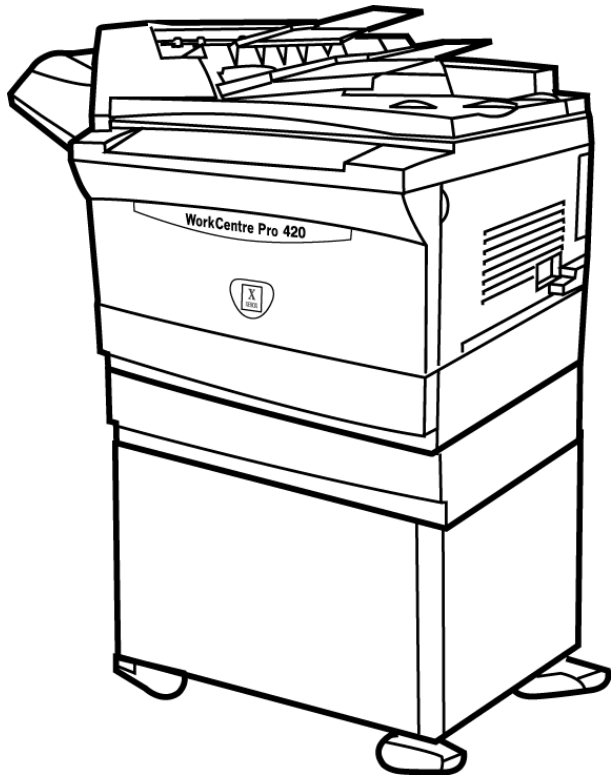
WorkCentre Pro 420

Service Manual



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Fuji Xerox of Shanghai Limited

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About This Documentation

Documentation Design and Purpose

This Service Documentation contains diagnostic, repair, and maintenance information, which has been designed to assist the Service Representative in the isolation and repair of faults as well as maintenance of the Printer/Copier.

This documentation assumes that the user is familiar with the electrical and mechanical standards that are commonly used throughout industry, as well as certain Xerox design and documentation conventions. This documentation also assumes that the user has successfully completed any required training and is familiar with the use of any special tools that are required to service this product.

Applicability

The diagnostic, repair, and adjustment procedures found in this documentation apply equally to all 50 Hz and 60 Hz machine versions. Some procedures, however, may be identified as being applicable to a specific version or machine configuration.

Limitations

This service documentation does not support specific electrical, mechanical, or operational considerations of any accessory device or machine modification not authorized by Xerox Corporation for this product.

Service Documentation Revisions

This service documentation may be subject to periodic revision in order to reflect any changes in electrical or mechanical hardware, as well as any possible additions or corrections necessary to ensure the technical accuracy of the documentation.

Service Information (Yellow Pages - hardcopy only)

When appropriate, service information in the form of yellow pages (for those with hard copy only) will be distributed and should be incorporated into their service documentation. Service information may include bulletin information, Tag and Kit information, page revisions, or current top problems relative to the repair and maintenance of the machine.

Field Service Bulletins

Field service information specifically applicable to the machine may occasionally be issued in the form of electronic or critical bulletins. Because bulletins contain important information, they should always be retained within this service documentation for quick reference.

Organization

This documentation is divided into six sections. In addition to the Introduction, the following sections are contained within this documentation.

Section 1 - Service Call Procedures

Section 2 - Status Indicator RAPs

Section 3 - Image Quality RAPs

Section 4 - Repair/Adjustment Procedures

Section 5 - Parts List

Section 6 - General Procedures/Information

Section 7 - BSD

A detailed description of the information contained within each section of the service documentation will be found in the following subsection.

How to Use This Documentation

Introduction

This section provides the Service Representative with information pertaining to the organization and use of this service documentation, and includes the following supportive reference data:

Reference Symbology

Signal Nomenclature

DC Voltage Range Specifications

AC Voltage Range and Current Specifications

Section 1: Service Call Procedures

This section is used by the Service Representative as a structured process for determining the type and sequence of actions that are performed during a service call. The Service Call Procedures section is designed to assist in the effective recognition of machine symptoms and problems, as well as to provide instructions for the maintenance and corrective actions that are required to return the machine to the full operating condition.

Section 1 of this service documentation is the entry level for all service calls. The Service Representative should begin each service call with the Initial Action procedure found in Section 1.

The Service Call Procedures section is composed of five integral elements: Initial Action, System Checks, Subsystem Maintenance, Preventive Maintenance, and Final Action. The maintenance and diagnostic activities in this section may direct the Service representative to perform additional service activities found elsewhere in the documentation, such as RAPs, removal and replacement procedures, and adjustment procedures.

The **Initial Action** procedure identifies certain required actions that are necessary to obtain a basic appraisal of machine operation at the start of the service call.

The **System Checks** subsection is used to test the machine in order to confirm and define the problem areas. This subsection is used to assist the Service Representative in diagnosing the not readily apparent machine problems, or when there are conflicting or ambiguous symptoms present. It is important that this procedure be used in order to ensure that the correct symptom is being diagnosed.

The **Subsystem Maintenance** subsection contains a specific activity procedure that must be performed on the service call.

The **Preventative Maintenance** procedure contains a list of the cleaning and lubrication activities that are designed to extend and enhance the reliability and performance of the machine.

The **Final Action** subsection is used to identify the actions necessary to clear the call with the Customer and to complete any administrative tasks that are associated with completing the service activity.

Section 2: Status Indicator RAPs

Section 2 of this documentation contains the Repair Analysis Procedures (RAPs) necessary to repair all faults other than the image quality faults. The Service Representative will be referred to this section from some other section of this documentation during the service call. When a machine defect or fault has been resolved by using a RAP, the Service Representative should immediately return to the point in the service call from which section 2 was entered.

There are two types of RAPs found in section 2. The first type is a RAP that is associated with the display of a status code or fault code in the RAP title. The second type is the Other Fault RAP. Other Fault RAPs are diagnostic procedures that are designed to address symptoms or problems that are not identified by, or associated with, a displayed status or fault code.

Section 3: Image Quality RAPs

Contains the Image Quality Repair Analysis Procedures (IQ RAPs) that are used to diagnose image quality defect problems. The RAPs that are associated with image quality defect symptoms will contain the prefix “IQ” to differentiate them from other types of machine failure symptoms.

Section 4: Repairs / Adjustment Procedures

Contains all repair and adjustment procedures for the machine. Repairs (REPs) and adjustments (ADJ’s) are identified by the use of a standard chain prefix number.

Section 5: Parts List

Contains a list of spare parts for the machine. All parts list page reference numbers begin with the letters “PL”, followed by a prefix number, a decimal point, and a sequential number used within the subsystem.

Section 6: General Procedures / Information

Contains procedures and information of a general nature that apply to the machine. This section is divided into two basic parts.: General Procedures and General Information.

The General Procedures subsection contains frequently used procedures that relate to the diagnosis, the setup, or the operation of the machine.

The General Information subsection contains specific information that is pertinent to the operation of the machine, but will not be found in any other part of the service documentation. This information may include product codes, environmental operating data, installation space requirements, and paper and electrical specifications. This subsection may also contain information regarding supplemental tools and supplies, general service notes, a glossary of commonly used terms, and a Change Tag Index of authorized machine modifications and retrofits.

Section 7: Wiring Data (Optional)

Contains support information to assjst in the electrical diagnosis of machine problems.

Other Information

The Use of Caution, Warning, and Note statements

Information relative to the completion of a task in a safe or thorough manner will be supplied in the form of a Caution, a Warning, or a Note statement. These statements are found throughout the service documentation.

Cautions, Warnings, and Note statements appear before the steps to which they apply. These statements should be read before continuing to the next step in a procedure.

The definition of a Caution, Warning, or Note is as follows:

Caution - A Caution statement indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.

Warning - A Warning statement indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in personal injury or loss of life.

Note - A Note statement indicates an operating or maintenance problem, practice, or condition that is necessary to accomplish a task efficiently.

The Use of Acronyms, Abbreviations, Specific or Unique Terms, and Conventions

A list of acronyms and abbreviations used in this service documentation will be found in the Reference Symbology subsection, contained elsewhere in this section.

Specific Terms

Test Pattern 82P524 (inch) and 82P523 (metric) will be referred to in this documentation as the Standard Test Pattern.

The terms “dry ink” and “toner” are interchangeable.

Conventions

The following bolding convention is used in this service documentation:

Bolded numbers or words following the words “Press the” represent the actual keypad button on the Control Console.

Reference Symbology

Introduction to Reference Symbology

This section describes and defines the various acronyms, abbreviations, reference symbols, Signal Nomenclature, and AC and DC power specifications. The following is a description of some of the terms found in this section:

Acronyms

Acronyms are used throughout this service documentation to denote common terminology. Although some acronyms may be unique to this product, most acronyms used in this document are known throughout the service industry. Table 1 lists the acronyms that are found in this service documentation that enable use of the documentation. A complete list of all acronyms is in Section 6

Reference Symbols

Reference symbols consist of various icons used in this documentation to denote supportive data that can be found in other sections of this documentation. The purpose of these symbols is to inform the Service Representative of procedures, adjustments, or other information that is important for successful diagnosis and repair.

Schematic Symbols

These symbols represent various electrical and mechanical components or devices that are commonly found in Xerox equipment. These symbols are included as an aid to understanding the representations used in the Circuit Diagrams (CD's).

AC and DC Voltage References

The expected AC and DC voltage levels found in this machine are defined in this section. These specifications represent the expected range for AC (machine input power source) and DC (machine internal power supplies) voltages that are encountered during normal operation.

Abbreviations

Table 2 lists the electrical wire colors that are identified in this service documentation and reflects the use of standardized abbreviations.

Table 1 General Acronyms

Acronym	Definition
AC	Alternating Current
ACH	Alternating Current High
ACN	Alternating Current Neutral
AMP	Ampere
BSD	Block Schematic Diagram
BTU	British Thermal Unit
CD	Circuit Diagram
IQ	Image Quality
DC	Direct Current
ESD	Electrostatic Discharge
HFSI	High Frequency Service Item
LED	Light Emitting Diode
PL	Parts List
PWB	Printed Wiring Board
RAP	Repair Analysis Procedure
VAC	Volts Alternating Current
VDC	Volts Direct Current

Table 2 Wire Color Abbreviations

Abbreviation	Wire Color
BLK	black
BLU	blue
BRN	brown
GRAY	gray
GRN	green
G/Y	green/yellow
ORN	orange
PINK	pink
RED	red
VIO	violet
WHT	white
YEL	yellow
Y/G	yellow/green

REFERENCE SYMBOLOGY

Notes, adjustments, and parts lists, support the checklists and the RAP information. The symbols that refer to this supportive data are shown below.

Flag Symbol

Indicates part of circuit referred to in RAP.

Figure 1 Flag Symbol

Parts List

The terminology in the figure below refers to the parts list that is located in section 5 of this Service Documentation. The PL designation is Parts List. The number refers to the 8.5 parts list.

PL 8.5

Figure 2 PL Symbol

Note

Refers to notes, usually on same page.

Figure 3 Note Symbol

Miscellaneous Symbols

Descriptions of all commonly used graphic symbols are included to assist in diagnostics.

Feed Back

Feedback signal.

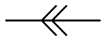

Figure 4 Feedback Symbol

Ground

Machine ground symbol

Figure 5 Ground Symbol

Connector

Plug / Jack Connector number and pin number

Figure 6 Connector Symbol

LED / Photo transistor Sensor

Symbol identifies sensor used in document and paper path. Blocked and unblocked light switches sensor off and on.

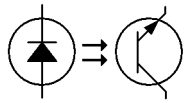

Figure 7 LED Photo transistor Symbol

Triac

Triac switches AC power via Low Voltage Input.

Figure 8 Triac Symbol

LED

Light Emitting Diode (LED)

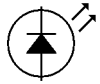

Figure 9 LED Symbol

Motor

Motor provides motive force

Figure 10 Motor Symbol

Thermistor

Thermistor Bead, used to sense temperature

Figure 11 Thermistor Symbol

Driver

Driver controls DC components.

Figure 12 Driver Symbol

Solenoid

Relay, Clutch, or Solenoid.

Figure 13 Relay, Clutch, or Solenoid Symbol

Without Tag Change

Symbol indicates that the area to which the triangle points has not been modified by the tag number in the circle.

Symbol indicates that the entire page has not been modified by the tag number in the circle.

Figure 14 Without Tag Symbol

With Tag Change

Symbol indicates that the area to which the triangle points has been modified by the tag number in the circle.

Symbol indicates that the entire page has been modified by the tag number in the circle.

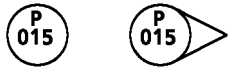

Figure 15 With Tag Symbol

Laser Warning

WARNING

Symbol is used to warn of possible eye damage from a laser beam if service procedures are not followed exactly as written.

Figure 16 Laser Warning Symbol

ESD Warning

CAUTION

Symbol is used when components in the copier are susceptible to damage from electrostatic discharge. Observe ESD procedures to avoid component damage.

Figure 17 ESD Caution Symbol

Warning

WARNING

A warning is used to alert the personnel to an operating or maintenance procedure, practice, or condition that, if not strictly observed could result in injury or loss of life.

Caution

CAUTION

A caution is used to alert the personnel to an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of equipment.

Signal Nomenclature

The signal is named to imply the condition of the machine when the signal is available. For example:

MAIN MOTOR ON (L) +5 VDC

1. **MAIN MOTOR ON**= Signal Name
2. **(L)** = Logic State when the signal is available in it's named state. In this case the signal is Lo when the Main Motor is energized.
3. **+5 VDC**= Logic level when the signal is Hi.

DC Voltage Levels

DC Voltages should be measured between the test point and the machine frame, unless instructed otherwise. Table 3 shows the value of the voltages.

Table 3 DC Voltage Levels

Voltage	Specification
+5 VDC	+4.75 to +5.25 VDC
+24 VDC	+21.6 to +26.4 VDC

Logic Voltage Levels

Measurements of logic levels must be made with reference to the specified ground point, unless some other point is referenced in a diagnostic procedure.

Table 4 Logic Voltage Levels

Nominal Voltage	Logic State	Actual Voltage Ranges
+5 VDC	Hi	+2.4 VDC to +5.2 VDC
	Lo	0.0 VDC to +0.45 VDC
+24 VDC	Hi	+22.0 VDC to +25.7 VDC
	Lo	0.0 VDC to +3.0 VDC

1 Service Call Procedures

Introduction

Service Call Procedures 1-3

Call Flow

Call Flow Procedure 1-5

Status Codes / Other Faults Listing

Status Codes / Other Faults Listing 1-7

Subsystem Maintenance

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Service Call Procedures

Use Service Call Procedures as a maintenance guide when performing any service on printer/copier. This is designed to be used with printer/copier Service Documentation and is starting point for all service calls.

Call Flow Procedure

Identifies and classifies machine problems and refers to appropriate RAP for repair. When all problems are repaired, perform Final Actions.

- Initial Actions

  Steps to diagnose faults.
- Corrective Actions

  Steps to repair faults. Choices made based on machine symptom.
  - Status Codes / Other Faults Listing

    List of status codes and other faults with descriptions.
  - Corrective Actions

    Schedule of periodic maintenance to do when copy count reaches specific quantity.

    Maintenance Procedures

    Tables of subsystem components to be maintained with suggested materials and procedures when that subsystem is repaired by direction from a RAP.
- Final Actions

  Steps to verify machine operation and image quality.

Call Flow Procedure

Initial Actions

On Telephone

1. Call Customer and attempt to correct problem over telephone.
2. If problem cannot be resolved over telephone, give Customer your estimated time of arrival.
3. Ask Customer to save copies or prints made when problem occurred.

At Account

1. Check that space requirements and power requirements for machine are met.
2. Ask Operator or Customer to describe problem. If possible, ask Customer to demonstrate problem. Also ask for any additional problems encountered with machine.
3. Make a record of copy meter and Status Code.
4. Enter Diagnostic Mode. Enter [3–2] (GP 7 Status Code History) and record most recent status code. Continue with **R/E** button to display all most recent status codes. Press **0** button to display secondary codes.
5. The Service Log and Change Tag Matrix (behind front door) may contain information related to machine problem. Check Service Log and Tag Matrix.
6. Inspect sample copies provided by Customer.
7. Switch off power, wait 5 seconds, and then switch on power.
8. Clear any jammed paper from machine. Make copies (if possible) using Tray 1 (and Tray 2 if present).
   - Select a tray.
   - Load the document(s).
     - **ADF Only:** Load two (2) 8.5 x 11 inch (A4) documents into the ADF.
     - **Without ADF:** Place Standard test pattern on the Document Glass.
   - Make copies.
9. **ADF Only:** Using the copies from the first run, put 10 documents in the ADF.
10. Proceed to Corrective Actions.

Corrective Actions

1. Read following 6 items and respond as required. Go to step 2 after responding to one or more of following items.
   - If a status code is displayed on Control Panel, and any jammed paper is removed, go to Table 1 in this section.
   - If Fault History contains several faults with same status code, service this status code.
   - If an image defect occurs only in printing mode, go to OF 14-1 PRINTER RAP.
   - If an image defect occurs in copying mode (printing mode not relevant at this point), go to Image Quality Diagnostics Overview in Image Quality Section.
   - If an obvious problem occurs, repair as required and refer to Parts List as required for Removal, Reinstallation or Replacement information
   - For other problems not listed above, go to Table 2 in this section.
2. After responding to one or more of previous items in step 1, read following 2 items and respond as required.
   - If more than 2000 copies have been made since last service call, or if 20 days have elapsed since last service call, go to Periodic Maintenance in this section and perform actions listed after making repairs required in step 1. Then go to Final Actions
   - If less than 2000 copies have been made or if 20 days have not elapsed since last service call, go directly to Final Actions to complete service call.

Final Actions

In this section you will make sure that machine is feeding paper correctly, making copies free of defects, and operating to specification. You will also make sure that machine appearance is satisfactory and that administrative tasks necessary to close out a service call are performed.

If machine will not feed paper from all of paper trays, or if machine makes blank or unfused copies, or if a status code is displayed, return to Corrective Actions and make necessary repairs.

1. Load the document(s).
   - **ADF Only:** Load two (2) 8.5 x 11 inch (A4) documents into the ADF.
   - **Without ADF:** Place Standard test pattern on the Document Glass.
2. Make copies (if possible) using Tray 1, Bypass Tray, and Tray 2 if present.
3. Perform GP 2 Main PWB Generated Image [1–1] to generate ROS Test Pattern. Exit Diagnostic Mode and make 4 copies of standard test pattern. Examine copies for obvious image quality defects. Ensure image quality meets specifications in Section 3.
4. Perform GP3 Main PWB [3–11] to generate Printer Test Pattern. If defects are present, go to OF 14-1 PRINTER RAP in Section 2.
5. If machine is used as a printer perform following:
   - Verify that connections at rear of machine are secure. printer cable must be securely connected.
   - If used as a network printer, check network connection.
   - Ask customer to run a print job to verify print operation.
6. If a new Drum Cartridge was installed in machine and problem continues, reinstall old Drum Cartridge in machine. Put new Drum Cartridge in packaging, and ask Customer to store cartridge.
7. Clean machine covers and area around machine.
8. Make 2 copies. Show copies to operator or Customer.
9. Provide operator training if required.
10. Place remaining copy with Service Log.
11. Update Change Tag Matrix as required.
12. Give appropriate copy credits to Customer.
13. Make a record of copy count meter in Service Log. Make a record in Service Log of all necessary actions performed during service call. Also record any changes that were made to NVM.

Status Codes / Other Faults Listing

Table 1 Status Codes Entry Chart

Status Code / Description	Corrective Action
A1–1: Document can not actuate Pre Regi. Sensor after Document Solenoid is energized	A1-1 RAP
A2–0: Document can not actuate Document Registration Sensor after actuating Document Presence Sensor	A2 RAP
A2–1: After constant-speed feed motor is energized, Document can not deactivate in time Document Registration Sensor	A2-1 RAP
A2–2: After constant-speed feed motor is energized, document can not actuate in time Document Exit Switch	A2-2 RAP
A2–3: Document can not deactivate in time Document Exit Switch after deactivating Document Registration Sensor	A2-3 RAP
A5–0: ADF Cover is open	A5 RAP
C1–0: Tray 1 fed paper did not actuate Tray 1 Takeaway Sensor in time after Tray 1 Feed Motor energized	C1 RAP
C2–0: Tray 2 fed paper did not actuate Tray 2 Takeaway Sensor in time after Tray 2 Feed Motor energized	C2 RAP
C3–0: Bypass fed paper did not actuate Registration Sensor in time after Bypass Feed Solenoid energized	C3 RAP
C3–1: Bypass fed paper actuated Registration Sensor too early after Bypass Feed Solenoid energized	C3 RAP
C4–0: Tray 1 fed paper did not deactuate Tray 1 Feed Sensor in time	C4-0 RAP
C4–1: Tray 1 fed paper did not actuate Registration Sensor in time	C4-1 RAP
C4–2: Tray 2 fed paper did not actuate Registration Sensor in time	C4-2 RAP
C4–3: Tray 1 fed paper actuated Registration Sensor too early after Tray 1 Takeaway Motor energized	C4-3 RAP
C4–4: Tray 2 fed paper actuated Registration Sensor too early after Tray 2 Takeaway Motor energized	C4-4 RAP
C4–5: Two-side fed paper did not actuate Registration Sensor in time	C4-5 RAP
C4–6: Two-side fed paper actuated Registration Sensor too early	C4-6 RAP
C5–0: The Tray 1 Paper Sensor not actuated	C5 RAP
C6–0: The Tray 2 Paper Sensor not actuated	C6 RAP
C7–0: The Tray 1 Interlock Switch not actuated	C7 RAP
C8–0: The Tray 2 Interlock Switch not actuated	C8 RAP
C9–0: Tray 1 fed paper did not actuate Tray 1 Feed Sensor in time	C9 RAP
E1–1: Paper did not actuate Fuser Switch in time after Registration Clutch energized	E1 RAP
E1–2: The paper did not de-actuate Registration Sensor in time after actuating Fuser Switch	E1 RAP
E1–3: The paper did not de-actuate Fuser Switch in time after deactuating Registration Sensor	E1 RAP
E1–4: The paper did not actuate Exit Sensor in time after actuating Fuser Switch	E1 RAP

Table 1 Status Codes Entry Chart

Status Code / Description	Corrective Action
E1–5: The paper did not de-actuate Exit Sensor in time after de-actuating Fuser Switch	E1 RAP
E2–1: Paper can not actuate in time OCT Exit Sensor after leaving Fuser Exit Switch	E2-1 RAP
E2–2: Paper can not deactuate in time OCT Exit Sensor after leaving Fuser Exit Switch	E2-2 RAP
E5–0: Front Door or Side Door is open	E5 RAP
E6–1: Tray 1 Door interlock is open	E6 RAP
E6–2: Tray 2 Door interlock is open	E6 RAP
J1–0: Toner level is low	J1 RAP
J3–0: Drum Cartridge not installed or incorrectly installed	J3 RAP
J4–1: Billing Counter missing or not installed correctly	J4-1 RAP
J4–2: Billing Counter is not a FXSL uniqueware	J4-2 RAP
J4–3: Billing Counter unit type Error	J4-3 RAP
J6–1: CRUM Communication Error	J6-1 RAP
J6–3: Billing Counter Communication Error	J6-3 RAP
J7–0: Drum Cartridge reached end of service life	J7 RAP
J8–0: Drum Cartridge not correct	J8 RAP
J9–1: CRUM is not a FXSL uniqueware	J9-1 RAP
L9–1: Current login account has no credits	L9-1 RAP
U1–0: Drive Module speed signal failure	U1 RAP
U2–1: Scan Home Sensor circuit, Scan Drive Motor, or carriages failure	U2 RAP
U2–2: The Exposure Lamp not lit or black white strip not sensed	U2 RAP
U3–0: Laser not detected	U3 RAP
U4–0: Previous U4 Status Code not cleared	U4 RAP
U4–1: Fuser overtemperature condition (425° F) is sensed	U4 RAP
U4–2: Fuser warm up failure occurred	U4 RAP
U4–3: Fuser warm up time exceeded	U4 RAP
U5–0: The Fuser temperature dropped below minimum temperature for more than 5 seconds	U5 RAP
U5–1: AC input power problem	U5 RAP
U6–0: Printer control communication failure	U6 RAP
U6–1: Drum Cartridge, or Tray 1, or Tray 2 communication failure	U6 RAP
U6–4: NVM signal failure	U6 RAP
U7: Control Panel communication from Main PWB failure	U7 RAP
U8: Control Panel communication to Main PWB failure	U8 RAP
U9–0: A HVPS output is shorted or overloaded, or intermittent	U9 RAP

Table 2 Other Faults Entry Chart

Other Fault Description	Corrective Action
Cooling Fan not operating	OF 1-3 COOLING FAN RAP
Control Panel is blank	OF 2-1 BLANK DISPLAY RAP
Scanning problem	U2 RAP
Paper Tray problem	OF 7-1 PAPER TRAY RAP
Audible Noise / Odor problem	OF 16-1 NOISE or ODOR RAP
Print problems	OF 14-1 PRINTER RAP
Copies/prints exit machine in non-standard or damaged condition	OF 8-1 PAPER DAMAGE or STACKING RAP
Intermittent copier/printer operation	OF 16-2 GROUND RAP
Ground Checkout	OF 16-2 GROUND RAP
Diagnostics not available	U2 RAP

Periodic Maintenance

Activities to perform if 2K copies or 20 days elapsed since last service call.

NOTE: *While performing a repair in a RAP, you may be directed to perform one or more following activities. When returning here after a repair, skip what is already serviced.*

Procedure

1. Make a copy to run Cooling Fan. If fan is not operating go to OF 1-3 Cooling Fan RAP.
2. Do Paper Feed and Registration Maintenance Procedures (Table 2).
3. Do Xerographic maintenance (Table 3).
4. Do Copy Transportation and Fusing Maintenance Procedures (Table 4).
5. Do Document Feeder maintenance procedures (Table 5).
6. Clean top of Document Glass with Lens and Mirror cleaner and a Lint–Free Cloth.
7. Clean Document Cover Pad with Lens and Mirror Cleaner and a Lint–Free Cloth.
8. **Every 125K copies:**
   a. Replace Fuser Module (PL 1.4) (REP 10.1).
   b. Replace Bypass Feed Roll (PL 6.3) (REP 8.11) and Bypass Retard Pad (PL 6.2) (REP 8.12).
   c. Go to OF 16-2 Ground RAP and perform Ground Check.

Maintenance Procedures

This section contains a list of machine subsystem components to be maintained and suggested materials and procedures to be used. You will be referred here from Periodic Maintenance, a Status Code, an Other Fault, or an Image Quality RAP.

Procedure

Service following components as directed. Clean any component that appears contaminated with dirt, paper dust, or dry imager, whenever component is made accessible during repair of machine.

Table 1 Optics Subsystem Maintenance Procedures

Perform this activity whenever Document Glass (REP 6.5) is completely removed.	**Materials**
Perform GP 9 R. **CAUTION** *If bottom of Document Glass is cleaned, Image Quality defects will occur if RIS Module is not vacuumed before reinstalling Document Glass.*	• Lens and Mirror Cleaner • Lint–Free Cloth • Vacuum Cleaner

Table 2 Paper Feed and Registration Subsystem Maintenance Procedures

Perform this activity when given direction in Call Flow.	**Materials**
Clean Bypass Feed Roll **CAUTION** *Do not clean Retard Pad.*	• Film Remover/General Cleaning Solvent • Lint–Free Cloth
Clean Registration Roll and Idler Roll	• Film Remover/General Cleaning Solvent • Lint–Free Cloth

Table 2 Paper Feed and Registration Subsystem Maintenance Procedures

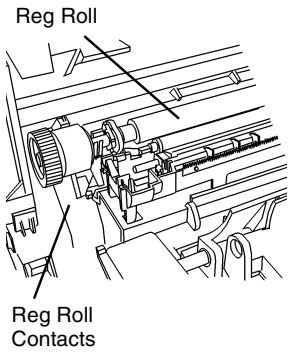
Perform this activity when given direction in Call Flow.	Materials
Clean Registration Roll and Idler Roll. Clean Registration Roll Contacts	• Film Remover/General Cleaning Solvent • Lint–Free Cloth  **Figure 1 Registration**

Table 3 Xerographics Subsystem Maintenance Procedures

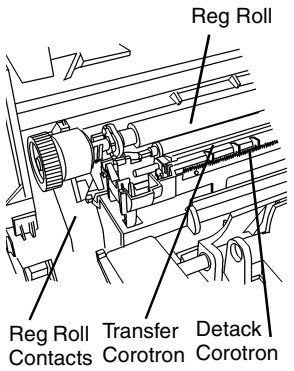
Perform this activity when given direction in Call Flow.	Materials
• Clean Transfer/Detack Corotron wire with a cotton swab to remove Toner. • Clean Transfer/Detack Corotron housing with a soft brush. • Clean Transfer Detack contacts and corresponding contacts on HVPS with a Lint–Free Cloth and Film Remover/General Cleaning Solvent. • Clean Transfer Roll Contact with a Lint–Free Cloth and Film Remover/General Cleaning Solvent.	• Cotton Swab • Soft Brush • Film Remover/General Cleaning Solvent • Lint–Free Cloth  **Figure 2 Transfer**
• Remove Drum Cartridge (REP 9.1). • Clean any toner from Drum Cartridge.	• Vacuum Cleaner
Clean Drum Cartridge contacts	• Lint–Free Cloth • Film Remover/General Cleaning Solvent

Table 4 Copy Transportation and Fusing Subsystem Maintenance Procedures

Perform this activity when given direction in Call Flow or RAP's	Materials
Clean Fuser Roll	Make 10 copies of a white document.
Clean Exit Rollers.	• Film Remover/General Cleaning Solvent • Heavy Duty Towel/Cleaning Cloth.

Table 5 Document Feeder (ADF) Subsystem Maintenance Procedures

Perform this activity when given direction in Call Flow or RAP's	Materials
Clean Feed Roll, gentle push Roll, Output Roll, Output Pressure Roll, Exit Roll and CVT Roll. Remove offset Receiving Tray (REP 5.3) to approach Feed Roll and gentle push Roll.	• Film Remover/General Cleaning Solvent • Lint-Free Cloth.
Clean CVT glass pad. If the bottom of CVT glass is contanimated, do GP9 RIS/Mirror cleaning.	• Film Remover/General Cleaning Solvent • Lint-Free Cloth.
Clean CVT Roll	• Film Remover/General Cleaning Solvent • Lint-Free Cloth.
Clean Exit Roll/Idler Roll	• Film Remover/General Cleaning Solvent • Lint-Free Cloth.

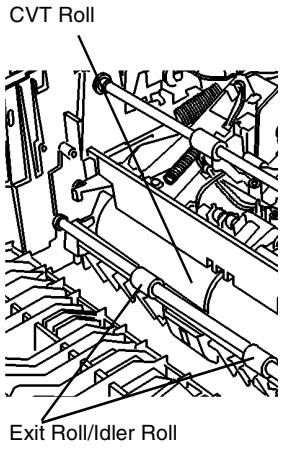


Figure 3 Registration

CAUTION

Image Quality defects will occur if machine is on and cleaning solutions are used on covers. Cooling Fan may draw cleaning solution vapor into machine. Switch off machine before cleaning so that Cooling Fan is off.

Table 6 Covers Subsystem Maintenance Procedures

Perform this activity when given direction in Call Flow or RAP's	Materials
Clean covers as necessary.	• Formula A/All Purpose Cleaner • Heavy Duty Towel/Cleaning Cloth

2 Status Indicator RAP/Other Faults

Status Indicator RAPs

+5VDC POWER RAP 2-3
+24VDC POWER RAP 2-3
A1 RAP 2-4
A2 RAP 2-8
C1 RAP 2-11
C2 RAP 2-12
C3 RAP 2-14
C4 RAP 2-16
C5 RAP 2-18
C6 RAP 2-19
C7 RAP 2-20
C8 RAP 2-21
C9 RAP 2-22
E1 RAP 2-23
E2 RAP 2-27
J1 RAP 2-31
J4 RAP 2-32
J6 RAP 2-32
J3 RAP 2-33
J6 RAP 2-33
J8 RAP 2-33
J9 RAP 2-33
J7 RAP 2-34
U1 RAP 2-35
U2 RAP 2-36
U3 RAP 2-38
U4 RAP 2-40
U5 RAP 2-42
U6 RAP 2-43
U7, U8 RAP 2-44
U9 RAP 2-46

Other Faults

OF 1-1 CONTROL PANEL RAP 2-47
OF 1-2 MACHINE RUN RAP 2-48
OF 1-3 COOLING FAN RAP 2-51
OF 2-1 BLANK DISPLAY RAP 2-54
OF 7-1 PAPER TRAY RAP 2-58
OF 8-1 PAPER DAMAGE or STACKING RAP 2-60
OF 14-1 PRINTER RAP 2-62
OF 16-1 NOISE or ODOR RAP 2-64
OF 16-2 GROUND RAP 2-66

+5VDC POWER RAP

CR2 on MAIN PWB is turned on.

Y N

Turn OFF the power.
Check the connection between P/J 109 on MAIN PWB and LVPS.
This connection is in good condition.
Y N
Reconnect MAIN PWB and LVPS.

Turn ON the power.
Check the voltage between P109-C9(+) and GND(-) on MAIN PWB.
Approximately +5VDC is measured.
Y N
The voltage between P/J205-2 and P/J205-3 on LVPS has approximately 110/220VAC.
Y N
Check the voltage between ACN and ACH on POWER CORD.
Approximately 110/220VAC are measured.
Y N
Check the power cord.
If no problems are found, check the customer's power supply.

Replace POWER SUPPLY PWB

Replace LVPS.

Replace MAIN PWB.

Check the wire between MAIN PWB and the applicable component for an open circuit or poor contact by referring to BSD CHI.

+24VDC POWER RAP

The voltage between P/J102-(+) and GND(-) on MAIN PWB has +24VDC.

Y N

Turn OFF the power.
Check the Connection between P/J 109 on MAIN PWB and LVPS.
This connection is in good condition.
Y N
Reconnect MAIN PWB and LVPS.

Turn ON the power.
Check the Voltage between P109-A31(+) and GND(-) on MAIN PWB.
Approximately +24VDC is measured.
Y N
The voltage between P/J205-2 and P/J205-3 on LVPS has approximately 110/220VAC.
Y N
Check the Voltage between ACN and ACH on POWER CORD.
Approximately 110/220VAC are measured.
Y N
Check the power cord.
If no problems are found, check the customer's power supply.

Replace POWER SUPPLY PWB

Replace LVPS.

Replace MAIN PWB.

Check the wire between MAIN PWB and the applicable component for an open circuit or poor contact by referring to BSD CHI.

A1 RAP

A1–1: Document can not actuate Pre Regi Sensor after Document Solenoid is energized.

Initial Actions

- Ensure ADF hinges firmly lean against Top Cover.
- Ensure ADF is securely closed. Repair as required.
- Ensure offset catch tray is correctly installed if it was removed recently.

Procedure

Remove ADF drive cover and offset catch tray. Observe the gentle push roll when switching on or off power source of machine.

The gentle push roll must rapidly moves down and up.

Y N

Remove ADF Rear Cover.

Enter [5-5] and turned ON.

The voltage between P/J605-4(+) and GND(-) on ADF PWB has +24VDC.

Y N

The voltage between Pin 2(+) and GND(-) on Nudger Solenoid has +24VDC.

Y N

The voltage between Pin 1(+) and GND(-) on Nudger Solenoid has 0VDC.

Y N

Y N

Y N

Y N

Y N

Y N

Y N

Y N

Y N

Y N

Y N

Y N

Y N

B

CVT Motor rotates.

Y N

When [5-1] is turned ON, the voltage between P/J603-1(+) and GND(-) on ADF PWB has approximately +1.3VDC.

Y N

When [5-1] is turned ON, the voltage between P/J103-1(+) and GND(-) on MAIN PWB has approximately +1.3VDC.

Y N

Replace MAIN PWB.

Check wire between P/J103-1 on MAIN PWB and P/J603-1 on ADF PWB for an open circuit or poor contact.

When [5-1] is turned ON, the voltage between P/J603-2(+) and GND(-) on ADF PWB has approximately +10VDC.

Y N

When [5-1] is turned ON, the voltage between P/J603-3(+) and GND(-) on ADF PWB has approximately +5VDC.

Y N

Replace MAIN PWB.

Check the wire between P/J103-2 on MAIN PWB and P/J603-21 on ADF PWB for an open circuit or poor contact.

When [5-1] is turned ON, the voltage between P/J603-3(+) and GND(-) on ADF PWB has approximately +5VDC.

Y N

When [5-1] is turned ON, the voltage between P/J103-3(+) and GND(-) on MAIN PWB has approximately +10VDC.

Y N

Replace MAIN PWB.

Check the wire between P/J103-3 on MAIN PWB and P/J603-3 on ADF PWB for an open circuit or poor contact.

When [5-1] is turned ON, the voltage between P/J601-2(+) and GND(-) on ADF PWB has approximately +10VDC.

Y N

The Voltage between P/J602-1(+) and GND(-) on ADF PWB has +24VDC.

Replace CVT MOTOR.

Enter[5-7] and press START button.

C

C

Document Feed Clutch is energized.

Y N

When [5-7] is turned ON, the voltage between P/J605-1(+) and GND(-) on ADF PWB has +24VDC.

Y N

The voltage between Pin 2(+) and GND(-) on Document Feed Clutch has +24VDC.

Y N

The voltage between Pin 1(+) and GND(-) on Document Feed Clutch has 0VDC.

Y N

Replace Nudger Solenoid.

The voltage between P/J605-5(+) and GND(-) on ADF PWB has +24VDC

Y N

GO TO +24VDC Power FIP.

Check the wire between P/J605-5 on ADF PWB and Pin 1 on Document Feed Clutch for an open circuit or poor contact.

Check the wire between P/J605-1 on ADF PWB and Pin 2 on Document Feed Clutch for an open circuit or poor contact.

The voltage between P/J603-10(+) and GND(-) on ADF PWB has +5VDC.

Y N

The voltage between P/J103-10(+) and GND(-) on MAIN PWB has +5VDC.

Y N

Replace MAIN PWB.

Check the wire between P/J103-10 on MAIN PWB and P/J603-10 on ADF PWB for an open circuit or poor contact.

Replace ADF PWB.

Enter [5-9].

D

D

Use hand or paper to actuate or deactuate Document Presence Sensor, display should change between "0" and "1".

Y N

Block the Document Presence Sensor with a blank sheet of paper.

"1"(Low) is displayed.

Y N

The voltage between Pin 2(+) and GND(-) on Document Presence Sensor has +5VDC.

Y N

Check the wire between Pin 2 on Document Presence Sensor and P/J103-18 on MAIN PWB for an open circuit or poor contact. If no problems are found, replace MAIN PWB.

The voltage between Pin 1(+) and Pin 3(-) on Document Presence Sensor has +5VDC.

Y N

The voltage between P/J605-10(+) and P/J605-12(-) on ADF PWB has +5VDC.

Y N

Go to +5VDC Power FIP.

Check wire of the following:

- Between P/J605-10 on ADF PWB and Pin 1 on Document Presence Sensor for an open circuit or poor contact.
- Between P/J605-12 on ADF PWB and Pin 3 on Document Presence Sensor for an open circuit or poor contact.

Check for contamination and improper installation of the Sensor. If no problems are found, replace the Document Presence Sensor.

Remove the blank sheet of paper from the Sensor.

"0"(High) is displayed.

Y N

Remove the connector of Document Presence Sensor.

The display should change to "0" (High).

Y N

Check the circuit between Pin 2 on Document Presence Sensor and P/J103-18 on MAIN PWB for a short circuit. If no problems are found, replace MAIN PWB.

Check installation of the Sensor and the extraneous light diffraction. If no problems are found, replace Document Presence Sensor.

Check installation of the Sensor.

If the failure of A1-1 Status Code continues, replace Document Presence Sensor.

Enter [5-1] and press START button.

When CVT MOTOR rotates, enter [7] and press START button.

E

E

Document Feed Clutch is energized, and Document Feed Roll is rotated.

Y N

Check the mechanical load of Document Feed Roll.

- Check CVT feed area for obstruction.
- Close ADF feed door, put in a sheet of document in Document Feed Tray. Enter [5-14] and press START button. Document should be fed and reach Document Exit Tray. If document is stopped or blocked, repeat the test while observing document and drive.
- If pre-input appears slow, clean or replace Feed Roll/Gentle push Roll.
- Enter [5-7], Document Feed Clutch is energized. Manually rotate counter-clockwise CVT Roll (opposite to normal direction) to check the rotation of Feed Rolls. Repair as required.
- If the failure of A1 status code continues, replace Document Feed Clutch.

A2 RAP

A2–0: Document can not actuate Document Registration Sensor after actuating Document Presence Sensor.

A2–1: After constant-speed feed motor is energized, document can not deactivate in time Document Registration Sensor.

Initial Actions

Ensure CVT glass is faced steadily to the registration edge. If top cover is removed, clean GP9 RIS /reflector.

Ensure ADF hinges lean steadily against top cover.

Ensure ADF feed door is securely closed.

Procedure

Enter [5-11].

Use hand or paper to actuate or deactuate Document Registration Sensor, display should change between "0" and "1".

Y N

Block the Document Registration Sensor with a blank sheet of paper.

"1"(Low) is displayed.

Y N

The voltage between Pin 2(+) and GND(-) on Document Registration Sensor has +5VDC.

Y N

Check wire between Pin 2 on Document Registration Sensor and P/J103-17 on MAIN PWB for an open circuit or poor contact. If no problems are found, replace MAIN PWB.

The voltage between Pin 1(+) and Pin 3(-) on Document Registration Sensor has +5VDC.

Y N

The voltage between P/J609-1(+) and P/J609-3(-) on ADF PWB has +5VDC.

Y N

Go to +5VDC Power FIP

Check wire of the following:

- Between P/J609-1 on ADF PWB and Pin 1 on Document Registration Sensor for an open circuit or poor contact.
- Between P/J609-3 on ADF PWB and Pin 3 on Document Registration Sensor for an open circuit or poor contact.

Check for contamination and improper installation of the Sensor. If no problems are found, replace Document Registration Sensor.

Remove the blank sheet of paper from the Sensor.

"0"(High) is displayed.

Y N

Remove the connector of Document Registration Sensor.

The display should change to "0"(High).

Y N

Check the circuit between Pin 2 on Document Registration Sensor and P/J103-17 on MAIN PWB for a short circuit. If no problems are found, replace MAIN PWB.

A B C

A B C

Check installation of the Sensor and the extraneous light diffraction. If no problems are found, replace Document Registration Sensor.

Check installation of the Sensor.

If the failure of either A2-0 or A2-1 Status Code continues, replace Document Registration Sensor.

Enter [5-1] and press START button

CVT Motor rotates.

Y N

When [5-1] is turned ON, the voltage between P/J603-1(+) and GND(-) on ADF PWB has approximately +1.3VDC.

Y N

When [5-1] is turned ON, the voltage between P/J103-1(+) and GND(-) on MAIN PWB has approximately +1.3VDC.

Y N

Replace MAIN PWB.

Check the wire between P/J103-1 on MAIN PWB and P/J603-1 on ADF PWB for an open circuit or poor contact.

When [5-1] is turned ON, the voltage between P/J603-2(+) and GND(-) on ADF PWB has approximately +10VDC.

Y N

When [5-1] is turned ON, the voltage between P/J103-2(+) and GND(-) MAIN PWB has approximately +10VDC.

Y N

Replace MAIN PWB.

Check wire between P/J103-2 on MAIN PWB and P/J603-2 on ADF PWB for an open circuit or poor contact.

When [5-1] is turned ON, the voltage between P/J603-3(+) and GND(-) on ADF PWB has approximately +5VDC.

Y N

When [5-1] is turned ON, the voltage between P/J103-3(+) and GND(-) on MAIN PWB has approximately +10VDC.

Y N

Replace MAIN PWB.

Check wire between P/J103-3 on MAIN PW and P/J603-3 on ADF PWB for an open circuit or poor contact.

When [5-1] is turned ON, the voltage between P/J601-2(+) and GND(-) on ADF PWB has approximately +10VDC.

Y N

The voltage between P/J602-1(+) and GND(-) on ADF PWB has +24VDC.

Replace CVT MOTOR.

- Check CVT document transport area for obstruction.
- Close ADF feed door, put in a sheet of document in Document Feed Tray. Enter [5-14] and press START button. Document should be fed and reach Document Exit Tray. If document is stopped or blocked, repeat the test while observing document and drive.

A2–2: After constant-speed feed motor is energized, document can not actuate in time Document Exit Switch.

A2–3: Document can not deactivate in time Document Exit Switch after deactivating Document Registration Sensor.

Initial Actions

Ensure CVT glass is faced steadily to the registration edge. If top cover is removed, clean GP9 RIS /reflector.

Ensure ADF hinges lean steadily against top cover.

Ensure ADF feed door is securely closed.

Procedure

Enter [5-12].
Turned ON/OFF the Document Exit Switch with a blank sheet of paper.
Display should change between "0" and "1".
Y N
Block the Document Exit Switch with a blank sheet of paper.
"1"(Low) is displayed.
Y N
The voltage between Pin 1(+) and GND(-) on Document Exit Switch has +5VDC.
Y N
Check wire between Pin 1 of Switch and P/J103-19 on MAIN PWB for an open circuit or a poor contact. If no problems are found, replace MAIN PWB.
The voltage between Pin 2(+) and GND(-) on Document Exit Switch has +5VDC.
Y N
Replace Document Exit Switch.

Check wire between Pin 2 on Document Exit Switch and P/J609-5 on ADF PWB for an open circuit or poor contact. If no problems are found, replace ADF PWB.
Remove the blank sheet of paper from the Sensor.
The display should change to "0"(High).
Y N
Remove the connector of Document Exit Switch.
The display should change to "0"(High).
Y N
Check the circuit between Pin 1 on Document Exit Switch and P/J103-19 on MAIN PWB for a short circuit. If no problems are found, replace MAIN PWB.

Replace Document Exit Switch.

Check Actuator for damage or breakage. Check attachment of SWITCH. If the failure of either A2-2 or A2-3 Status Code continues, replace Document Exit Switch.
Enter [5-1] and press START button.

A

A
CVT Motor rotates.
Y N
When [5-1] is turned ON, the voltage between P/J603-1(+) and GND(-) on ADF PWB has approximately +1.3VDC.
Y N
When [5-1] is turned ON, the voltage between P/J103-1(+) and GND(-) on MAIN PWB has approximately +1.3VDC.
Y N
Replace MAIN PWB.

Check wire between P/J103-1 on MAIN PWB and P/J603-1 on ADF PWB for an open circuit or poor contact.
When [5-1] is turned ON, the voltage between J603-2(+) and GND(-) on ADF PWB has approximately +10VDC.
Y N
When [5-1] is turned ON, the voltage between P/J103-2(+) and GND(-) on MAIN PWB has approximately +10VDC.
Y N
Replace MAIN PWB.

Check wire between P/J103-2 on MAIN PWB and P/J603-21 on ADF PWB for an open circuit or poor contact.
When [5-1] is turned ON, the voltage between P/J603-3(+) and GND(-) on ADF PWB has approximately +5VDC.
Y N
When [5-1] is turned ON, the voltage between P/J103-3(+) and GND(-) on MAIN PWB has approximately +10VDC.
Y N
Replace MAIN PWB.

Check wire between P/J103-3 on MAIN PWB and J603-3 on ADF PWB for an open circuit or poor contact.
When [5-1] is turned ON, voltage between P/J601-2(+) and GND(-) on ADF PWB has approximately +10VDC.
Y N
The voltage between P/J602-1(+) and GND(-) on ADF PWB has +24VDC.

Replace CVT MOTOR.

- Check CVT document transport area for obstruction.
- Close ADF feed door, put in a sheet of document in Document Feed Tray. Enter [5-14] and press START button. Document should be fed and reach Document Exit Tray. If document is stopped or blocked, repeat the test while observing document and drive.

A5–0: ADF Cover is open.

Procedure

ADF Cover Interlock Switch is turned ON by hand.
A5-0 is gone off.
Y N
Close ADF Cover.
The voltage between P/J605-2(+) and GND(-) on ADF PWB has +24VDC.
Y N
Close ADF Cover.
The voltage P/J605-1(+) and GND(-) on ADF PWB has +24VDC.
Y N
The voltage between P/J602-1(+) and GND(-) on ADF PWB has +24VDC.
Y N
Go to +24VDC Power FIP.
Replace ADF PWB.
Check the wire between P/J605 on ADF PWB and ADF Cover Interlock Switch for an open circuit or poor contact. If no problems are found, replace ADF Cover Interlock Switch.
The voltage between P/J103-15(+) and GND(-) on MAIN PWB has +5VDC.
Y N
Replace MAIN PWB.
The voltage between P/J603-15(+) and GND(-) on ADF PWB has +5VDC.
Y N
Check wire between P/J603-15 on ADF PWB and P/J103-15 on MAIN PWB for an open circuit or poor contact.
Replace ADF PWB.
Adjustment with ADF Cover and ADF Interlock Switch is poor.
Check damage of ADF Interlock Switch Actuator and attachment of ADF Cover.

