-5310-11	04	29AA	1
9332-5310-21	05	29AA	1
9334-1320-31	02	07AA	1
9335-1010-21	09	26AA	3
9335-1010-21	10	16AA	1
9335-1010-21	13	02AA	2
9335-1010-21	15	55AA	1
9335-1310-11	03	28AA	1
9335-1310-41	07	20AA	1
9335-1310-51	08	39AA	1
9341-2110-11	16	44BA	1
9341-2320-31	16	44AA	1
9343-2210-21	16	35BA	1
9343-4310-21	16	35AA	1
9343-4720-81	16	35CA	1
9346-3510-21	05	55AA	4
9346-3510-61	15	26AA	2
9346-3520-32	16	24AA	2
9346-3620-31	16	29AA	2
9346-3621-01	16	22AA	2
9346-3720-51	16	18AA	1
9351-1310-11	04	19AA	1
9351-1310-31	04	19BA	1
9351-2310-41	06	43BA	1

PART NO. 部品番号	FIG. 図番	INDEX 表示番号	QTY 員数
9352-2310-43	15	25AA	1
9352-2310-53	15	25BA	1
9352-2310-93	15	25CA	1
9352-2313-01	15	25EA	1
9352-2410-11	15	25DA	1
9352-6310-11	05	44AA	1
9352-6310-31	14	46AA	1
9372-2310-21	15	29AA	1
9381-1807-05	16	20AA	1
9381-4110-21	16	11CA	1
9381-4210-51	16	11BA	1
9381-4310-81	16	11DA	1
9381-4310-91	16	11EA	1
9381-4320-22	16	11AA	1
9384-1110-61	18	07AA	2
9384-1211-01	18	07BA	2
9384-1310-11	18	07CA	7
9384-1310-41	18	07DA	6
9384-1310-51	18	05AA	6
9384-1310-81	18	02AA	8
9384-1311-01	18	13AA	1
9384-1311-11	18	14AA	3
9384-1720-41	18	03AA	26
9384-1820-31	18	04AA	5
9384-1900-52	18	15AA	1
9384-1900-53	18	09AA	7
9384-1900-54	18	10AA	18
9384-1900-55	08	07AA	1
9384-1900-55	16	27AA	2
9384-1900-56	04	35AA	8
9384-1900-56	05	31AA	4
9384-1900-56	16	02AA	14
9384-1900-57	16	31AA	4
9384-1900-61	05	42AA	1
9384-1900-61	16	05AA	3
9384-1900-64	18	01AA	7
9384-1900-65	18	01BA	10
9384-1920-71	18	08AA	1
9384-1921-01	18	06AA	3
9384-1921-11	18	06BA	10
9384-1921-21	18	06CA	5
9384-1921-31	18	06DA	1
9384-2010-22	18	11AA	14
9384-2010-31	18	12AA	11
9384-2010-41	18	12BA	4
9384-2310-41	05	23AA	1
9384-2310-41	08	28AA	1
9384-2800-36	18	11BA	6