C1 RAP

C1–0: Tray 1 fed paper did not actuate Tray 1 Takeaway Sensor in time after Tray 1 feed motor is energized.

Initial Actions

- Remove paper from tray and fan it to ensure edges are separated. Refer to label on paper tray and reinstall paper.
- Check Paper Guides are adjusted to the set paper size and properly laid.

Procedure

Clear C1 status code. Make a copy. After C1, remove rear cover, and open Tray 1 Access Door. **Paper is at the Takeaway roll.**

Y N

Make machine enter diagnostic state. **Enter [7-13], press START button and check Feed rolls. Feed rolls rotate.**

Y N

The operating sound of the Tray 1 Feed Motor is audible.

Y N

When [7-13] is turned ON, the voltage between P/J403-1(+) and GND(-) on Tray 1 Control PWB has approximately +16VDC.

Y N

The voltage between P/J402-1(+) and GND(-) on Tray 1 Control PWB has +24VDC.

Y N

Go to +24VDC Power RAP.

Replace Tray 1 Control PWB.

Replace Tray 1 Feed Motor.

Enter [7-11] and ON.

Tray 1 Feed Clutch is in good condition.

Y N

When [7-11] is turned ON, the voltage between P/J408-2(+) and GND(-) on Tray 1 Control PWB has +24VDC.

Y N

The voltage between P/J408-1(+) and GND(-) on Tray 1 Control PWB has +24VDC.

Y N

The voltage between P/J402-1(+) and GND(-) on Tray 1 Control PWB has +24VDC.

Y N

Go to +24VDC Power RAP.

Replace Tray 1 Control PWB.

Replace Tray 1 Feed Clutch.

Replace Tray 1 Control PWB.

Eliminate mechanical failure. If Feed Rolls can not operate, replace Clutch.

Remove Tray 1, check and clean Feed Roll and Retard Roll to see if they are aging.

Y N

Clear paper path and ensure no mechanical resistance.

Replace Feed Roll and Retard Roll.

A

A

Enter [7-7]. **Use hand or paper to actuate or deactuate Tray 1 Takeaway Sensor, display should change between "0" and "1".**

Y N

Block Tray 1 Takeaway Sensor with a blank sheet of paper.

"1"(Low) is displayed.

Y N

The voltage between Pin 1(+) and GND(-) on Tray 1 Takeaway Sensor has +5VDC.

Y N

Check the voltage between Pin 1 on Tray 1 Takeaway Sensor and PWB P/J405-2 on Tray 1 Control. If no problems are found replace Tray 1 Control PWB.

The voltage between Pin 3(+) and Pin 2(-) on Tray 1 Takeaway Sensor has +5VDC.

Y N

The voltage between P/J405-1 (+) and P/J405-3(-) on Tray 1 Control PWB has +5VDC.

Y N

Go to +5VDC Power FIP.

Check the following:

- Between P/J405-1 on Tray 1 Control PWB and Pin 3 on Tray 1 Takeaway Sensor for an open circuit or poor contact.
- Between P/J405-3 on Tray 1 Control PWB and Pin 2 on Tray 1 Takeaway Sensor for an open circuit or poor contact

Check for contamination and improper installation of the Sensor. If no problems are found, replace Tray 1 Takeaway Sensor.

Remove the blank sheet of paper.

"0"(High) is displayed.

Y N

Remove connector of Tray 1 Takeaway Sensor.

The display should change to "0"(High).

Y N

Check circuit between Pin 1 on Tray 1 Takeaway Sensor and P/J405-2 on Tray 1 Control PWB for a short circuit. If no problems are found, replace Tray 1 Control PWB.

Check installation of the Sensor and the extraneous light diffraction. If no problems are found, replace Tray 1 Takeaway Sensor.

Check installation of the Sensor.

If the failure of C1-0 Status Code continues, replace Tray 1 Takeaway Sensor.

Check Tray 1 Takeaway Sensor for mechanical failure. Repair as required.

C2 RAP

C2–0: Tray 2 fed paper did not actuate Tray 2 Takeaway Sensor in time after Tray 2 Feed Motor energized.

Initial Actions

- Make a copy using Tray 1. If a status code is displayed, to RAP Takeaway Tray 1 status code.
- Remove paper from tray and fan it to ensure edges are separated. Refer to label on paper tray. Reinstall paper.
- Check Paper Guides are adjusted to the set paper size and properly laid.

Procedure

Clear C2 status code. Make a copy. After C2, remove Rear Cover and Rear Cover of Tray 2, and open Tray 2 Access Door and Tray 1 Access Door. A sheet of paper is in Tray 2 Access Door.

Y N

Make machine enter diagnostic state. **Enter [7-14], press START button and check Feed rolls. Feed rolls rotate.**

Y N

The operating sound of the Tray 2 Feed Motor is audible.

Y N

When [7-14] is turned ON, the voltage between P/J403-1(+) and GND(-) on Tray 2 Control PWB has approximately +16VDC.

Y N

The voltage between P/J402-1(+) and GND(-) on Tray 2 Control PWB has +24VDC.

Y N

Go to +24VDC Power RAP.

Replace Tray 2 Control PWB.

Replace Tray 2 Feed Motor.

Enter [7-12] and ON.

Tray 2 Feed Clutch is in good condition.

Y N

When [7-12] is turned ON, the voltage between P/J408-2(+) and GND(-) on Tray 2 Control PWB has +24VDC.

Y N

The voltage between P/J408-1(+) and GND(-) on Tray 2 Control PWB has +24VDC.

Y N

The voltage between P/J402-1(+) and GND(-) on Tray 2 Control PWB has +24VDC.

Y N

Go to +24VDC Power RAP.

Replace Tray 2 Control PWB.

Replace Tray 2 Feed Clutch.

Replace Tray 2 Control PWB.

Eliminate mechanical failure. If Feed Rolls can not operate, replace Clutch.

Remove Tray 2, check and clean Feed Roll and Retard Roll to see if they are aging.

A B

Y N

Clear paper path and ensure no mechanical resistance.

Replace Feed Roll and Retard Roll.

Enter [7-8]. **Use hand or paper to actuate or deactuate Tray 2 Takeaway Sensor, display should change between "0" and "1".**

Y N

Block Tray 2 Takeaway Sensor with a blank sheet of paper.

"1"(Low) is displayed.

Y N

The voltage between Pin 1(+) and GND(-) on Tray 2 Takeaway Sensor has +5VDC.

Y N

Check the voltage between Pin 1 on Tray 2 Takeaway Sensor and PWB P/J405-2 on Tray 2 Control. If no problems are found replace Tray 2 Control PWB.

The voltage between Pin 3(+) and Pin 2(-) on Tray 2 Takeaway Sensor has +5VDC.

Y N

The voltage between P/J405-1 (+) and P/J405-3(-) on Tray 2 Control PWB has +5VDC.

Y N

Go to +5VDC Power FIP.

Check the following:

- Between P/J405-1 on Tray 1 Control PWB and Pin 3 on Tray 2 Takeaway Sensor for an open circuit or poor contact.
- Between P/J405-3 on Tray 1 Control PWB and Pin 2 on Tray 2 Takeaway Sensor for an open circuit or poor contact.

Check for contamination and improper installation of the Sensor. If no problems are found, replace Tray 2 Takeaway Sensor.

Remove the blank sheet of paper.

"0"(High) is displayed.

Y N

Remove connector of Tray 2 Takeaway Sensor.

The display should change to "0"(High)

Y N

Check circuit between Pin 1 on Tray 2 Takeaway Sensor and P/J405-2 on Tray 2 Control PWB for a short circuit. If no problems are found, replace Tray 2 Control PWB.

Check installation of the Sensor and the extraneous light diffraction. If no problems are found, replace Tray 2 Takeaway Sensor.

Check installation of the Sensor.

If the failure of C1-0 Status Code continues, replace Tray 2 Takeaway Sensor.

Check Tray 2 Takeaway Sensor for mechanical failure. Repair as required.

C3 RAP

C3–0: Bypass fed paper did not actuate IOT Registration Sensor in time after Bypass Feed Solenoid energized.

C3–1: Bypass fed paper actuated IOT Registration Sensor too early after Bypass Feed Solenoid energized.

Initial Actions

- Turn paper so that topside faces down. Exchanging lead edge for trail edge will not be effective.
- Check Paper Guides are adjusted to paper without pinching or squeezing paper.

Procedure

Select Bypass Tray and make a copy. Copy is delivered and machine is ready.

Y N

Go to corresponding status code RAP.

Check position of Paper Lift Plate. There must be a gap between Bypass Feed Rolls and Pad on Paper Lift Plate. Gap should be enough for 50 sheets of 80 g/m^2.

Check that 50 sheets fit under Bypass Feed Roll. 50 sheets of paper fit.

Y N

Lift Plate Cam is out of position. Lift Plate Cam Follower should be on high part of Lift Plate Cam. Perform or Check the following.

- Open Door Module.
- Check Sector Gear for damage or breakage. Ensure Slot is present. If Sector Gear goes wrong, replace Sector Gear.
- Manually rotate Sector Gear counterclockwise, while holding Lift Plate Cam Follower away from Lift Plate Cam until cam follower is at position shown in figure 2.
- Sector Gear Spring should be in position shown. In this position Sector Gear cannot be rotated clockwise (direction of normal rotation), unless Bypass Solenoid energized. Replace failed component if Sector Gear can be rotated clockwise without stopping.

Load 10 sheets of paper in Bypass Tray. Select Bypass Tray. Observe Paper Lift Plate and make 10 copies. Paper Lift Plate must lift lead edge of paper to Bypass Feed Roll to feed.

Paper Lift Plate lifts lead edge of paper up to Bypass Feed Roll before a C3 occurs.

Y N

Problem is either Sector Gear, Sector Gear Spring, Bypass Feed Solenoid or Door Module.

- Open Door Module.
- Check Sector Gear for damage or breakage. Ensure slot is present. If there is problem with Sector Gear, replace Door Module.

Sector Gear is free of damage.

Y N

Replace Door Module.

Check Sector Gear Spring condition and installation. Sector Gear Spring should be connected as shown and be free of damage. Bypass feed sequence depends on Sector Gear Spring being in position shown. In this position, Sector Gear cannot be rotated clockwise (direction of normal operation), unless Bypass Solenoid energizes.

Sector Gear Spring is connected as shown and is free of damage.

A B

Y N

Reinstall Sector Gear Spring or replace Door Module.

Check Bypass Feed Solenoid.

- Open Door Module.
- Enter [8-5], observe Bypass Feed Solenoid and press START button. Bypass Feed Solenoid should be energized.

Bypass Feed Solenoid energizes.

Y N

Disconnect Bypass Feed Solenoid plug from P308 on PCM interface PWB. Measure resistance (ohms) between two wires of Bypass Feed Solenoid plugs.

Resistance should be approximately 41 ohms or less.

Bypass Solenoid measures approximately 41 ohms or less.

Y N

Replace Bypass Feed Solenoid.

Go into diagnostic mode and enter [8-5]. Measure voltage at P211-10 on PCM PWB and press START button.

Voltage should change from +0.1VDC to +6VDC.

Y N

Replace LVPS first, if no effects, replace MAIN PWB then.

Connect Bypass Feed Solenoid plug to P308 on PCM interface PWB. Measure voltage at J311-10 on PCM interface PWB.

Approximately +24 VDC is measured.

Y N

Replace PCM interface PWB.

Replace LVPS.

Enter [8-6]

Actuator of IOT Regi Sensor is turned ON/OFF by hand.

C

C

The display should change between "0" and "1".

Y N

Block Sensor with a blank sheet of paper.

"1"(Low) is displayed.

Y N

The voltage between Pin 1(+) and GND(-) on IOT Regi Sensor has +5VDC.

Y N

Check the wire Pin 1 on IOT Regi Sensor and P/J211-3 on LVPS for an open circuit or poor contact. (Including PCM PWB)

If no problems are found, check the connection between MAIN PWB and LVPS.

If the problem persists, replace LVPS, MAIN PWB in sequence.

The voltage between Pin 2(+)and Pin 3(-) on IOT Regi Sensor has +5VDC.

Y N

The voltage between J306-2(+) and J306-3(-) on PCM PWB has +5VDC.

Y N

Go to +5VDC Power RAP.

Check wire of the following:

- Between J306-2 on PCM PWB and Pin 2 on IOT Regi Sensor for an open circuit or poor contact.
- Between J306-3 on PCM PWB and Pin 3 on IOT Regi Sensor for an open circuit or poor contact

Check for contamination and improper installation of the Sensor. Check Actuator for damage. If no problems are found, replace IOT Regi Sensor.

Remove the blank sheet of paper from the Sensor.

The display should change to "0"(High).

Y N

Remove the connector of IOT Regi Sensor.

The display should change to "0"(High)

Y N

Check the circuit between Pin 2 on IOT Regi Sensor and P/J211-3 on LVPS for a short circuit. (Including PCM PWB).

If no problems are found, check the connection between MAIN PWB and LVPS.

If the problem persists, replace LVPS, MAIN PWB in sequence.

Check installation of the Sensor and the extraneous light diffraction. If no problems are found, replace IOT Regi Sensor.

Check installation of the Sensor.

If the failure of either C3-0 or C3-1 Status Code continues, replace IOT Regi Sensor.

Replace Bypass Drives Kit. Paper Lift Plate failed to lift stack in a previous check.

Check machine operation after doing each item.

- Ensure Retard Pad Spring pushes Retard pad up against bottom of Bypass Feed Roll as required .A problem here may also result in an E1 status code.
- Check for obstructions in Bypass Exit Guides.
- Check gear on Bypass Takeaway Roll Shaft. Check idlers that are driven by Bypass Take-away Roll Shaft.
- Clean or replace Bypass Feed Roll.

C4 RAP

C4-0: Tray 1 fed paper did not deactuate in time.

C4-1: Tray 1 fed paper did not actuate Registration Sensor in time.

C4-2: Tray 2 fed paper did not actuate Registration Sensor in time.

C4-3: Tray 1 fed paper actuated Registration Sensor too early after Tray 1 Feed Motor is energized.

C4-4: Tray 2 fed paper actuated Registration Sensor too early after Tray 2 Feed Motor is energized.

C4-5: Two-side fed paper did not actuate Registration Sensor in time.

C4-6: Two-side fed paper actuated Registration Sensor too early.

Initial Actions

- Remove paper from tray and fan it to ensure edges are separated. Refer to label on paper tray and reinstall paper.
- Check Paper Guides are adjusted to the set paper size and properly laid.
- Check that idler Roll Spring on Tray 1 Access Door pushes idler rolls against Takeaway Rolls.
- Check that Inner Guide of Tray 1 Access Door is correctly installed.

Procedure

Switch off machine. Ensure no jammed paper in machine. **Switch on machine. Machine is ready to copy.**

Y N

Enter [7-7].

Block Tray 1 Takeaway Sensor with a blank sheet of paper.

"1"(Low) is displayed.

Y N

The voltage between Pin 1(+) and GND(-) on Tray 1 Takeaway Sensor has +5VDC.

Y N

Check the wire between Pin 1 on Tray 1 Takeaway Sensor and P/J405-2 on Tray 1 Control PWB for an open circuit or poor contact. If no problems are found, replace Tray 1 Control PWB.

The voltage between Pin 3(+) and Pin 2(-) on Tray 1 Takeaway Sensor has +5VDC.

Y N

The voltage between P/J405-1(+) and P/J405-3(-) on Tray 1 Control PWB has +5VDC.

Y N

Go to +5VDC Power FIP.

Check wire of the following:

- Between P/J405-1 on Tray 1 Control PWB and Pin 3 on Tray 1 Takeaway Sensor for an open circuit or poor contact.
- Between P/J405-3 on Tray 1 Control PWB and Pin 2 on Tray 1 Takeaway Sensor for an open circuit or poor contact

Check for contamination and improper installation of the Sensor. If no problems are found, replace Tray 1 Takeaway Sensor.

Remove the blank sheet of paper from the Sensor.

"0"(High) is displayed.

Y N

Remove the connector of Tray 1 Takeaway Sensor.

The display should change to "0"(High).

Y N

Check the circuit between Pin 1 on Tray 1 Takeaway Sensor and P/J405-2 on Tray 1 Control PWB for a short circuit. If no problems are found, replace Tray 1 Control PWB.

Check installation of the Sensor and the extraneous light diffraction. If no problems are found, replace Tray 1 Takeaway Sensor.

Check installation of the Sensor.

If the failure of either C4-0, C4-1, C4-2, C4-3, C4-4, C4-5 or C4-6 Status Code continues, replace Tray 1 Takeaway Sensor.

Go into diagnostic mode, enter [7-13] and press START button to actuate Tray 1 Feed Motor.

Takeaway Rolls rotate.

Y N

Remove Rear Cover.

Manually rotate gear for Tray 1 Feed Motor.

Gear is free to rotate.

Y N

Check Takeaway Roll Gear Module for mechanical failure.

Check circuit of Tray 1 Feed Motor.

Make machine go into diagnostic mode, enter [7-13] and press START. Measure voltage between any pin on Feed Motor P403 and ground.

Approximately +16VDC is measured.

Y N

Measure voltage at P402-1 on Tray 1 Control PWB.

Approximately +24VDC is measured

Y N

Measure voltage at J302-1 on PCM interface PWB.

Approximately +24VDC is measured.

Y N

Go to +24VDC Power RAP.

Check wire between J302-1 and P402-1. If there is damage, replace wires.

Replace Tray 1 Control PWB.

Replace Tray 1 Feed Motor.

Enter [8-6].

Actuator of IOT Regi Sensor is turned ON/OFF by hand.

E

The display should change between "0" and "1".

Y N

Block the Sensor with a blank sheet of paper.

"1"(Low) is displayed.

Y N

The voltage between Pin 1(+) and GND(-) on IOT Regi Sensor has +5VDC.

Y N

Check the wire between Pin 1 on IOT Regi Sensor and P/J211-3 on LVPS for an open circuit or poor contact. (Including PCM PWB).

If no problems are found, check the connection between MAIN PWB and LVPS.

If the problem persists, replace LVPS, MAIN PWB in sequence.

The voltage between Pin 2(+) and Pin 3(-) on IOT Regi Sensor has +5VDC.

Y N

The voltage between J306-2(+) and J306-3(-) on PCM PWB has +5VDC.

Y N

Go to +5VDC Power RAP.

Check wire of the following:

- Between J306-2 on PCM PWB and Pin 2 on IOT Regi Sensor for an open circuit or poor contact.
- Between J306-3 on PCM PWB and Pin 3 on IOT Regi Sensor for an open circuit or poor contact.

Check for contamination and improper installation of the Sensor. Check Actuator for damage. If no problems are found, replace IOT Regi Sensor.

Remove the blank sheet of paper from the Sensor.

The display should change to "0"(High).

Y N

Remove the connector of IOT Regi Sensor.

The display should change to "0"(High).

Y N

Check the circuit between Pin 1 on IOT Regi Sensor and P/J211-3 on LVPS (including PCM PWB) for a short circuit.

If no problems are found, check the connection between MAIN PWB and LVPS.

If the problem persists, replace LVPS, MAIN PWB in sequence.

Check installation of the Sensor and the extraneous light diffraction. If no problems are found, replace IOT Regi Sensor.

Check installation of the Sensor.

If the failure of either C4-0, C4-1, C4-2, C4-3, C4-4, C4-5 or C4-6 Status Code continues, replace IOT Regi Sensor.

Tray 2 is installed.

Y N

Ensure paper path is free of torn paper, glue backed labels or other obstructions.

Go into diagnostic mode, enter [7-14] and press START button to actuate Tray 2 Feed Motor.

F

F

Takeaway Rolls rotate.

Y N

Remove Rear Cover of Tray 2.

Manually rotate Tray 2 Feed Motor.

Gear is free to rotate.

Y N

Check that Takeaway Roll Gear Module is free of mechanical failure. Replace Takeaway Roll Gear, if any.

Check circuit of Tray 2 Feed Motor.

Measure voltage at any pin of P403 on Tray 2 Control PWB.

Approximately +24VDC is measured.

Y N

Measure voltage at P402-1 on Tray 2 Control PWB.

Approximately +24VDC is measured.

Y N

Measure voltage at P402-1 on Tray 2 Control PWB.

Approximately +24VDC is measured.

Y N

Measure voltage at P402-1 on Tray 1 Control PWB.

Approximately +24 VDC is measured.

Y N

Measure voltage at J302-1 on PCM interface PWB.

Approximately +24 VDC is measured.

Y N

Go to +24VDC RAP 1.

Check wire between J302-1 and P402-1. If there is any damage, replace wires.

Replace Tray 1 Control PWB.

Check wire between Tray 2 P402-1 and Tray 1 P401-1. If there is any damage, replace wires.

Replace Tray 2 Control PWB.

Replace Tray 2 Feed Motor.

Check that paper path is free of torn paper, glue backed labels or other obstructions.

C5 RAP

C5–0: Tray 1 No Paper Sensor is not actuated.

Procedure

Remove Tray 1 module.
Switch on power, go into diagnostic mode, enter [7-5] and press START button.
Manually handle the actuating arm of Tray 1 No Paper Sensor.
Display changes between "0" and "1".

Y N

The voltage between Pin 1(+) and GND(-) on Tray 1 No Paper Sensor has +5VDC.

Y N

Check wire between Pin 1 on Tray 1 No Paper Sensor and P/J404-1 on Tray 1 Control PWB for an open circuit or poor contact. If no problems are found, replace Tray 1 Control PWB.
If the problem persists, replace MAIN PWB.

The voltage between Pin 3(+) and Pin 2(-) on Tray 1 No Paper Sensor has +5VDC.

Y N

The voltage between P/J404-3(+) and P/J404-2(-) on Tray 1 Control PWB has +5VDC.

Y N

Go to +5VDC Power RAP.

Check wire of the following:

- Between P/J404-3 on Tray 1 Control PWB and Pin 3 on Tray 1 No Paper Sensor for an open circuit or poor contact.
- Between P/J404-2 on Tray 1 Control PWB and Pin 2 on Tray 1 No Paper Sensor for an open circuit or poor contact. If no problems are found, replace Tray 1 Control PWB.

Check for contamination and improper installation of the Sensor. If no problems are found, replace Tray 1 No Paper Sensor.

Check the installation position of no paper Sensor for any problem. Repair as required.

C6 RAP

C6–0: Tray 2 No Paper Sensor is not actuated.

Procedure

Remove Tray 2 module.
Switch on power, go into diagnostic mode, enter [7-6] and press START button.
Manually handle the actuating arm of Tray 2 No Paper Sensor.
Display changes between "0" and "1".

Y N

The voltage between Pin 1(+) and GND(-) on Tray 2 No Paper Sensor has +5VDC.

Y N

Check the wire Pin 1 on Tray 2 No Paper Sensor and J404-1 on Tray 2 Control PWB for an open circuit or poor contact. If no problems are found, replace Tray 2 Control PWB. If the problem persists, replace Tray 1 Control PWB and MAIN PWB.

The voltage between Pin 3(+) and Pin2(-) on Tray 2 No Paper Sensor has +5VDC.

Y N

The voltage between P/J404-3(+) and P/J404-2(-) on Tray 2 Control PWB has +5VDC.

Y N

Go to +5VDC Power RAP.

Check wire of the following:

- Between P/J404-3 on Tray 2 Control PWB and Pin 3 on Tray 2 No Paper Sensor for an open circuit or poor contact.
- Between P/J404-2 on Tray 2 Control PWB and Pin 2 on Tray 2 No Paper Sensor for an open circuit or poor contact.

If no problems are found, replace Tray 2 Control PWB. If the problem persists, replace Tray 1 Control PWB.

Check for contamination and improper installation of the Sensor. If no problems are found, replace Tray 2 No Paper Sensor.

Check the installation position of no paper Sensor for any problem. Repair as required.

C7 RAP

C7-0: Tray 1 Size Switch is not actuated.

Procedure

Remove Tray1.
Check Tray 1 Paper Size Actuator.
The Actuator is in good condition.
Y N

Repair the Actuator, and replace it if necessary.

Check conductivity of the following:

- Between Tray 1 Size Switch CN1-1 and Tray 1 Control PWB P/J406-1
- Between Tray 1 Size Switch CN1-2 and Tray 1 Control PWB P/J406-2
- Between Tray 1 Size Switch CN1-3 and Tray 1 Control PWB P/J406-3
- Between Tray 1 Size Switch CN1-4 and Tray 1 Control PWB P/J406-4
- Between Tray 1 Size Switch CN1-5 and Tray 1 Control PWB P/J406-5

The resistance is below 1 Ohm for all.
Y N

Check the open circuit or poor contact where the resistance is not below 1 Ohm.

Replace Tray 1 Size Switch.
If the problem persists, replace Tray 1 Control PWB.

C8 RAP

C8–0: Tray 2 Size Switch is not actuated.

Procedure

Remove Tray 2.
Check Tray 2 Paper Size Actuator.
The Actuator is in good condition.
Y N
Repair the Actuator, and replace it if necessary.

Check conductivity of the following:
- Between Tray 2 Size Switch CN1-1 and Tray 2 Control PWB P/J406-1
- Between Tray 2 Size Switch CN1-2 and Tray 2 Control PWB P/J406-2
- Between Tray 2 Size Switch CN1-3 and Tray 2 Control PWB P/J406-3
- Between Tray 2 Size Switch CN1-4 and Tray 2 Control PWB P/J406-4
- Between Tray 2 Size Switch CN1-5 and Tray 2 Control PWB P/J406-5

The resistance is below 1 Ohm for all.
Y N
Check the open circuit or poor contact where the resistance is not below 1 Ohm.

Replace Tray 2 Size Switch.
If the problem persists, replace Tray 2 Control PWB.

C9 RAP

C9–0: Tray 2 fed paper did not actuate Tray 1 Takeaway Sensor in time.

Procedure

Enter [7-7]. Use hand or paper to actuate or deactuate Tray 1 Takeaway Sensor, display should change between "0" and "1".

Y N

Block Tray 1 Takeaway Sensor with a blank sheet of paper.

"1"(Low) is displayed.

Y N

The voltage between Pin 1(+) and GND(-) on Tray 1 Takeaway Sensor has +5VDC.

Y N

Check the wire between Pin 1 on Tray 1 Takeaway Sensor and P/J405-2 on Tray 1 Control PWB for an open circuit or poor contact. If no problems are found, replace Tray 1 Control PWB.

The voltage between Pin 3(+) and Pin 2(-) on Tray 1 Takeaway Sensor has +5VDC.

Y N

The voltage between P/J405-1 (+) and P/J405-3(-) on Tray 1 Control PWB has +5VDC.

Y N

Go to +5VDC Power FIP.

Check wire of the following:

- Between P/J405-1 on Tray 1 Control PWB and Pin 3 on Tray 1 Takeaway Sensor for an open circuit or poor contact.
- Between P/J405-3 on Tray 1 Control PWB and Pin 2 on Tray 1 Takeaway Sensor for an open circuit or poor contact.

Check for contamination and improper installation of the Sensor. If no problems are found, replace Tray 1 Takeaway Sensor.

Remove the blank sheet of paper from the Sensor.

"0"(High) is displayed.

Y N

Remove the connector of Tray 1 Takeaway Sensor.

The display should change to "0"(High).

Y N

Check the circuit between Pin 1 on Tray 1 Takeaway Sensor and J405-2 on Tray 1 Control PWB for a short circuit. If no problems are found, replace Tray 1 Control PWB.

Check installation of the Sensor and the extraneous light diffraction. If no problems are found, replace Tray 1 Takeaway Sensor.

Check installation of the Sensor.

A B

If the failure of C9-0 Status Code continues, replace Tray 1 Takeaway Sensor.

Enter [7-14] and Press the START button.

Tray 2 Feed Motor rotates.

Y N

The voltage between P/J402-1(+) and GND(-) on Tray 2 Control PWB has +24VDC.

Y N

Go to +24VDC Power RAP.

Replace Tray 2 Control PWB

Enter [7-12] and press the START button.

Tray 2 Feed Clutch is energized.

Y N

When [7-12] is turned ON?the voltage between P/J408-2(+) and GND(-) on Tray 2 Control PWB has 0VDC.

Y N

Replace Tray 2 Control PWB.

The voltage between P/J408-1(+) and GND(-) on Tray 2 Control PWB has +24VDC.

Y N

The voltage between P/J402-1(+) and GND(-) on Tray 2 Control PWB has +24VDC.

Y N

Go to +24VDC Power RAP.

Replace Tray 2 Control PWB

Replace Tray 2 Feed Clutch.

Check the mechanical load of Tray 2 Feed Gear.

- Remove paper from tray and fan it to ensure edges are separated. Refer to label on paper tray and reinstall paper.
- Check that Paper Guides are adjusted to the set paper size position and properly laid.

A B

E1 RAP

E1–1: Paper did not actuate Fuser Switch in time after Registration Clutch energized.

E1–3: Paper did not deactuate Fuser Exit Switch in time after de-actuating Registration Sensor.

Procedure

Enter [10-6].
Turn ON/OFF Fuser Exit Switch by hand.
The display should change.
Y N

Remove Fuser Module. Measure resistance (ohms) between J211B-2 and 3 on Fuser Module. While measuring resistance, actuate and deactuate Fuser Exit Switch. Resistance should change from high resistance to less than 30 ohms to high resistance. **Resistance changes while actuating and de-actuating Fuser Exit Switch.**
Y N

Replace Fuser Module.

Check the wire of the following:
- Between J203-1 on LVPS and J211A-2 on Fuse Module for an open circuit or poor contact.
- Between J203-2 on LVPS and J211A-3 on Fuser Module for an open circuit or poor contact.

If no problems are found, replace Fuser Module, MAIN PWB in sequence.

Enter [8-3] and ON.
IOT Regi Clutch is energized
Y N

Enter [8-3] and ON.
The voltage between P/J211-8(+) and GND(-)on LVPS has 0VDC.
Y N

Check the connection between MAIN PWB and LVPS. If no problems are found, replace LVPS, MAIN PWB in sequence.

When [8-3] is turned ON, the voltage between PCM PWB J311-8(+) and GND(-) has 0VDC.
Y N

Check the wire between P/J211-8 on LVPS and J311-8 on PCM PWB for an open circuit or poor contact.

When [8-3] is turned ON, the voltage between P/J305-4(+) and GND(-) on PCM PWB has +24VDC.
Y N

Replace PCM PWB.

The voltage between P/J305-1(+) and GND(-) on PCM PWB has +24VDC.
Y N

Refer to BSD CH1.3, check Front Intlk On +24VDC circuit to P/J305-1 on PCM PWB.

Replace IOT Regi Clutch.

A

A

Check installation of Registration Assembly. Registration Assembly is installed correctly.
Y N

Repair as required.

Check installation of Transfer Detack Corotron. Corotron is correctly installed.
Y N

Repair as required.

Do following to verify operation of Registration Roll Drives.
- Remove Rear Cover.
- Push Registration Roll Assembly up and into operational position while partially closing Door Module.
- Hold Registration Roll Assembly in this position and manually rotate Drive Motor in a counterclockwise direction while observing Registration Clutch Drive Gear and related drives.

Registration Roll drives appear to operate normally and without visual evidence of drive gear breakage or damage.
Y N

Repair or replace components as required.

Manually rotate Drive Motor in a counterclockwise direction while observing Fuser Drives and rotation of visible portions of Fuser Rolls. **Drive of Fuser Module Drives appears to operate normally and without visual evidence of drive gear breakage or damage.**
Y N

Repair or replace components as required.

Replace Registration Sensor. Verify any problem continues.
Run customer job and after E1 is displayed, slowly open Door Module just enough to check position of lead edge of paper. **Paper is stalled before entering Registration Assembly.**
Y N

Paper is stalled at Fuser Module.
Y N

Remove Fuser Module.
Check that Pre Fuser Guide feels smooth and free of damage or has a condition that may stop paper movement.

Replace Fuser Module.

Replace Registration Module.

E1-2: Paper did not deactuate Registration Sensor in time after actuating Fuser Exit Switch.

Procedure

Enter [8-6]
The actuator of IOT Regi Sensor is turned ON/OFF by hand.
The display should change between "0" and "1".
Y N
Block Sensor with a blank sheet of paper.
"1"(Low) is displayed.

Y N
The voltage between Pin 1 on IOT Regi Sensor(+) and GND(-) has +5VDC.
Y N
Check wire between Pin on IOT Regi Sensor and P/J211-4 on LVPS for an open circuit or poor contact. (Including PCM PWB)
If no problems are found, check the connection between LVPS and MAIN PWB.
If problem continues, replace LVPS, MAIN PWB in sequence.

The voltage between Pin 2(+) and Pin 3(-) on IOT Regi Sensor has +5VDC.
Y N
The voltage between P/J306-2(+) and P/J306-3(-) on PCM PWB has +5VDC.
Y N
Go to +5VDC Power RAP.

Check the following:
- Between on P/J306-2 PCM PWB and Pin 2 on IOT Regi Sensor for an open circuit or poor contact.
- Between P/J306-3 on PCM PWB and Pin 3 on IOT Regi Sensor for an open circuit or poor contact.

Check for contamination and improper installation of the Sensor. Check Actuator for damage. If no problems are found, replace the IOT Regi Sensor.

Remove the blank sheet of paper.
"0"(High) is displayed.
Y N
Remove the connector of IOT Regi Sensor.
The display should change to "0"(High).
Y N
Check the circuit between Pin 1 on IOT Regi Sensor and P/J211-3 on LVPS for a short circuit. (Including PCM PWB)
If no problems are found, check the connection between MAIN PWB and LVPS.
If a problem continues, replace LVPS, MAIN PWB in sequence.
Check installation of the Sensor and the extraneous light diffraction. If no problems are found, replace Tray 1 Takeaway Sensor.

Check installation of the Sensor.
If the failure of E1-2 Status Code continues, replace IOT Regi Sensor.

Check installation of Registration Assembly.
Registration Assembly is installed correctly.
Y N
Repair as required.

Check installation of Transfer Detack Corotron.
Corotron is correctly installed.
Y N
Repair as required.

Do following to verify operation of Registration Roll Drives.
- Remove Rear Cover.
- Push Registration Roll Assembly up and into operational position while partially closing Door Module.
- Hold Registration Roll Assembly in this position and manually rotate Drive Motor in a counterclockwise direction while observing Registration Clutch Drive Gear and related drives.

Registration Roll drives appear to operate normally and without visual evidence of drive gear breakage or damage.
Y N
Repair or replace components as required.

Manually rotate Drive Motor in a counterclockwise direction while observing Fuser Drives and rotation of visible portions of Fuser Rolls.
Drive of Fuser Module Drives appears to operate normally and without visual evidence of drive gear breakage or damage.
Y N
Repair or replace components as required.

Replace Registration Sensor. Verify any problem continues.
Run customer job and after E1 is displayed, slowly open Door Module just enough to check position of lead edge of paper.
Paper is stalled before entering Registration Assembly.
Y N
Paper is stalled at Fuser Module.
Y N
Remo
Run customer job and after E1 is displayed, slowly open Door Module just enough to check position of lead edge of paper.
Paper is stalled before entering Registration Assembly.
Y N
Paper is stalled at Fuser Module.
Y N
Remo
Run customer job and after E1 is displayed, slowly open Door Module just enough to c

A

Enter [8-4] and ON.

The operating sound of the Gate Select Solenoid is audible.

Y N

When [8-4] is turned ON, the voltage between P/J211-11(+) and GND(-) on LVPS has +24VDC.

Y N

When [8-4] is turned ON, the voltage between P/J311-11(+) and GND(-) on PCM PWB has +24VDC.

Y N

When [8-4] is turned ON, the voltage between P/J307-2(+) and GND(-) on PCM PWB has +24VDC.

Y N

The voltage between J307-1(+) and GND(-) on PCM PWB has +24VDC.

Y N

Go to +24VDC Power RAP.

Replace Gate Select Solenoid.

Replace PCM PWB.

Check the wire between P/J211-11 on LVPS and P/J311-11 on PCM PWB for an open circuit or poor contact.

Check the connection between MAIN PWB and LVPS. If no problems are found, replace LVPS, MAIN PWB in sequence.

Check the following:

- The drive transfer course from MAIN MOTOR to DOOR EXIT ROOL for no problem.
- A paper transportation failure due to foreign substance on the paper path.

E2 RAP

E2-1: Paper can not actuate in time OCT Exit Sensor after leaving Fuser Exit Switch.
E2-2: Paper can not deactuate in time OCT Exit Sensor after leaving Fuser Exit Switch.

Procedure

Enter [5-13].
Actuator of Copy Exit Sensor is turned ON/OFF by hand. The display should change between "0" and "1".
Y N

Block the Sensor with a blank sheet of paper.
"1"(Low) is displayed.
Y N

Remove the ADF Drive Cover.
The voltage between Pin 2(+) and GND(-) on Copy Exit Sensor has +5VDC.
Y N

Check the wire between Pin 2 on Copy Exit Sensor and P/J103-20 on MAIN PWB for an open circuit or poor contact. (Including ADF PWB)
If no problems are found, replace MAIN PWB.

The voltage between Pin 1(+) and Pin 3(-) on Copy Exit Sensor has +5VDC.
Y N

The voltage between P/J608-1(+) and P/J306-3(-) on ADF PWB has +5VDC.
Y N

Go to +5VDC Power RAP.

Check wire of the following:
- Between P/J608-1 on ADF PWB and Pin 1 on Copy Exit Sensor for an open circuit or poor contact.
- Between P/J608-3 on ADF PWB and Pin 3 on Copy Exit Sensor for open circuit or poor contact.

Check for contamination and improper installation of the Sensor. Check Actuator for damage. If no problems are found, replace the Copy Exit Sensor.

Remove the blank sheet of paper from the Sensor.
The display should change to "0"(High).
Y N

Remove the connector of Copy Exit Sensor.
This display should change to "0"(High).
Y N

Check the circuit between Pin 2 on Copy Exit Sensor and P/J103-20 on MAIN PWB for short circuit. (Including ADF PWB)
If no problems are found, replace MAIN PWB.

Check installation of the Sensor and the extraneous light diffraction. If no problems are found, replace Copy Exit Sensor.

Check installation of the Sensor.
If the failure of either E2-1 or E2-2 Status Code continues, replace Copy Exit Sensor.

A

A

Enter [8-4] and ON.
The operating sound of the Gate Select Solenoid is audible.
Y N

When [8-4] is turned ON, the voltage between P/J211-11(+) and GND(-) on LVPS has +24VDC.
Y N

When [8-4] is turned ON, the voltage between P/J311-11(+) and GND(-) on PCM PWB has +24VDC.
Y N

When [8-4] is turned ON, the voltage between P/J307-2(+) and GND(-) on PCM PWB has +24VDC.
Y N

The voltage between P/J307-1(+) and GND(-) on PCM PWB has +24VDC.
Y N

Go to +24VDC Power RAP.

Replace Gate Select Solenoid.

Replace PCM PWB.

Check wire between J211-11 on LVPS and J311-11 on PCM PWB for an open circuit or poor contact.

Check the connection between MAIN PWB and LVPS. If no problems are found, replace LVPS, MAIN PWB in sequence.

Enter [5-3] and turned ON.
Copy Exit Motor rotates.
Y N

The Voltage between P/J602-1(+) and GND(-) on ADF PWB has +24VDC.
Y N

Go to +24VDC RAP.

When [5-3] is turned ON, the voltage between P/J603-9(+) and GND(-) on ADF PWB has 0VDC.
Y N

When [5-3] is turned ON, the voltage between J103-9(+) and GND(-) on MAIN PWB has 0VDC.
Y N

Replace MAIN PWB.

Check wire between P/J103-9 on MAIN PWB and P/J603-9 on ADF PWB for an open circuit or poor contact.

The Voltage between P/J603-8(+) and GND(-) on ADF PWB has 0VDC.
Y N

The voltage between P/J103-8(+) and GND(-) on MAIN PWB has +0VDC.
Y N

Replace MAIN PWB.

A B C

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Check the wire between P/J103-8 on MAIN PWB and P/J603-8 on ADF PWB for an open circuit or poor contact.

When [5-3] is turned ON, the voltage between P/J603-7(+) and GND(-) on ADF PWB has +0.22VDC.

Y N

The voltage between P/J103-7(+) and GND(-) on MAIN PWB has +0.22VDC.

Y N

Replace MAIN PWB.

Check the wire between P/J103-7 on MAIN PWB and P/J603-7 on ADF PWB for an open circuit or poor contact.

Replace Copy Exit Motor. If the problem persists, replace ADF PWB.

Check Copy Exit Transmission for mechanical failure such as shaft being crooked, bearing loose, Guides not smooth and clamping roll loose. Repair as required.

E5-0: Front and L/H Side Door Interlock is open.

Initial Actions

Check damage of the L/H Interlock Switch Plate(2) by the side of L/H Door, and repair it if necessary.

Procedure

Cheat Front Door Interlock Switch.

Remove Rear Cover.

The voltage between P/J212-6(+) and GND(-) on LVPS has +24VDC.

Y N

The voltage between P/J205-2 and P/J205-3 on LVPS has approximately 110/220VAC.

Y N

Check the voltage between ACN and ACH of POWER CORD.

Approximately 110/220VAC are measured.

Y N

Check power code.

If no problems are found, check the customer's power supply.

Replace POWER SUPPLY PWB.

Replace LVPS.

The voltage between P/J312-6(+) and GND(-) on PCM PWB has +24VDC.

Y N

Check wire of the following:

- Between P/J212-6 on LVPS and P/J312-6 on PCM PWB for an open circuit or poor contact
- Between P/J212-7 on LVPS and P/J312-7 on PCM PWB for an open circuit or poor contact

Close L/H Door.

The voltage between P/J212-10(+) and GND(-) on LVPS has +24VDC.

Y N

The voltage between J312-10(+) and GND(-) on PCM PWB has +24VDC.

Y N

Check the wire between Pin 1 and Pin 2 on PCM PWB for an open circuit or poor contact. (Including L/H Door Interlock Switch)

Check the wire between P/J312-10 on PCM PWB and P/J212-10 on LVPS for an open circuit or poor contact.

The voltage between P/J107-9(+) and GND(-) on MAIN PWB has +24VDC.

Y N

Check the connection between MAIN PWB and LVPS. If no problems are found, replace LVPS, MAIN PWB in sequence.

The voltage between P/J107-6(+) and GND(-) on MAIN PWB has +5VDC.

Y N

Replace MAIN PWB.

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Turn Off the power.

Remove the following.

- ADF
- Top Cover
- Document Glass
- RIS Module

Turn On the power, and close L/H Door and Front Door.

The voltage between P/J807-6(+) and GND(-) on HVPS has +5VDC.

Y N

Check the wire between P/J807-6 on HVPS and P/J107-6 on MAIN PWB for an open circuit or poor contact.

The voltage between J807-9(+) and GND(-) ON HVPS has +24VDC.

Y N

Check the wire P/J107-9 on MAIN PWB and P/J807-9 on HVPS for an open circuit or poor contact.

Replace HVPS.

E6-1: Tray 1 Door Interlock is open.

Procedure

Enter [7-9] and press START button.

Tray 1 Door Interlock Switch is turned ON by hand.

The display should change from "1" to "0".

Y N

Cheat Tray 1 Door Interlock Switch.

The voltage between Pin 1(+) and GND(-) on Tray 1 Door Interlock Switch has +5VDC.

Y N

Check the wire between Pin 1 on Tray 1 Door Interlock Switch and P/J407-1 on Tray 1 Control PWB for an open circuit or poor contact. If no problems are found, replace Tray 1 Control PWB.

The voltage between Pin 2(+) and GND(-) on Tray 1 Door Interlock Switch has +5VDC.

Y N

Replace Tray 1 Door Interlock Switch.

Check the wire between Pin 2 on Tray 1 Door Interlock Switch and P/J407-2 on Tray 1 Control PWB for open circuit or poor contact. If no problems are found, replace Tray 1 Control PWB.

Adjustment with Tray 1 L/H Cover and Tray 1 Door Interlock Switch is poor.

Check damage of Tray 1 Door Interlock Switch Actuator and attachment of Tray 1 L/H Cover.

E6-2: Tray 2 Door Interlock is open.

Procedure

Enter [7-10] and press START button.
Tray 2 Door Interlock Switch is turned ON by hand.
The display should change from "1" to "0".
Y N

Cheat Tray 2 Door Interlock Switch.
The voltage between Pin 1(+) and GND(-) on Tray 2 Door Interlock Switch has +5VDC.
Y N

Check the wire between Pin 1 on Tray 2 Door Interlock Switch and P/J407-1 on Tray 2 Control PWB for an open circuit or poor contact. If no problems are found, replace Tray 2 Control PWB.

The voltage between Pin 2(+) and GND(-) on Tray 2 Door Interlock Switch has +5VDC.
Y N

Replace Tray 2 Door Interlock Switch.

Check the wire between Pin 2 on Tray 2 Door Interlock Switch and P/J407-2 on Tray 2 Control PWB for open circuit or poor contact. If no problems are found, replace Tray 2 Control PWB.

Adjustment with Tray 2 L/H Cover and Tray 2 Door Interlock Switch is poor.
Check damage of Tray 2 Door Interlock Switch Actuator and attachment of Tray 2 L/H Cover.

J1 RAP

J1-0: Toner level is low.

Initial Actions

- Ensure Toner Bottle receiver on Drum Cartridge is clean and free of toner.
- Before adding toner, Toner Bottle must be shaken according to instruction on bottle. Enough time must be allowed for toner to flow into Drum Cartridge.

If machine was serviced or toner was added within 100 copies, remove Rear Cover. Check that P/J202 on LVPS is connected.

Procedure

Check Toner Sensor.

- Remove Drum Cartridge.
- Enter [9-7].

Carefully place pivot of pliers on raised part of Toner Sensor and remove pliers. Display should change between "0" and "1". **Display indication changes.**

Y N

Open Door Module.
Remove Rear Cover.
Connect black meter wire to MAIN PWB GND.
Switch on machine.
Measure voltage at golden finger at P/J109-A3 on MAIN PWB and LVPS while placing and removing pliers on Toner Sensor.
Voltage changes between approximately +0.1VDC and +5VDC.
Y N

Replace MAIN PWB. If you cannot determine, repeat previous check.

Remove ADF.
Remove Top Cover.
Remove Document Glass,
Remove RIS.
Remove ROS.
Measure voltage at P/J202-1 on LVPS. Approximately +24VDC is measured.
Y N

Replace LVPS.

Switch off machine. Measure resistance (ohm) at P/J202-3 on LVPS.
Resistance is 5 ohms or less.
Y N

Replace LVPS,

Switch on machine. Measure voltage at P202-2 (+) on LVPS.
Place and remove pliers on and from Toner Sensor.
Voltage changes from approximately +0.1VDC to +5VDC.
Y N

Replace Toner Sensor.

Replace LVPS.

Add toner.

J4 RAP
J6 RAP

J4-1: Billing Counter missing or not installed correctly.

J4-2: Billing Counter is not a FXSL uniqueware.

J4-3: Billing Counter unit type error.

J6-3: Billing Counter communication error.

Procedure

The J104 on MAIN PWB is firmly connected.

Y **N**

Connect it firmly.

The voltage between P/J104-12(+) and GND(-) on MAIN PWB has +5VDC.

Y **N**

The CR2 on MAIN PWB is turned on.

Y **N**

Go to +5VDC Power RAP.

Replace MAIN PWB.

Replace wire harness of J104.

J3 RAP
J6 RAP
J8 RAP
J9 RAP

J3-1: CRU missing or not installed correctly.

J6-1: CRUM Communication Error

J8-1: Incompatible CRUM detected

J9-1: CRUM is not a FXSL uniqueware.

Procedure

Remove Drum Cartridge.

- Check that CRUM Connector on back of Drum Cartridge is secure and clean.
- Ensure corresponding CRUM Connector on machine back wall is free to move side-to-side. Movement allows alignment when Drum Cartridge is installed.
- Ensure no misplaced objects are in Drum Cartridge opening.
- Ensure Drum Cartridge Interlock moves left when Door Module is open, and does not impede movement of Drum Cartridge when Door Module is open. Repair as required.
- If Drum Cartridge does not lock into position, Drum Cartridge is defective. Replacement should be made.
- Remove Rear Cover and check that P108 on MAIN PWB is connected. Check wires for damage. Repair as required.

Install Drum Cartridge. Switch off machine, wait 5 seconds and switch on machine again. **Another J3 is displayed**.

Y N

Return to Service Call Procedures in Section 1.

Open Door Module. Open Front Door. Check Drum Cartridge installation. **Drum Cartridge is securely installed and can be removed only after releasing Lock.**

Y N

If Drum Cartridge will not lock into position due to defect, replace Drum Cartridge.

Reinstall another Drum Cartridge and another J3 is displayed.

Y N

Replace Drum Cartridge.

Check that harness between P/J 108 on MAIN PWB and P/J708 on CRUM are free of open circuit or damage. If no open circuit or damage exists, replace MAIN PWB.

J7 RAP

J7-1: Drum Cartridge reached end of service life.

Initial Actions

Ensure Drum Cartridge is fully installed so that lick prevents removal.

Procedure

Switch on machine, go into diagnostic mode, enter diagnostic code [9-4]. Display indicated number of copies remaining on cartridge in thousands of copies. **Display is "0", indicating no copies are available from cartridge**.

Y N

Drum Cartridge was recently replaced by customer.

Y N

Replace Drum Cartridge.

Remove Drum Cartridge and do the following:

- Check that CRUM Connector is clean. Check that corresponding connector in machine is clean.
- Ensure CRUM connector on machine, located in opening for Drum Cartridge, is free to move slightly to allow correct alignment when Drum Cartridge is installed.

Reinstall Drum Cartridge.

- Ensure Door Module closes securely. Repair as required.
- If J7 status code problem continues, replace MAIN PWB.

Then J7 status code is correct. A new Drum Cartridge was recently installed by customer.

Y N

Install a new Drum Cartridge.

If problem continues, do the following:

- Remove Drum Cartridge.
- Check that CRUM Connector is clean. Check that corresponding connector in machine is clean.
- Ensure J708 is free to move slightly to allow correct alignment when Drum Cartridge is installed.
- Reinstall Drum Cartridge.
- Ensure Door Module closes securely. Repair as required. If J7 status code continues, replace MAIN PWB.

Then MAIN PWB is not responding to new cartridge. Repair MAIN PWB.

U1 RAP

U1–0: Drive Module speed signal failure.

Procedure

Remove Rear Cover. Switch on machine power, go into diagnostic mode, enter [4-1], observe Main Motor and press START button.

Main Motor operates.

Y N

Switch off machine. Manually rotate Main Drive Motor.

Main Drive Motor can be easily handcranked.

Y N

Do the following:

- Remove Drum Cartridge.
- Remove Fuser Module.
- Open Door Module.

Manually handcrank Main Motor again.

Main Motor can be easily handcranked.

Y N

Replace Drive Module.

Reinstall Fuser Module. Manually handcrank Main Motor again.

Main Motor can be easily handcranked.

Y N

Replace Fuser Module.

Reinstall Drum Cartridge. Manually handcrank Main Motor.

Main Motor can be easily handcranked.

Y N

Replace Drum Cartridge.

Check Registration Clutch drives and Bypass drives for signs of visible wear or failure. Repair as required.

Switch on machine. Close Front and L/H Interlock.

The voltage between CN1-1(+) and GND(-) on Main Motor has +24VDC.

Y N

The voltage between P/J304-5(+) and GND(-) on PCM PWB has +24VDC.

Y N

Refer to BSD CH1.3, check Intlk On +24VDC circuit to P/J304-5 on PCM PWB.

Check the wire between P/J304-5 on PCM PWB and CN1-1 on Main Motor for an open circuit or poor contact.

When [4-1] is turned ON, the voltage between CN1-4(+) and GND(-) on Main Motor has +5VDC.

Y N

When [4-1] is turned ON, the voltage between P/J211-1(+) and GND(-) on LVPS has +5VDC.

A B C

A B C

Y N

Check the connection between MAIN PWB and LVPS. If no problems are found, replace LVPS, Main Motor in sequence.

Check the wire between P/J211-1 on LVPS and CN1-4 on Main Motor for an open circuit or poor contact. (Including PCM PWB).

Connect black meter wire to MAIN PWB metal frame and red meter wire to Drive Module metal frame.

Less than 2 ohms is indicated.

Y N

Go to of 16-2 Ground RAP.

Replace Drive Module.

When [4-1] is turned ON, the voltage between CN1-3(+) and GND(-) on Main Motor has less than +1VDC.

Y N

Replace Drive Module.

When [4-1] is turned ON, the voltage between P/J211-2(+) and GND(-) on LVPS has less than +1VDC.

Y N

Check the wire between CN1-2 on Main Motor and P/J211-3 on LVPS for an open circuit or poor contact.

Check the connection between MAIN PWB and LVPS. If no problems are found, replace LVPS, Main Motor in sequence.

U2 RAP

U2–1: Scan Home Sensor circuit, Scan Drive Motor, or carriages failure.

U2–2: Exposure Lamp not lit or black white strip not sensed.

Initial Actions

Lift Document Cover and check cables. If cables are tangled or loose, replace Imager Module.

Procedure

NOTE: *Entry to this RAP may be from of 16-1 noise or odor. A tapping noise occurs when Scan Home Sensor signal is failed to a low output. Reference to possible noise will be made in RAP.*

CAUTION

Image Quality defects occur if mirrors in both carriages are not cleaned and RIS Module is not vacuumed before reinstalling Document Glass and ADF.

Electrical check done on MAIN PWB before checking inside RIS module.

Switch on machine to test for a tapping noise and then switch off machine if noise is heard.
Tapping noise occurs.
Y N

Switch off machine. Wait 10 seconds, and switch on machine. Wait 20 seconds and press STOP button. **U2 status code is displayed.**
Y N

U2 status code is displayed in previous check.
Y N

U2 status code is intermittent.
- Switch off machine.
- Remove Rear Cover (REP 14.2).
- Disconnect and reconnect RIS connector (Figure 3).

Reassemble machine. Go to Service Call Procedures in Section 1.

Switch off machine. Wait 10 seconds and switch on machine.
Carriages move.
Y N

Scan Drive Motor or control failure, or +24VDC failure.
- Switch off machine.
- Remove Rear Cover (REP 14.2).
- Connect black meter wire to Main PWB metal frame.
- Raise RIS connector 3 mm so contacts are visible (Figure 3).
- Switch machine power and measure voltage at P105-40(+) on MAIN PWB.

Approximately +24 VDC is measured.
Y N

Switch on machine and measure voltage at four positions from P/J109-A28(+) to P/J109-A31(+) on MAIN PWB.
Approximately +24VDC is measured.
Y N

Replace LVPS (PL 1.3) (REP 1.4).

Replace Main PWB (PL 1.2) (REP 1.2).

- Switch off machine.
- Disconnect RIS connector (Figure 3).
- Measure resistance between P/J105-40 and P/J105-38 (Figure 8).
- Measure resistance between P/J105-38 and P/J105-36 (Figure 8).

Resistance should be less than 5 ohms.
Y N

Replace RIS Module (PL 2.1) (REP 6.1).

Replace Main PWB (PL 1.2) (REP 1.2).

Check Scan Home Sensor.
- Switch off power.
- Remove ADF (REP 14.4).
- Remove Document Glass (REP 14.1).
- Remove Rear Cover (REP 6.5).
- Raise RIS connector 3 mm so contacts can be visible (REP 14.2).
- Connect black meter wire to MAIN PWB (Figure 3).
- Connect red meter wire to P105-2 on MAIN PWB. Actuate and deactuate Scan Home Sensor.

Voltage changes between approximately +5VDC and 0VDC.
Y N

Measure voltage at Scan Home Sensor.
Connect black meter wire on pin 1 and red meter wire on pin 3.
There should be +5VDC on pin 3.
Y N

There is an open circuit in Scan Home Sensor of wires.
Check sensor wires for an open circuit failure. Repair wires or replace RIS as required. If wires on RIS are good, replace MAIN PWB.

Connect black meter wire to MAIN PWB metal frame. With red meter wire on pin 2, block and unblock Scan Home Sensor.
Voltage should change from less than +0.8VDC to +5VDC to less than +0.8VDC.
Y N

Replace Scan Home Sensor.

Check Scan Home Sensor wires and RIS connections for visible damage, incorrect mounting or other signs of failure. Repair wires or replace RIS as required. If RIS wires are good, replace MAIN PWB.

Replace MAIN PWB.

- Switch off machine.
- Remove Rear Cover (REP 14.2).
- Switch on machine and measure voltage at P/J105-30 on MAIN PWB.

F G

Voltage should change from approximately 0VDC to +5VDC to 0VDC within 12 seconds.

Y N

Replace Main PWB (PL 1.2) (REP 1.2).

There is problem with Exposure Lamp or Exposure Lamp power supply or there is problem with CCD circuit. +24 VDC is reaching RIS Module or U2-1 occurs. Switch off machine and switch on machine while observing Exposure Lamp.

Exposure Lamp illuminates within 12 seconds.

Y N

Check Exposure Lamp circuit.

- Remove ADF.
- Remove Document Glass (REP 6.5).
- Connect black meter wire to Main PWB metal frame.
- Connect red meter wire to white wire.

Go into diagnostic mode, enter [6-1] and press START button.
Approximately +24 VDC is measured. Press STOP button.
Do the same check on other white wire at other end of Exposure Lamp.

There is +24 VDC on each white wire when START button is pressed.

Y N

Measure voltage at pin 1 and pin 2. **There should be +24 VDC with black meter wire to Fuser Module metal frame. There is +24VDC at pin 1 and pin 2.**

Y N

Replace RIS Module.

Replace Exposure Lamp power supply. Remove Exposure Lamp to access power supply.

Switch off machine. Measure resistance at Blue Wire. There should be less than 5 ohms. Do the same check on other Blue Wire at other end of Exposure

Lamp Resistance should be less than 5 ohms.

Y N

Replace RIS Module.

Replace Exposure Lamp.

Replace RIS Module.

Check Scan Sensor input to Main PWB.

- Switch off machine.
- Remove Rear Cover (REP 14.2).
- Disconnect RIS connector (Figure 3).
- Connect black meter wire to Main PWB metal frame.
- Switch on machine and measure voltage at P105-2 on MAIN PWB.

Voltage changes from approximately 0VDC to +5VDC.

Y N

Replace MAIN PWB.

Replace Scan Home Sensor (PL 2.1).
If noise problem continues, replace Imager Module (PL 2.1) (REP 6.1).

U3 RAP

U3–0: Laser output not detected.

Procedure

Do the following:

- Remove Rear Cover (REP 14.2).
- Disconnect and reconnect ROS Connector (Figure 1).
- Switch on machine

U3 status code problem continues.

Y N

Return to Service Call Procedures in Section 1.

Raise ROS Connector (Figure 1) 3 mm so contacts are visible (Figure 1).
Connect black meter wire to P/J106-5 on MAIN PWB and red meter wire to P/J106-7 on MAIN PWB (Figure 2).

Approximately +24 VDC is measured.

Y N

Replace Main PWB (PL 1.2) (REP 1.2).

Connect black meter wire to P/J106-11 on MAIN PWB and red meter wire on J106-10 MAIN PWB. (Figure 2).

Approximately +5 VDC is measured.

Y N

Replace Main PWB (PL 1.2) (REP 1.2).

Replace ROS (PL 1.2) (REP 6.3).

U4 RAP

There is a problem with Fuser temperature control.

U4–0: A previous U4 Status Code is not cleared.

U4–1: A Fuser over-temperature condition is sensed.

U4–2: A Fuser warm up failure occurred.

U4–3: Fuser maximum warm up in time is exceeded.

Procedure

WARNING

Personal injury may result from unauthorized service actions. Only spare part in Fuser Module is Heat Rod.

CAUTION

A failed Fuser Module may result from doing service actions in RAP in a different order than provided.

NOTE: *U4 diagnostics are done with following checks in order shown:*

1. Resistance check on ACH circuit to Fuser.
2. Resistance check on ACN and Triac circuit to Fuser.
3. Resistance check on Thermistor input circuit.
4. Resistance check on Fuser Module Thermistor.
5. Resistance check on Fuser Module Thermostat and Heat Rod.
6. *Leakage voltage measurement between ACH and ACN at Frame Mounted Connector.*
7. *Regulated voltage measurement between ACH and ACN at Frame Mounted Connector.*
8. *Voltage shutdown verification at Frame Mounted Connector.*
9. *Regulator installed.*

CAUTION

All of following steps are required to diagnose, repair, and verify normal fuser operation.

1. Make resistance check on ACH circuit to Fuser.

a. Disconnect Power Cord from machine. Power Cord must not be reconnected until directed to do so.

b. Remove Fuser Module (REP 10.1).

c. Press Switch On (Figure 2) on machine power switch. This action completes circuit to be checked.

d. Measure resistance between ACH terminal of Power Cord Receptacle and pin 1 of Frame Mounted Connector. Resistance should be less than 5 ohms.

Move meter probe around while measuring pin of Frame Mounted Connector to ensure contact is made with terminal inside hole.

Resistance is less than 5 ohms.

Y **N**

Ensure Switch On (Figure 2) is pressed on machine power switch and that probe was making contact with pin 1 of Frame Mounted Connector.

A B

A B

There is a problem with Flag 1 wire (Figure 5), fuse on LVPS (Figure 5), or LVPS (Figure 5).

Remove following to check Flag 1 wire.

- ADF (REP 14.4)
- Top Cover (REP 14.1)
- Document Glass (REP 6.5)
- RIS Module (REP 6.1)
- ROS (REP 6.3)

Measure resistance between ACH terminal of Power Cord Receptacle (Figure 2) and wire (Figure 5) at LVPS.

Resistance is less than 5 ohms.

Y **N**

Replace LVPS (PL 1.3) (REP 1.4). Go to step 2.

Repair Flag 1 wire. If Flag 1 wire isn't repairable, replace LVPS and go to Step 2.

2. Make resistance check on ACN and Triac circuit to Fuser.

Measure resistance between ACN terminal of Power Cord Receptacle (Figure 2) and pin 6 of Frame Mounted Connector (Figure 1). Resistance should be at least 10k ohms.

Move meter probe around while measuring pin 6 of Frame Mounted Connector to ensure contact is made with terminal inside hole.

Resistance is greater than 10k ohms between ACN terminal of Power Cord Receptacle (Figure 2) and pin 6 of Frame Mounted Connector (Figure 1).

Y **N**

Replace LVPS (PL 1.3) (REP 1.4). Go to step 3.

3. Make resistance check on Thermistor input circuit.

Measure resistance between pins 2 and 3 of Frame Mounted Connector (Figure 1). Resistance should be between 7k and 10k ohms.

Resistance should be between 7k and 10k ohms between pins 2 and 3 of Frame Mounted Connector (Figure 1) .

Y **N**

Thermistor wires (Figure 4), LVPS, or Main PWB failure.

Remove following to check Thermistor wires.

- ADF (REP 14.4)
- Top Cover (REP 14.1)
- Document Glass (REP 6.5)
- RIS Module (REP 6.1)
- ROS (REP 6.3)

Check condition of wires from Frame Mounted Connector to LVPS. Remove Main PWB (REP 1.2) and LVPS (REP 1.4), and make resistance checks on Thermistor circuit on LVPS.

The circuit resistance should be less than 5 ohms.

Y **N**

Replace LVPS (PL 1.3) (REP 1.4). Go to step 4.

Replace Main PWB (PL 1.2) (REP 1.2). Go to step 4.

4. Make resistance check on Fuser Module Thermistor.

C

C

Measure resistance between pins 2 and 3 on Fuser Module Connector (Figure 1). Resistance should be between 2k ohms (hot fuser) and 300k ohms (cold fuser).

Resistance should be between 2k ohms and 300k ohms.

Y N

A new Fuser Module is required (PL 1.4) (REP 10.1). Do not install it at this time. Go to step 5.

5. Make resistance check on Thermostat and Heat Rod on Fuser Module.

Measure resistance between pins 1 and 6 on Fuser Module Connector (Figure 1). Resistance should be either 1.5 – 4.5 ohms for a 110 volt machine or 5.5 – 10 ohms for a 220 volt machine.

Resistance is in this range.

Y N

Heat Rod, Thermostat, or Fuser wiring failure. Check Heat Rod.

Position Fuser Module upside down so that Heat Rod terminals are accessible at ends of Heat Rod.

With meter probes on each Heat Rod terminal, resistance should be either 1.5 – 4.5 ohms for a 110 volt machine or 5.5 – 10 ohms for a 220 volt machine.

Resistance is in this range.

Y N

Check Thermostat before replacing Heat Rod. Measure resistance between pin 1 of Fuser Module Connector (Figure 1) and end of Fuser Heat Rod without an attached wire.

Resistance is less than 2 ohms.

Y N

A new Fuser Module is required. Do not install it at this time.

Go to Step 6.

Replace Heat Rod. Do not install it at this time. Go to Step 6.

A new Fuser Module is required (PL 1.4) (REP 10.1). Do not install it at this time. Go to step 6.

6. Check leakage voltage at Frame Mounted Connector (Figure 1).

- ADF (REP 14.4).
- Remove Top Cover (REP 14.1).
- With meter probes, prepare to measure voltage between pins 1 and 6 of Frame Mounted Connector.

7. Clear U4 status code.

a. Reassemble machine without Fuser Module.

b. Switch on machine power, go into diagnostic mode, enter [10-1], press 0 key and press START button. A flashing 0 indicates control logic is ready to attempt fuser temperature control.

c. Switch off power.

Move meter probes around to ensure contact is made with terminals inside holes.

When machine is switched on, voltage should be greater than 10VAC but less than 50VAC.

Y N

Replace LVPS. Repeat Step 6 after replacing LVPS. If voltage is not in the range mentioned above, replace MAIN PWB. Go to Step 7 after replacing MAIN PWB.

D

D

8. Prepare to measure regulated voltage on Frame connector. Do not switch on machine power until directed to do so.

a. Ensure Door Module and Front Door is closed as far as possible. Open interlocks will invalidate voltage check.

b. With meter probes prepare to measure voltage between pins 1 and 6 of Frame Mounted Connector.

Move meter probes around to ensure contact is made with terminals inside holes.

c. When machine is switched on, voltage should be either 110 or 220 VAC. Voltage switches on fully because Control Logic responds to disconnected Thermistor as a cold fuser.

d. Continue measuring voltage for approximately 30 seconds. Control logic should shut down 115 VAC or 220 VAC within this time. Then a low AC voltage reading is measured.

Switch on machine and measure voltage. **Voltage is either 110 VAC or 220 VAC between pins 1 and 6 of Frame Mounted Connector, and after approximately 30 seconds or less changes to a lower value.**

Y N

Replace LVPS. After replacing LVPS, repeat check as stated above. If voltage does not drop after 30 seconds, replace MAIN PWB.

Fuser control is operating correctly with no load. Switch off machine.

Clear U4 status code that was logged in previous check.

a. Install Control Panel (REP 1.1).

b. Press and hold **0** key and switch on machine.

c. Enter [10–1], press **0** key and press **Start** button. A flashing 0 indicates control logic is ready to attempt fuser temperature control.

d. Switch off machine.

9. Next check requires observation of light from fuser heat rod. Either Remove Control Panel (REP 1.1) or look through cooling vents on rear cover to see light from fuser heat rod.

Install Fuser Module (REP 10.1).

CAUTION

Fuser Module will fail if light from fuser heat rod is visible for more than 50 seconds. Fuser heat rod power should alternate between on and off within 40 seconds after fuser heat rod illuminates.

Switch off machine if fuser heat rod is on for more than 40 seconds. Observe area around fuser heat rod and switch on machine.

Switch off machine if light from fuser heat rod does not alternate off and on within 40 seconds after light is first seen.

Fuser light alternates off and on within 40 seconds after it is visible.

Y N

You should have already switched off machine per previous CAUTION and instruction below. Replace both Main PWB (PL 1.2) (REP 1.2) and LVPS PWB (PL 1.3) (REP 1.4).

Continue to observe light from fuser heat rod and make a few copies. If light from fuser heat rod continues to cycle off and on while making copies, fuser temperature regulation appears to be working.

U5 RAP

U5–0: Fuser temperature dropped below specific temperature for more than 5 seconds.

U5–1: Zero crossing signal is not present.

Procedure

Status code is U5–1.

Y N

Go to U4 RAP.

Disconnect power cord and measure voltage between ACH and CAN.

Voltage should be either 110VDC or 220VDC.

Y N

Check customers power outlet for correct voltage.

Voltage measures 110 VAC or 220 VAC.

Y N

There is a problem with customers power outlet.

Inform customer that service is required to restore power to power outlet.

Replace Power Cord (PL 1.2).

Connect power cord.

Switch on machine.

The voltage between J205-2 and J205-3 on LVPS has either 110VDC or 220VDC.

Y N

Check circuit from Power Cord to LVPS. (Including POWER SUPPLY PWB).

Check circuit where machine is connected. Appliances such as water heaters, fans, clocks, dehumidifiers, and air conditions induce fluctuation in power that may result in a U5 Status Code.

If a problem continues, check connection between MAIN PWB and LVPS. If no problems are found, replace LVPS, MAIN PWB in sequence.

U6 RAP

U6-0: Printer control communication failure.

U6-1: Drum Cartridge, Tray 1, or Tray 2 communication failure.

U6-4: NVM signal failure.

Initial Actions

- Switch off machine, wait 10 seconds, switch on machine again.
- Pull out and push in Drum Cartridge (REP 9.1).

Procedure

Status code is U6-1

Y N

If status code is U6-4, switch off machine and switch it on again.

U6-4 continues.

Y N

Then status code is U6-0.

Y N

Replace MAIN PWB.

Remove the Tray 2 Rear Cover. disconnect and reconnect Tray1 and Tray 2 harness. If the U6-0 problem continues, replace MAIN PWB.

Replace MAIN PWB.

When U6-1 occurs, Tray 1 Feed Motor also runs and jams paper in tray.

Y N

- Switch off machine.
- Remove Rear Cover (REP 14.2).
- Disconnect and reconnect Tray 1 Interface Harness (Figure 1).
- If Tray 2 is present, remove the Tray 2 Rear Cover (REP 14.5). Disconnect and reconnect Tray 1 Tray 2 Harness.
- Remove and reinstall Drum Cartridge (REP 9.1).
- Switch on machine.

U6-1 status code continues.

Y N

Go to Service Call Procedures in Section 1.

Open circuit failure in Signal or Clock circuit or internal communication failure in MAIN PWB.

- Switch off machine.
- Measure resistance (ohms) of Signal circuit.
- Connect black meter wire to P402 on Tray 1 Control PWB (Figure 4).
- Connect red meter wire to P/J109-A7 on Main PWB (Figure 6).

Resistance is less than 5 ohms.

Y N

Connect red meter wire to CN1-6 on PCM Interface PWB (Figure 3).

Resistance is less than 5 ohms.

A B C

Y N

Check the wire between P302-6 on PCM PWB and J402-6 on Tray 1 Control PWB for an open circuit or poor contact. If no problems are found, replace PCM PWB.

Check the wire between J211-6 on LVPS and P311-6 on PCM PWB for an open circuit or poor contact.

Measure resistance of Clock circuit.

- Connect black meter wire to P402-5 on Tray 1 Control PWB (Figure 4).
- Connect red meter wire to P/J109-A5 on Main PWB (Figure 6).

Resistance is less than 5 ohms.

Y N

Connect red meter wire to P311-7 on PCM Interface PWB (Figure 3).

Resistance is less than 5 ohms.

Y N

Connect red meter wire to CN2-4 on PCM Interface PWB (Figure 3).

Resistance is less than 5 ohms.

Y N

Check the wire between P302-5 on PWC PWB and J402-5 on Tray 1 Control PWB for an open circuit or poor contact.

Replace PCM PWB.

Check the wire between J211-7 on LVPS and P311-7 on PCM PWB for an open circuit or poor contact.

Replace Tray 1 Control PWB (PL 4.2) (REP 8.20).

Open circuit failure in DC COM (Figure 2).

- Connect black meter wire to P402-2 on Tray 1 Control PWB (Figure 4).
- Connect red meter wire to P312-8 or 9 on PCM Interface PWB (Figure 3).

Resistance is less than 5 ohms.

Y N

Connect red meter wire to CN2-5 on PCM Interface PWB (Figure 3).

Resistance is less than 5 ohms.

Y N

Connect red meter to P302-2 on PCM PWB.

Resistance is less than 5 ohms.

Y N

Check the wire between P302-2 on PCM PWB and J402-2 on Tray 1 Control PWB for an open circuit or poor contact.

Replace PCM PWB.

Check the wire between J212-8 on LVPS and P312-8 on PCM PWB for an open circuit or poor contact.

Replace Tray 1 Control PWB (PL 4.2) (REP 8.20).

U7, U8 RAP

U7: Control Panel communication from Main PWB failed.

U8: Control Panel communication to Main PWB failed.

Procedure

Check Control Panel harness for damage.

- Remove Document Cover (REP 14.4).
- Remove Top Cover (REP 14.1).

Harness is free of damage.

Y **N**

Repair as required (PL 3.1).

Disconnect and reconnect Control Panel harness connectors.
Reassemble machine, and verify machine operation.

Machine is ready to copy.

Y **N**

Replace Control Panel Harness (PL 3.1).

U8 status code continues.

Y **N**

Return to Service Call Procedures.

Go to OF 16–2 Ground RAP to check all machine grounds.

- If U8 status code continues, replace Control Panel PWB (PL 4.1) (REP 1.1).
- If U8 status code continues, replace Main PWB (PL 1.2) (REP 1.2)

Return to Service Call Procedures in Section 1.

U9 RAP

U9-0: High Voltage Power Supply Error

A HVPS output is shorted or overloaded.

Procedure

NOTE: *Possible cause of U9 is high voltage arcing at Transfer Detack Corotron or Drum Cartridge contacts.*

Do following:

- Clean Transfer Detack Corotron with a dry brush.
- Clean Transfer Detack Corotron Contacts (Figure 1) at front end of Transfer Detack Corotron with film remover or cleaning solvent. Clean corresponding contacts on machine frame.
- Remove Drum Cartridge (REP 9.1) and clean contacts on top of cartridge.
- Clean corresponding contacts on machine frame.

Switch machine off and then on.

A U9 status code is displayed.

Y N

Return to Service Call Procedures.

Switch off machine. Remove Transfer Detack Corotron (REP 9.2). Switch on machine. Make a few copies.

A U9 Status Code is displayed after machine is switched on or while making copies.

Y N

Replace Transfer Detack Corotron (PL 5.1) (REP 9.2).

Switch off machine. Remove Drum Cartridge (REP 9.1). Switch on machine.

U9 Status Code is displayed after power up.

Y N

A J3 status code should be displayed if HVPS is functional. Replace Drum Cartridge.

Replace HVPS (PL 1.2) (REP 1.5).

If U9 status code continues, replace Main PWB (PL 1.2) (REP 1.2).

OF 1-1 CONTROL PANEL RAP

Control Panel problem

Procedure

Enter diagnostics [2–2]. **Diagnostics [2–2] is ready.**

Y **N**

Some illuminated indicators are visible.

Y **N**

Go to the OF 2-1 Blank Display and LVPS RAP.

Check that buttons are free to actuate and deactuate.
If a button does not respond, remove Control Panel (REP 1.1).
Disassemble Control Panel and replace buttons as required (PL 4.1).

Press each key. Your indication should be a display change for each key press.
Number keys should show number in display.
If any button actuation does not change display, remove Control Panel (REP 1.1).
Disassemble Control Panel and replace Control Panel PWB or buttons as required (PL 4.1).

OF 1-2 MACHINE RUN RAP

Machine run problem.

Procedure

If machine runs without making copy, check following:

- Open circuit in Control or +5 VDC between Tray 1 Control PWB and PCM Interface PWB (Figure 1).
- Open circuit in +5 VDC or Data between Tray 1 Control PWB and Tray 2 Control PWB (Figure 1).

Perform following:

- Switch off machine.
- Remove Rear Cover (REP 14.2).
- Disconnect and reconnect Tray 1 Interface Harness (Figure 2).
- If Tray 2 is present, remove the Tray 2 Rear Cover (REP 14.5). Disconnect and reconnect Tray 1 Tray 2 Harness.
- Switch on machine.

Machine run problem continues.

Y N

Return to service call procedures in Section 1.

Check Control wire (Figure 1).

- Switch off machine.
- Connect black meter wire to J2-8 on Tray 1 Control PWB (Figure 4).
- Connect red meter wire to CN3-A09 on Main PWB (Figure 6).

Resistance is 5 ohms or less.

Y N

Connect red meter wire to CN1-5 on PCM Interface PWB (Figure 3). **Resistance is 5 ohms or less.**

Y N

Connect red meter wire to CN2-2 on PCM Interface PWB (Figure 3). **Resistance is 5 ohms or less.**

Y N

Replace Tray 1/Interface PWB Harness (PL 4.2).

Replace PCM Interface PWB (PL 1.2) (REP 1.3).

Replace LVPS (PL 1.3) (REP 1.4).

Check +5 VDC wire between Tray 1 Control PWB and machine (Figure 1).

- Switch on machine.
- Connect black meter wire to Main PWB metal frame.
- Connect red meter wire to CN1-11 on PCM Interface PWB (Figure 3).

Approximately +5 VDC is measured.

Y N

Replace LVPS (PL 1.3) (REP 1.4).

A

Connect red meter wire to CN2-1 on PCM Interface PWB (Figure 3). **Approximately +5 VDC is measured.**

Y N

Replace PCM Interface PWB (PL 1.2) (REP 1.3).

Connect red meter wire to J2-3 on Tray 1 Control PWB (Figure 4). **Approximately +5 VDC is measured.**

Y N

Replace Tray 1/Interface PWB Harness (PL 4.2).

Machine is equipped with Tray 2.

Y N

Replace Tray 1 Control PWB (PL 4.2) (REP 8.20).

Check +5 VDC wire between Tray 1 Control PWB and Tray 2 Control PWB (Figure 1).

- Connect red meter wire to J3-3 on Tray 1 Control PWB (Figure 4).

Approximately +5 VDC is measured.

Y N

Replace Tray 1 Control PWB (PL 4.2) (REP 8.20).

Connect red meter wire to J2-3 on Tray 2 Control PWB (Figure 4). **Approximately +5 VDC is measured.**

Y N

Replace Tray 1/Interface PWB Harness (PL 4.2).

Replace Tray 2 to Tray 1 Harness (PL 4.2).

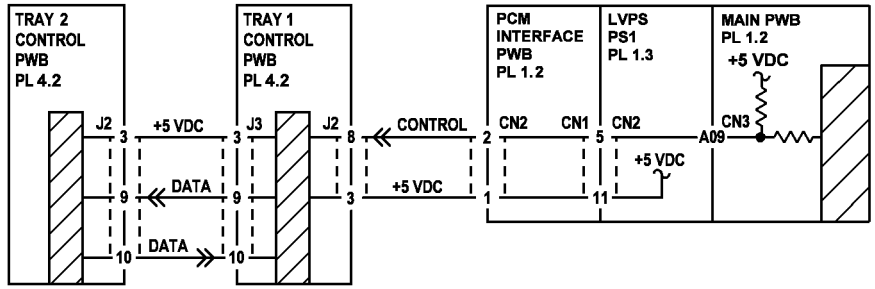

Figure 1 Paper Trays Machine Run Circuit Diagram

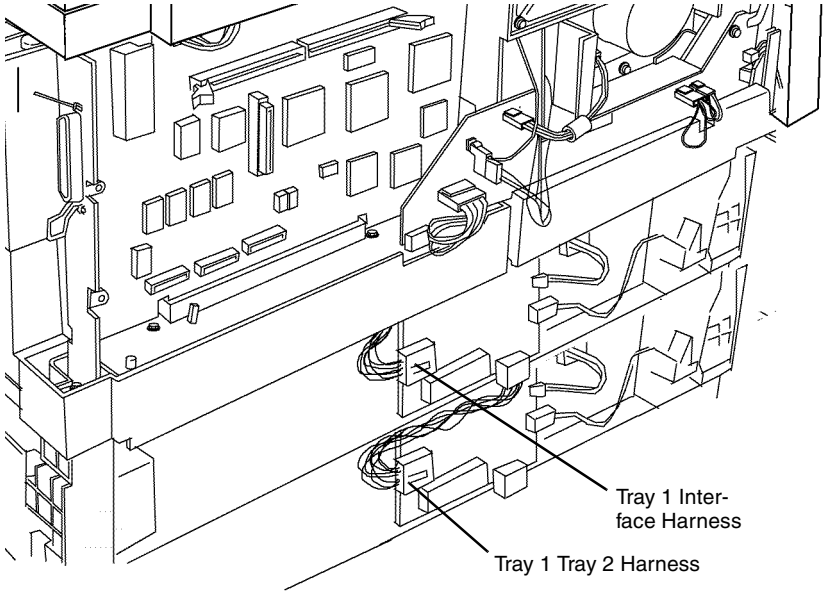

Figure 2 Paper Tray Harness

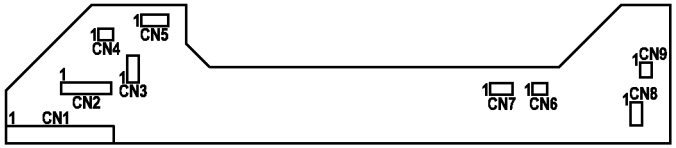

Figure 3 PCM Interface PWB

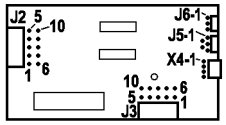

Figure 4 Tray Control PWB

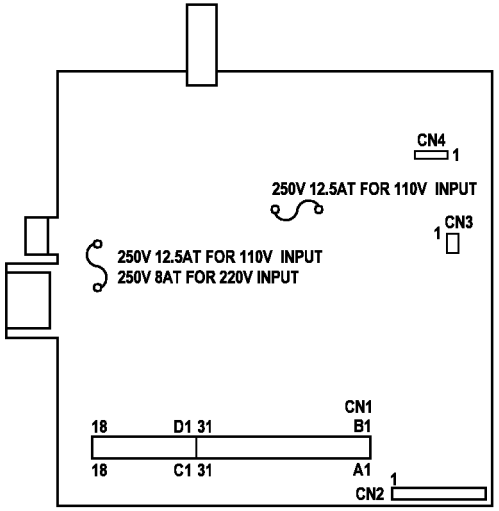

Figure 5 LVPS PWB

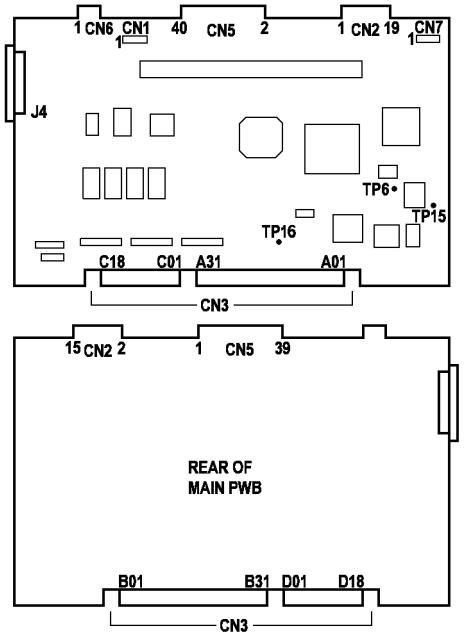

Figure 6 Main PWB

OF 1-3 COOLING FAN RAP

Cooling Fan problem

NOTE: *Cooling Fan operates at full speed while Main Drive Motor is energized and operates at reduced speed when machine is ready.*

Procedure

Cooling Fan makes excessive noise.

Y N

Remove Rear Cover (REP 14.2).
Connect black meter wire to Main PWB metal frame.
Check for +24 VDC at CN4-2 on PCM Interface PWB (Figure 4). **Approximately +24 VDC is measured.**

Y N

Check for approximately +24 VDC at CN1-4 on PCM Interface PWB (Figure 4). **Approximately +24 VDC is measured.**

Y N

Replace LVPS (PL 1.3) (REP 1.4).

Replace PCM Interface PWB (PL 1.2) (REP 1.3).

Check for +24 VDC at CN4-1 on PCM Interface PWB (Figure 4). **Approximately +24 VDC is measured.**

Y N

Replace Cooling Fan (PL 1.2).

Check for 2.2 VAC with red meter wire at CN3-A05 on Main PWB (Figure 3).
Switch meter to DC voltage measurement. Check that voltage changes to +5 VDC after pressing Start to copy. **Approximately 2.2 VAC is measured, and then voltage changes to approximately +5 VDC after pressing Start.**

Y N

Replace Main PWB (PL 1.2) (REP 1.2).

Check for 9 VAC with red meter wire at CN1-9 on PCM Interface PWB (Figure 4).
Switch meter to DC voltage measurement. Check that voltage changes to +0.1 VDC after pressing Start to copy. **Approximately 9 VAC is measured, and then voltage changes to approximately +0.1 VDC after pressing Start.**

Y N

Replace LVPS (PL 1.3) (REP 1.4).

Replace Cooling Fan (PL 1.2).

Replace Cooling Fan (PL 1.2).

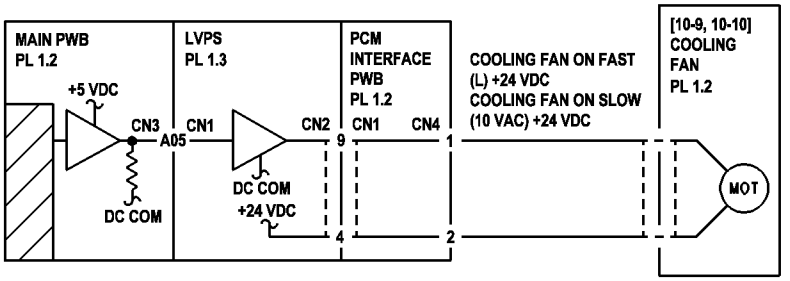

Figure 1 Cooling Fan Motor Circuit Diagram

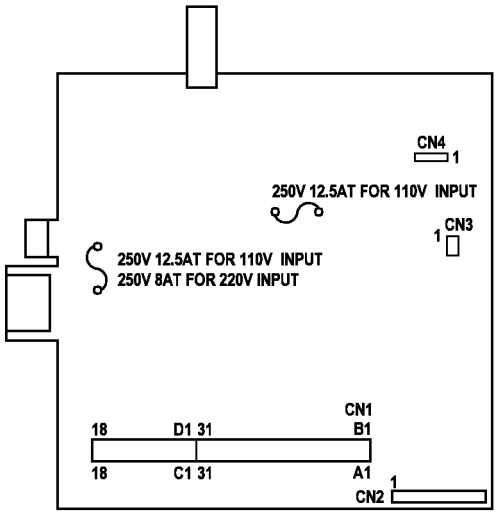

Figure 2 LVPS PWB

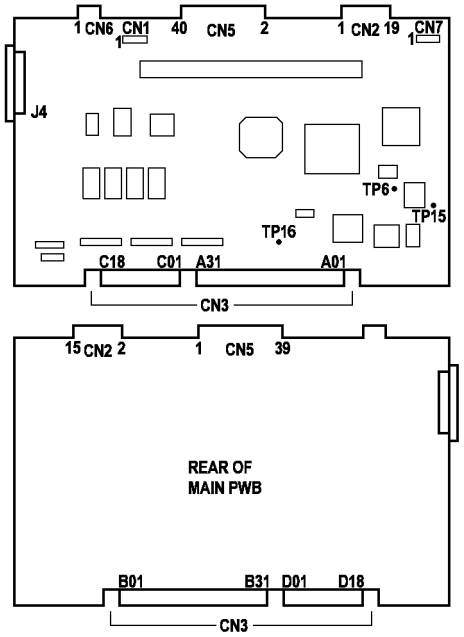

Figure 3 Main PWB

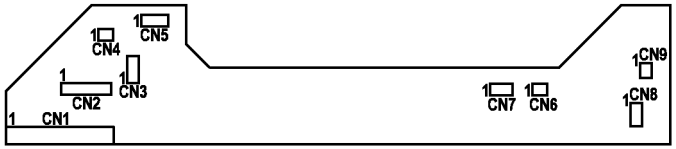

Figure 4 PCM Interface PWB

OF 2-1 BLANK DISPLAY RAP

Appropriate Control Panel indicators not illuminated, +5 VDC distribution failure, or LVPS or Main PWB failure.

Procedure

NOTE: *If Status Code is displayed, go to RAP now.*

A blank display indicates a problem with one of following:

- Customers power outlet
- Power cord
- Input power circuit on LVPS
- Control Panel PWB and indicators
- +5 VDC to Control Panel
- +5 VDC on LVPS

NOTE: *RAP verifies voltage to machine. Then +5 VDC at Control Panel is checked followed by +5 VDC on LVPS.*

Front Door Interlock, Door Module Interlock, or Main PWB do not control or regulate generation of +5 VDC.

Disconnect power cord from machine.
Check for 110 VAC or 220 VAC at power cord between ACN and ACH (Figure 1). **Voltage measures 110 VAC or 220 VAC.**

Y N

Check customers power outlet for correct voltage. **Voltage measures 110 VAC or 220 VAC.**

Y N

There is a problem with customers power outlet. Inform customer that service is required to restore power to power outlet.

Replace Power Cord (PL 1.2).

Press Switch On on Power Switch (Figure 3). Open Front Door. Connect black meter wire to DC COM test hole and red meter wIre to +5 VDC test hole (Figure 2). **Approximately +5 VDC is measured.**

Y N

Remove Rear Cover (REP 14.2). Connect black meter wire to CN1-9 and red meter wIre to CN1-2 on the Main PWB (Figure 6). **Approximately +5 VDC is measured.**

Y N

Connect black meter wire to CN3-C2, C3, C4, or C5 on the Main PWB (Figure 6). Connect red meter wIre to CN3-C10, C11, C12, or C13 on the Main PWB (Figure 6). **Approximately +5 VDC is measured.**

Y N

Replace LVPS (PL 1.3) (REP 1.4)

Replace Main PWB (PL 1.2) (REP 1.2).

Remove Top Cover (REP 14.1). Check Control Panel Harness for visible damage. Replace Control Panel Harness (PL 3.1) if required. If not damaged, replace Control Panel PWB (PL 4.1).

A

A

Replace Control Panel PWB (PL 4.1).

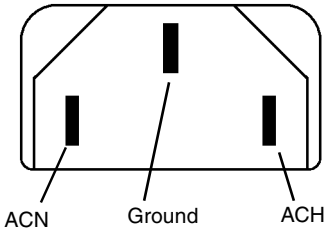

Figure 1 Power Cord at Machine End

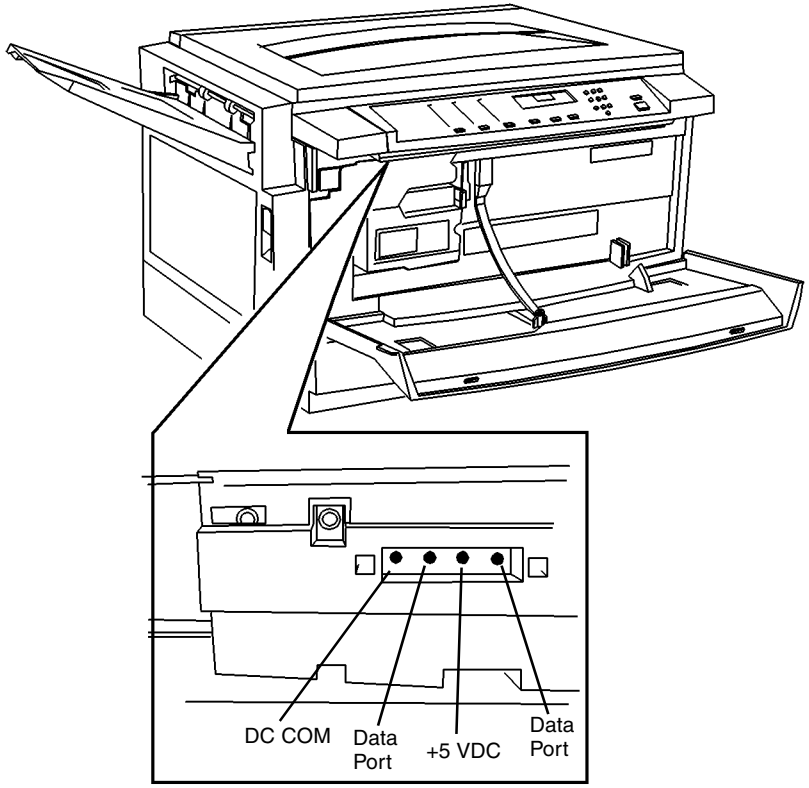

Figure 2 Control Panel +5 VDC and DC COM

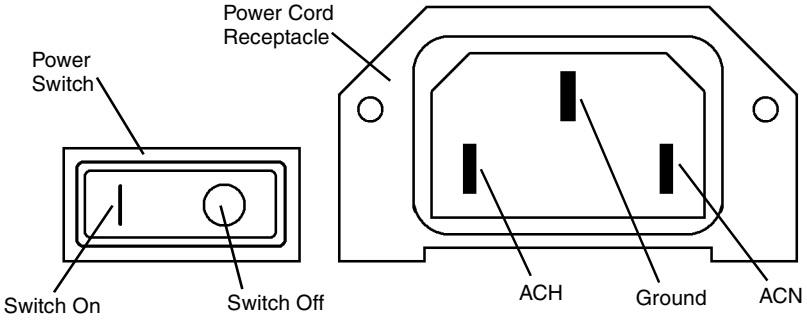

Figure 3 Power Switch and Power Cord Receptacle

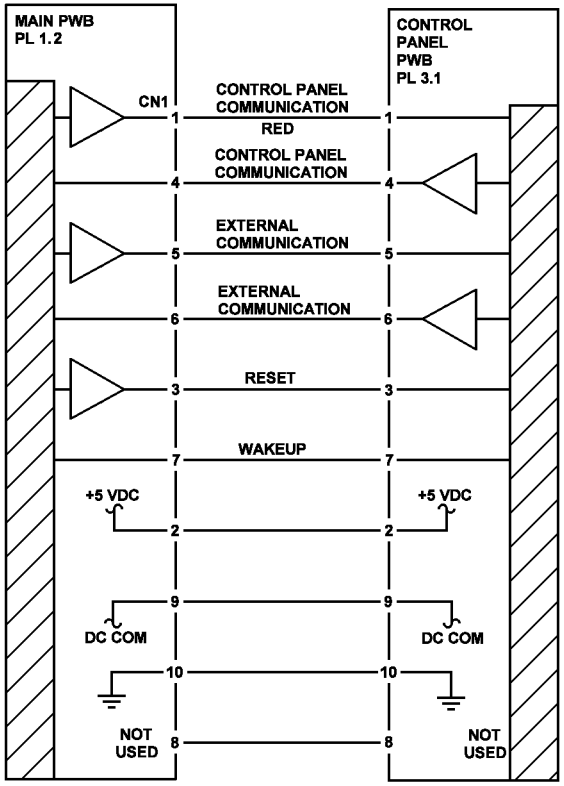

Figure 4 Control Panel Circuit Diagram

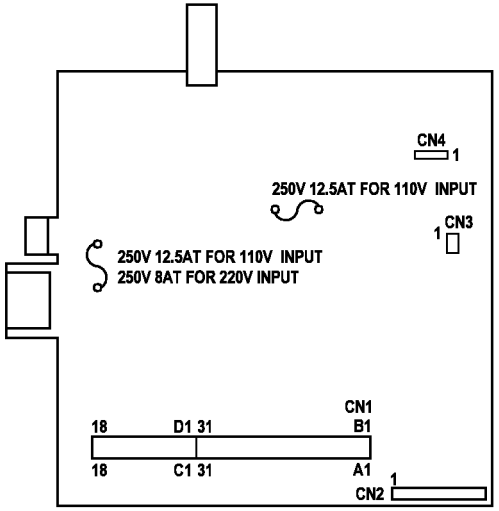

Figure 5 LVPS PWB

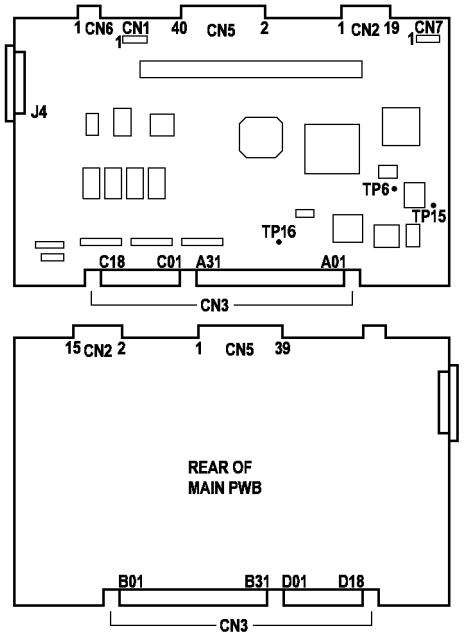

Figure 6 Main PWB

OF 7-1 PAPER TRAY RAP

Paper tray problem.

Procedure

Check inch or mm setting for paper trays:

- Press and hold Paper Tray select button until lights flash on machine diagram.
- Enter 16 and press Start button.

A 0 is displayed for inch paper size and 1 for metric paper size. **Correct number is displayed for machine usage.**

Y N

Enter correct number. Refer to Customer Programmable Options in Section 6.

No indication when tray is empty.

Y N

While tray is in use, it can be opened without declaring a status code.

Y N

Two or more sheets of paper feed together.

Y N

Tray 2 can be selected on Control Panel.

Y N

Control logic should recognize when Tray 2 is installed after power is switched on.
Remove Tray 2 Rear Cover (REP 14.5). Check Tray 1 to Tray 2 Harness connections (PL 4.2).

Tray problem is described in this RAP. **Problem is identified.**

Y N

Call service support for assistance.

Attempt to repair problem with reference to parts lists: Tray 1, (PL 4.2); Tray 2, (PL 4.2); Bypass Tray (PL 6.3)

Check that Side Guide and End Guides are correctly positioned.

Go to C7 RAP for Tray 1 or C8 RAP for Tray 2.

Go to C5 RAP for Tray 1 or C6 RAP for Tray 2.

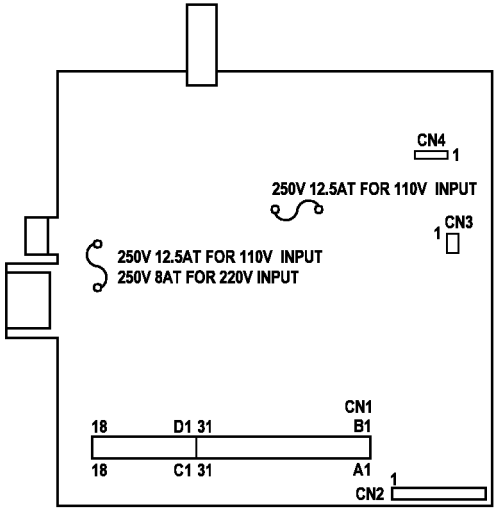

Figure 1 LVPS PWB

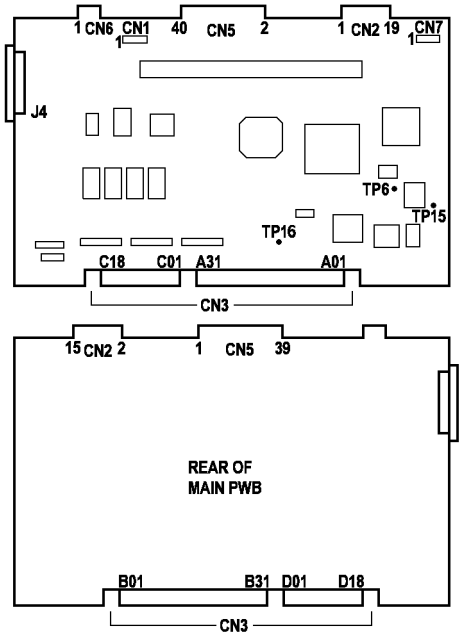

Figure 2 Main PWB

OF 8-1 PAPER DAMAGE or STACKING RAP

Paper exits machine damaged, or copies do not stack correctly in Exit Tray.

Procedure

NOTE: *If copy paper is wrinkled, go to IQ 16 Wrinkle RAP.*

Check the following:

- Remove paper from tray and fan it to ensure edges are separated. Refer to label on paper tray. Reinstall paper.
- Check Paper Guides are adjusted to paper without pinching or squeezing paper.
- When using Bypass Tray, if a lead edge tear occurs in Lead Edge (Figure 2) where Retard Pad (Figure 1) is positioned, flip paper over. Ensure 50 or less sheets are loaded.
- Ensure Side Guides (Figure 1) are adjusted to paper without pinching paper.

Do following to Door Module.

- Check that Door Module Latches hold door securely closed. There should be 1 to 2 mm movement when door is pushed to right and door moves left 1 to 2 mm when released. Repair as required (PL 6.2).
- Check that drive belt and drive gears are in good condition. Repair as required (PL 6.2).
- Check Exit Transport components are in good condition. Repair as required (PL 6.2).
- Check paper storage condition. Paper stored for months in boxes or weeks in opened wrappers absorbs moisture and curls more than paper stored for shorter time before it is used.
- Check mounting of Output Tray (REP 8.7).

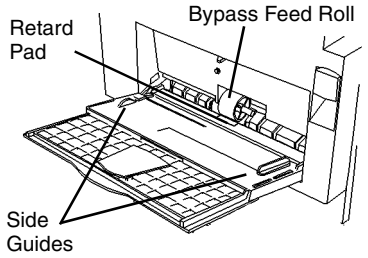

Figure 1 Bypass Tray Input

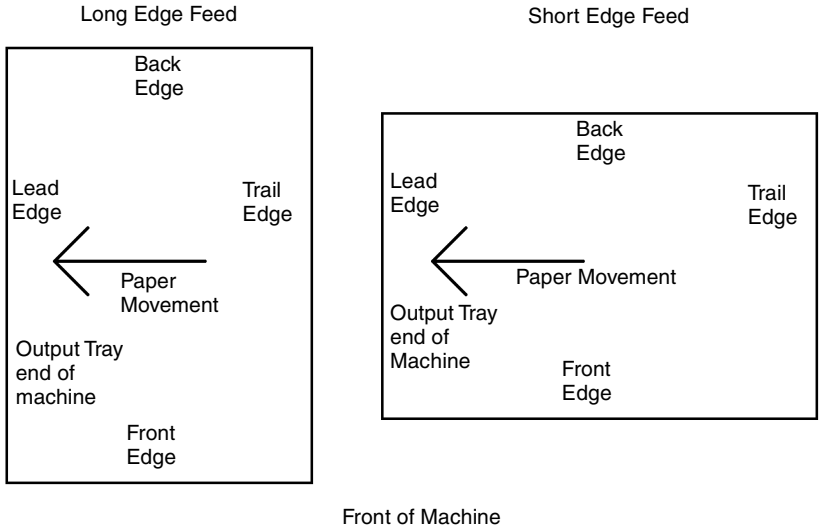

Figure 2 Paper Orientation Terms

OF 14-1 PRINTER RAP

Printed Image quality or printer function problem.

Procedure

Press and hold Stop button and press 9 button. Test print is produced. **Image is correct (Figure 1).**

Y N

Replace Main PWB (PL 1.2) (REP 1.4).

Enter diagnostic [1-1]. **Image is correct (Figure 2).**

Y N

Replace Main PWB (PL 1.2) (REP 1.4).

Remove Rear Cover (REP 14.2).

Examine Main PWB for discolored components. **Discolored components are visible.**

Y N

Check print connections to Main PWB are secure. **Print connections are secure.**

Y N

Repair as required (PL 1.2).

There is an application problem with the PC.

Replace Main PWB (PL 1.2) (REP 1.4) or appropriate component such as NIC or USB components.

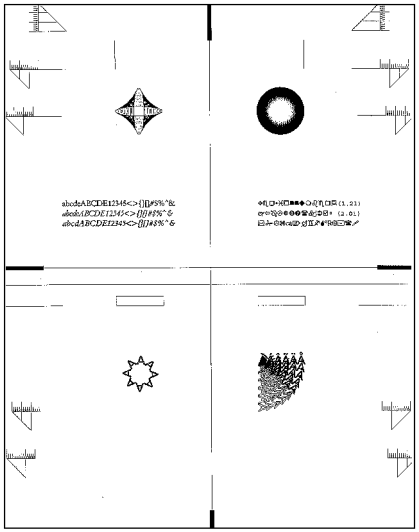

Figure 1 Code Stop 9 Test Pattern

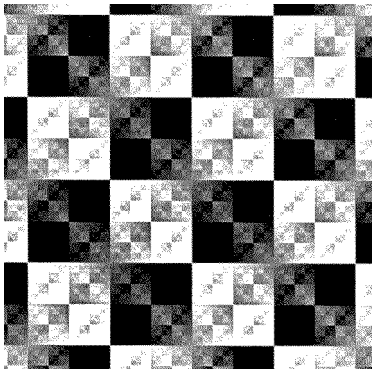

Figure 2 Diagnostic Code [1 - 1] Test Pattern

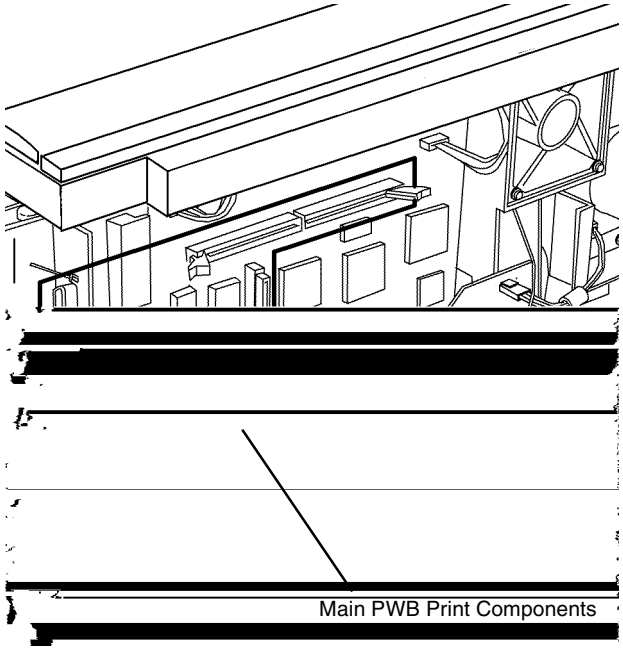

Figure 3 Main PWB Print Components

OF 16-1 NOISE or ODOR RAP

There is a problem with how machine sounds, or machine is producing a burning, ozone, or other unusual odor.

Procedure

NOTE: *If a Status Code is displayed during service call that is not clearable (assuming no jammed paper remains in machine, doors are closed, and Tray 1, and 2 if equipped, is full), Status Codes must be serviced before servicing Other Faults on these pages.*

Problem is noise.

Y N

Then problem is unusual odor.

NOTE: *It is unusual that a continuous odor is caused by burning or overheated electrical components on LVPS, HVPS, or Main PWB without causing a fuse failure on LVPS and a blank display. These components are checked last.*

Odor occurs only when running special customer paper stock or labels.

Y N

Make a copy and observe Cooling Fan at rear of machine. **Cooling Fan operates.**

Y N

Go to OF 1–3 Cooling Fan RAP.

Cooling Fan operates at slow speed when machine is ready.

Y N

Go to OF 1–3 Cooling Fan RAP.

Remove Rear Cover (REP 14.2) and operate machine. Check if odor is strongest at Printer PWB. **Odor is strongest at Main PWB.**

Y N

Odor is strongest at Fuser Module.

Y N

Check PWB's for signs of discoloration or excess heat.

Do following to apply power to LVPS and Main PWB.

- Press Switch On on Power Switch (Figure 1).
- Ensure Front Door Interlock Switch is cheated or keep Front Door closed.
- Connect a jumper between CN1–1 and CN1–4 on Door Interface PWB (Figure 3) .

Check PWB's for odor. LVPS (PL 1.3) (REP 1.4) or Main PWB (PL 1.2) (REP 1.2) if it is determined that one of PWB's is cause of odor.

Remove Fuser Module (REP 10.1). Inspect fuser rolls for unidentified residue. Clean rolls with a dry cloth. Fuser Module (PL 1.4).

a

Check that unique paper stock or labels fits within specifications listed in Table 1 Copy Paper Specifications in Section 6.

Do following to lower fuser operating temperature.

- Enter Diagnostic Code [10–4] and press **Start** button.

A B

- Press 1 key to enter a 1. Press **Start** button to load 1. Your observation should be a blinking 1 to indicate 1 is loaded.
- Exit Diagnostics.

Inform customer how machine is expected to work with standard paper stock and labels.

Observe carriages in RIS and then switch off and switch on machine. Carriages should move to right slightly and then to left without producing a tapping noise. **Carriages move to right and then to left free of excess noise.**

Y N

Scan Home Sensor is failed low. Remove RIS (REP 6.1). Check Scan Home Sensor wires and RIS connections for visible damage, incorrect mounting, or other signs of failure. If components appear good, RIS Module (PL 1.1).

Make a copy while observing scanning carriages in RIS Module. **Scanning carriages in RIS module operate free of unusual noise.**

Y N

Remove Document Glass (REP 6.5).

CAUTION

Image Quality defects will occur if mirrors in both carriages are not cleaned and RIS Module is not vacuumed before reinstalling Document Glass.

Do following on RIS Module.

- Clean rails that support carriages.
- Apply a small quantity of lubricant to pulley shafts and ends of cable shafts.

Reassemble machine and verify that RIS Module operates free of noise. If RIS Module noise continues, replace RIS Module (PL 1.1).

Lubricate Registration Roll bearings (Figure 4). Refer to Supplemental Tools and Supplies in Section 6 for a lubricant. Make several more copies. **Noise continues.**

Y N

Return to Service Call Procedures in Section 1.

Remove Fuser Module (REP 10.1). Ensure Front Door and Door Module remains closed during next diagnostic action. Enter [4–1] and press Start button to operate drives. **Noise continues.**

Y N

Replace Fuser Module (PL 1.4).

Remove Drum Cartridge (REP 9.1). Check that [4–1] is still entered. Ensure Front Door and Door Module remains closed during next diagnostic action. Press Start button. **Noise continues.**

Y N

Replace Drum Cartridge under warranty (PL 1.4) (REP 9.1).

Reinstall Drum Cartridge (REP 9.1). Close Front Door if it is open.

Install a jumper between pins 1 and 4 on Door Interface PWB (Figure 3). Leave Door Module open. Check that [4–1] is still entered. Press Start button to operate drives. Manually raise Registration Assembly to engage drives. Lift Door Module slightly to enable this action. **Noise continues.**

A B C

C
Y N

Problem is in Door Module. Lubricate ends of drive shafts and gears with a minimal amount of oil (Table 1 Supplemental Tools and Supplies in Section 1).

There is a problem with Drives Module or Registration Assembly. If noise is heard when manually engaging Registration Assembly Lubricate ends of drive shafts and gears with a minimal amount of oil (Table 1 Supplemental Tools and Supplies in Section 1).
If noise is heard before manually engaging Registration Assembly lubricate Drives Module (PL 3.1) (REP 4.1).

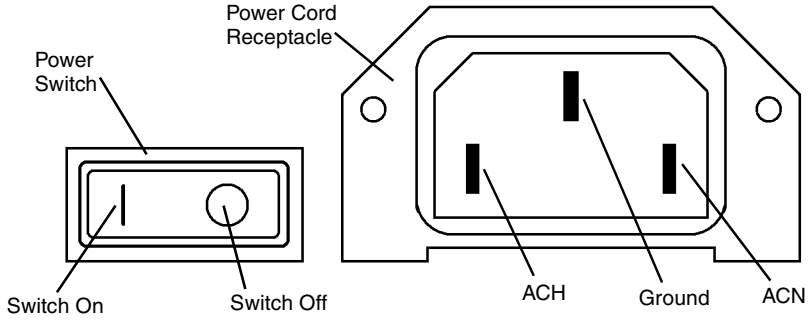

Figure 1 Power Switch and Power Cord Receptacle

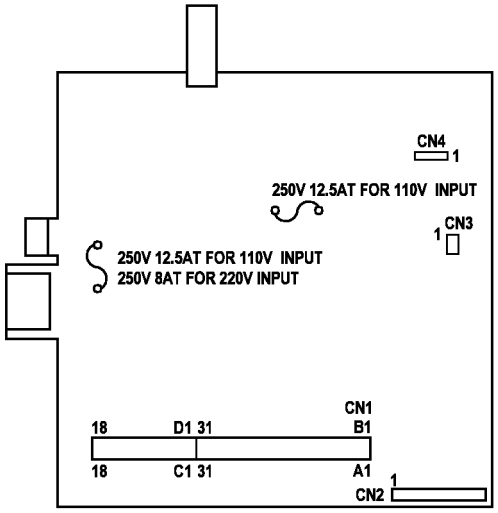

Figure 2 LVPS PWB

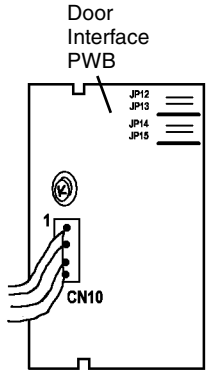

Figure 3 Door Interface PWB

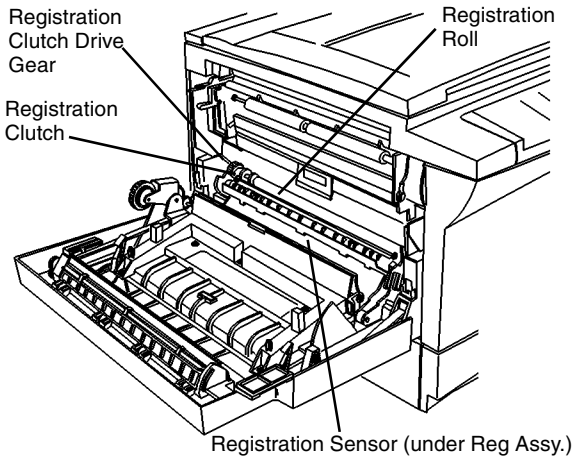

Figure 4 Registration Components

OF 16-2 GROUND RAP

Ground Circuit problem that causes:

- Intermittent abnormal machine operation
- Image quality problems
- Intermittent status codes

Procedure

NOTE: *Figure 17 shows chassis or earth ground circuit for machine. Less than 5 ohms is measured between any 2 positions in ground circuit. Go to step 1 for detailed information on checking machine grounds.*

WARNING

Physical contact with power receptacle voltage at fuser may occur if both of following failures occur:

- **There is an open circuit failure in Fuser Module Ground.**
- **There is a failure in Fuser Module and power receptacle voltage touches metal Fuser frame.**

Fuser Module metal frame will be at power receptacle voltage and machine may operate normally.

1. Check that Fuser Module Ground (Figure 1) is connected to Power Cord Receptacle ground (Figure 2).
   a. Set up ohmmeter.
      i. Select ohms on meter.
      ii. Select lowest ohms scale.
      iii. Attach clips to both meter wires and connect together. Meter should indicate less than 1 ohm.
   b. Measure Fuser Module Ground.
      i. Disconnect Power Cord from Power Cord Receptacle at right side of machine (Figure 2).
      ii. Connect an meter clip to Ground pin (Figure 2).
      iii. Open Door Module and connect other meter clip to Fuser Module Ground (Figure 1).
   c. Meter should indicate less than 5 ohms.

      If less than 5 ohms is measured, go to step 2.

      If more than 5 ohms is measured, replace LVPS (PL 1.3) (REP 1.4).

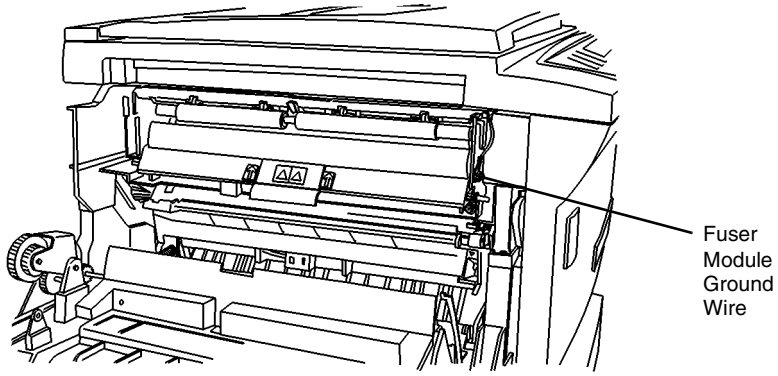

Figure 1 Fuser Module Ground Wire

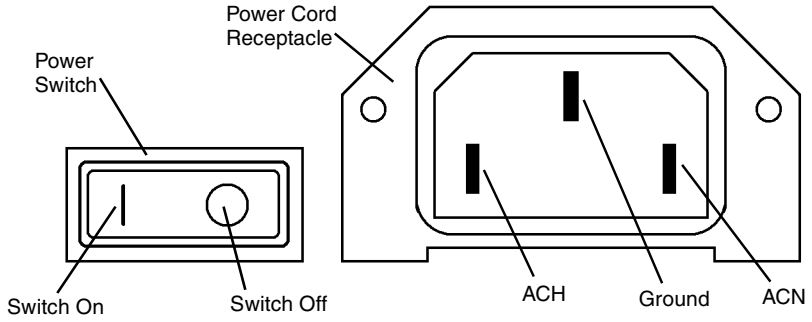

Figure 2 Power Switch and Power Cord Receptacle

2. Check Main PWB Metal Frame (Figure 3).
   a. Remove Rear Cover (REP 14.2).
   b. Remove Right Cover (REP 14.3).
   c. Check that black meter wire is connected to Ground pin (Figure 2).
   d. Connect red meter wire to Main PWB Metal Frame.

      If less than 5 ohms is measured, go to step 3.

      If more than 5 ohms is measured, do following:

      - Check that all 9 screws are installed in LVPS (REP 1.4).
      - Check that screw is installed in Main PWB Frame (Figure 3).
      - If screws are installed as described above, replace LVPS at this time (PL 1.3) (REP 1.4)

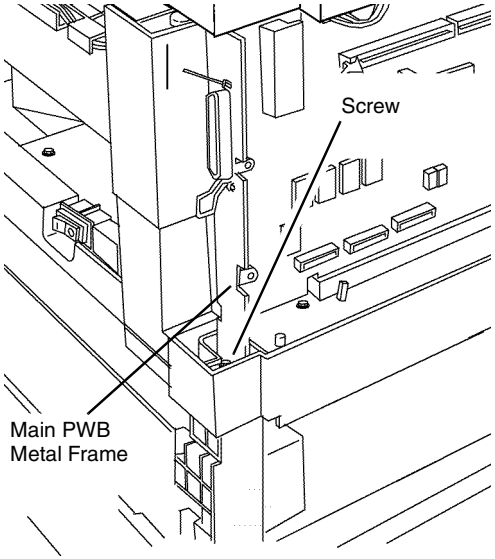

Figure 3 Main PWB Metal Frame Screw

3. Check Middle Ground Contact for Transfer Detack Corotron.
   a. Connect black meter wire to Main PWB metal frame.
   b. Connect red meter wire to HVPS Ground (Figure 4).

      If less than 5 ohms is measured, go to step c.

      If more than 5 ohms is measured, check installation of HVPS (REP 1.5) and connection at HVPS Ground.
   c. Connect red meter wire to Middle Ground Contact (Figure 4).

      If less than 5 ohms is measured, go to step 4.

      If more than 5 ohms is measured, check installation of Transfer Detack Contact Block (PL 1.2).

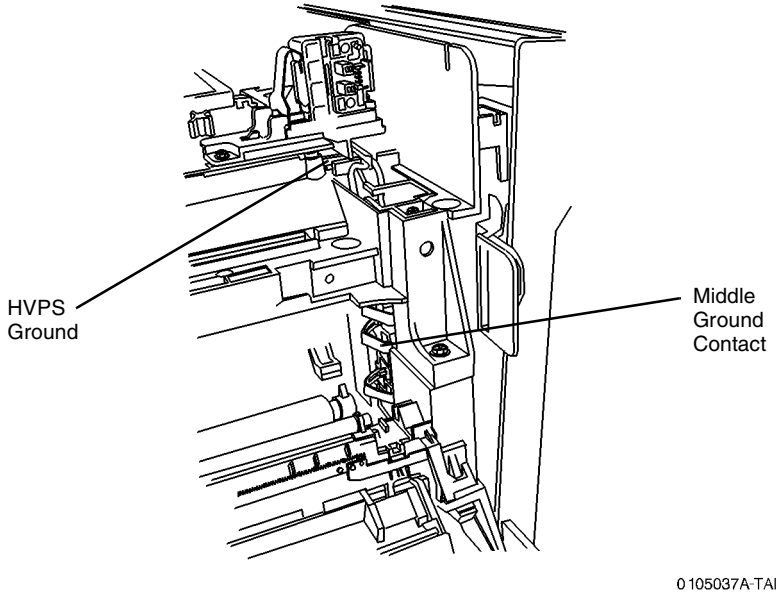

Figure 4 HVPS and Transfer Roll Ground

4. Check Transfer Roll Ground.
   a. Connect black meter wire to Middle Contact (Figure 6).
   b. Connect red meter wire to Transfer Roll (Figure 5).

      If less than 5 ohms is measured, go to step 5.

      If more than 5 ohms is measured, clean Transfer Roll Clip (refer to Table 3 in Maintenance Procedures in Section 1)

      If more than 5 ohms is measured again, replace Transfer Detack Corotron (PL 5.1) (REP 9.2).

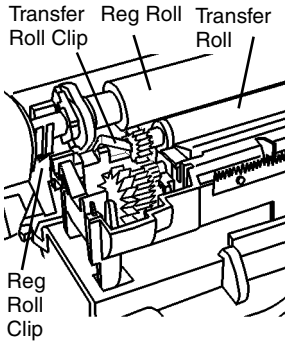

Figure 5 Transfer Roll Clip

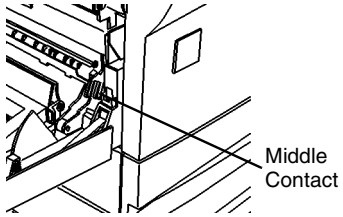

Figure 6 Transfer Roll Ground

5. Check Registration Roll Ground.
   a. Connect black meter wire to Main PWB metal frame.
   b. Connect red meter wire to Registration Roll Clip (Figure 7).

      If less than 5 ohms is measured, go to step 6.

      If more than 5 ohms is measured, do following:
   c. Connect red meter wire to pin 2 Ground Wire (Figure 8) .

      If less than 5 ohms is measured, check wires from Registration Roll Assembly to connector for visible damage. Repair damage or replace Registration Assembly (PL 5.1) (REP 8.2).

      If more than 5 ohms is measured, replace PCM Interface PWB (PL 1.2) (REP 1.3).

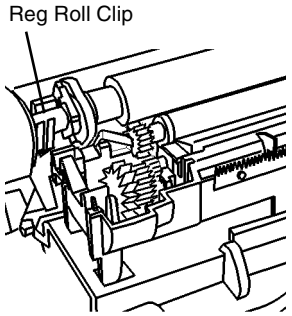

Figure 7 Registration Roll Clip

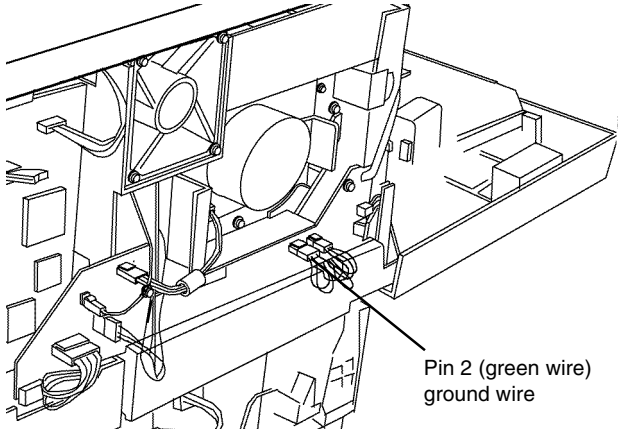

Figure 8 Registration Roll Ground Connector

6. Check Drum Cartridge Ground
   a. Connect black meter wire to Main PWB metal frame (Figure 10).
   b. Remove Drum Cartridge (REP 9.1).
   c. Connect red meter wire to Drum Cartridge Ground (Figure 10).
      If less than 5 ohms is measured, go to step 7.
      If more than 5 ohms is measured, check installation of HVPS (REP 1.5) and connection on Main PWB at CN7.

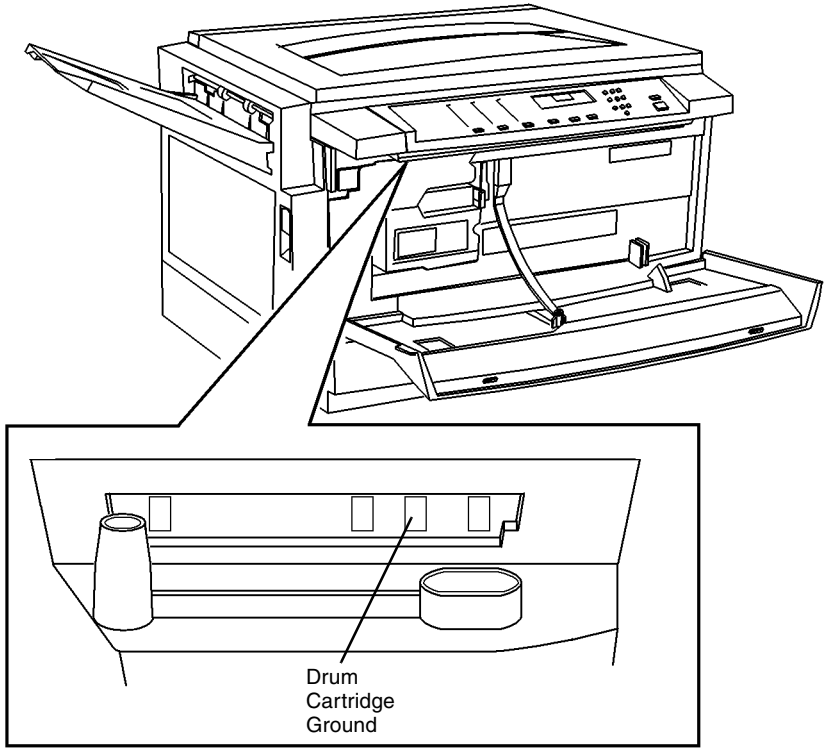

Figure 9 Drum Cartridge Ground

7. Check RIS Ground.
   a. Connect black meter wire to Main PWB metal frame (Figure 10).
   b. Connect red meter wire to metal RIS Frame (Figure 10).
      If less than 5 ohms is measured, go to step 7.
      If more than 5 ohms is measured, continue with step c:
   c. Check that RIS Ground Wire is connected to RIS Ground Clip (Figure 10).
      If RIS Ground Clip is not present, replace RIS Ground Clip (PL 1.2).
      If RIS Ground Wire is connected to RIS Ground Clip, check installation of RIS (REP 6.1). If installation is good, replace LVPS (PL 1.3) (REP 1.4).

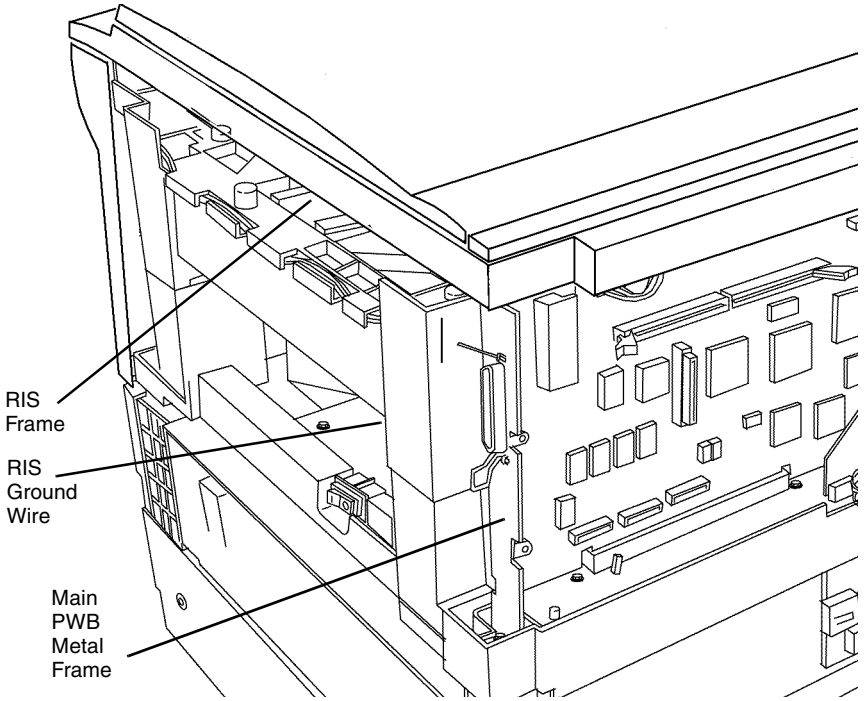

Figure 10 RIS Ground

8. Check Paper Tray ground.
   a. Connect black meter wire to Main PWB metal frame.
   b. Connect red meter wire to Metal Paper Tray Frame of Tray 1 (Figure 12).
      If less than 5 ohms is measured, grounds checkout is complete.
      If more than 5 ohms is measured, continue with step c:
   c. Connect red meter wire to CN1-19 on PCM Interface PWB (Figure 15).
      If less than 5 ohms is measured, continue with step d.
      If more than 5 ohms is measured, replace LVPS (PL 1.3) (REP 1.4).
   d. Connect red meter wire to CN2-6 on PCM Interface PWB (Figure 15).
      If less than 5 ohms is measured, continue with step e.
      If more than 5 ohms is measured, replace PCM Interface PWB (PL 1.2) (REP 1.3).
   e. Connect red meter wire to J2-7 on Tray 1 Control PWB (Figure 14) .
      If less than 5 ohms is measured, continue with step f.
      If more than 5 ohms is measured, replace Tray 1 Interface Harness (PL 4.2).
   f. Loosen and retighten screws (2) on Tray 1 Control PWB.
      If Tray 2 is present continue with step g.
      If Tray 2 is not present grounds checkout is complete.
   g. Connect black meter wire to X7 on Tray 1 Control PWB (Figure 12).
   h. Connect red meter wire to J3-7on Tray 1 Control PWB (Figure 14).
      If less than 5 ohms is measured, continue with step i.
      If more than 5 ohms is measured, replace Tray 1 Control PWB (PL 4.2)
   i. Connect red meter wire to J2-7on Tray 2 Control PWB.
      If less than 5 ohms is measured, continue with step j.
      If more than 5 ohms is measured, replace Tray 1 Tray 2 Harness (PL 4.2)
   j. Loosen and retighten screws (2) on Tray 2 Control PWB.
9. Check Drive Module ground.
   a. Connect black meter wire to Main PWB Metal Frame (Figure 10).
   b. Connect red meter wire to Drive Module metal frame.
      If less than 5 ohms is measured, ground checkout is complete.
      If more than 5 ohms is measured, continue with step c.
   c. Clean Drive Module Ground (Figure 11) and reinstall Drive Module.
      Repeat check.
      If more than 5 ohms is measured, Remove Fuser Module (REP 10.1) and clean hole in Fuser Module frame for Drive Module Ground.
      Repeat check. If more than 5 ohms is measured, replace Drive Module (PL 1.2).

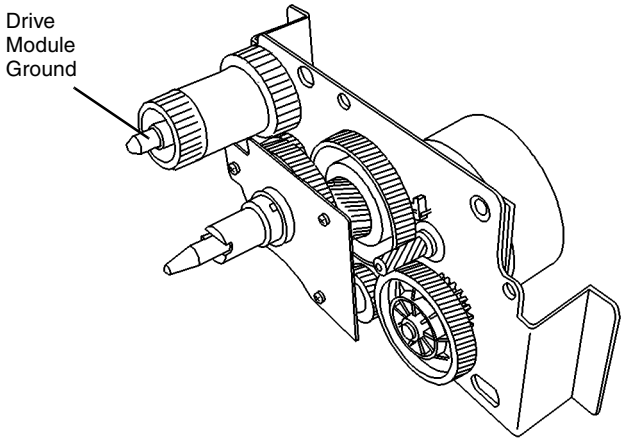

Figure 11 Drive Module Ground

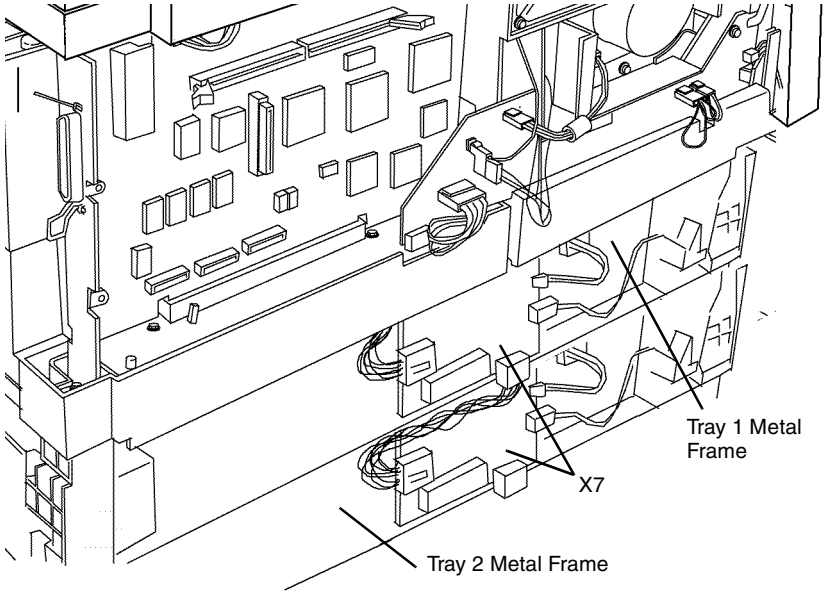

Figure 12 Paper Tray Ground

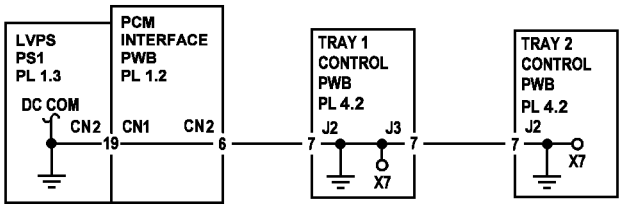

Figure 13 Tray 1 Tray 2 Ground Circuit

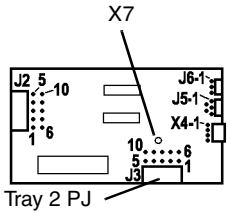

Figure 14 Tray Control PWB

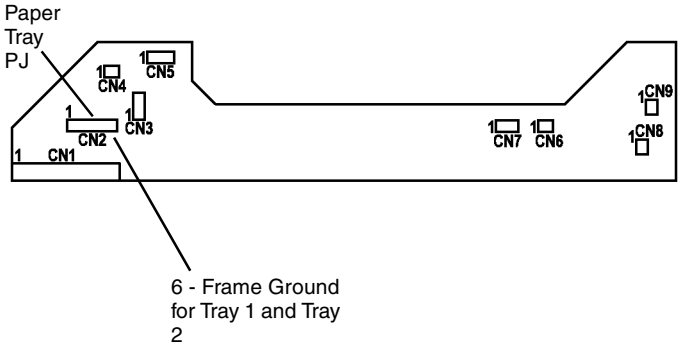

Figure 15 PCM Interface PWB

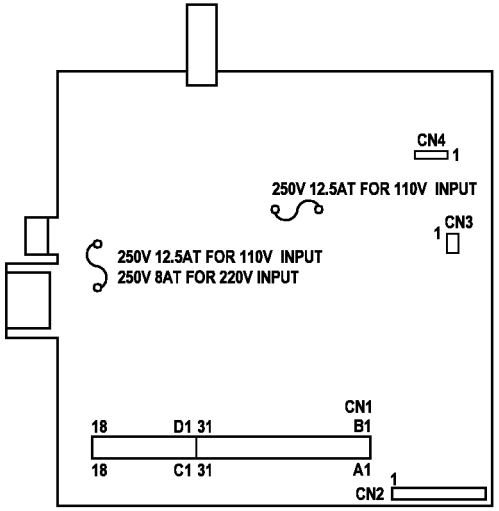

Figure 16 LVPS PWB

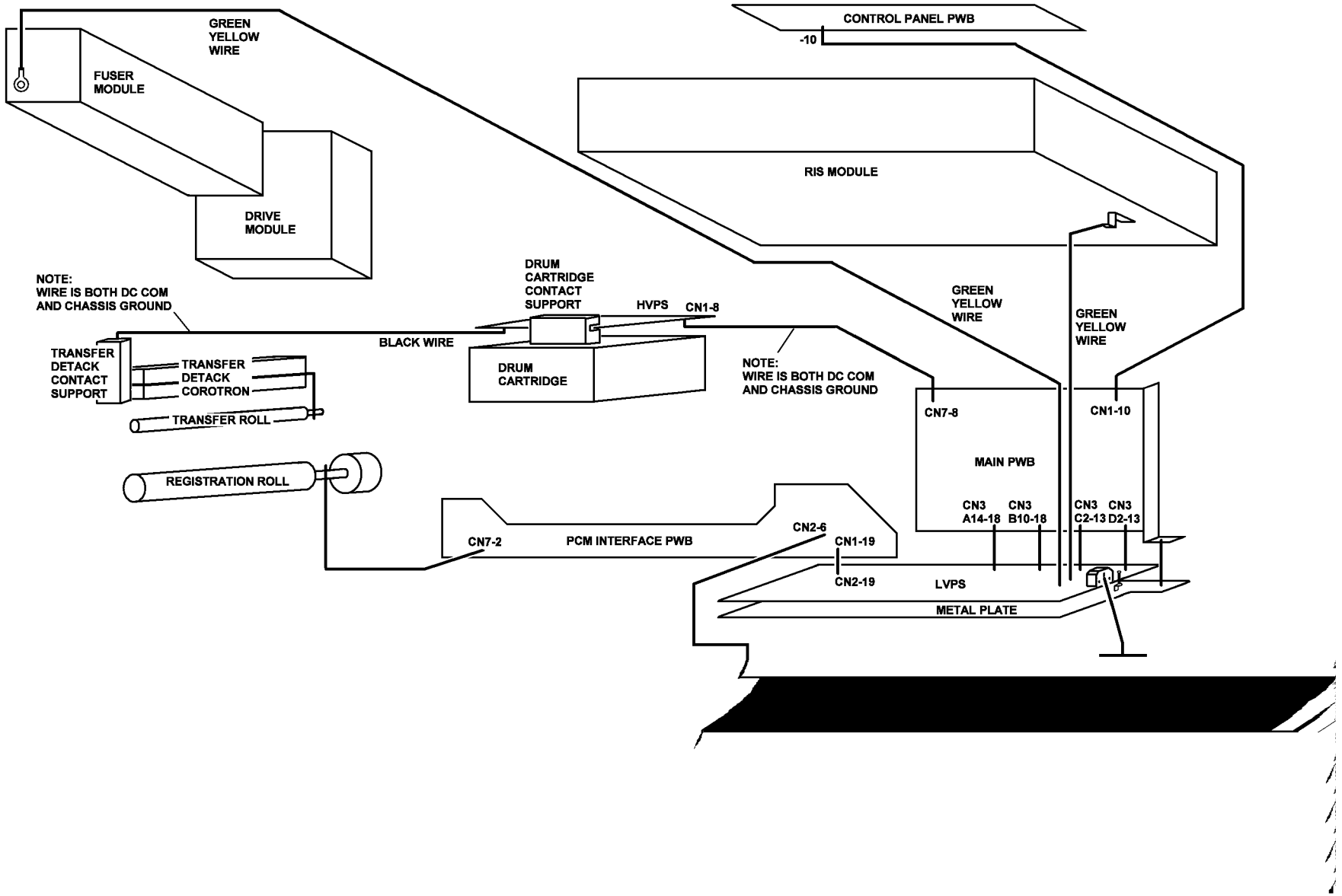

Figure 17 Ground Circuit Paths

3 Image Quality

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Image Quality Diagnostics

Image quality includes imaged and non-imaged areas of paper.

Drum Cartridge replacement is costly compared to cost of cleaning Transfer Detack area components and Document Glass. Do not replace Drum Cartridge until all other service is done.

Cleaning Transfer Detack Corotron, Transfer Roll Drives, and Transfer Roll Ground is most important image quality service action.

- Dirty corotron causes loss of image density and deletions in black image areas
- Dirty Transfer Roll Drives causes closely spaced bands of uneven density
- Poor Transfer Roll Ground causes background and image smear

Image Quality Diagnostics Overview

Benefits of Experience

The following Image Quality service actions are required for best performance. The information compiled here is extracted from IQ RAP's. Learn this information to minimize time spent finding problem. This information enables shortest path to effective correction actions. Compare Image Quality problem with descriptions in this section. If problem is not in this section, then go to Image Quality RAP that best describes image problem.

Transfer/Detack Corotron

The most important service action for most Image Quality defects is Transfer/Detack Corotron cleaning.

Perform following Transfer/Detack Corotron cleaning actions on every service call.

1. Use a clean dry brush to remove excess toner from Transfer/Detack Corotron housing.
2. Use a cotton swab wetted with Film Remover or General Cleaning Solvent to clean Transfer Wire (Figure 1).
3. Check Transfer Roll Ground Clip (Figure 1) presses against Transfer Roll.

   Clean connection between clip and roll by sliding a single layer of heavy duty towel wetted with Film Remover or General Cleaning Solvent through connection to ensure a good electrical contact.

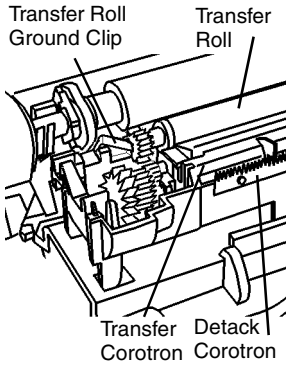


Figure 1 Transfer/Detack Corotron

Repeating Image Defects

Image Defects that repeat at fixed intervals on copy can be measured and source identified. Use Repeating Image Defects scale in Figure 2 to identify source of a repeating image defect. The specific usage of this scale follows with service actions required to service Top Problems.

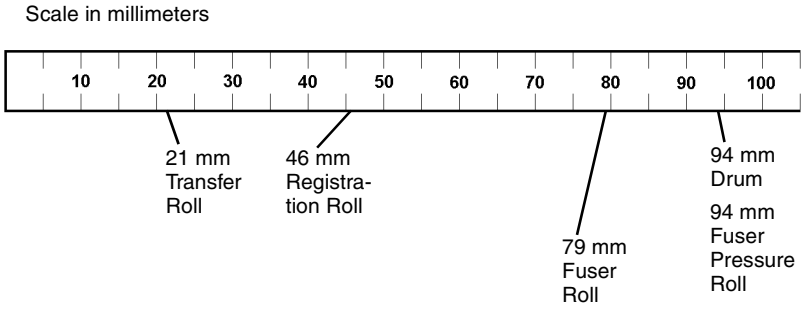


Figure 2 Repeating Image Defects

Background

SYMPTOM: Background within 50 mm of lead edge of copy. The background appears as spots of background or short strips of background, all within 50 mm of lead edge of copy (Figure 1).

CORRECTIVE ACTION: Do not replace Drum Cartridge as first action.

1. Switch off machine, wait 10 seconds, then switch on machine. Verify if background problem is fixed. If not, continue.
2. Clean Transfer Corotron housing with a dry brush. Clean Transfer Corotron wire with a cotton swab wetted with Film Remover or General Cleaning Solvent. Verify if background problem is fixed. If not, continue.
3. Adjust Transfer Timing as follows.
   a. Enter diagnostics [9-10]. Your indication will be a flashing 37, default value, unless an adjustment was already made. Then that value will flash.
   b. Reduce value by 1. If default 37 is flashing, press 3 key and 6 key to enter a 36. Your indication will be a steadily lit 36.
   c. Press **Start** button to load 36 or other value. Your indication will be a flashing 36 or other value.
   d. Press **Stop** button 5 times to exit diagnostics.
   e. Verify if background problem is fixed. If not, continue.
   f. Go to ADJ 9.1 in Section 4 of Service Documentation and perform adjustment. Verify if background problem is fixed. If not, continue.
4. Replace Drum Cartridge (PL 1.4) (REP 9.1).

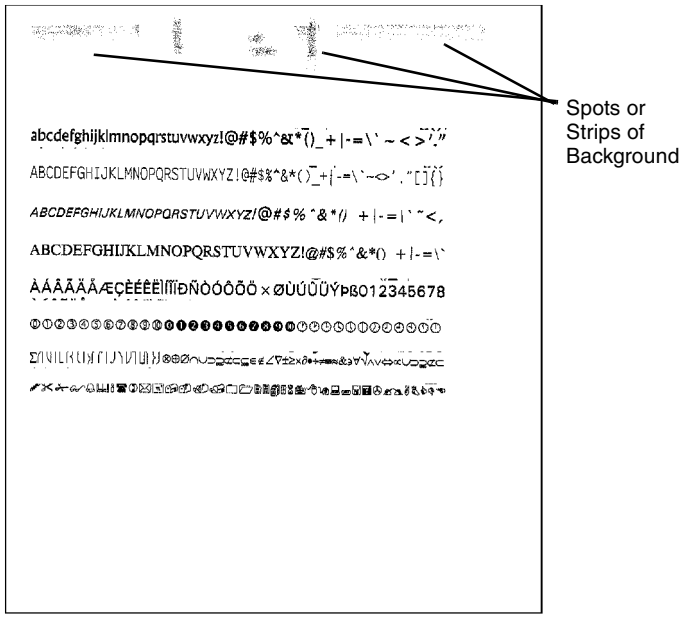


Figure 1 Spots or Strips of Background within 50 mm of Lead Edge of Copy

Spots - Fuser

SYMPTOM: Spots that repeat on copy and that are spaced at fixed intervals. Approximately 79mm or 94mm spacing indicates a Fuser Problem. The Repeating Image Defects scale in Figure 1 shows intervals for Spots and source.

CORRECTIVE ACTION: Do not replace Drum Cartridge. Do not replace Fuser Module as first action.

1. Make 20 copies of white document. If spots problem reduces, make another 20 copies. Verify if spots problem is fixed. If not, continue.
2. Remove Fuser Module (REP 10.1).
3. Clean spots from Fuser Roll (red roll) with a heavy duty towel wetted with Film Remover or General Cleaning Solvent. Verify if spots problem is fixed. If not, continue.
4. Replace Fuser Module (PL 1.4) (REP 10.1).

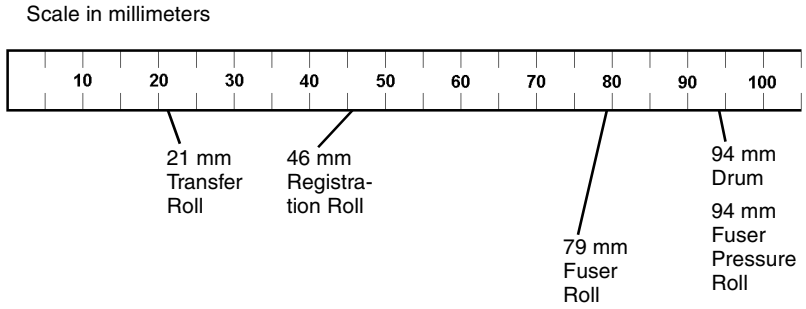


Figure 1 Repeating Image Defects

Spots - Drum Cartridge

SYMPTOM: Spots that repeat on copy and that are spaced at fixed intervals. 94 mm spacing indicates a Drum Cartridge Problem. The Repeating Image Defects scale in Figure 1 shows intervals for Spots and source. If customer runs labels, glue from labels transfers to Drum and creates Spots on copies.

CORRECTIVE ACTION: Do not replace Drum Cartridge as first action.

1. Remove Drum Cartridge (REP 9.1).
2. Clean spots from Drum with a heavy duty towel wetted with Film Remover or General Cleaning Solvent. Rotate gear in direction shown to rotate drum (Figure 2). Verify if spots problem is fixed. If not, continue.
3. Replace Drum Cartridge (PL 1.4) (REP 9.1).

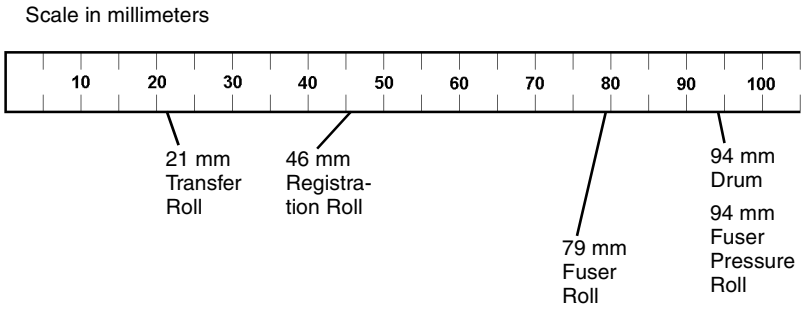


Figure 1 Repeating Image Defects

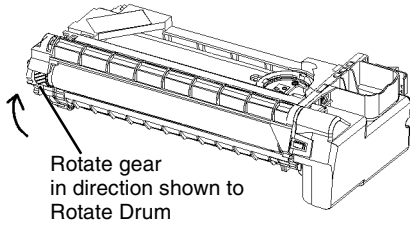


Figure 2 Drum Rotation

Offsetting

SYMPTOM: Images are picked up by Fuser Roll and re-transferred to copy at approximately 79 mm intervals. The Repeating Image Defects scale in Figure 1 shows a 79 mm interval for Fuser Roll Offsetting.

CORRECTIVE ACTION: Do not replace Drum Cartridge. Do not replace Fuser Module as first action.

1. Recreate offset problem with help of customer to verify image defect. A long copy run may be required.
2. Perform following to reduce Fuser temperature.
   a. Enter diagnostics [10-4]. Your indication will be a flashing 1, 2, or 3. If a flashing 1 is displayed, exit diagnostics and go to step 3.
   b. Press 1 key to enter a 1. Your indication will be a steadily lit 1.
   c. Press **Start** button to load 1. Your indication will be a flashing 1.
   d. Press **Stop** button 5 times to exit diagnostics.
   e. Verify if offsetting problem is fixed. If not, continue.
3. Make 20 copies of customers problem document. If offset problem reduces, make another 20 copies. Verify if offsetting problem is fixed. If not, continue.
4. Remove Fuser Module (REP 10.1).
5. Clean Offset image from Fuser Roll (red roll) with a heavy duty towel wetted with Film Remover or General Cleaning Solvent. Verify if Offsetting problem is fixed. If not, continue.
6. Replace Fuser Module (PL 1.4) (REP 10.1).

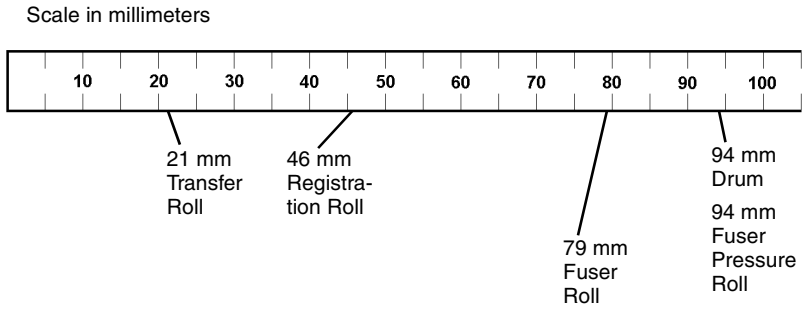


Figure 1 Repeating Image Defects

Image Properties, Defects, Specifications

Image Quality Properties, Defects and Specifications contains definitions of both image property characteristics and also defective image characteristics.

Background

Background is seen as darkness or dirtiness on non-image areas of copy. Refer to IQ 1 Background Bands or Random Background RAP or IQ 2 Background (Uniform) RAP to diagnose background problems.

Black Copy or Print

Black copy or print copy or print that is totally black with no white areas. Refer to IQ 3 Black Image RAP to diagnose black copy problems.

Blank Copy or Print

Blank Copy or Print is a sheet of paper entirely without an image. Refer to IQ 4 Blank or No Image RAP to diagnose blank copy problems.

Deletions

Deletion is an area where expected image information is lost. The area of deletion could be in one area of paper, in repetitive areas, or in bands from Lead Edge to Trail Edge or Front Edge to Back Edge (Figure 1 **Paper Orientation Terms**). Refer to IQ 6 Deletions RAP to diagnose deletion problems.

Image Density

Density is relative blackness between image and non-image areas. A failure mode may be that Image darkness varies across copy. Refer to IQ 7 Image Density RAP to diagnose density problems

Fuser Fix

Fuser fix is a measure of how well toner particles adhere to paper as a result of fusing process. If image is easily wiped off paper or is easily removed by folding or leafing paper, there is a fusing problem. Refer to IQ 15 Fusing RAP to diagnose Fusing problems.

Gently rub .7 patch four times with a paper towel (twice lead edge to trail edge (Figure 1 **Paper Orientation Terms**) and twice front edge to back edge). The image must not smear (Figure 1 **Test Pattern 82P524 inch/82P523 metric**) (B).

Registration, Image Position, Size

The distance from lead edge of image to lead edge of paper (Figure 1 **Paper Orientation Terms**) is not within specification. Part of image information is placed elsewhere on copy or it is completely missing. The area of missing information is sharply defined. This is unlike deletions where image is not sharply defined or is not a clear image. Refer to IQ 9 Image Registration RAP to diagnose registration or image position problems.

Lead Edge Registration

The 10 mm line on graduated mm scale must be 10 mm ±2.5 mm from lead edge of copy (Figure 1 **Paper Orientation Terms**) when feeding from Tray 1, and 10 mm ±3.2 mm from lead edge of copy when feeding from Tray 2 or Bypass Tray (Figure 1 **Test Pattern 82P524 inch/ 82P523 metric**) (C).

Front-to-Back Registration

The fold line of copy must be ±3.1 mm from the centerline of the copy (Figure 3) when feeding from Tray 1, and ±3.3 mm from the centerline of the copy when feeding from Tray 2 or Bypass Tray (Figure 3). Centerline is shown in Figure 1 (I).

Skew

Image is skewed on paper. Image from front edge to back edge (Figure 1 **Paper Orientation Terms**) or lead edge to trail edge is not parallel to edges of copy. This defect is a result of failed paper transportation system components. Refer to IQ 11 Skew RAP to diagnose skew problems.

The difference between distance from lead edge of copy (Figure 1 **Paper Orientation Terms**) to each of two 10 mm outside graduation marks should not be more than 1.8 mm for Tray 1 and 2.0 mm for Tray 2 and Bypass Tray (Figure 1 **Test Pattern 82P524 inch/82P523 metric**) (C).

Lead Edge Erase, Trail Edge Erase

No image should be visible within 1mm of lead edge. No image should be visible within 4.5 mm of trail edge (Figure 1).

Front Edge Erase, Back Edge Erase

No image should be visible within 1mm of front edge or back edge. Image should be visible within 5 mm of front edge or back edge (Figure 1).

Paper Damage

Paper Damage including folds, nicks, or wrinkles:

Refer to IQ 16 Wrinkle RAP to diagnose wrinkle or paper damage problems with copies or prints.

Resolution

The uniformity or clarity of thin line detail. Refer to IQ 5 Blurred Image RAP to diagnose resolution problems.

The horizontal and vertical 3.5 Lines per mm in Target arrays should be clearly visible (Figure 1 **Test Pattern 82P524 inch/82P523 metric**) (E).

Residual Image, Repeat Images, Offsetting

An image that is repeated on same sheet of paper or repeated on consecutive sheets. The image can either be a normal image, a ghosted image, or an inverse or negative image. Refer to IQ 10 Residual Image/ Repeating Image / Offsetting RAP to diagnose residual image, repeat image, or offsetting problems.

Smear

Image defects in direction that is perpendicular to paper movement. Refer to IQ 12 Skips/ Smears RAP to diagnose smear problems.

Spots

Image defects are 0.5 mm or smaller in diameter. Refer to IQ 13 Spots RAP to diagnose spots problems.

Streaks

Image defects that occur in direction of paper movement. Refer to IQ 8 Lines / Streaks RAP to diagnose lines or streaks problems.

Wrinkle

Wrinkle is paper that is creased. Refer to IQ 16 Wrinkle RAP to diagnose wrinkle or paper damage problems.

Other Image Defects

This is an image defect that is not described by any of previous Image Quality Properties or Defects. Refer to IQ 18 Other Image Defects RAP to diagnose these image defects.

Image Quality Specification

Test Pattern

The primary test pattern used on this product is 82P524 (inch) or 82P523 (metric). Side A and Side B are used to evaluate image quality when compared to image quality specifications in this section.

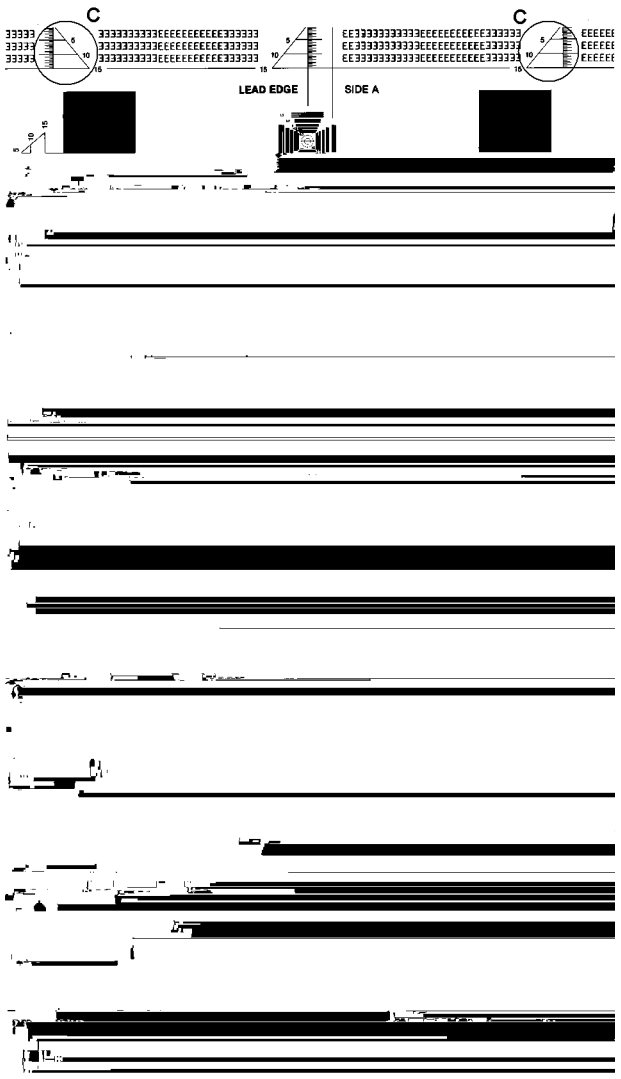


Figure 1 Test Pattern 82P524 inch/82P523 metric (Side A)

Paper Orientation Terms

The terms used to describe areas of copy are shown in Figure 1.

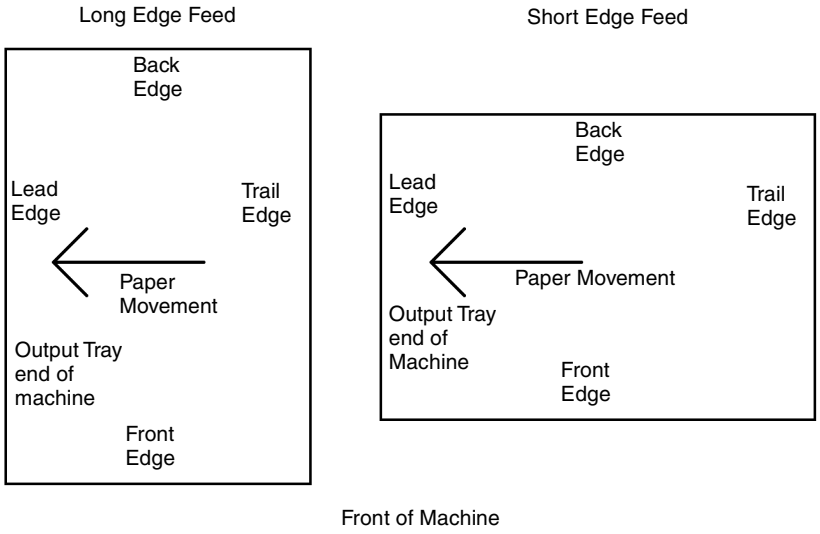


Figure 1 Paper Orientation Terms

Determining distance between defects could help isolate problems to a specific component. Figure 2 may help isolate cause of a repetitive defect.

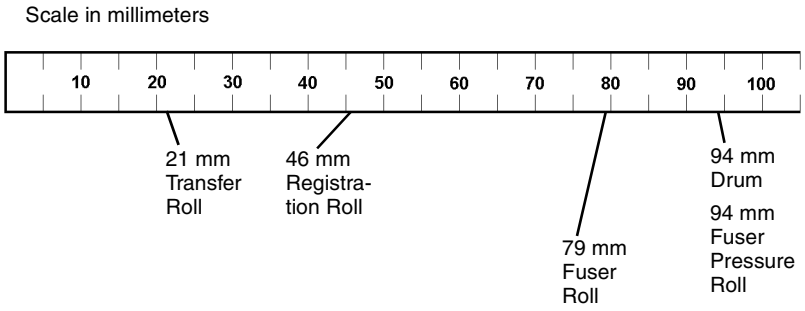


Figure 2 Repeating Image Defects

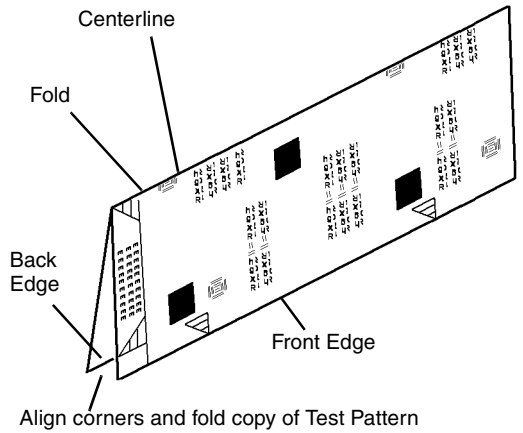


Figure 3 Folded Copy for Front to Back Registration Check

IQ 1 Background Bands or Random Background RAP

Randomly distributed toner of varying density that appears grouped as bands. The bands may have well defines edges or edges with a gradient or spotted appearance.

Procedure

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Switch off machine, wait 10 seconds, then switch on machine. Verify Image Quality problem on machine, or ask customer if problem occurred when using machine as a copier or a printer or both. **The image quality problem occurs only when using machine as a printer.**

Y N

Perform following until defect is fixed:

- Switch off machine, wait 10 seconds, switch on machine.
- Clean all Transfer Detack components (Table 3 in Maintenance Procedures in Section 1).

  Check Transfer Roll Ground Clip presses against Transfer Roll.
- If problem occurs with 8.5 x 11 long edge feed, 5.5 x 8.5 short edge feed, A4 long edge feed, or A5 short edge feed paper, switch the feeding direction.
- Remove Drum Cartridge (REP 9.1). Rotate Drum (Figure 5) in direction shown.
- Perform following to check Erase Lamp.
  - Remove Drum Cartridge (REP 9.1).
  - Enter [9-6] and press Start button to energize Erase Lamp.
  - Close Door Module.
  - Manually actuate Front Door Interlock Switch and view red light from Erase Lamp. The lamp, a strip of LED's, is located on top of space for Drum Cartridge (Figure 8).

Light from red LED's is visible from each hole in lamp.

Y N

Do following to check Erase Lamp operating voltage.

- Remove RIS (REP 6.1).
- Disconnect Erase Lamp Plug (Figure 10).
- Connect Control Panel harness to Control Panel.
- Switch on machine. Enter diagnostics [9-6] and ensure Front Door remains closed.
- Press Start to energize Erase Lamp output and measure voltage (Figure 10).

Voltages are measured as specified in Figure 10.

Y N

Replace the HVPS (PL 1.2).

Replace Erase Lamp (PL 1.3).

Replace Drum Cartridge (PL 1.4) (REP 9.1).

Go to OF 14-1 PRINTER RAP.

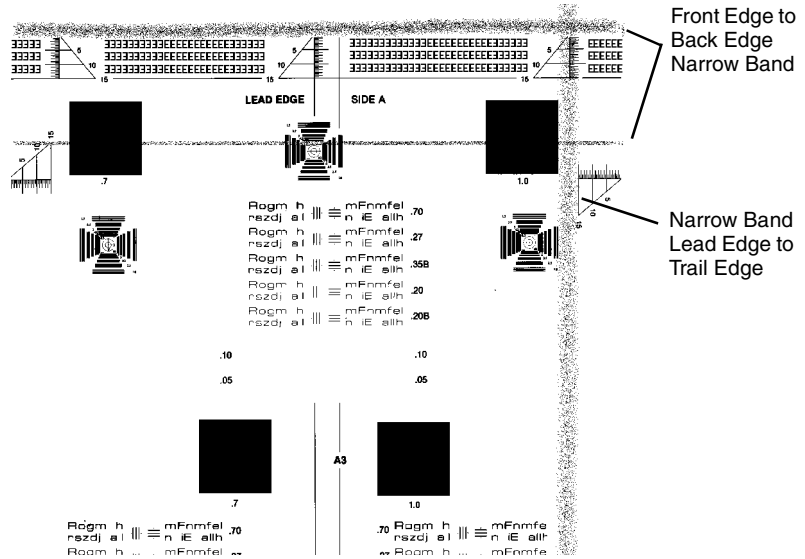


Figure 1 Background Bands

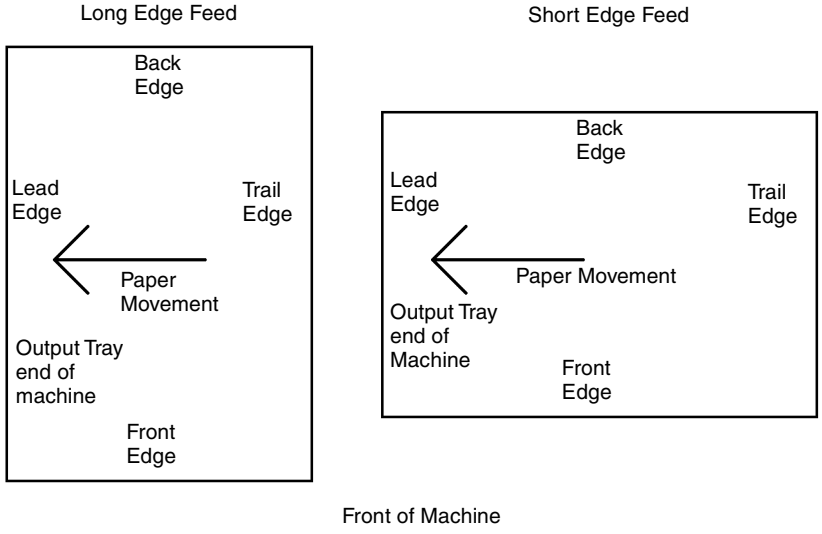


Figure 2 Paper Orientation Terms

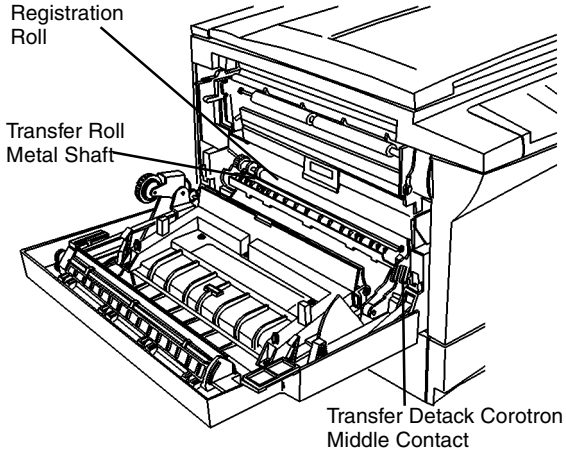


Figure 3 Transfer Roll Registration Roll T/D contacts

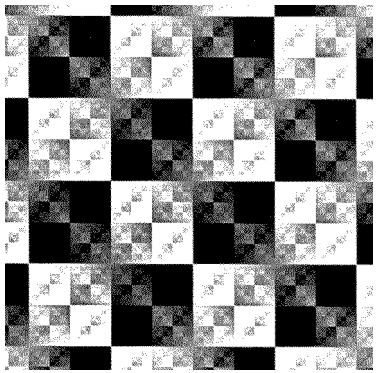
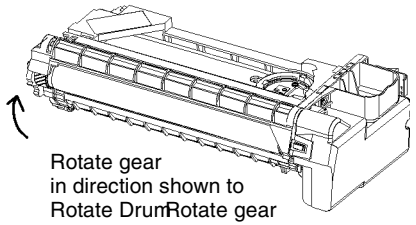


Figure 4 Diagnostic Code [1 - 1] Test Pattern



Rotate gear
in direction shown to
Rotate Drum

Figure 5 Drum Rotation

Figure 6 Diagnostic Code [3 - 11] or Stop/9 Test Pattern

Figure 7 Random Background

IQ 2 Background (Uniform) RAP

Randomly distributed toner of varying density that evenly cover part or all of paper.

Procedure

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Verify Image Quality problem on machine, or ask customer if problem occurred when using machine as a copier. **The image quality problem occurs when using machine as a copier, either now, or as reported by customer.**

Y N

Then background problem occurs when using machine only as a printer. Go to OF 14-1 PRINTER RAP.

In some cases of background switching machine off and on may resolve problem when machine cycles up. Switch off machine, wait 10 seconds, then switch on machine. Make a few copies. **The background problem continues.**

Y N

Return to Service Call Procedures in Section 1.

Environments with very low humidity like 15% relative humidity will impair machines ability to produce copies free of background. **The humidity in machine environment is suspected to be very low or around 15% relative humidity.**

Y N

The background problem occurs only when colored documents are copied.

Y N

Perform following to check Transfer Roll (Figure 1), Maintenance Procedures in Section 1).

- Open Door Module.
- Check Grounding Tab at rear of Transfer Roll by pushing Transfer Roll to rear and observing it move to front, approximately 1 mm of movement.

  Replace Transfer/Detack Corotron if Transfer Roll does not move toward front after manually pushed to rear and released (PL 5.1) (REP 9.2).
- Clean grounding tab at rear end of Transfer Roll.

Clean Transfer Detack Corotron (Figure 1) (Maintenance Procedures in Section 1).
Clean Registration Roll (Figure 1) (Table 2 in Section 1). Make a copy.
Perform following to measure Bias Voltage of Drum Cartridge while making a copy.

- Pull out Drum Cartridge slightly (REP 9.1) (Figure 2).
- Bend a Paper Clip as shown (Figure 2) and insert short end into hole for Bias Contact.
- Push in Drum Cartridge and Connect Red lead of meter to clip.
- Manually hold black meter lead firmly against a screw for Top Cover.

  There should be approximately 390 VDC while a copy exits machine.
- Manually actuate Front Door Interlock Switch (Figure 2) and make a copy while observing meter.

There is +370 VDC +/40 VDC while copy exits machine.

A B

Y N

There is a problem with measurement technique or HVPS is defective. Verify that measurement is correct. If measurement is correct, replace HVPS (PL 1.2) (REP 1.5).

Verify that RIS NVM settings are correct. Refer to REP 6.1 and perform steps that identify and record RIS NVM values. **The RIS NVM values are correctly entered.**

Y N

Ensure RIS values are correctly entered (REP 6.1).

Replace Drum Cartridge (PL 1.4) (REP 9.1).

Use copy lighter or text selections.
If customer copies gray or colored background documents, change background suppression to 1 or on (17 in Customer Programmable Options in Section 6).

Background is most noticeable in environments of low relative humidity. The background problem is temporarily corrected when a new Drum Cartridge is installed.
Recommend a humidifier be installed in area of machine.
The default copy darker/copy lighter setting may be set to a lighter setting. Inform customer of change.

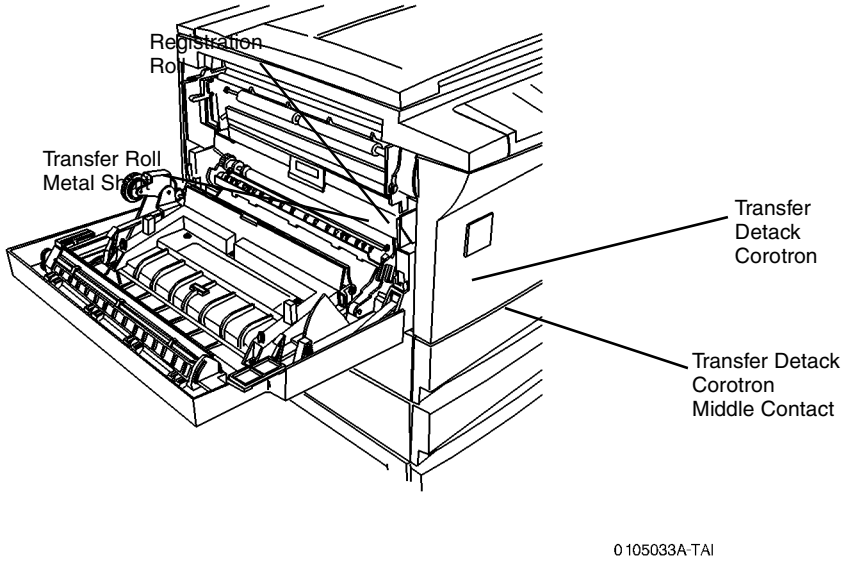


Figure 1 Transfer Roll, Registration Roll, T/D contacts

A B

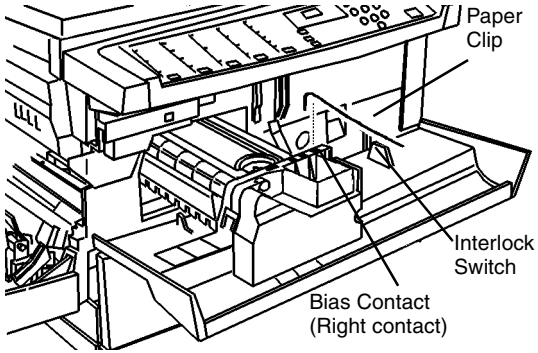


Figure 2 Bias Contact

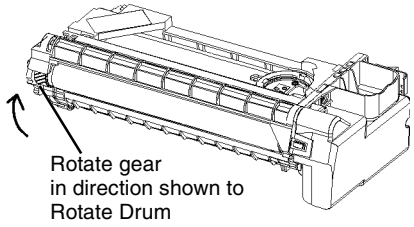


Figure 3 Drum Rotation

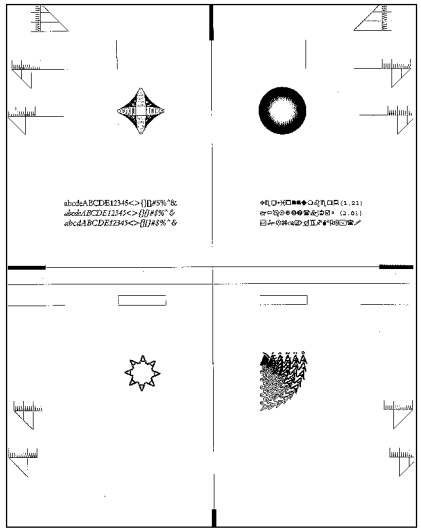


Figure 4 Diagnostic Code [3 - 11] or Stop/9 Test Pattern

IQ 3 Black Image RAP

The copy or print is totally black with no expected image visible. There may be narrow white borders at edges of paper.

Initial Actions

NOTE: *If a status code is present, go to status code RAP now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Switch off machine. Clean machine covers and Document Glass. Slide out Drum Cartridge and slide it back in. Close all covers/doors. Switch on machine. This action allows time for a potential Main PWB recovery, provides a useful service to customer, and enhances machine appearance.

Procedure

Black copy results from following:

- Drum charge problem/electrical contacts, HVPS failure/how to know/corrective action

Verify Image Quality problem on machine, or ask customer if problem occurred when using machine as a copier. **The image quality problem occurs when using machine as a copier, either now, or as reported by customer.**

Y N

Then black image problem occurs when using machine only as a printer. Go to OF 14-1 PRINTER RAP.

Run customer job to reproduce black image problem. **The black image problem is present.**

Y N

Check if black image copies reported by customer are available for inspection. **The copies are available for inspection.**

Y N

Go to Call Flow Procedure in Section 1).

Inspect copies for narrow white borders at edges of paper. **There are narrow white borders at edges of copy.**

Y N

Remove Drum Cartridge (REP 9.1) and clean contacts on top of cartridge. Also wipe corresponding contacts on HVPS PWB located above contacts on Drum Cartridge when its installed. Reinstall Drum Cartridge. Make a copy. **The black image problem occurred again.**

Y N

Return to Service Call Procedures in Section 1.

Replace Drum Cartridge (PL 1.4) (REP 9.1).
Replace HVPS (PL 1.2) (REP 1.5)

This indicates that ROS erases charge on drum cartridge to perform edge fade-out and drum cartridge responds with no development in this area.
Go to FInal Actions in Service Call Procedures (Maintenance Procedures in Section 1).

Check edges (borders) of black copy. **There are white borders around black copy, 1 - 5 mm wide.**

Y N

Remove Drum Cartridge and clean contacts on top of cartridge. Also wipe corresponding contacts on HVPS PWB located above contacts on Drum Cartridge when it's installed. Reinstall Drum Cartridge. Make a copy. **The black copy problem continues.**

Y N

Return to Service Call Procedures in Section 1.

- Replace Drum Cartridge (PL 1.4) (REP 9.1). Verify machine operation.
- Replace HVPS (PL 1.2) (REP 1.5). Verify machine operation.

Check if HVPS was just serviced. **The HVPS was just removed, reinstalled, or replaced.**

Y N

Press and hold **Stop** button and then press the **9** button to generate a test print from Printer PWB (Figure 2). **The black image problem is visible on test print.**

Y N

There is a problem with RIS. Switch off machine, wait 10 seconds, then switch on machine. Verify black copy image defect.
If problem continues, verify installation of RIS (REP 6.1).
If problem continues, replace RIS (PL 1.1).

Replace Main PWB (PL 1.2) (REP 1.2).

The HVPS must be removed and carefully reinstalled (REP 1.5).

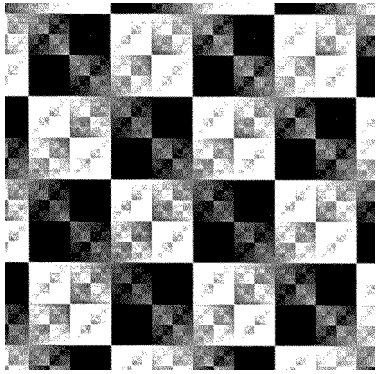


Figure 1 Diagnostic Code [1 - 1] Test Pattern

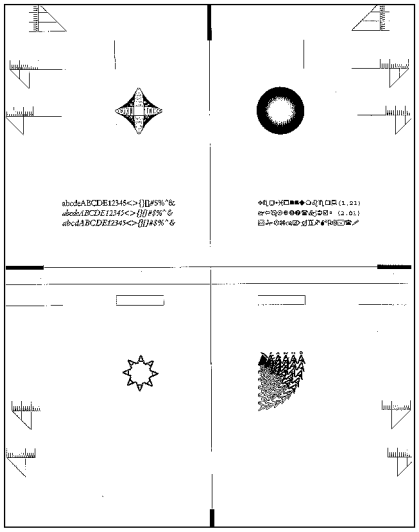


Figure 2 Diagnostic Code [3 - 11] or Stop/9 Test Pattern

IQ 4 Blank or No Image RAP

This is a copy or print entirely without an image.

Procedure

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Blank copy or no image results from following:

- Development problem/no drum ground, no developer bias/how to know/corrective action

Switch off machine, wait 10 seconds, then switch on machine. Verify Image Quality problem on machine, or ask customer if problem occurred when using machine as a copier. **The image quality problem occurs when using machine as a copier, either now, or as reported by customer.**

Y N

Then blank image problem occurs when using machine only as a printer. Go to OF 14-1 PRINTER RAP.

Check example of image defect for a faint or very light image. An open circuit in Bias Voltage for Drum Cartridge will cause this image defect. **There is a very light image on paper.**

Y N

Press and hold **Stop** button and then press the **9** button to generate a test print from Printer PWB (Figure 3). **The blank image problem exists on test print.**

Y N

There is a problem with RIS. Switch off machine, wait 10 seconds, then switch on machine. Verify blank copy image defect.
If problem continues, verify installation of RIS (REP 6.1).

machine. Verify blank copy image defect.
If problem continues, verify installation of RIS (REP 6.1).

machine. Verify blank copy image defect.
If problem continues, verify installation of RIS (REP 6.1).

machine. Verify blank copy image defect.
If problem continues, verify installation of RIS (REP 6.1).

machine. Verify blank copy image defect.
If problem continues, verify installation of RIS (REP 6.1).

machine. Verify blank copy image defect.
If problem continues, verify installation of RIS (REP 6.1).

machine. Verify blank copy image defect.
If problem continues, verify installation of RIS (REP 6.1).

machine. Verify blank copy image defect.

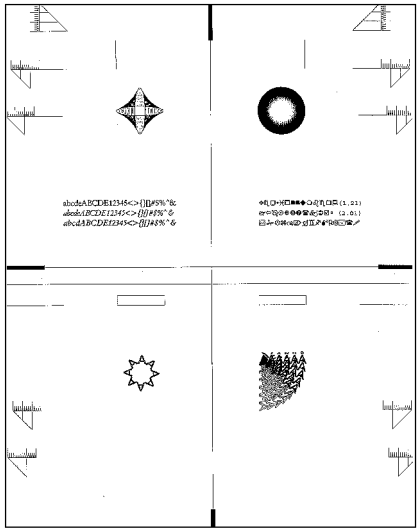


Figure 3 Diagnostic Code [3 - 11] or Stop/9 Test Pattern

IQ 5 Blurred Image RAP

A blurred image can also be described as a fuzzy or grainy image.

Procedure

Blurred image results from following:

- Lateral charge conduction/how to know/corrective action
- Condensation caused by installing a machine from cold storage

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Carefully clean following with a lint free cloth and Film Remover or General Cleaning Solvent.

- Remove Fuser Module (REP 10.1). Clean metal guide that is below Fuser and Pressure Roll of Fuser Module. Place Fuser Module upside down and metal guide is now visible above Fuser and Pressure Roll, between them.
- Clean polished metal Pre Fuser Guide (Figure 2). This guide is below Fuser Module. Check that Pre-Fuser Guide feels smooth and free of burrs. A small nick or burr can cause a blurred image in a small area of copy as paper hits and skips past burr or nick, causing paper to jump over burr. If a nick or burr is found, attempt to make it smooth with a file or fine emery cloth.
- Perform following to clean Transfer Detack Corotron (Figure 2).
  - Clean Transfer Corotron wire with a cotton swab and Film Remover or General Cleaning Solvent (Figure 2).
  - Ensure no lint from swab remains on corotron or corotron frame (Figure 2).
  - Clean Detack Corotron with a dry brush (Figure 2).
  - Wipe all Transfer Detack Corotron contacts at front end of corotron frame with a lint free cloth (Figure 2).

Make copies of Side A of Test Pattern. Check resolution targets. The horizontal and vertical 3.5 Lines per mm in resolution Targets should be clearly visible. **The 3.5 mm lines per mm are clearly visible.**

Y **N**

There may be low relative humidity, a problem with ROS, or a problem with RIS.

Press and hold **Stop** button and then press the **9** button to generate a test print from Printer PWB (Figure 1). **The blurred image problem is visible on test print.**

Y **N**

Check installation of RIS (REP 6.1). Check installation of Document Glass (REP 6.5).

There is a problem with ROS or low relative humidity at machine site.

- Load fresh paper. Low relative humidity may cause what appears to be a blurred image and fresh paper has a normal moisture content. If fresh paper reduces or eliminates occurrence of image blur, this is an indication that effects of low relative humidity may cause image blur again at some future time.

Return to Call Flow Procedure in Section 1.

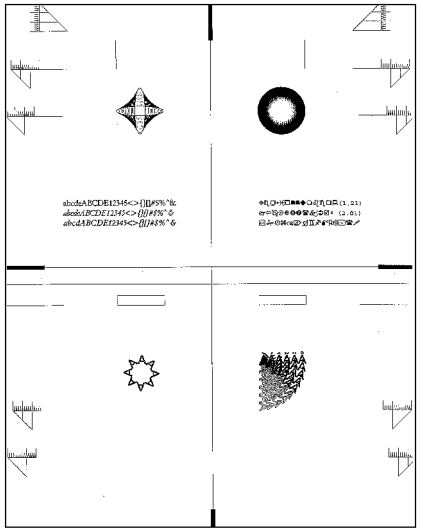


Figure 1 Diagnostic Code [3 - 11] or Stop/9 Test Pattern

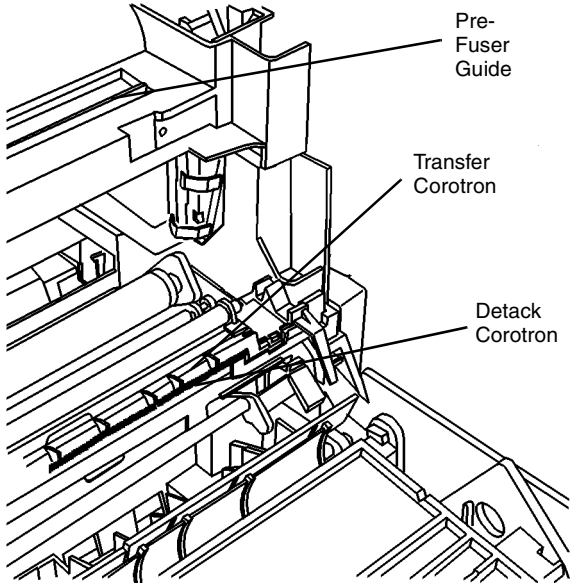


Figure 2 Pre-Fuser Guide, Transfer Detack Corotron

IQ 6 Deletions RAP

An area of image on copy that has no toner or a very faint image.

Initial Actions

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Very low or very high humidity increases possibility of deletions. Turn over paper in paper tray. Fresh paper will also reduce effect of high or low humidity temporarily.

Procedure

An example of Vertical Deletions is shown in Figure 1. **The Vertical Deletions on customer copy appear similar to Vertical Deletions in Figure 1.**

Y N

Verify Image Quality problem on machine, or ask customer if problem occurred when using machine as a copier. **The image quality problem occurs when using machine as a copier, either now, or as reported by customer.**

Y N

Then deletion problem occurs when using machine only as a printer. Go to OF 14-1 PRINTER RAP.

There is image missing near lead edge (Figure 1).

Y N

There is image missing near Trail Edge (Figure 2).

Y N

The Deletion appears as white lines solid areas near Trail Edge (Figure 2).

Y N

Press and hold **Stop** button and then press the **9** button to generate a test print from Printer PWB (Figure 6). **The deletion problem is visible on test print.**

Y N

Perform GP 9 R.
If problem with deletions continues, replace RIS (PL 1.1) (REP 6.1).

The deletion may occur during image processing sequence on one of following actions:

- Image output to drum (low toner)
- Image transfer to paper (dirty Transfer/Detack Corotron)
- Image fusing process (problem with fuser or pressure roll)
- Clean Transfer/Detack Corotron wire, housing, contacts, and HVPS contacts (Maintenance Procedures, Section 1).
- Use fresh paper and ensure that customer is storing paper correctly.

Perform following: **The deletion problem continues.**

Y N

Return to Call Flow Procedure in Section 1.

Perform following to check Transfer Roll (Figure 7), Maintenance Procedures in Section 1).

- Open Door Module.
- Check Grounding Tab at rear of Transfer Roll by pushing Transfer Roll to rear and observing it move to front, approximately 1 mm of movement.

  Replace Transfer/Detack Corotron if Transfer Roll does not move toward front after manually pushed to rear and released (PL 5.1) (REP 9.2).
- Clean grounding tab at rear end of Transfer Roll.
- Clean Transfer Detack Corotron (Figure 7).
  - Clean Transfer Corotron wire with a cotton swab and Film Remover or General Cleaning Solvent.
  - Ensure no lint from swab remains on corotron or corotron frame (Figure 7).
  - Clean Detack Corotron with a dry brush.
  - Wipe all Transfer Detack Corotron contacts at front end of corotron frame with a lint free cloth.

  Verify that cleaning fixed defect. If not, continue below.

Replace Drum Cartridge (PL 1.4) (REP 9.1).
Perform GP9.

If deletion continues, remove Fuser Module (REP 10.1) and clean entrance baffles on bottom of Fuser Module.
If deletion continues, replace Door Module (PL 7.1) (REP 8.1) to replace Exit Rollers.

Adjust Image Geometry (ADJ 8.3).
Perform following:

- Clean Transfer Detack Corotron (Figure 7).
  - Clean Transfer Corotron wire with a cotton swab and Film Remover or General Cleaning Solvent.
  - Ensure no lint from swab remains on corotron or corotron frame (Figure 2).
  - Clean Detack Corotron with a dry brush.
  - Wipe all Transfer Detack Corotron contacts at front end of corotron frame with a lint free cloth.

  Verify that cleaning fixed defect. If not, continue below.
- Increase Transfer Off Timing (ADJ 9.1).

If defect continues, run 20 copies of a white document to correct problem.

Adjust Image Geometry (ADJ 8.3).
Perform following:

- Clean Transfer Detack Corotron (Figure 7).
  - Clean Transfer Corotron wire with a cotton swab and Film Remover or General Cleaning Solvent .
    - Ensure no lint from swab remains on corotron or corotron frame (Figure 7).
  - Clean Detack Corotron with a dry brush.
  - Wipe all Transfer / Detack Corotron contacts at front end of corotron frame with a lint free cloth.

Verify that cleaning fixed defect. If not, continue below.

A

- Adjust Transfer Off Timing (ADJ 9.1).

If defect continues, run 20 copies of a white document to correct problem.

The problem is one of following. Perform service actions as directed.

- Ensure customer knows how to add toner.
- Remove Drum Cartridge (REP 9.1). Check that contacts on both Drum Cartridge and machine frame are clean.

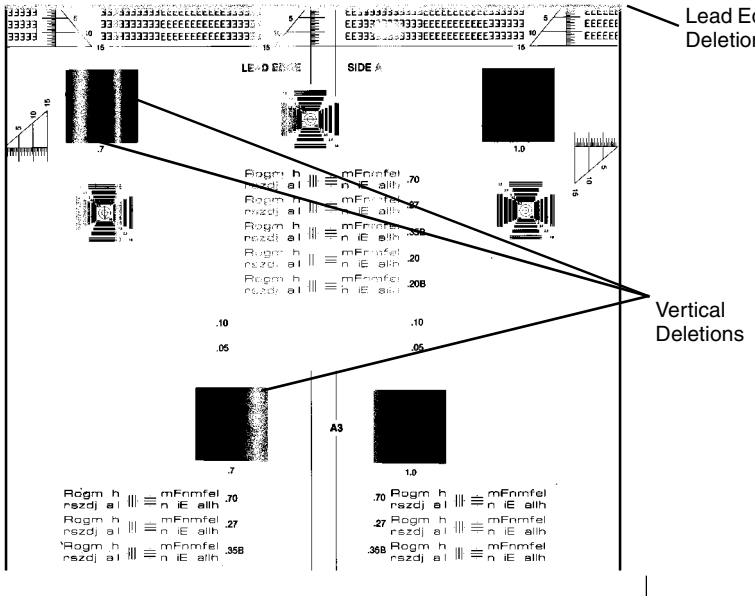


Figure 1 Deletions

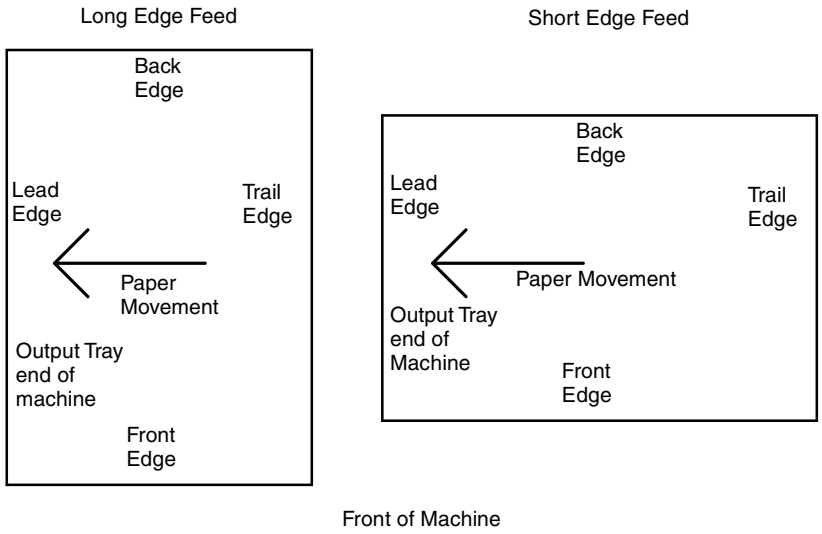


Figure 2 Paper Orientation Terms

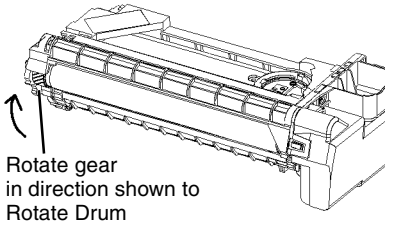


Figure 3 Drum Rotation

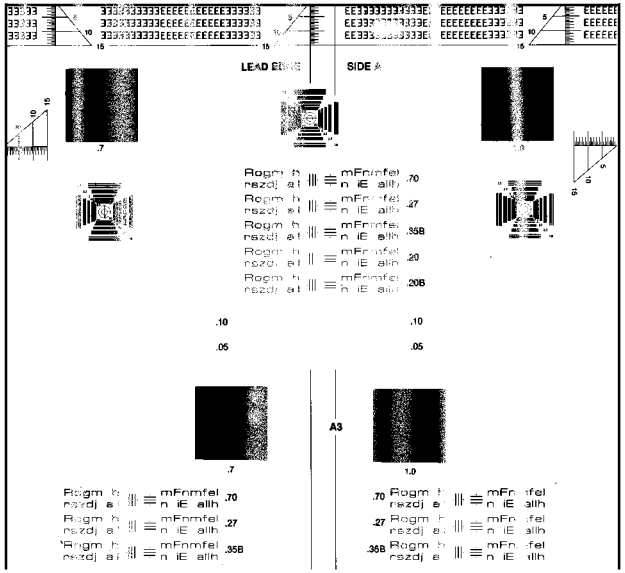


Figure 4 Bands of Deletions from LE/TE

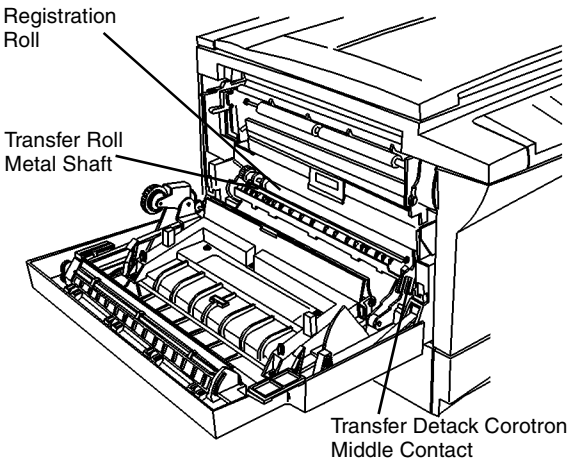


Figure 5 Transfer Roll / Registration Roll / T/D contacts

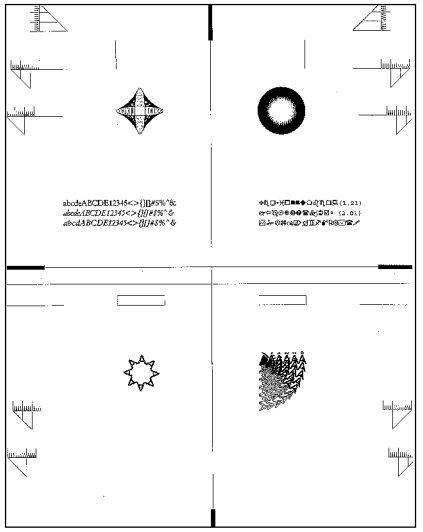


Figure 6 Diagnostic Code [3 - 11] or Stop/9 Test Pattern

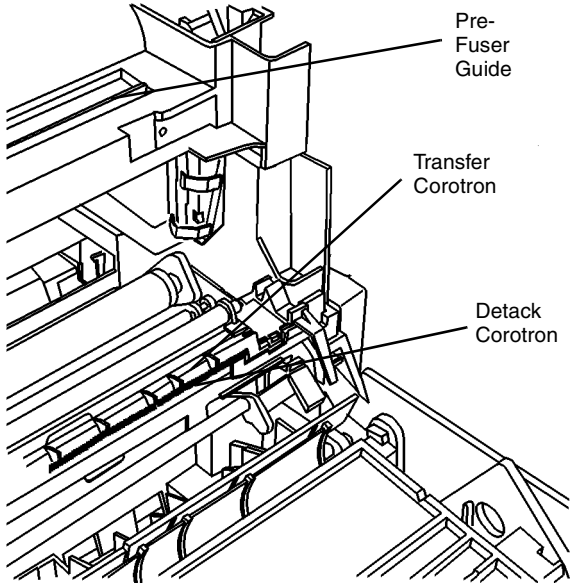


Figure 7 Pre-Fuser Guide / Transfer / Detack Corotron

IQ 7 Image Density RAP

The entire image area has low density, specific areas have low density, or density is uneven.

Initial Actions

Very high humidity or very low humidity affects image density. In these cases, fresh paper will improve image density, especially if machine is operated in a very low copy rate.

Procedure

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Light image density on entire copy results when one of following occurs:

- Drum light shock, fatigue, or coating
- Drum Voltage incorrect
- Light path interference
- Development problems.

Dark image density on entire copy results when one of following occurs:

- Drum Voltage incorrect
- Development problems.

Light image density in some areas of copy result when one of following occurs:

- DRS non-uniformity
- Drum charge non-uniformity
- Erase non-uniformity

Switch off machine, wait 10 seconds, then switch on machine. Verify Image Quality problem on machine, or ask customer if problem occurred when using machine as a copier. **The image quality problem occurs when using machine as a copier, either now, or as reported by customer.**

Y N

Then density problem occurs when using machine only as a printer. Go to OF 14-1 PRINTER RAP.

Switch off machine, wait 10 seconds, then switch on machine. Repeat action. After exposure initialization make a few copies to check image density. **The density problem continues.**

Y N

Return to Service Call Procedures in Section 1.

Verify that RIS NVM settings are correct. Refer to REP 6.1 and perform steps that identify and record RIS NVM values. **The RIS NVM values are correctly entered.**

Y N

Ensure RIS values are correctly entered (REP 6.1).

The entire image area has low density.

Y N

There are areas of low density that appear as bands of low density that run from Lead Edge to Trail Edge (Figure 1) and have different widths

Y N

There is a single band of low density that runs from Lead Edge to Trail Edge and is toward either Back Edge or Front Edge (Figure 1).

A B

Y N

The density problem occurs in solid areas where image is uneven or of low density.

Y N

The density problem occurs where image on copied document is pencil or is a light image.

Y N

Remove Drum Cartridge (REP 9.1). Clean Drum. Refer to Maintenance Procedures in Section 1. Rotate Drum (Figure 3) in direction shown. Reinstall Drum Cartridge and make a few copies.

Automatic Background Suppression may be turned on. Check that 18 in Customer Programmable Options in Section 6, is set to 0.

If density problem continues, perform GP 9 R.

CAUTION

Image Quality defects will occur if mirrors in both carriages are not cleaned and RIS Module is not vacuumed before reinstalling Document Glass.

Perform following:

Clean Transfer / Detack Corotron (Figure 4).

- Clean Transfer Corotron wire with a cotton swab and Film Remover or General Cleaning Solvent.
- Ensure no lint from swab remains on corotron or corotron frame.
- Clean Detack Corotron with a dry brush.
- Wipe all Transfer / Detack Corotron contacts at front end of corotron frame with a lint free cloth.

Toner may be low. Check with customer to verify when last toner was added. Add Toner if needed.

If customer account environment is very high or low humidity, a new Drum Cartridge will temporarily improve image density until drum cartridge stabilizes to environment.

Replace Drum Cartridge (PL 1.4) (REP 9.1).

Use fresh paper and ensure that customer is storing paper correctly.

A B

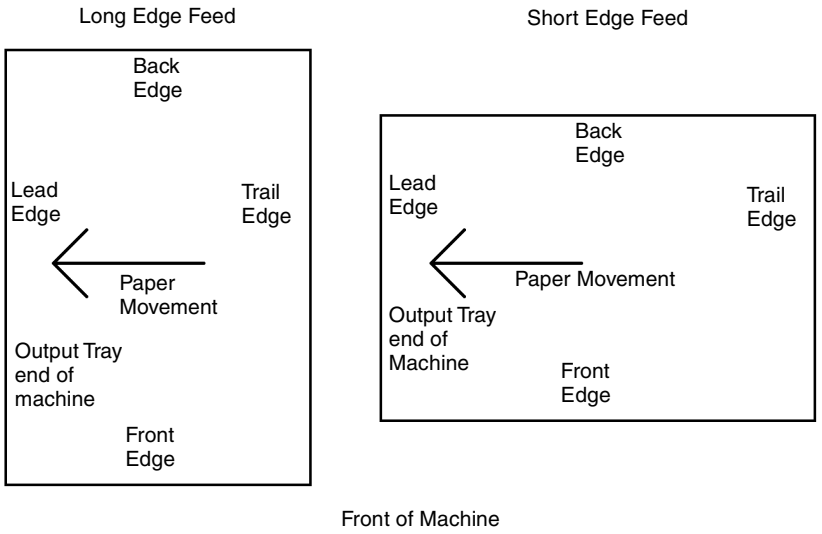


Figure 1 Paper Orientation Terms

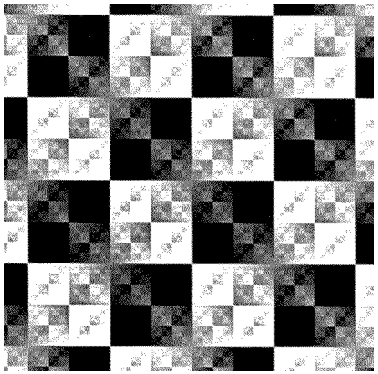


Figure 2 Diagnostic Code [1 - 1] Test Pattern

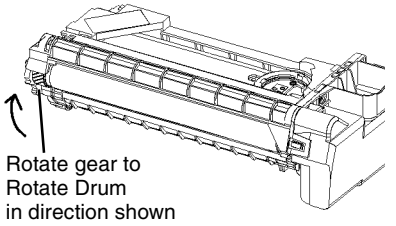


Figure 3 Drum Rotation

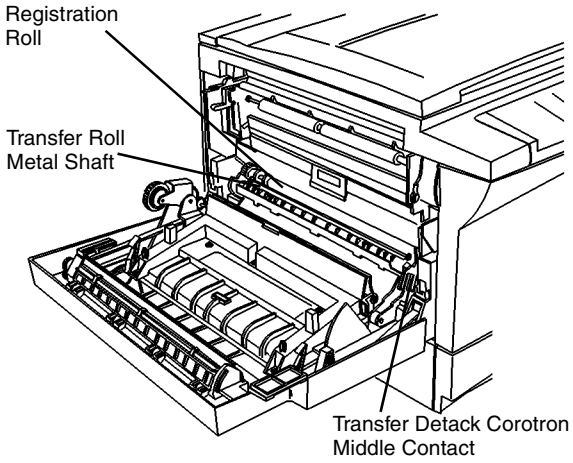


Figure 4 Transfer Roll / Registration Roll / T/D contacts

IQ 8 Lines / Streaks RAP

Black lines in white areas or white lines in dark areas (Figure 1).

Initial Actions

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

- Ensure Paper Guides in Paper Trays are adjusted to paper stack. Ensure trays are fully closed.

Procedure

Find out if lines or streaks image defect occurs only when using machine as a printer. **The lines or streaks image defect occurs only when using machine as a printer.**

Y N

Check orientation of lines or streaks on customers image defect example or make copies to verify image defect. **The lines or streaks run only in lead edge to trail edge direction (Figure 3 shows lead edge to trail edge direction).**

Y N

Then lines or streaks run in front edge to back edge direction or in both directions. Compare lines or streaks image defect on copies to example in Figure 8. **The lines or streaks image defect is similar to example of Glitch Lines in Figure 8.**

Y N

There is a line or streak that is approximately 79 mm from lead edge and may not appear on every copy.

Y N

Place Side A of test pattern on Document Glass and make a few copies. Check lead edge registration and front to back edge registration. Specification are in Lead Edge Registration and Front-to-Back Registration in Registration(front of Section 3). **The registration is within specification.**

Y N

Ensure Top Cover is installed correctly (REP 14.1).
Perform Image Geometry (ADJ 8.3).

Make a copy of document pad (no document on document glass). **There is a line next to lead edge.**

Y N

One of following occurred:

- The guides in paper trays aren't adjusted correctly or paper trays aren't fully closed. Ensure paper trays are set up correctly.
- There is a difference between paper size and customer document size.
- The customer document may be wrinkled at edge and a shadow is reproduced as a line.
- Some reduction or enlargement settings may reproduce edge of document on copy as a line.

Inform customer of these machine usage conditions.

The Document Pad is misplaced. Perform following to reposition Document Pad.

A B C D

- Pull off Document Pad.
- Place it on Document Glass against Registration Edge and centered in front to rear direction.
- Close Document Cover
- Open Document Cover and firmly press pad against Document Cover.

Turn over paper so that topside faces down. Make a copy to verify line or streak is not visible.
If line or streak problem (approximately 79 mm from lead edge) continues, replace Fuser Module (PL 1.4) (REP 10.1).

There is a problem with machine subsystem grounding.
Perform following:

- Ensure clip at rear end of Registration Roll (Figure 7) is firmly against Registration Roll shaft and is clean. Clean clip by pulling a single layer of lint-free cloth treated with Film Remover or General Cleaning Solvent through connection.
- Measure resistance between metal frame of Fuser Module and metal part of Registration Roll Shaft. There should be less than 5 ohms. If there is more than 5 ohms, go to OF 16-2 GROUND RAP.
- Ensure clip at rear end of Transfer Roll (Figure 7) is firmly against Transfer Roll. Clean connection by pulling a single layer of lint-free cloth treated with Film Remover or General Cleaning Solvent through connection.
- Perform following to check Transfer Roll Clip.

  Push Transfer Roll to rear and release it. The clip should push Transfer Roll back to front, approximately 1 mm of movement.

  Replace Transfer/Detack Corotron if Transfer Roll does not move toward front when released (PL 5.1) (REP 9.2).

Make several copies to verify that Glitch Line image defect is repaired. **The Glitch Line image defect is repaired.**

Y N

Go to OF 16-2 GROUND RAP.

Return to Call Flow Procedure in Section 1.

Check if lines or streaks are within a few millimeters of front edge or rear edge of copy (Figure 3 front edge and rear edge). **The lines or streaks image defects are within a few millimeters of front edge or rear edge of copy.**

Y N

The specific image defect is short or broken lines, approximately 25 to 28 mm long, near trail edge of copies (last 100 mm of copy), and run in direction of Paper Movement (Figure 3)

Y N

Press and hold **Stop** button and then press the **9** button to generate a test print (Figure 5). **The line or streak image defect is visible on test print.**

Y N

Ensure Document Glass is clean.
Place Side A of test pattern on Document Glass and make a few copies. **The line or streak image defect is repaired.**

A E F G

A E F G

Y N

Then lines or streaks problem is caused by a RIS component. Perform GP 9 R.

CAUTION

Image Quality defects will occur if mirrors in both carriages are not cleaned and RIS Module is not vacuumed before reinstalling Document Glass.

Return to Call Flow Procedure in Section 1.

The line or streak occurs during imaging, transfer, or fusing. Perform following:

- Clean Transfer / Detack Corotron (Figure 7).
  - Clean Transfer Corotron wire with a cotton swab and Film Remover or General Cleaning Solvent (Figure 7).
  - Ensure no lint from swab remains on corotron or corotron frame (Figure 7).
  - Clean Detack Corotron with a dry brush (Figure 7).
  - Wipe all Transfer / Detack Corotron contacts at front end of corotron frame with a lint free cloth (Figure 7).
  - Ensure clip at rear end of Transfer Roll (Figure 7) is firmly against Transfer Roll and is clean. Clean clip by pulling a single layer of lint-free cloth treated with Film Remover or General Cleaning Solvent through connection.
- Remove Drum Module (REP 9.1). Ensure no lines or streaks are present on photoreceptor surface. Clean any lines or streaks with a lint free cloth (Figure 4).
- Remove Fuser Module (REP 10.1). Ensure no lines or streaks are present on Fuser Rolls. Clean any lines or streaks with a lint free cloth.

The Exit Rolls diameter is reduced by wear and sheet is disturbed in Fuser Module as it buckles.
Replace Door Module (PL 6.1) (REP 8.1).

One of following occurred:

- The guides in paper trays aren't adjusted correctly or paper trays aren't fully closed. Ensure paper trays are set up correctly.
- There is a difference between paper size and customer document size.
- The customer document may be wrinkled at edge.
- Some reduction or enlargement settings may reproduce edge of document on copy as a line.

Inform customer of these machine usage conditions.

Then lines or streaks problem occurs when using machine only as a printer. Go to OF 14-1 PRINTER RAP.

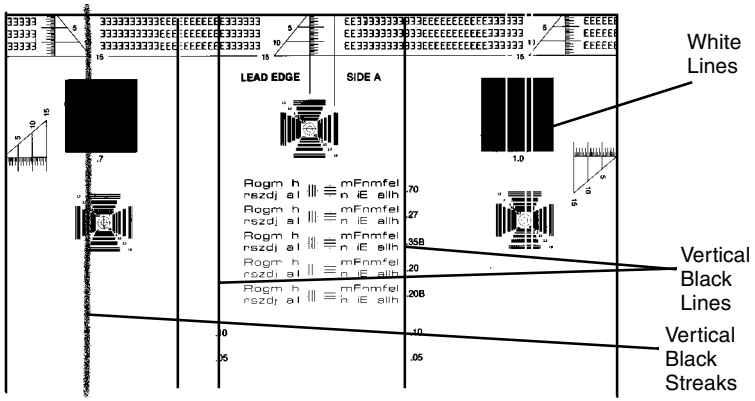


Figure 1 Black Lines

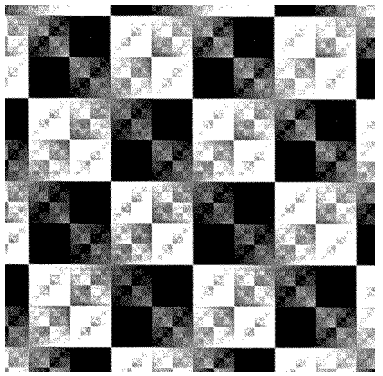


Figure 2 Diagnostic Code [1 - 1] Test Pattern

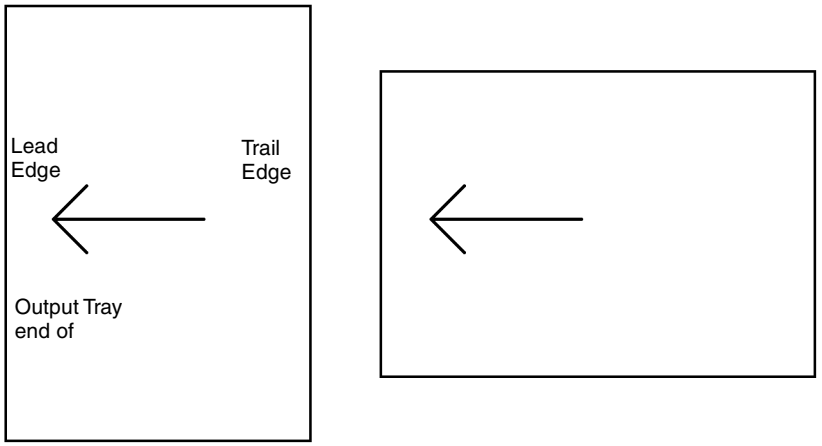


Figure 3 Paper Orientation Terms

Figure 4 Drum Rotation

Figure 5 Diagnostic Code [3 - 11] or Stop/9 Test Pattern

Figure 6 Transfer Roll / Registration Roll / T/D contacts

IQ 9 Image Registration RAP

Image misplaced on paper.

Initial Actions

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

- Ensure Paper Guides in Paper Trays are adjusted to paper stack. Ensure trays are fully closed.

Procedure

A shorted or binding Registration Clutch (Figure 3) will cause image misregistration. Open Door Module and manually rotate Registration Roll Gear. The Registration Roll should remain stationary. If Registration Roll rotates, clutch is shorted or always energized or binding. **The Registration Roll remains stationary while rotating Registration Clutch Gear.**

Y N

Go to E1 RAP to troubleshoot Registration Clutch circuit if clutch is energized. Replace Registration Clutch (Figure 3) if it is binding (REP 8.5) (PL 5.1).

Problem is Lead Edge Registration (Figure 2).

Y N

Check installation of Registration Label. Repair as required (PL 1.1) .
Check closing action of paper tray. Repair as required (PL 4.2).

Check Feed Rolls for Tray 1 (and Tray 2 if present) are securely installed. Check Bypass Feed Roll is securely installed. **The components are secure.**

Y N

Repair as required, Bypass (PL 6.3) (REP 8.11), Tray 1 (PL 4.2), Tray 2 (PL 4.2).

Make 20 copies of Side A of Test Pattern from Tray 1. Check if lead edge registration varies among copies. **The lead edge varies among copies.**

Y N

Do Image Geometry (ADJ 8.3).
If a lead edge registration problem continues, replace Registration Clutch (REP 8.5) (PL 5.1).

Replace Registration Clutch (REP 8.5) (PL 5.1).

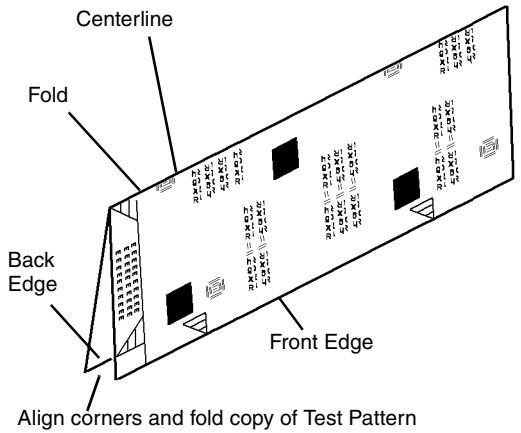


Figure 1 Folded Copy for Front to Back Registration Check

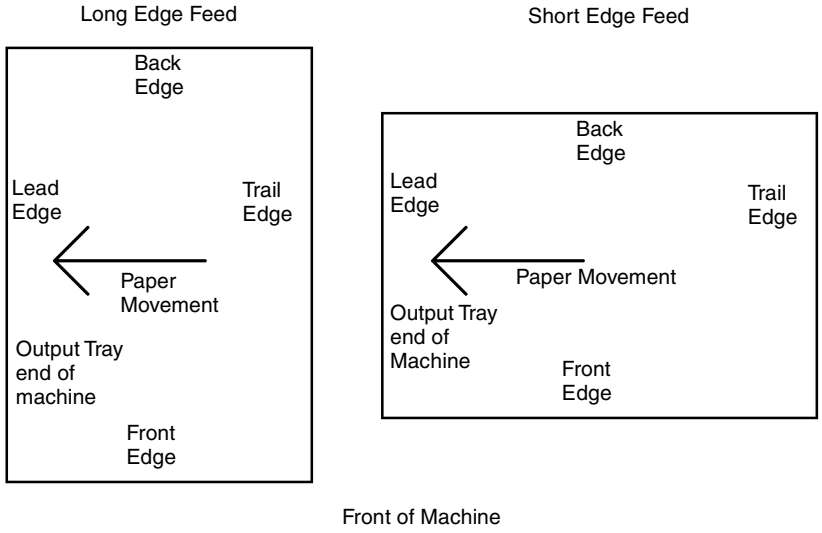


Figure 2 Paper Orientation Terms

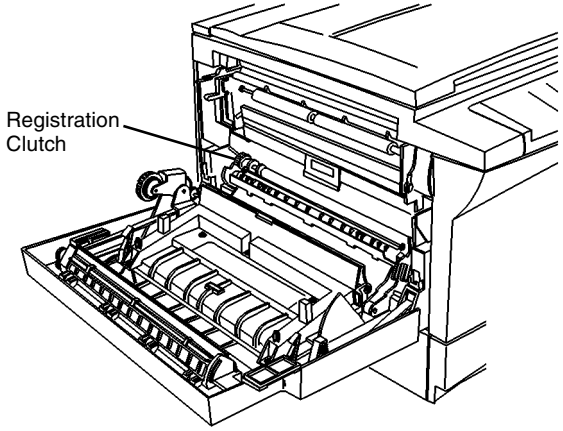


Figure 3 Registration Components

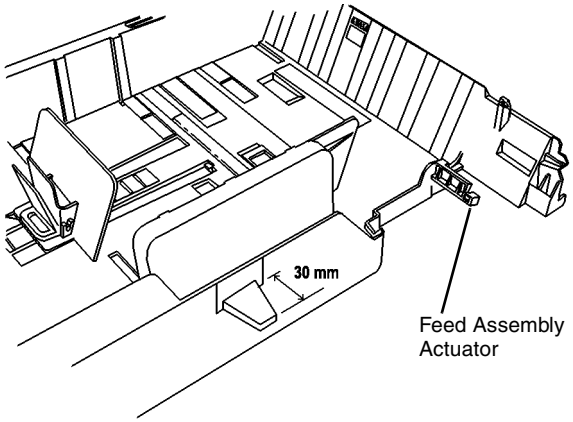


Figure 4 Feed Assembly Actuator

IQ 10 Residual Image/ Repeating Image / Offsetting RAP

An image that is repeated on same copy or consecutive copies. The residual or repeated image may appear as a very light negative or reverse image (Figure 1 residual image).

Procedure

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Perform following to check Erase Lamp.

- Remove Drum Cartridge (REP 9.1).
- Close Door Module.
- Enter [9-6] and press Start button to energize Erase Lamp.
- Manually actuate Front Door Interlock Switch and view red light from Erase Lamp. The lamp is located on top of space for Drum Cartridge.

Light from red LED's is visible from each hole in lamp.

Y N

Do following to check Erase Lamp operating voltage.

- Remove RIS (REP 6.1).
- Disconnect Erase Lamp Plug (Figure 7).
- Connect Control Panel harness to Control Panel.
- Switch on machine. Enter diagnostics [9-6] and ensure Front Door remains closed.
- Press Start to energize Erase Lamp output and measure voltage (Figure 10).

Voltages are measured as specified in Figure 7.

Y N

Replace the HVPS (PL 1.2).

Replace Erase Lamp (PL 1.3).

Open Door Module and clean Fuser Exit Drive Roll (Figure 3). Fuser removal not required. Make copies to check if image problem is still visible. **The image problem is still visible.**

Y N

Return to Call Flow Procedure in Section 1.

Measure distance between expected image and same position on residual or reverse image. **The distance is 94 mm.**

Y N

Measure distance between expected image and same position on residual or reverse image. **The distance is approximately 79 mm.**

Y N

Measure distance between expected image and same position on residual image. **The distance is 94 or 48 mm.**

Y N

Measure distance between expected image and same position on residual image. **The distance is 46 mm.**

Y N

Perform following to check Transfer Roll (Figure 3), Maintenance Procedures in Section 1).

- Open Door Module.
- Clean Transfer Roll with Film Remover or General Cleaning Solvent and a lint free cloth.
- Check Grounding Tab at rear of Transfer Roll by pushing Transfer Roll to rear and observing it move to front, approximately 1 mm of movement.

  Replace Transfer/Detack Corotron if Transfer Roll does not move toward front after manually pushed to rear and released (PL 5.1) (REP 9.2).
- Clean grounding tab at rear end of Transfer Roll.

Clean Transfer Detack Corotron (Figure 3) (Maintenance Procedures in Section 1).

Perform following to check Erase Lamp.

- Remove Drum Cartridge (REP 9.1).
- Close Door Module.
- Enter [9-6] and press Start button to energize Erase Lamp.
- Manually actuate Front Door Interlock Switch and view red light from Erase Lamp (Figure 5).

If light is not visible from lamp, replace Erase Lamp (PL 1.3).

Clean Registration Roll and Registration Idler Roll with film remover or cleaning solvent and lint free cloth (Table 2 in Maintenance Procedures in Section 1). Check components for wear or damage (PL 5.1).

PL 1.3).

Clean Registration Roll and Registration Idler Roll with film remover or cleaning solvent and lint free cloth (Table 2 in Maintenance Procedures in Section 1). Check components for wear or damage (PL 5.1).

PL 1.3).

Clean Registration Roll and Registration Idler Roll with film remover or cleaning solvent and lint free cloth (Table 2 in Maintenance Procedures in Section 1). Check components for wear or damage (PL 5.1).

PL 1.3).

Clean Registration Roll and Registration Idler Roll with film remover or cleaning solvent and lint free cloth (Table 2 in Maintenance Procedures in Section 1). Check components for wear or damage (PL 5.1).

PL 1.3).

Clean Registration Roll and Registration Idler Roll with film remover or cleaning solvent and lint free cloth (Table 2 in Maintenance Procedures in Section 1). Check components for wear or damage (PL 5.1).

PL 1.3).

Clean Registration Roll and RegistP 24 11173 0c 0.1276a278m34.0201 Tw [(t6.4(i)138.3(k com)-12.4(1.25 M[c(7 TD 0.34 Tc 0G(k com)-M5n com

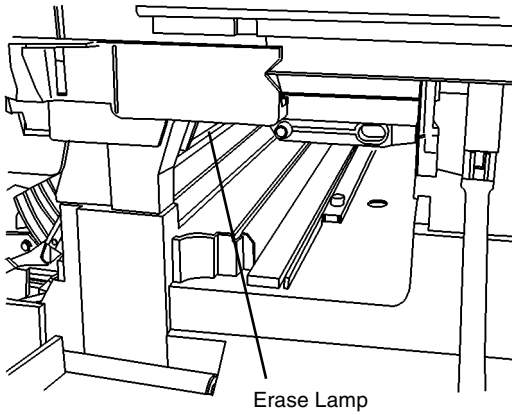


Figure 5 Erase Lamp

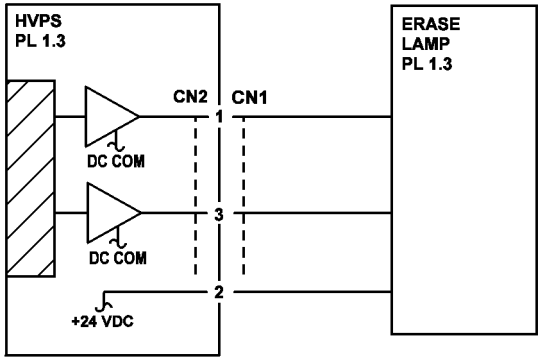
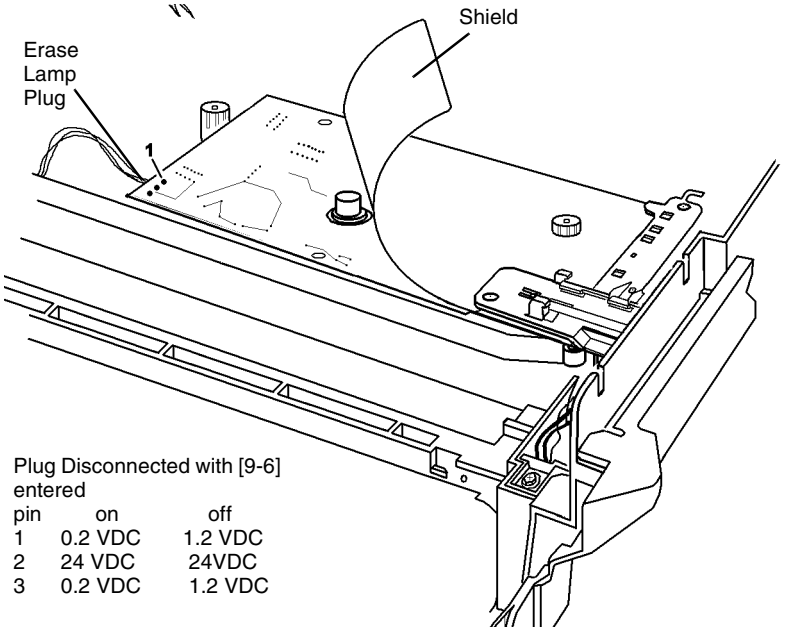


Figure 6 Erase Lamp Circuit Diagram



Plug Disconnected with [9-6] entered

pin	on	off
1	0.2 VDC	1.2 VDC
2	24 VDC	24VDC
3	0.2 VDC	1.2 VDC

Figure 7 Erase Lamp Output Voltage Check

IQ 11 Skew RAP

The image on copy or print is skewed to one side because paper is skewed or imaging process causes image to appear skewed (Figure 1).

Initial Actions

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

- Remove paper from tray and fan it to ensure edges are separated. Refer to label on paper tray. Reinstall paper.
- Check Paper Guides are adjusted to paper without pinching or squeezing paper.

Procedure

- Check mounting of Feed Rolls. Repair as required (REP 8.15) (Tray 1 or 2).
- Clean Registration Roll and Registration Idler Roll with film remover or cleaning solvent and lint free cloth (Table 2 in Maintenance Procedures in Section 1). Check components for wear or damage (PL 5.1).
- Check installation of Registration Assembly (REP 8.2).

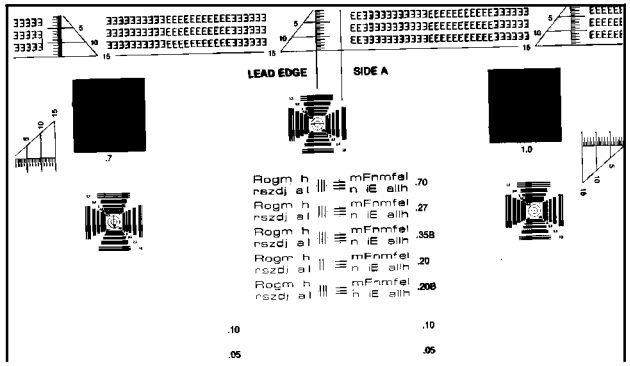


Figure 1 Skew

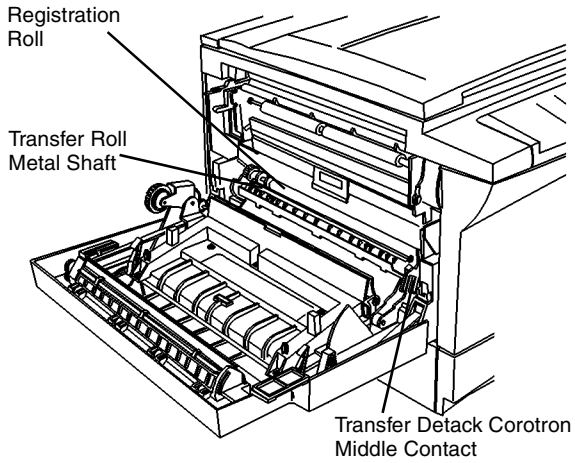


Figure 2 Transfer Roll / Registration Roll / T/D contacts

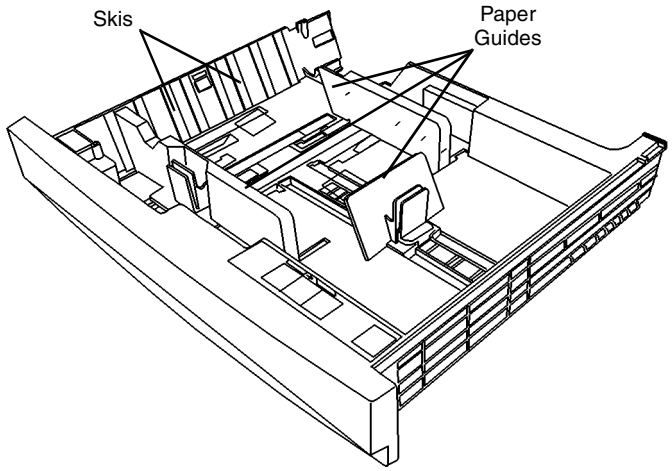


Figure 3 Tray Components

Procedure

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Skip or smear occurs approximately 40 - 70 mm from lead edge and may not appear on every copy or print.

Y N

- Ensure Transfer Roll gears are in place, free of damage, clean, and rotate freely. Repair or clean as required (PL 5.1) (Table 3 in Maintenance Procedures in Section 1).
- Clean Transfer Detack area components with film remover or cleaning solvent and lint free cloth (Table 3 in Maintenance Procedures in Section 1).
- Clean Registration Roll and Registration Idler Roll with film remover or cleaning solvent and lint free cloth (Table 2 in Maintenance Procedures in Section 1).

Remove Fuser Module (REP 10.1).
Check that Pre Fuser Guide (Figure 4) is straight and secure.
Repair if possible or replace Fuser Module (PL 1.4).

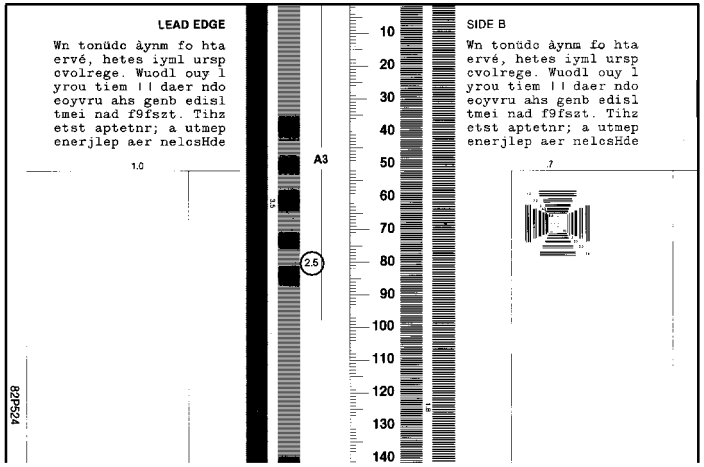


Figure 1 Skips and Smears

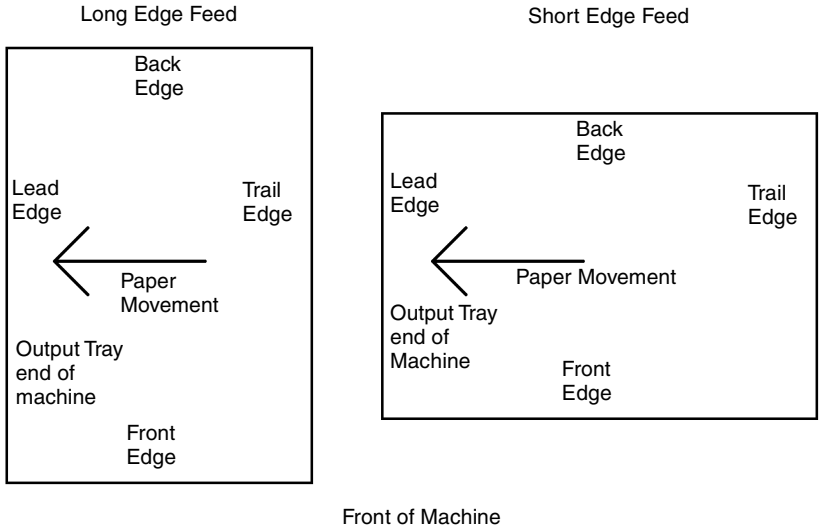


Figure 2 Paper Orientation Terms

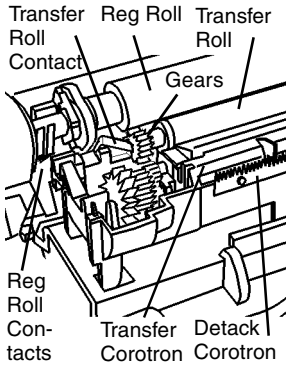


Figure 3 Transfer Detack Area Components

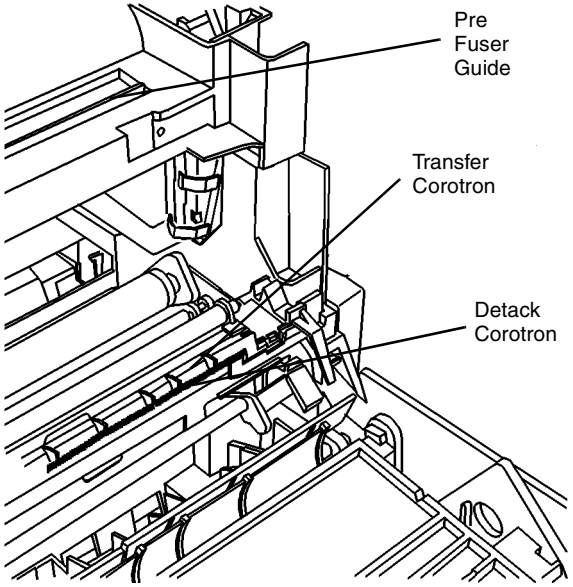


Figure 4 Pre-Fuser Guide / Transfer / Detack Corotron

IQ 13 Spots RAP

Circular dots or irregular shaped images on copy. White spots on black image or black spots on white image areas.

Procedure

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Black Spots result from following:

- Drum coating problem, glue on drum problem, damaged drum such as scratches problem/how to know/corrective action.
- "Fox Tracks" spots caused by toner leakage or incorrect toner metering

White Spots result from following:

- Drum coating problem, damaged drum such as scratches problem/how to know/corrective action

Verify Image Quality problem on machine, or ask customer if problem occurred when using machine as a copier. **The image quality problem occurs when using machine as a copier, either now, or as reported by customer.**

Y N

Then spots problem occurs when using machine only as a printer. Go to OF 14-1 PRINTER RAP.

Spots that repeat at fixed intervals (Figure 3) on copies are caused by Drum Cartridge, Registration Roll, or Fuser Module. Spots that appear once on copy are on Document Glass or document. **The spots repeat on copy.**

Y N

Verify that top of Document Glass is clean. If spots problem continues when manually placing documents on Document Glass, perform GP 9 R to clean bottom of Document Glass.

CAUTION

Image Quality defects will occur if mirrors in both carriages are not cleaned and RIS Module is not vacuumed before reinstalling Document Glass.

Measure distance between centers of repeating spots (Figure 3). **The distance is approximately 79 mm.**

Y N

The distance is 94 mm (Figure 3).

Y N

Open Door Module and clean Fuser Exit Drive Roll (Figure 2). Make copies to check if image problem still exists. **The image problem is still visible.**

Y N

Return to Call Flow Procedure in Section 1.

Clean Transfer Detack Corotron (Figure 2).

- Clean Transfer Corotron wire with a cotton swab and Film Remover or General Cleaning Solvent. Ensure no lint from swab remains on corotron or corotron frame.
- Clean Detack Corotron with a dry brush. Wipe all Transfer Detack Corotron contacts with a lint free cloth.

A B

Remove Drum Cartridge (REP 9.1). Inspect drum surface for spots. Rotate gear to check drum surface (Figure 1 shows rotation direction).

If silver colored spots are found, replace Drum Cartridge (PL 1.4) (REP 9.1).

If black colored spots are found, attempt to clean drum surface with a lint free towel. If spots remain, use minimal Film Remover or General Cleaning Solvent on lint free towel (Supplemental Tools and Supplies in Section 6).

If spots problem continues, replace Drum Cartridge (PL 1.4) (REP 9.1).

There is a problem with one of following:

- The Fuser Module may have picked up toner after running a steady series of small copy or print jobs or a long single copy/print run.

  In this case fuser reaches it's highest operating temperatures, may pick up toner from some images, and re-transfers a light image to paper at 79 mm interval.
- The Fuser Roll may be damaged.
- The Copy Cartridge incorrectly transferred excess toner to paper and Fuser Module picked up excess toner for re-translate to paper at 79 mm interval. The Drum Cartridge may be defective in this case.

Check with customer about machine usage. **The spots problem occurs after running a steady series of small copy and/or print jobs or after running a long single copy/print run of 75 or more.**

Y N

Perform following:

- Make 20 copies of an all white document. Make 20 copies of customers problem document. If spots problem is seen to diminish, run another 20 copies of an all white document. Verify if spots problem is fixed. If not, continue.
- Remove Fuser Module (REP 10.1). Attempt to wipe spots off of red Fuser Roll with a lint-free towel and Film Remover or General Cleaning Solvent (Supplemental Tools and Supplies in Section 6). Inspect Fuser Roll for defects such as scratches, nicks, or other problems that can't be cleaned. If scratches or nicks are seen, or toner can't be cleaned, replace Fuser Module (PL 1.4). Otherwise continue below.
- If spots problem continues, remove Drum Cartridge (REP 9.1) and clean entire outside housing. Check drum surface for spots. Refer to Figure 1 for drum rotation direction. Clean drum surface with a lint-free towel and Film Remover or General Cleaning Solvent (Supplemental Tools and Supplies in Section 6) and verify spots problem is fixed.

  If spots problem continues, replace Drum Cartridge (PL 1.4) (REP 9.1).

Perform following to lower Fuser temperature:

1. Enter diagnostics [10-4]. Your indication will be a flashing 1, 2, or 3. If a flashing 1 is displayed, replace Fuser Module (PL 1.4) (REP 10.1).
2. Press 1 key to enter a 1. Your indication will be a steadily lit 1.
3. Press **Start** button to load 1. Your indication will be a flashing 1.
4. Press **Stop** button 5 times to exit diagnostics.
5. Make 20 copies of customers problem document to verify if spots problem is fixed. If not, replace Fuser Module (PL 1.4) (REP 10.1).

A B

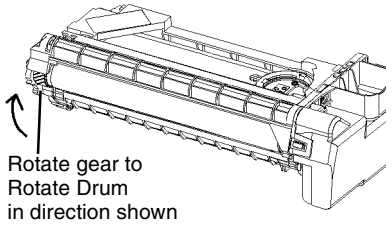


Figure 1 Drum Rotation

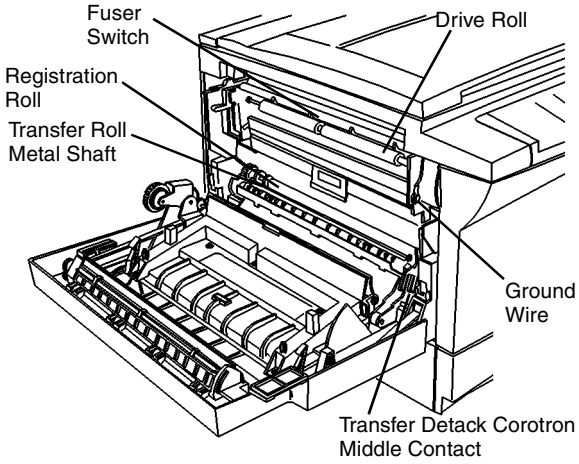


Figure 2 Fuser Module

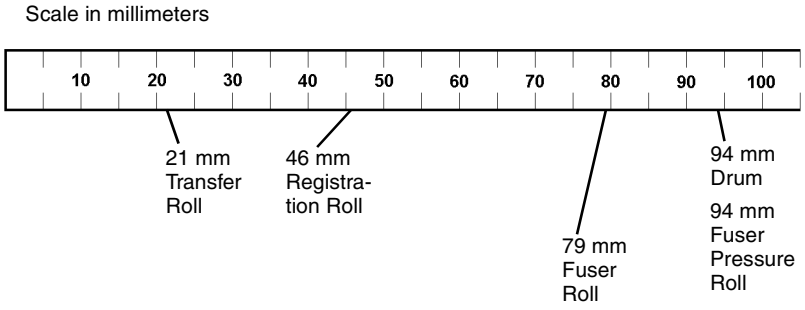


Figure 3 Repeating Image Defects

IQ 15 Fusing RAP

Characters or image are easily wiped off.

Procedure

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Read all Possible Causes. The most likely causes are listed before least likely causes. Then check machine for possible cause and perform Corrective Action. If image quality problem occurs while using machine only as a printer, go to OF 14-1 PRINTER RAP.

Table 1

Possible Cause	Corrective Action
Damp Paper	Use fresh paper and ensure that customer is storing paper correctly.
Incorrect fuser temperature	Ensure that fuser temperature is set correctly for customer paper that is used most frequently. Heavy weight paper may require higher temperature. Light weight paper may require lower temperature. Three Fuser temperatures are available. Refer to NVM Examine Modify Table in Section 6. A setting of 3 in [10 - 4] risks hot offsetting on long copy jobs. Do not use this setting if copy or print jobs are frequently 50 or more.
Defective fuser heat roll or pressure roll	Damaged heat roll or pressure roll may result in small or large areas of unfused toner on paper. Replace Fuser Module (PL 1.4) (REP 10.1)).
LVPS failure	Copies may be unfused before control console appears to loose power. This indicates a LVPS problem. Replace LVPS (PL 1.3) (REP 1.4).

IQ 16 Wrinkle RAP

This is damage that is impressed on paper by fuser but is caused by condition of paper before it reaches fuser.

Procedure

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

Check Paper Trays for following:

- Ensure Side Guides are secure and adjusted correctly to support paper. Examine rear guide for wear. There should be no cuts or breaks in guide.
- Ensure Snubbers are secure and free of damage.
- The Tray 1 elevator or Tray 2 Elevator (if present) must raise paper stack up against Snubbers when Tray is closed. Pull out tray to verify that corners of paper stack are under Snubbers. Verify that paper stack pushes Snubbers up to their stop.
- Push paper stack back down. Close Tray 1. The Tray must be fully closed to ensure reliable feeding and avoid jams or wrinkles due to skew.

The conditions above are satisfied in paper trays.

Y N

Repair as required, Tray 1 (PL 4.2), Tray 2 (PL 4.2).

Add fresh paper and verify machine operation. **The wrinkle problem continues.**

Y N

Return to Call Flow Procedure in Section 1.

- Clean Registration Roll and Registration Idler Roll with film remover or cleaning solvent and lint free cloth (Table 2 in Maintenance Procedures in Section 1). Check components for wear or damage (PL 5.1).

The wrinkle problem continues.

Y N

Return to Call Flow Procedure in Section 1.

- Remove Fuser Module (REP 10.1). Check input and output guides and rollers for contamination. Clean as required (Table 4 in Maintenance Procedures, Section 1).
- Clean polished metal Pre Fuser Guide (Figure 2). This guide is below Fuser Module. Check that Pre-Fuser Guide feels smooth and free of burrs. A small nick or burr can cause a blurred image in a small area of copy as paper hits and skips past burr or nick, causing paper to jump over burr. If a nick or burr is found, attempt to make it smooth with a file or fine emery cloth.
- Replace Fuser Module (PL 1.4) (REP 10.1) if wrinkle problem continues.

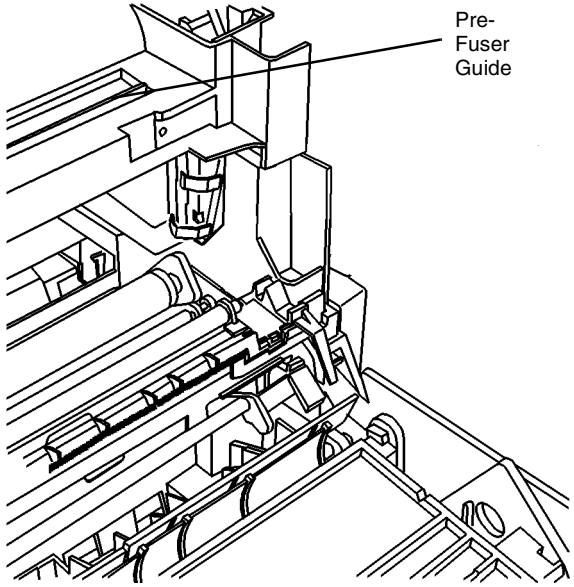


Figure 1 Pre Fuser Guide

IQ 17 Curl RAP

This is a condition that is caused by a problem with fuser or copy paper.

Procedure

NOTE: *If a status code is present, go to status code now. If an Other Fault is present as identified in Status Codes / Other Faults Listing in Section 1, go to appropriate RAP now.*

NOTE: *Copy curl is caused by action of removing moisture out of paper as it is heated by rollers in copier to fuse toner. The amount of curl is greatly affected by moisture (water) content in paper, by quality and also by type of paper being used. Good quality papers such as Xerox 4024 paper are recommended and they will typically produce reduced curl levels. Low cost papers and recycled paper can be expected to produce higher levels of curl. Paper moisture is another significant curl factor. We strongly recommend that open reams be carefully resealed in their wrapper in humid environments. This will reduce moisture absorbed into paper from environment. Additionally, paper left in paper tray over extended periods (i.e. extended holiday weekends) in humid climates should be replaced with fresh paper. A small amount of lead edge or trail edge curl is acceptable*

Read all Possible Causes. The most likely causes are listed before least likely causes. Then check machine for possible cause and perform Corrective Action. If image quality problem occurs while using machine only as a printer, go to OF 14-1 PRINTER RAP.

Table 1

Possible Cause	Corrective Action
Damp paper	Use fresh paper and ensure curl

4 Repairs / Adjustments

Repairs

Electrical

REP 1.1 Control Panel 4-3
REP 1.2 Main PWB 4-4
REP 1.3 PCM Interface PWB 4-6
REP 1.4 Low Voltage Power Supply (LVPS) 4-7
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REP 1.1 Control Panel

Parts List on PL 3.1

Removal

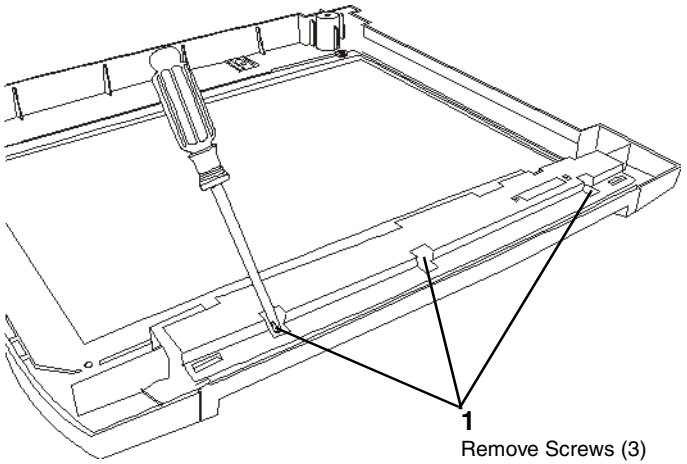
WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

1. Remove ADF (REP 5.1).
2. Remove Top Cover (REP 14.1).
3. Turn over Top Cover and remove three (3) screws from underside of Control Panel.



Remove Screws (3)

REP 1.2 Main PWB

Parts List on PL 1.2

Removal

1. If removing Main PWB for access to other components, go to WARNING before step 2 now. Otherwise continue below.

   Enter Diagnostic mode and record following. Go to WARNING before step 2 if diagnostic mode cannot be entered.

   a. Enter NVM Examine Modify Screen and record NVM values listed for this machine. Refer to Section 6, Diagnostic Settings.

   b. Enter Customer Programmable Options screen and record values listed there. Refer to Section 6, Customer Programmable Options.

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

2. Remove Rear Cover (REP 14.2)
3. Remove Right Cover (REP 14.3).

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

4. Remove Main PWB (Figure 1).

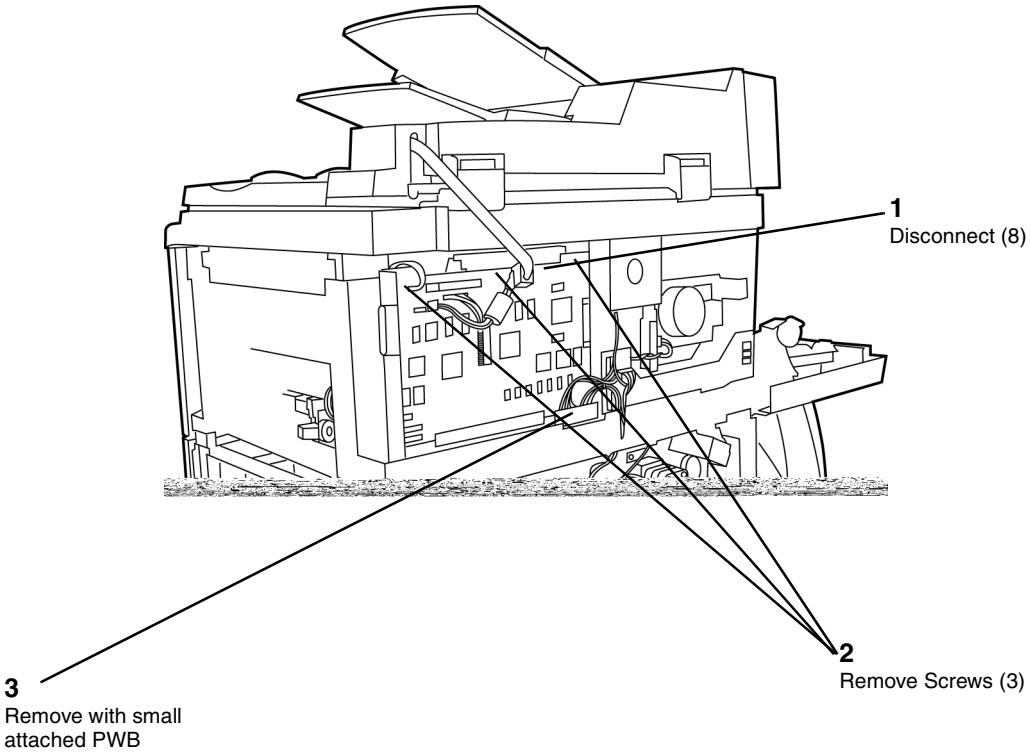


Figure 1 Removing Main PWB

Replacement

1. Install Main PWB (reverse of steps in Figure 1).
2. Reconnect Power Cord and switch on machine power.
3. Input previously recorded NVM, CRUM, and Customer Option values.

REP 1.3 PCM Interface PWB

Parts List on PL 1.3

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

1. Remove Rear Cover (REP 14.2).
   a. Disconnect the two connectors P/J 211,212 form LVPS.
   b. Disconnect P/J 402 form Tray PWB.
2. Remove PCM Interface PWB (Figure 1)

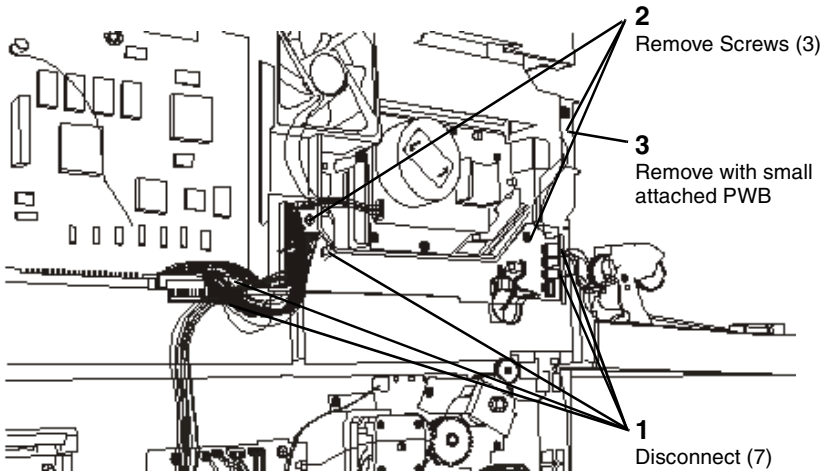


Figure 1 Removing PCM Interface PWB

REP 1.4 Low Voltage Power Supply (LVPS)

Parts List on PL 1.3

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

1. Remove Rear Cover (REP 14.2).
2. Remove Right Cover (REP 14.3).
3. Remove Main PWB (REP 1.2).
4. Remove LVPS.
   a. Disconnect connectors (7 - 8) P/J 202, 203, 204, 205, 206, 211, 212 on LVPS. (Figure 1).
   b. Remove Acrews (7) form LVPS with a short - handle Acrewdriver.
5. Remove LVPS (Figure 3).

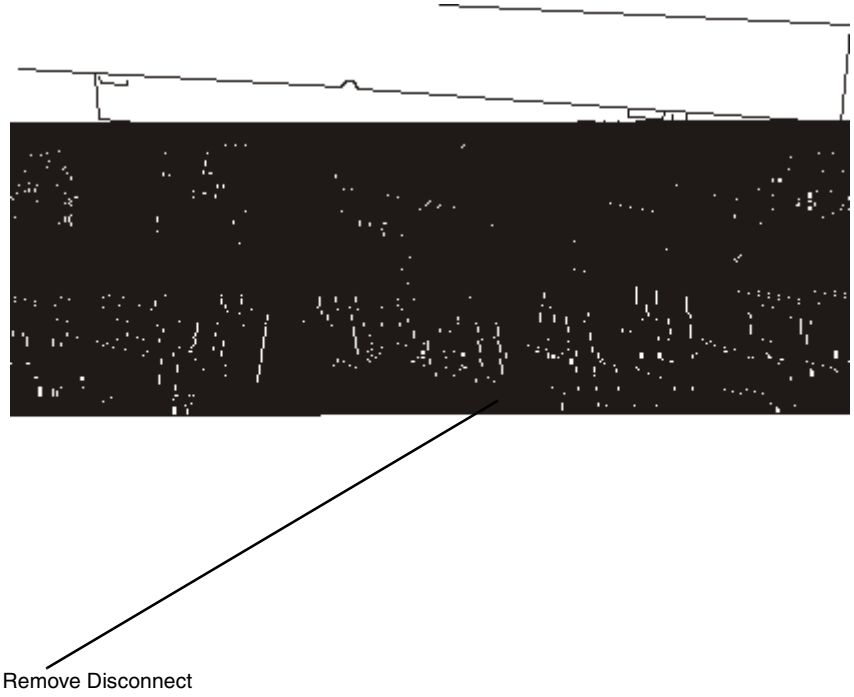


Figure 1 Removing LVPS

Replacement

NOTE: *Install all Screws (7) after reinstalling LVPS.*

CAUTION

Screw provides static ground for Main PWB.

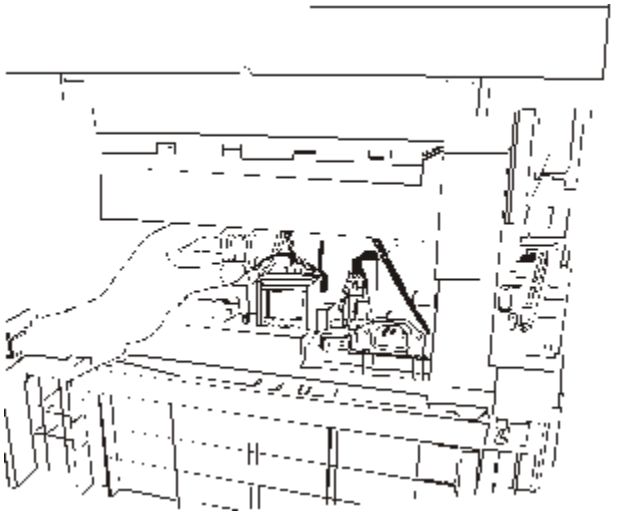


Figure 2 Installing Screws

Installation

1 Make installation in revese order of the removal.

REP 1.5 High Voltage Power Supply (HVPS)

Parts List on PL 1.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

1. Remove ADF (REP 5.1).
2. Remove Drum cartridge (REP 9.1).
3. Remove Top Cover (REP 14.1).
4. Remove CVT Glass (REP 6.4).
5. Remove Document Glass (REP 6.5).
6. Remove RIS Module (REP 6.1).
7. Remove Fuser Module (REP 10.1).
8. Remove Ground Wire and Fuser Wires from Guides (Figure 1).

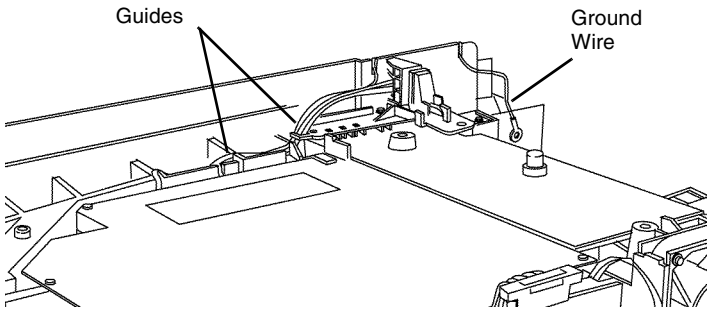


Figure 1 Removing Fuser Wires from Guides

9. Remove Fuser Connector from Slide-Contact Support (Figure 2).
   a. Disengage Spring from Tabs.
   b. Press Lock down while sliding Fuser Connector to rear.
   c. Place Fuser Connector on ROS.

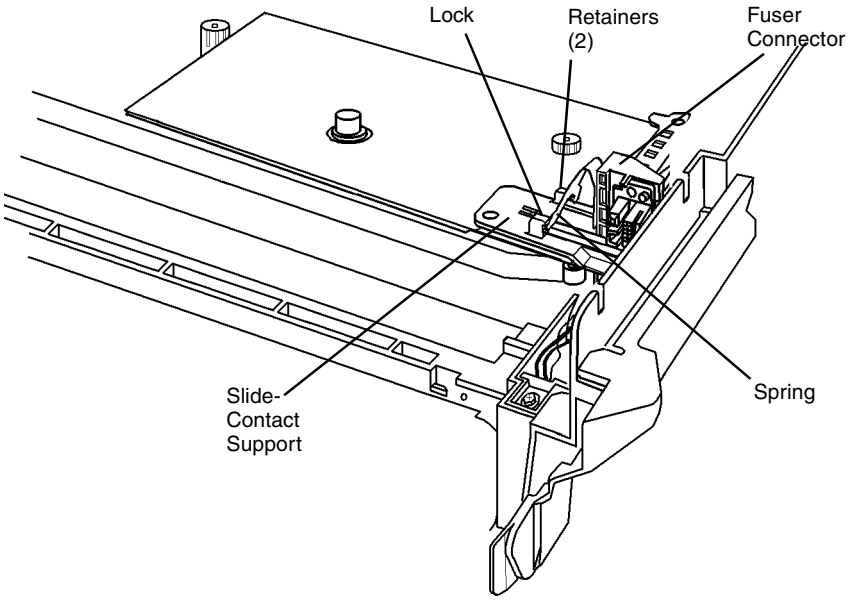


Figure 2 Removing Fuser Connector from Slide

Installation

1 Make installation in revese order of the removal.

REP 1.6 Transfer Detack Contact Support

Parts List on PL 1.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

1. Remove ADF (REP 5.1).
2. Remove Drum cartridge (REP 9.1).
3. Remove Top Cover (REP 14.1).
4. Remove CVT Glass (REP 6.4).
5. Remove Document Glass (REP 6.5).
6. Remove RIS Module (REP 6.1).
7. Remove Fuser Module (REP 10.1).
8. Remove HVPS (REP 1.5).
9. Remove Transfer Detack Contact Support (Figure 1).
   a. Pull Springs out of sockets.
   b. Remove Screw.
   c. Pull up Support while checking Transfer Detack Contacts don't hit frame.

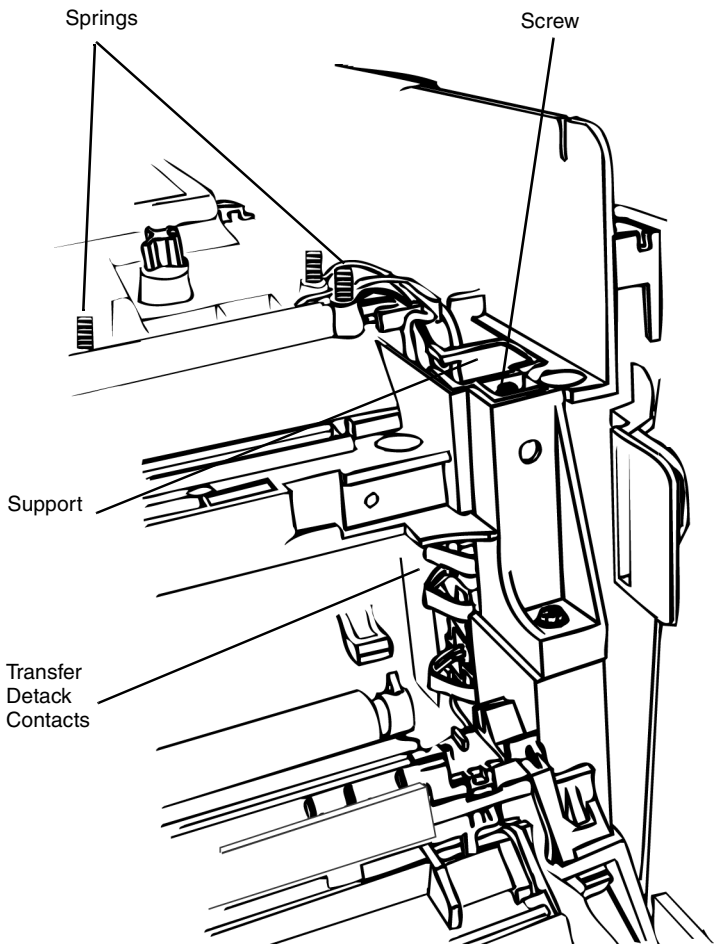


Figure 1 Removing Transfer Detack Contact Support

Replacement

NOTE: *While installing Transfer Detack Contact Support keep Transfer Detack Contacts away from frame. Install springs in sockets as shown (Figure 2). Reinstall Screw.*

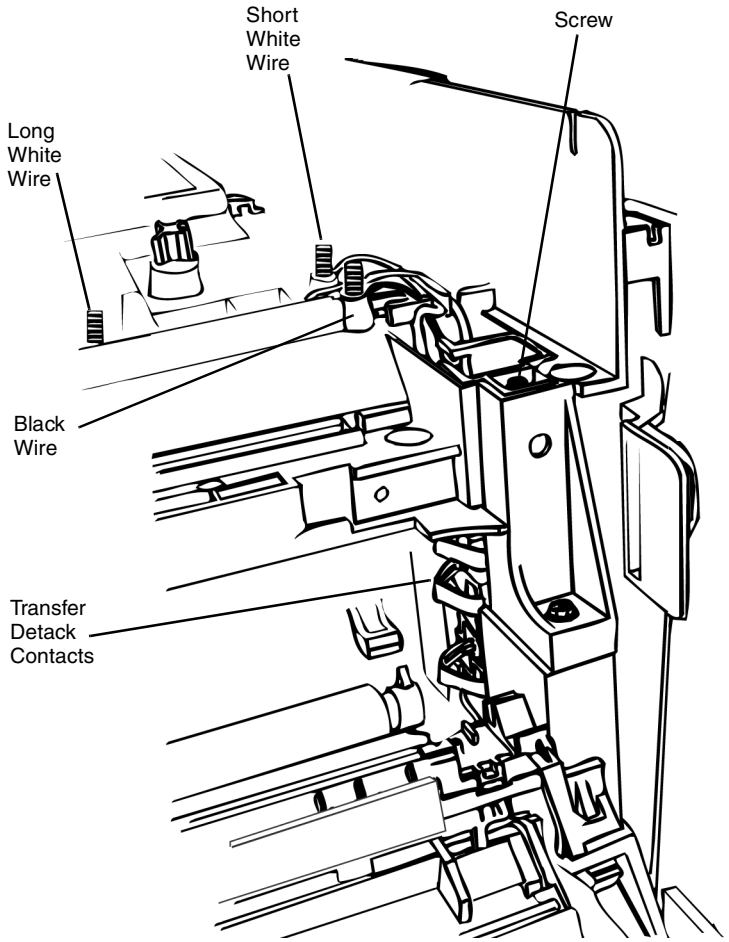


Figure 2 Removing Transfer Detack Contact Support

Installation

1 Make installation in revese order of the removal.

REP 1.7 Drum Cartridge Contact Support

Parts List on PL 1.3

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

1. Remove ADF (REP 5.1).
2. Remove Drum cartridge (REP 9.1).
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REP 1.8 Erase Lamp

Parts List on PL 1.3

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine powe. rDisconnect Printer Cable and disconnect machine Power Cord.

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

1. Remove ADF (REP 14.4).
2. Remove Drum cartridge (REP 9.1).
3. Remove Top Cover (REP 14.1).
4. Remove CVT Glass (REP 6.4).
5. Remove Document Glass (REP 6.5).
6. Remove RIS Module (REP 6.1).
7. Remove Fuser Module (REP 10.1).
8. Remove HVPS (REP 1.5).
9. Remove Erase Lamp (Figure 1).
   a. Push Locking Tabs (4) through holes.
   b. From Drum Cartridge cavity disconnect Hinge Tabs (3).
   c. Guide Connector through hole and remove Erase Lamp.

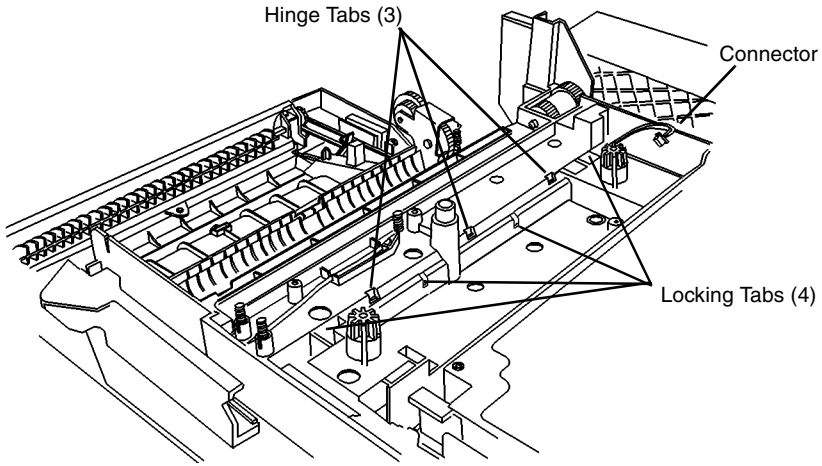

Figure 1 Removing Erase Lamp

Installation

1 Make installation in revese order of the removal.

REP 1.9 PCM Upper Frame

Parts List on PL 1.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Disconnect Printer Cable. Switch off machine power and disconnect machine Power Cord.

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

1. Remove ADF (REP 5.1).
2. Remove Drum cartridge (REP 9.1).
3. Remove Top Cover (REP 14.1).
4. Remove CVT Glass (REP 6.4).
5. Remove Document Glass (REP 6.5).
6. Remove RIS Module (REP 6.1).
7. Remove Fuser Module (REP 10.1).
8. Remove PCM Interface PWB (REP 1.3).
9. Remove Main PWB (REP 1.2).
10. Remove Fuser Wires and Ground Wire from Guides (Figure 1).

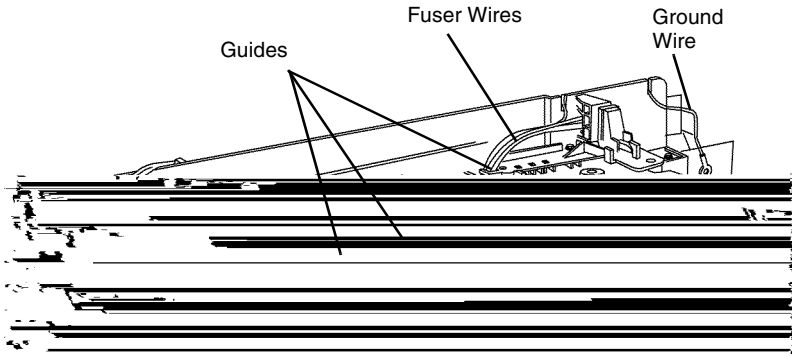

Figure 1 Removing Fuser Wires from Guides

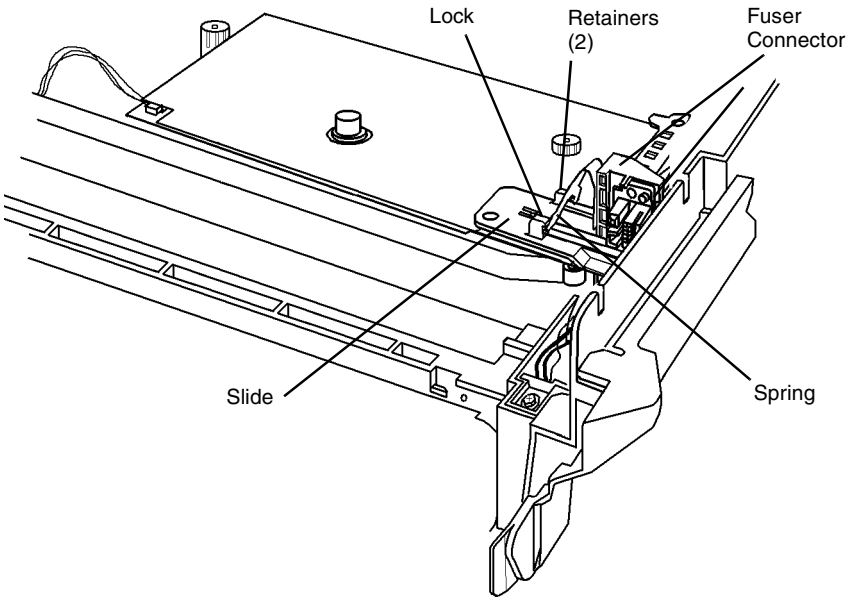

Figure 2 Disengaging Fuser Connector

Installation

1 Make installation in revese order of the removal.

11. Remove PCM Upper Frame (Figure 3).

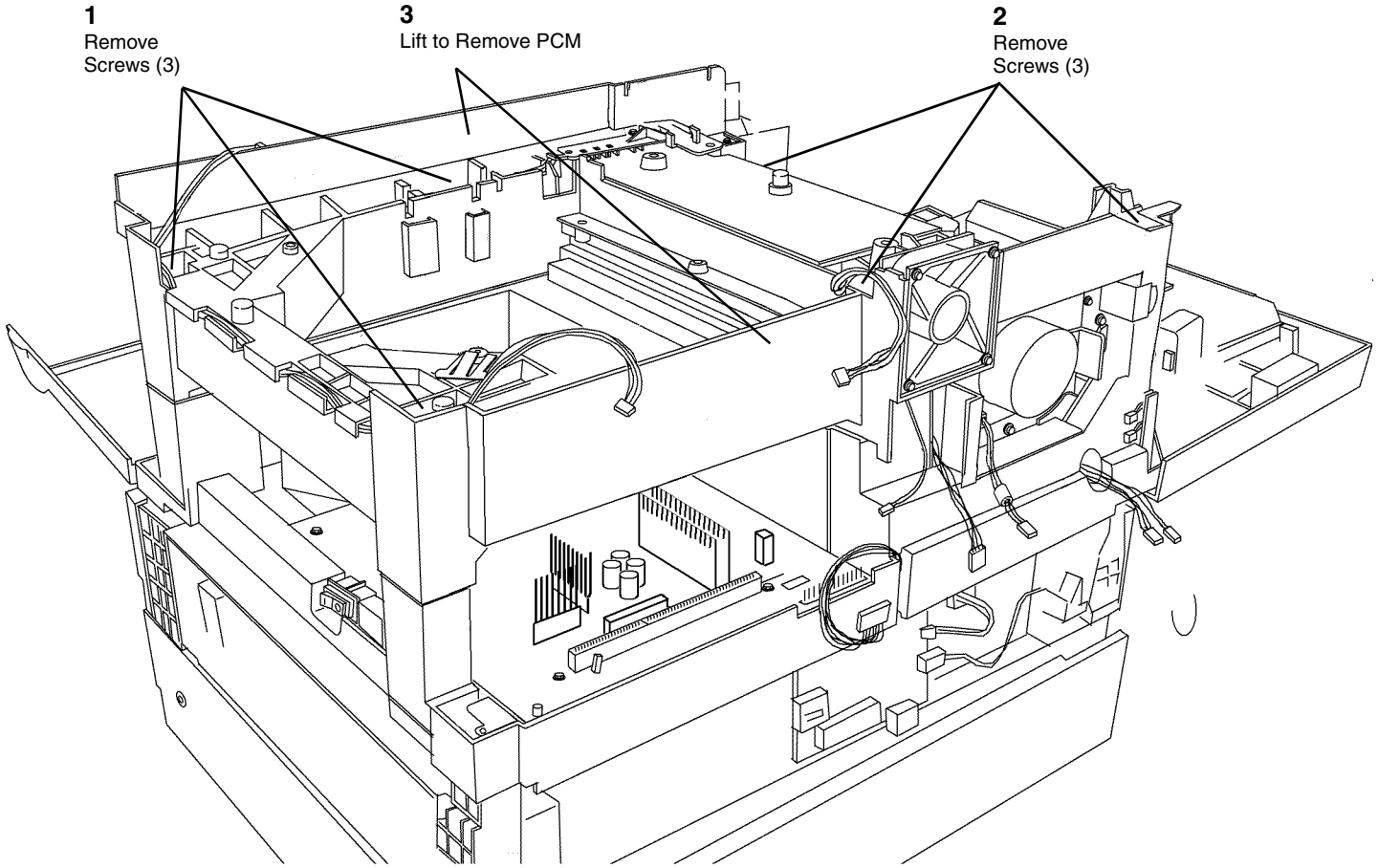

Figure 3 Removing Upper PCM Frame

REP 4.1 Main Drive Module

Parts List on PL 1.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

1. Remove Rear Cover (REP 14.2).
2. Remove Main Drive Module (Figure 1).

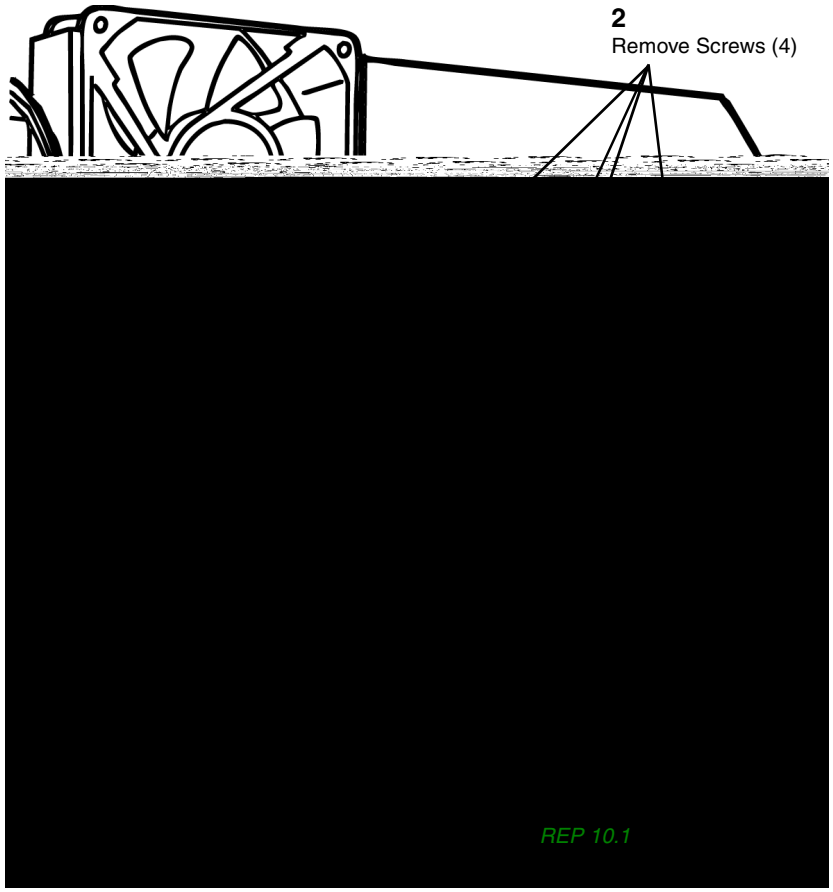

Figure 1 Removing Drive Module

REP 5.1 ADF

Parts List on PL 3.1

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF (REP 14.2).
2. Disconnect the ADF Harness Connector from Main PWB (Figure 1).

NOTE: *If the machine power is switched on while the ADF is removed, the Control Logic will enter a brief configuration process that results in the removal of ADF operability and control from the Main PWB. If power is switched on before the ADF is installed, a document cannot be sensed in the ADF. The machine will behave like a Document Cover is present. ADF operability can be restored by switching on the power after the ADF is connected.*

3. Lift the ADF/DADF to the full open position then remove the fixing screws on two balancers and remove the fixer on the right balancer.

WARNING

Put the ADF on the desk after it is remomed sothat the balancers will not press on ADF and the ADF frame will not be out of Shape.

Replacement

Reinstall the ADF/DADF.

InstallatitF frame will not be out of Shape.

Figure 1 Disconnecting the Harness Connector

REP 5.2 ADF Drivers Cover

Parts List on PL 3.2

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF/DADF Dives Cover (Figure 1).
   a. Open Feed Door.
   b. Remove screws (3).
   c. Push in on the cover to disconnect the catch.
   d. Pull out and lift up the cover to remove it.

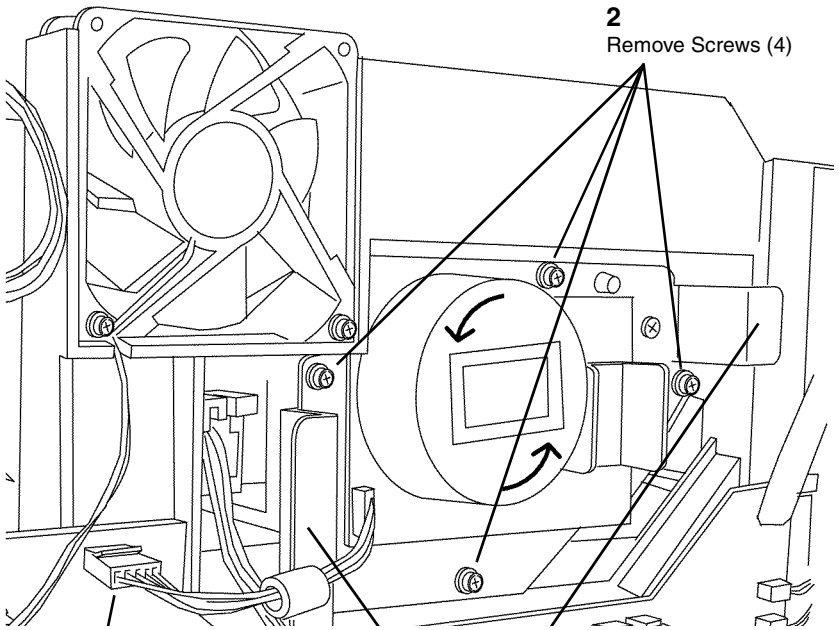

Figure 1 Removing the ADF/DADF Drives Cover

REP 5.3 Offset Catch Tray

Parts List on PL 3.2

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF/DADF Drives Cover (REP 5.2)
2. Open the Access Door.
   ✶View Offset Catch Tray removal.
3. Remove the Offset Cathe Tray Extension.
4. Remove the Offset Cathe Tray (Figure 1).

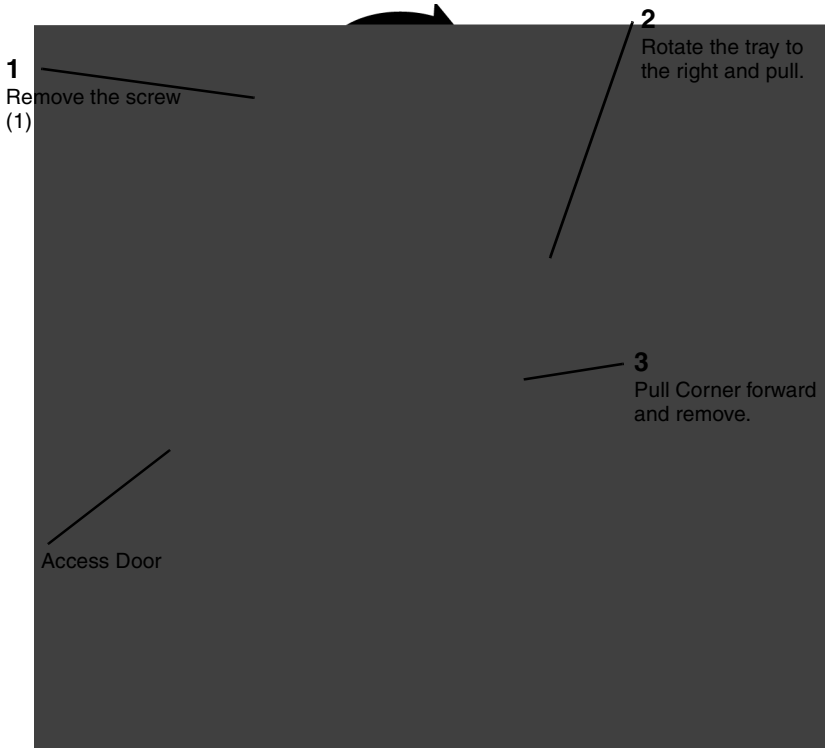

Figure 1 Removing the Offset Catch Tray

Installation

1 Make installation in revese order of the removal.

RREP 5.4 ADF Nudger Solenlid (SOL 5)

Parts List on PL 3.2

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF Drives Cover (REP 5.2).
2. Remove the Offset Catch Tray (REP 5.3).
3. Remove the ADF Nudger Solenold (Figure 1).

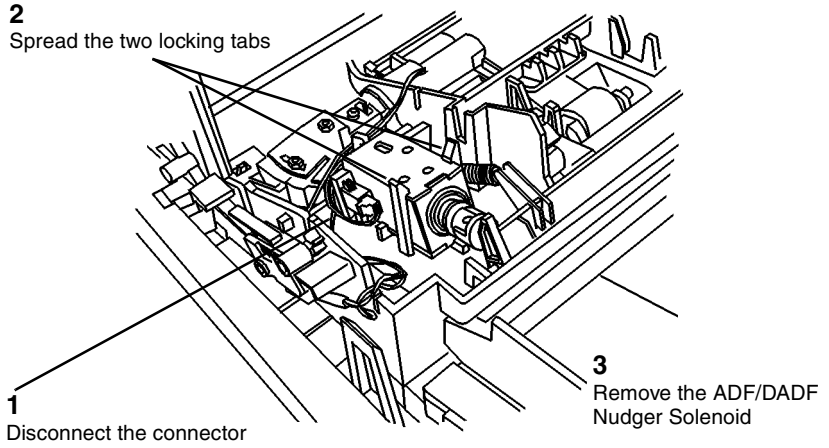

Figure 1 Removing the ADF/DADF Nudger Solenoid

Installation

1 Make installation in revese order of the removal.

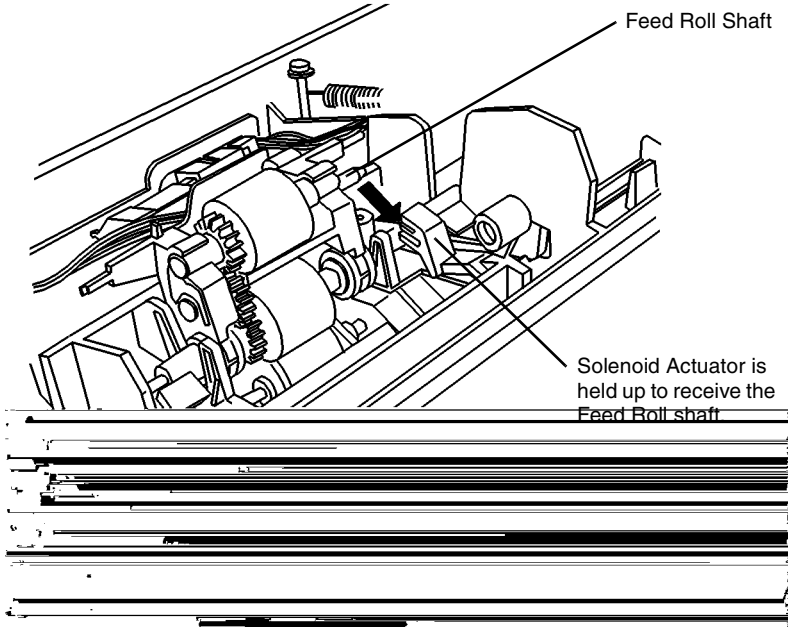

Figure 3 Feed Roll shaft engage the Solenoid Actuator

REP 5.7 ADF PWB

Parts List on PL 3.2

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF Drives Cover (REP 5.2).
2. Remove the ADF PWB (Figure 1).

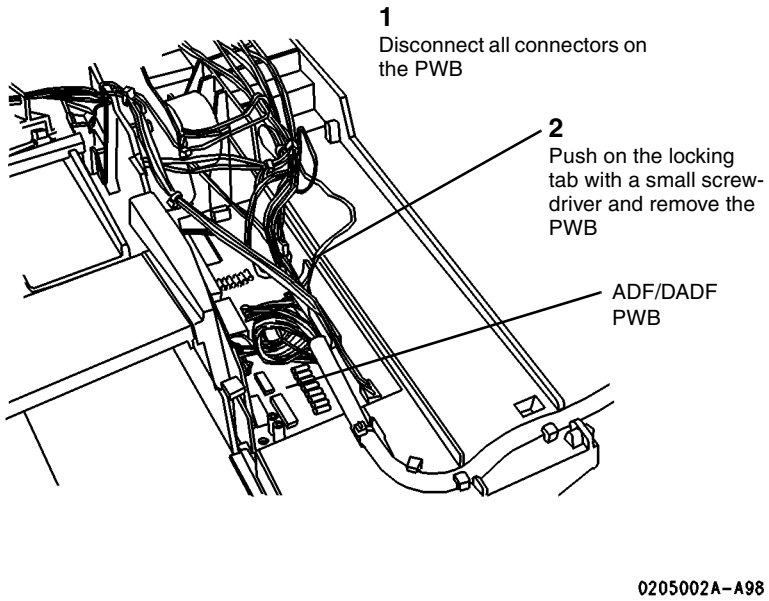

Figure 1 Removing the ADF/DADF PWB

Installation

1 Make installation in revese order of the removal.

REP 5.8 ADF Constant Velocity Transport (CVT) Motor (MOT 4)

Parts List on PL 3.3

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF/DADF Drives Cover (REP 5.2).
2. Remove the ADF/DADF Offset Catch Tray (REP 5.3).
3. Remove the ADF/DADF Document input Transport (REP 5.14).
4. Remove the ADF/DADF CVT Motor (Figure 1, and Figure 2).

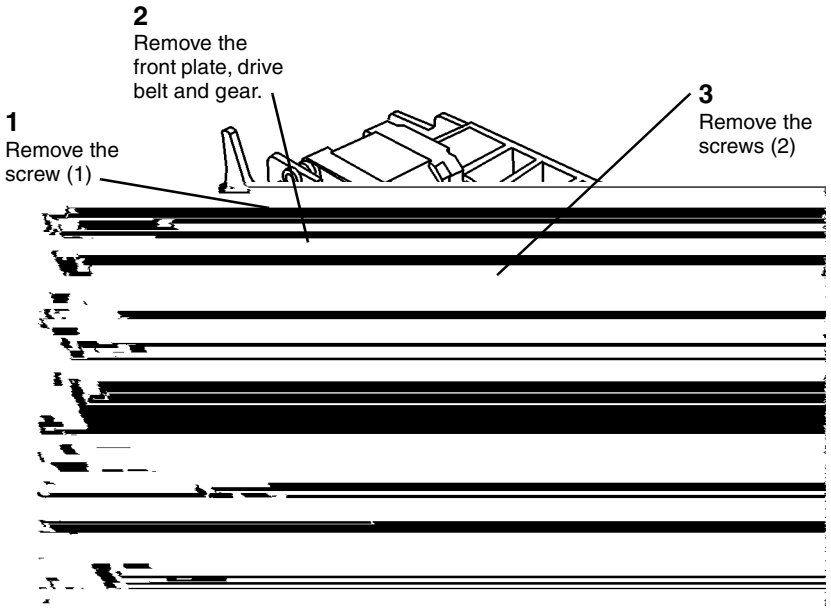

Figure 1 Removing the ADF/DADF CVT Drive front plate

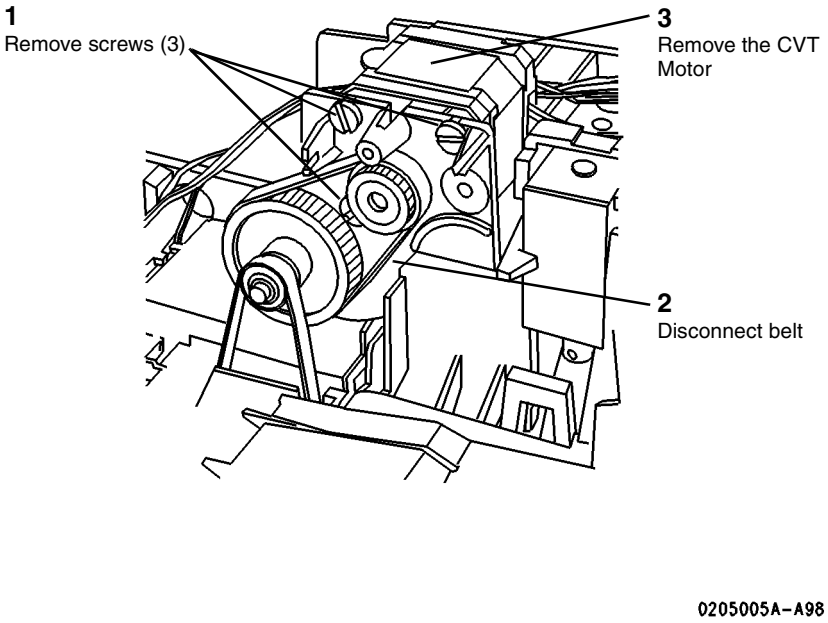

Figure 2 Removing the ADF/DADF CVT Motor

Replacement

NOTE: *When installing the CVT Motor Assembly. Install the screws (2) loosely so that the assembly can be moved to allow the belts to be installed.*

NOTE: *When installing the Front Plate,ensure that the small end of the pulley is closest to the Front Plate.*

NOTE: *After the Document Input Transport (REP 5.14) is installed,adjust the CVT Motor assembly to remove the slack from the drive belts.*

1 Make installation in revese order of the removal.

REP 5.9 Document Registration Sensor (Q7)

Parts List on PL 3.3

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF Drives Cover (REP 5.2).
2. Remove the Offset Catch Tray (REP 5.3).
3. Remove the ADF Document input Transport (REP 5.14).
4. Remove the Screws (2) and remove the metal bar.
5. Remove the Document Registration Sensor (Figure 1).

NOTE: *The Document Registration Sensor has the actuator built into the sensor.Check that the spring and actuator operates correctly whenever removing or replacing the Document Registration Sensor.*

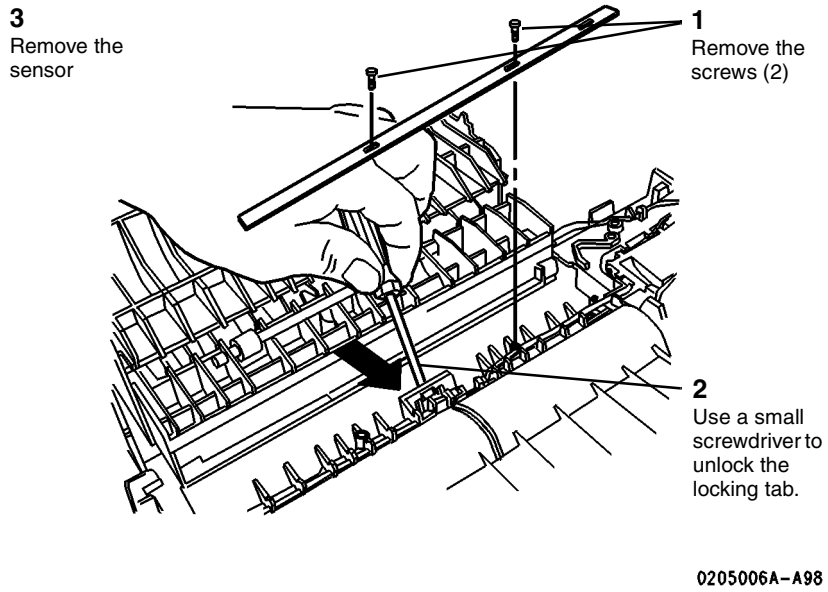

Figure 1 Removing the Document Registration Sensor

Installation

1 Make installation in revese order of the removal.

REP 5.10 Document Present Sensor (Q8)

Parts List on PL 3.2

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF Drives Cover (REP 5.2).
1. Remove the Offset Catch Tray (REP 5.3).
1. Remove the Document Present Sensor (Figure 1).

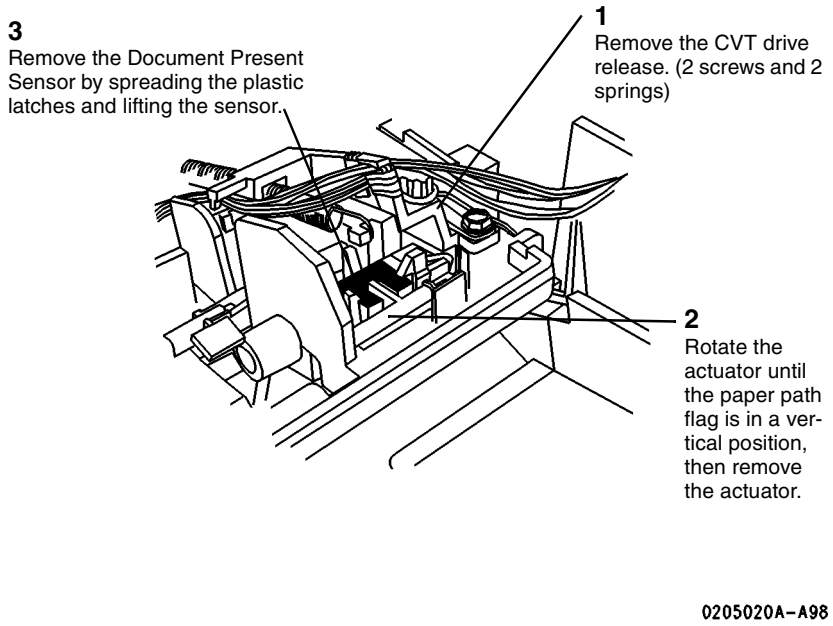

Figure 1 Removing the Document Present Sensor and Actuator

Installation

1 Make installation in revese order of the removal.

REP 5.11 Document Feed (Takeaway Roll) Sensor (Q9)

Parts List on PL 3.2

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF Drivers Cover (REP 5.2).
1. Remove the Offset Catch Tray (REP 5.3).
1. Remove the Document Feed Sensor (Figure 1).

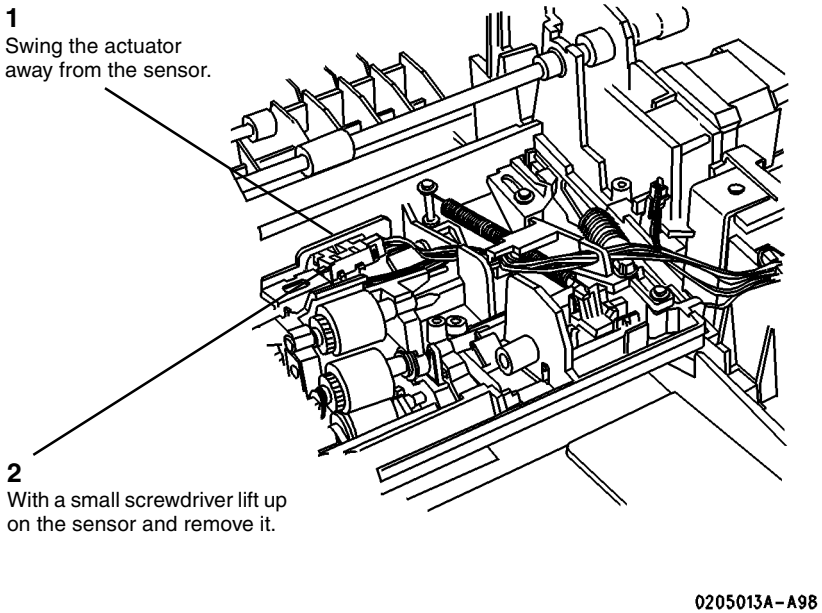

Figure 1 Removing the Document Feed Sensor

Installation

1 Make installation in revese order of the removal.

REP 5.12 Document Exit Switch (S6)

Parts List on PL 3.3

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF/DADF Drivers Cover (REP 5.2).
2. Remove the Offset Catch Tray (REP 5.3).
3. Remove the ADF/DADF Document Input Transport (REP 5.14).
4. Remove the Document Exit Transport (REP 5.17).
5. Remove the Document Exit Switch (Figure 1).

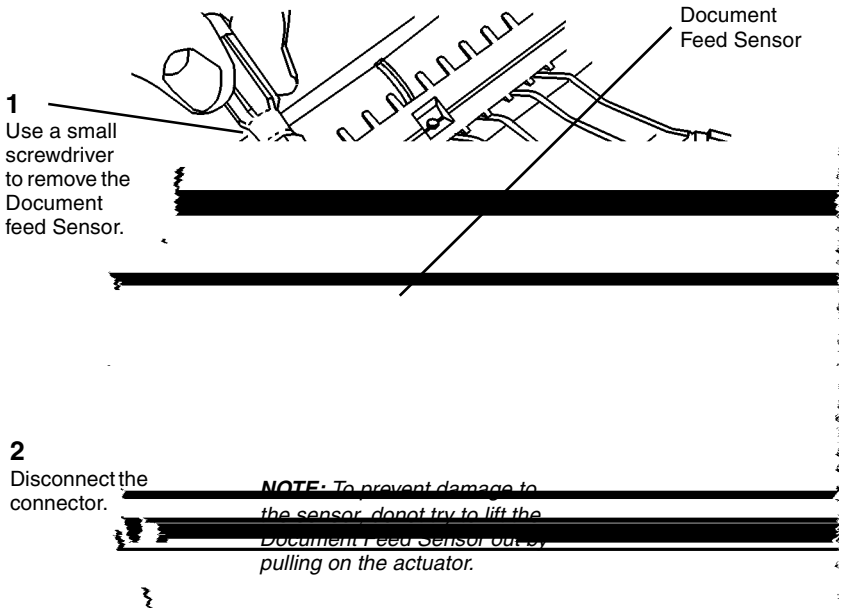

Figure 1 Removing the Document Exit Switch

Installation

1 Make installation in revese order of the removal.

REP 5.13 ADF/DADF Access Door

Parts List on PL 3.2

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF/DADF Drivers Cover (REP 5.2).
2. Remove the Access Door (Figure 1).

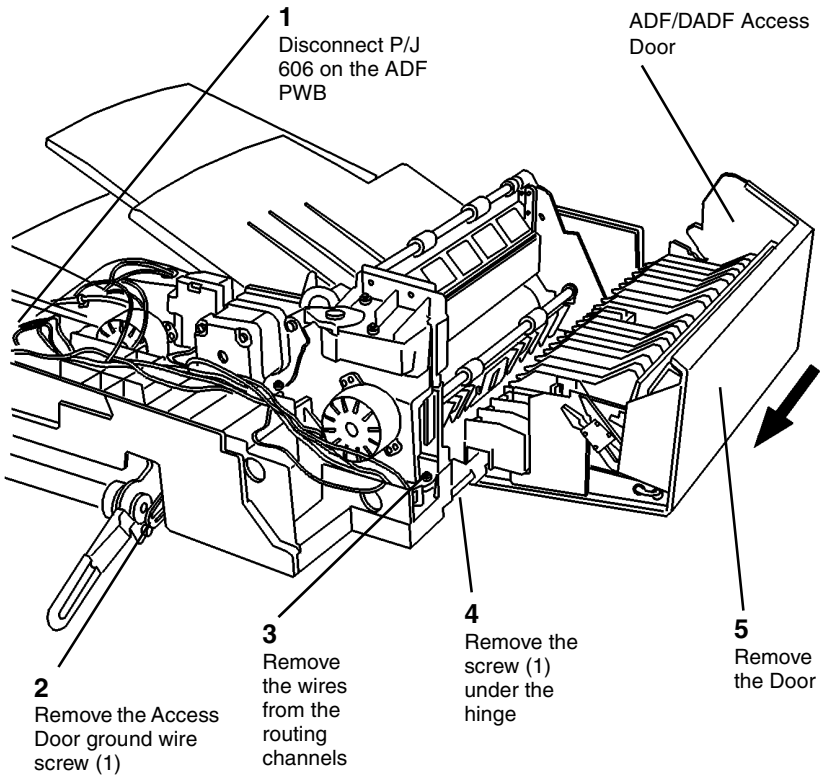

Figure 1 Removing the Access Door

Installation

1 Make installation in revese order of the removal.

REP 5.14 ADF Document Input Transport

Parts List on PL 3.3

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF Drivers Cover (REP 5.2).
2. Remove the ADF Offset Catch Tray (REP 5.3).
3. Remove the ADF Document Input Transport (Figure 1).
   a. Disconnect P/J 605, 608, 610 on the ADF PWB.
   b. Remove the left front screw (1).
   c. Use a small screwdriver to unlatch the front frame locking tab.

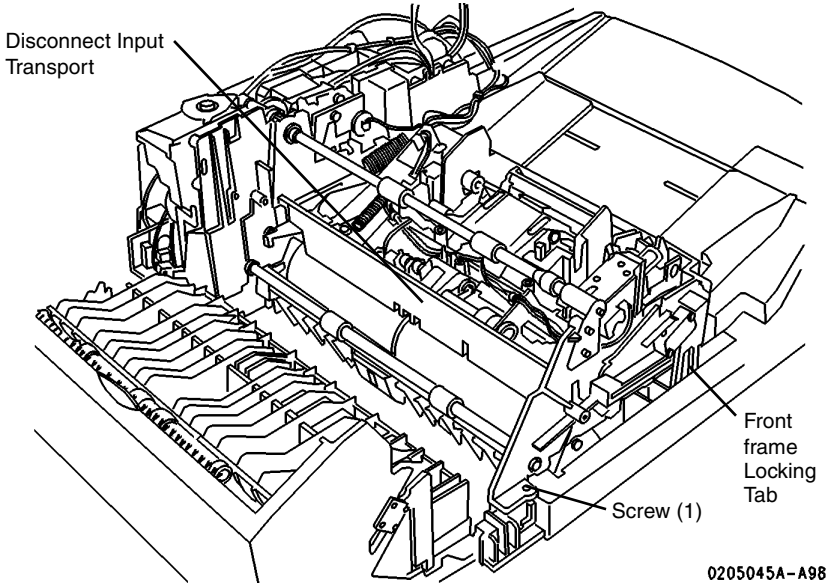

Figure 1 Removing the Document Input Transport

   d. Remove the left rear screw (Figure 2).
   e. Use a small screwdriver to unlatch the Rear frame locking tab.
   f. Loosen the screws (2) on the CVT Motor and slide the motor to the left to loosen the drive belts. Remove the belts from the pulleys.
   g. Use a small screwdriver to unlatch the tab on the CVT Motor bracket then lift and remove the Document Input Transport.

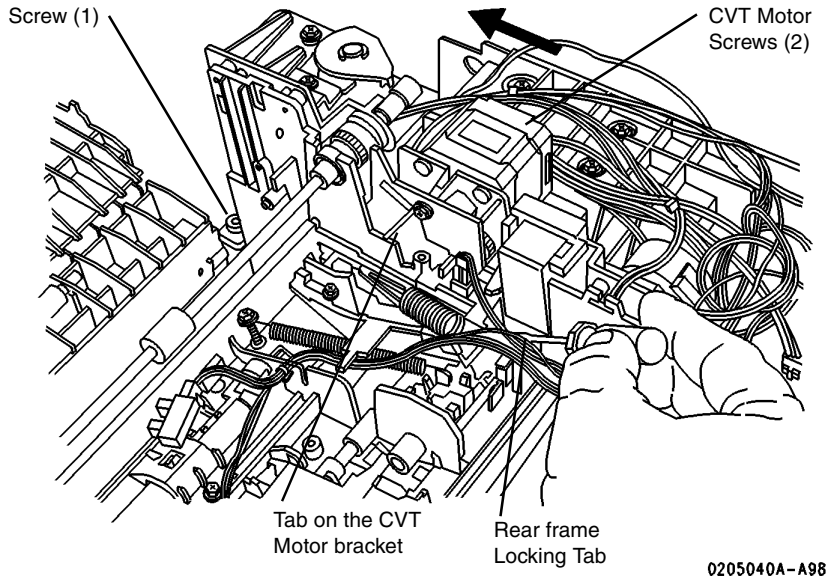

Figure 2 Removing the Document Input Transport

Replacement

NOTE: *When reinstalling the Document Input Transport, be sure that the clutch pulley properly engages the timing belt.*

Installation

1 Make installation in revese order of the removal.

REP 5.15 ADF OCT Motor (MOT 7)

Parts List on PL 3.2

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF/DADF Drives Cover (REP 5.2).
2. Open the ADF/DADF Left Door.
3. Remove the ADF/DADF OCT Motor (Figure 1).

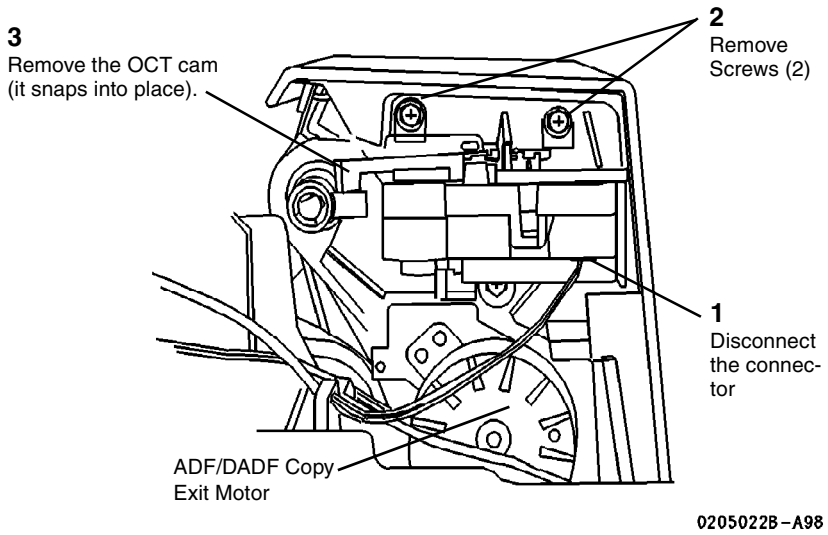

Figure 1 Removing the OCT Motor

Installation

1 Make installation in revese order of the removal.

REP 5.16 ADF Copy Exit Motor (MOT 6)

Parts List on PL 3.3

Removal

WARNING

Inadvertent copier operation could cause machine damage or physical injury. Switch off the machine power. Disconnect the Printer Cable connector and disconnect the machine Power Cord.

1. Remove the ADF Drives Cover (REP 5.2)
2. Remove the OCT Motor (REP 5.15)
3. Remove the ADF Copy Exit Motor Bracket (Figure 1).
   a. Disconnect the Copy Exit Motor wiring harness from the ADF/DADF PWB.

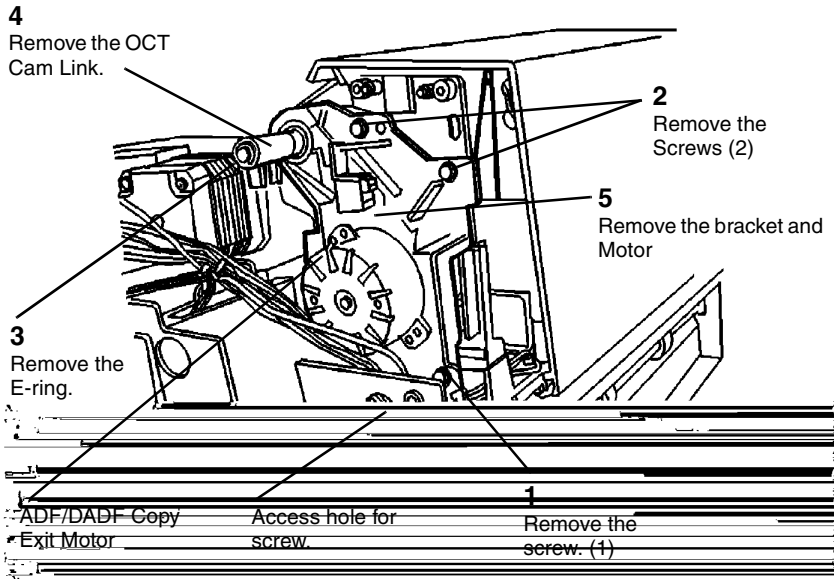

Figure 1 Removing the Copy Exit Motor Bracket

4. Remove the ADF/DADF Copy Exit Motor.
   a. Remove the Screws (2).
   b. Lift the ADF Copy Exit Motor from the bracket.

Replacement

NOTE: *When installing the Copy Exit Motor bracket, ensure that the bracket is properly installed on the locator pins. (Figure 2).*

NOTE: *Ensure that the OCT bushing is resting against the motor bracket and the bushing flange is not on top of the anti-rotation rib on the bracket.*

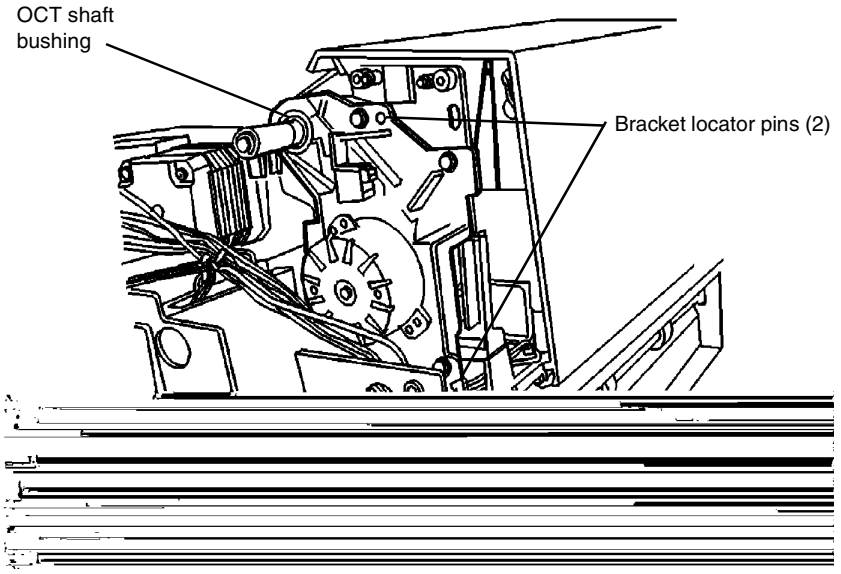

Figure 2 Installing the ADF/DADF Copy Exit Motor bracked

Installation

1 Make installation in revese order of the removal.

REP 6.1 RIS Module

Parts List on PL 2.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

1. Remove Document Cover (REP 14.4).
2. Remove Top Cover (REP 14.1).

   NOTE: *If RIS Module is being replaced, record NVM values indicated on label attached to top of RIS frame.*

3. Remove CVT glass and Registration mount (REP 6.4).
4. Remove Document Glass (REP 6.5).

Figure 1 Laser Warning

WARNING

Use of controls or adjustments other than those specified in this documentation may result in an exposure to dangerous laser radiation. This product is certified to comply with Laser Product Performance Standards set by US Department of Health and Human Services as a Class 1 product. This means that it is a laser product that does not emit laser radiation during any mode of customer operation. During servicing, laser beam could cause eye damage if looked at directly. Service procedures must be followed exactly as written.

The laser warning symbol is repeated in specific service procedures where laser light exposure is possible.

5. Remove RIS Module (Figure 2)

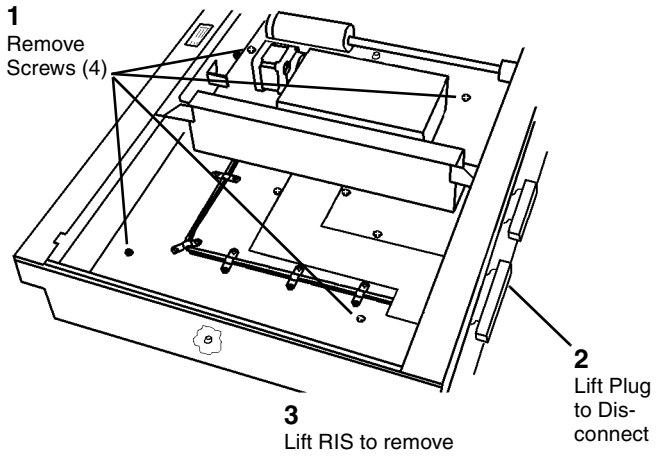

Figure 2 Removing RIS

Replacement

1. Install RIS Module (Figure 3).

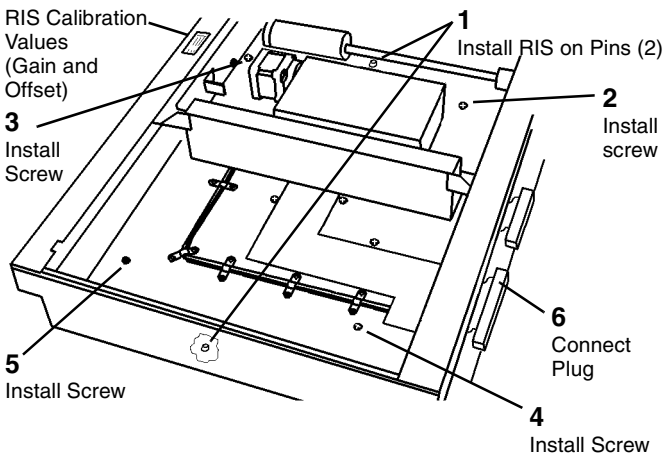

Figure 3 Installing RIS

2. If a new RIS is installed, record RIS Calibration Values for download after power up (Figure 3).

CAUTION

Do not use a brush attachment on vacuum cleaner. Brush may contaminate mirrors. Use a crevice attachment to reach corners.

3. Clean and vacuum entire area inside RIS. Refer to GP 9 R in Section 6.
4. Clean and install Document Glass (REP 6.5).
5. Install Top Cover (REP 14.1).
6. Install Document Cover (REP 14.4).
7. Reconnect machine power Cord and switch on machine power.
8. If a new RIS is installed, perform following to enter RIS calibration values:
   a. Enter diagnostics [3-13].
   b. Use number keys to enter Gain value that was previously recorded.
   c. Press **START** button to load value. display flashes value when it is correctly loaded.
   d. Press **Stop** button once to prepare for next entry.
   e. Enter [14].
   f. Use number keys to enter Offset value that was previously recorded.
   g. Press **START** button to load value. Display flashes value when it is correctly loaded.
   h. Press Stop button 5 times to exit diagnostics.

REP 6.2 Exposure Lamp

Parts List on PL 2.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Disconnect Printer Cable. Switch off machine power and disconnect machine Power Cord.

1. Remove ADF (REP 5.1).
2. Remove Top Cover (REP 14.1).
3. Remove CVT Glass and Registration mount (REP 6.4).
4. Remove Document Glass (REP 6.5).
5. Prepare to remove Exposure Lamp Carriage (Figure 1).

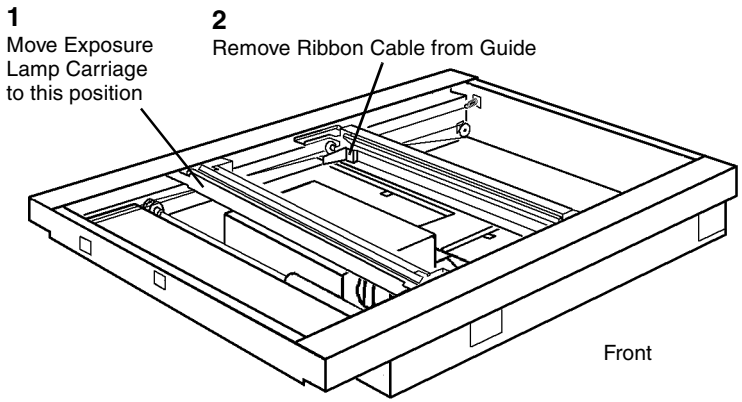

Figure 1 Preparing to Remove Exposure Lamp Carriage

6. Remove cables from Exposure Lamp Carriage (Figure 2).

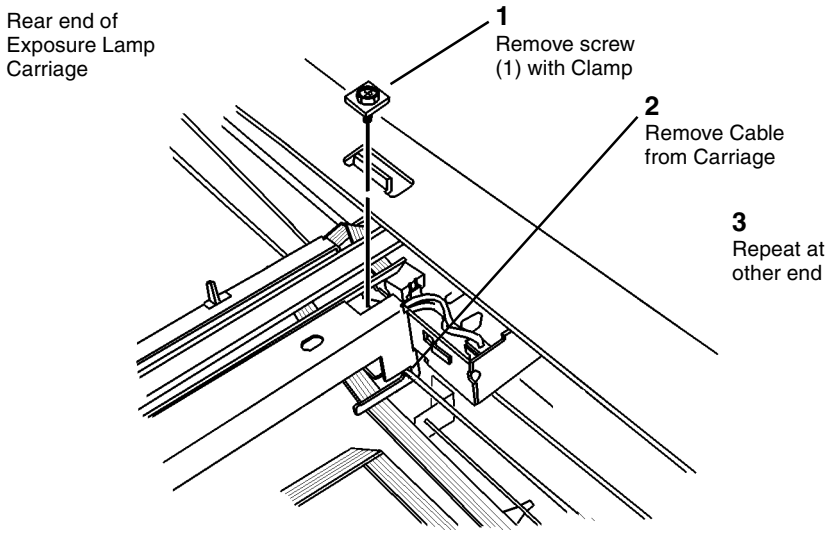

Figure 2 Removing Cables from Exposure Lamp Carriage

7. Rotate Exposure Lamp Carriage and remove it from within RIS (Figure 3).

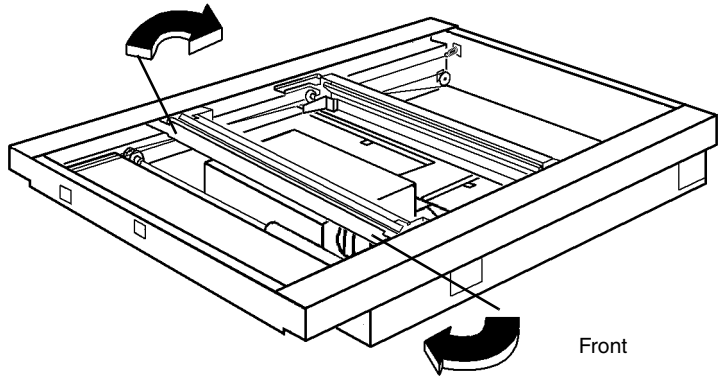

Figure 3 Rotating Carriage

8. Remove Exposure Lamp from Exposure Lamp Carriage (Figure 4).

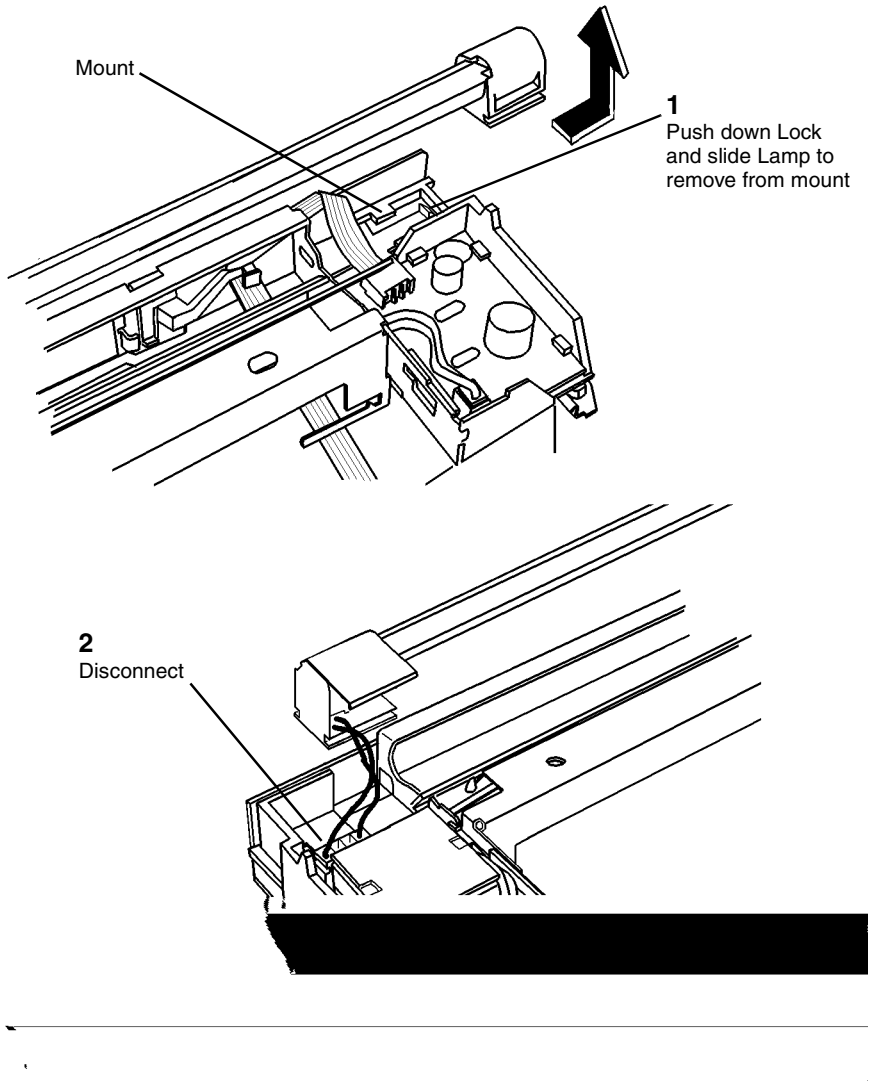

Figure 4 Removing Lamp from Carriage

Replacement

1. Install Lamp (Figure 5).

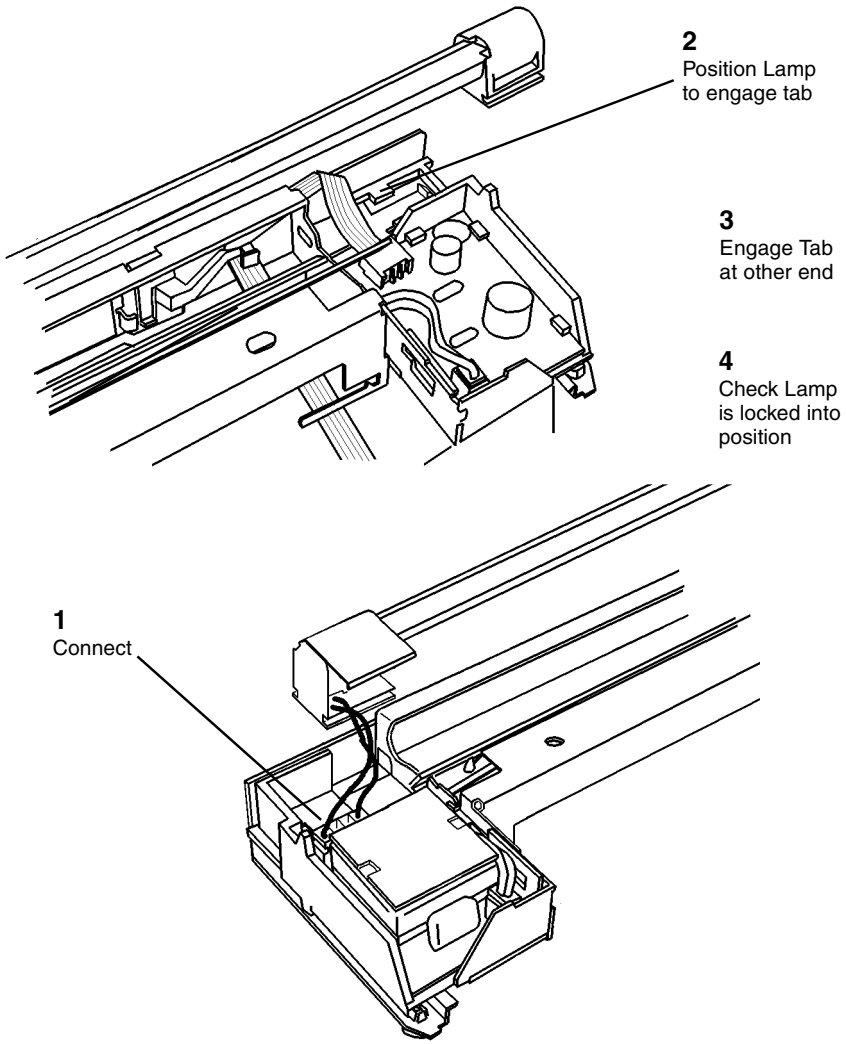

Figure 5 Installing Lamp

2. Reinstall Carriage in RIS.
3. Install Cable Clamps (Figure 6).

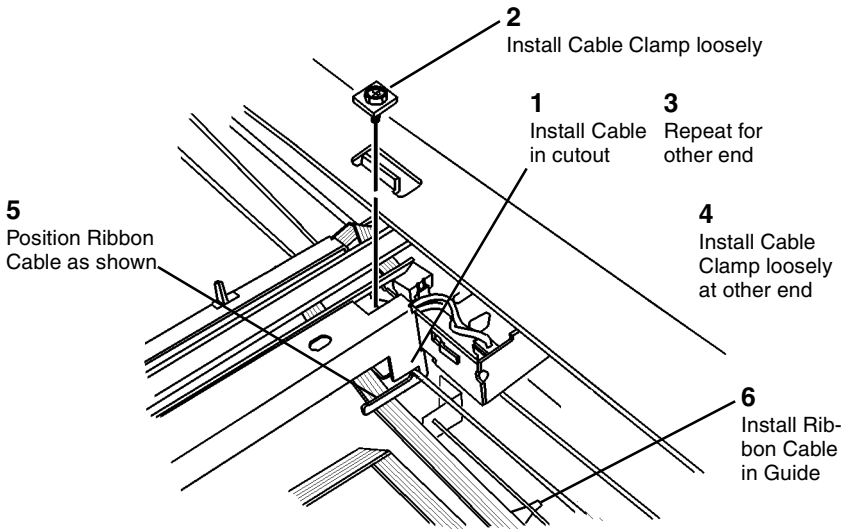

Figure 6 Installing Front Cable Clamp

4. Move both carriages to right end of RIS while checking Ribbon Cable
5. Adjust Carriages (ADJ 6.1).

CAUTION

Do not use a brush attachment on vacuum cleaner. Brush may contaminate mirrors. Use a crevice attachment to reach corners.

6. Clean and vacuum entire area inside RIS. Refer to GP 9 R in Section 6.
7. Install CVT Glass and Registration mount (REP 6.4).
8. Install Document Glass (REP 6.5).
9. Install Top Cover (REP 14.1).
10. Install Document Cover (REP 14.4).
11. Reconnect machine Power Cord and switch on machine power.

REP 6.3 ROS Module

Parts List on PL 1.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

WARNING

Use of controls or adjustments other than those specified in this documentation may result in an exposure to dangerous laser radiation. This product is certified to comply with Laser Product Performance Standards set by US Department of Health and Human Services as a Class 1 product. This means that it is a laser product that does not emit laser radiation during any mode of customer operation. During servicing, laser beam could cause eye damage if looked at directly. Service procedures must be followed exactly as written.

The laser warning symbol is repeated in specific service procedures where laser light exposure is possible.

Figure 1 Laser Warning

CAUTION

The Main PWB can be damaged by an electrostatic discharge. Observe all ESD procedures to avoid component damage refer to GP 5 ESD Hookup Procedure (in Section 6).

1. Remove ADF (REP 5.1).
2. Open Door Module.
3. Open Front Door.
4. Remove CVT Glass (REP 6.4).
5. Remove Top Cover (REP 14.1).
6. Remove Document Glass (REP 6.5).
7. Remove RIS Module (REP 6.1).

CAUTION

Harness must pass through electro magnetic emission clip during reinstallation to prevent possible malfunction of customer electronic equipment.

8. Remove ROS harness from electro magnetic emission clip (Figure 2).
   a. Release Lock and open Electro Magnetic Emission Clip.
   b. Disconnect Plug.
   c. Remove wire harness from Electro Magnetic Emission Clip and then close Electro Magnetic Emission Clip.

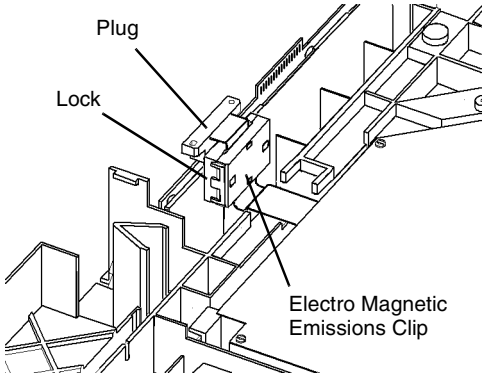

Figure 2 Removing ROS Harness from Clip

9. Remove ROS Module (Figure 3).

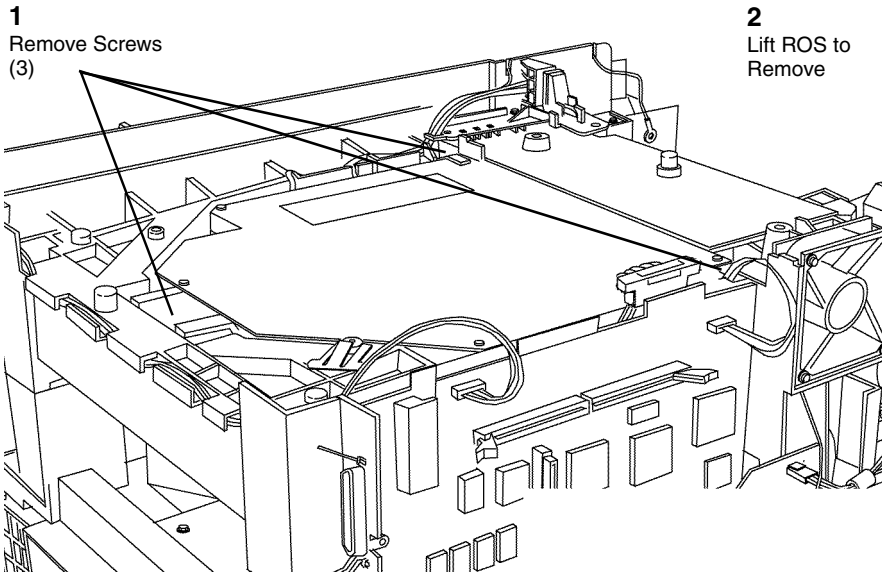

Figure 3 Removing ROS Module

Replacement

CAUTION

Harness must pass through electro magnetic emission clip to prevent possible malfunction of other customer electronic equipment (Figure 4).

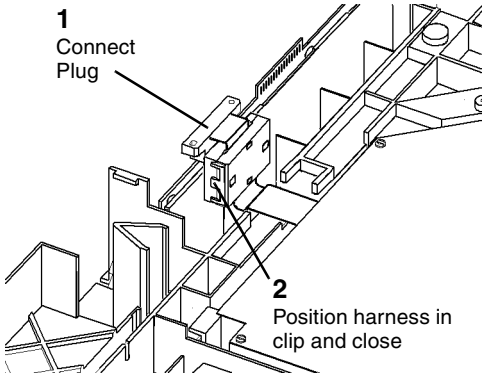

Figure 4 Installing ROS Harness in Clip

Installation

1 Make installation in revese order of the removal.

REP 6.4 CVT Glass and Registration Edge

Parts List on PL 2.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Switch off the machine power and disconnect the machine Power Cord.
2. **Document Cover equipped only:** Remove the Document Cover (REP 14.4).
   ADF euipped only: Remove the ADF (REP 5.1)

CAUTION

Image Quality defects occur if the White and Black Calibration Strip located under the Registration Edge has fingerprints, dirt smudges, or other contamination. Ensure that the Calibration Strip is clean.

3. Remove the Top Cover (REP 14.1).

CAUTION

The CVT Glass is not attached to the Registration Edge. Picking up the Registration Edge without removing the CVT Glass first may cause the CVT Glass to fall and break.

NOTE: *When Removing the CVT glass, place a sheet of paper under the CVT glass to capture any paper dust that is caught between the CVT glass and the registration edge.*

4. Remove the CVT Glass and store it in a safe place (Figure 1).
5. Remove the Registration Edge.

   NOTE: *The White and Black Calibration Strip is located on the underside of the Registration Edge.*

6. Ensure That the CVT Glass and the White and Black Calibration Strip are clean.

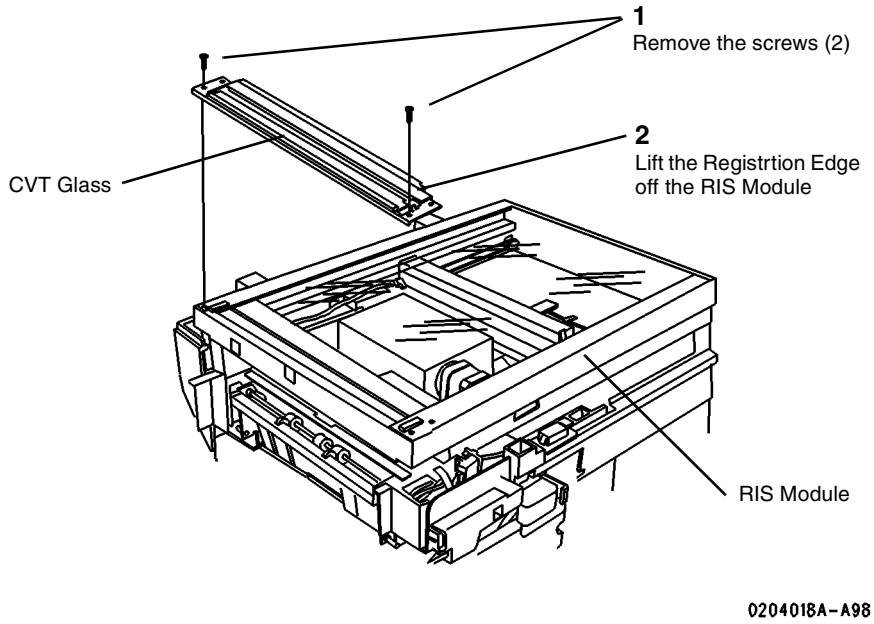

Figure 1 Removing the CVT Glass and the Registration Edge

Replacement

NOTE: *Operation without the Registration Edge installed results in a U2 status code.*

1. Clean and vacuum the inside area of the RIS Module. Perform GP 9 RIS/Mirrors Cleaning. Mirrors Cleaning.
2. Install the Registration Edge (Figure 1).

   NOTE: *Be sure to locate the 2 locating holes in the Registration Edge metal frame and place them directly over the 2 locating pins in the RIS frame.*

   a. Hold down the rear of the Registration Edge onto the locating pin and install the screw and tighten.
   b. Hold down the front end of the Registration Edge onto the locating pin and install the screw and tighten.
   c. Install the Document Glass if you removed it while servicing the machine.
3. Install the CVT Glass (Figure 2, and Figure 3).

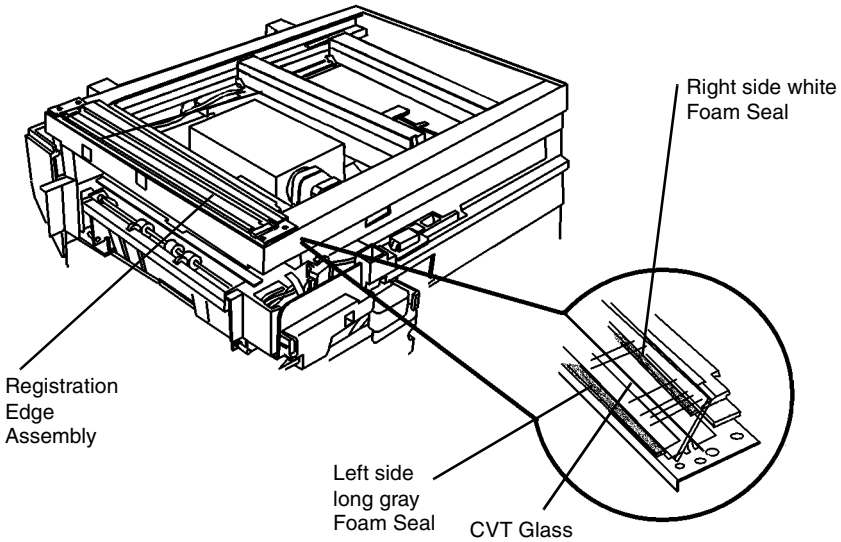

Figure 2 Installing the CVT Glass

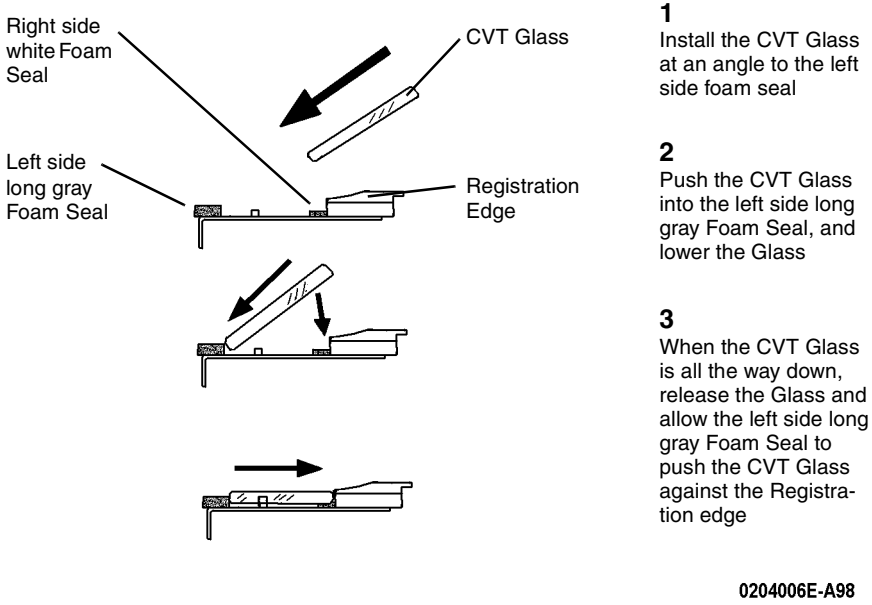

Figure 3 Installing the CVT Glass

NOTE: *When replacing the CVT glass, be sure that the glass is biased against the long grey foam on the left side of the Registration Edge assembly.*

If the thin strip of white foam, on the right side of the Registration Edge assembly, is not in contact with the CVT Glass for the full length of the registration edge, replace the Registration Edge PL 2.1

4. Install the Top Cover (REP 14.1).
5. Reconnect the Document Cover (REP 14.4) or the ADF (REP 5.1).
6. Reconnect the machine Power Cord and restore the machine power.

REP 6.5 Document Glass

Parts List on PL 1.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Disconnect Printer Cable. Switch off machine power and disconnect machine Power Cord.

1. Remove ADF (REP 5.1).
2. Remove Top Cover (REP 14.1).
3. Lift Document Glass away from RIS Module

Replacement

CAUTION

Do not use a brush attachment on vacuum cleaner. Brush may contaminate mirrors. Use a crevice attachment to reach corners.

1. Clean and vacuum entire area inside RIS. Refer to GP 9 R in Section 6.
2. Check that Document glass is clean and install it.
3. Install Top Cover (REP 14.1).
4. Install ADF (REP 5.1).
5. Reconnect machine Power Cord and switch on machine power.

REP 6.6 CCD Cleaning

Clean

WARNING

Inadvertent operation could cause machine damage or personal injury. Disconnect Printer Cable. Switch off machine power and disconnect machine Power Cord.

CAUTION

Do not perform this procedure unless directed to do so from Image Quality RAPs.

1. Remove ADF (REP 5.1).
2. Remove Top Cover (REP 14.1).
3. Remove CVT Glass and Registration mount (REP 6.4).
4. Remove Document Glass (REP 6.5).
5. Remove CCD cover (Figure 1).

NOTE: *Do not vacuum RIS with CCD cover removed.*

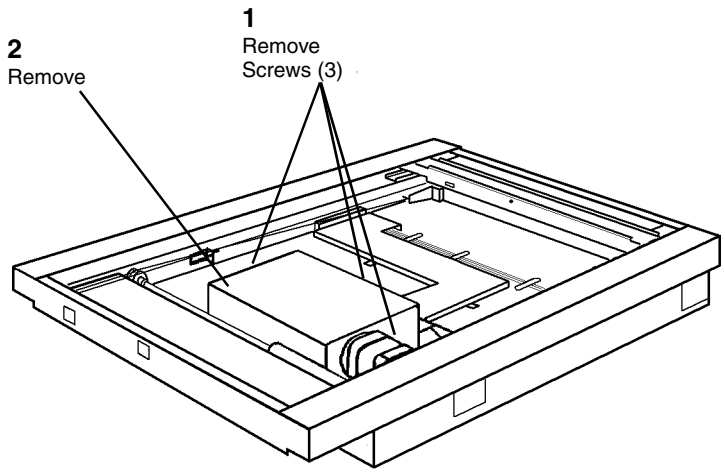

Figure 1 Removing CCD Cover

6. With a cotton swab, Lens and Mirror Cleaner and a lint free cloth remove any haze, dust, or lint from CCD and lens.

   Any amount of contamination on CCD or lens will cause image quality problems (Figure 2).

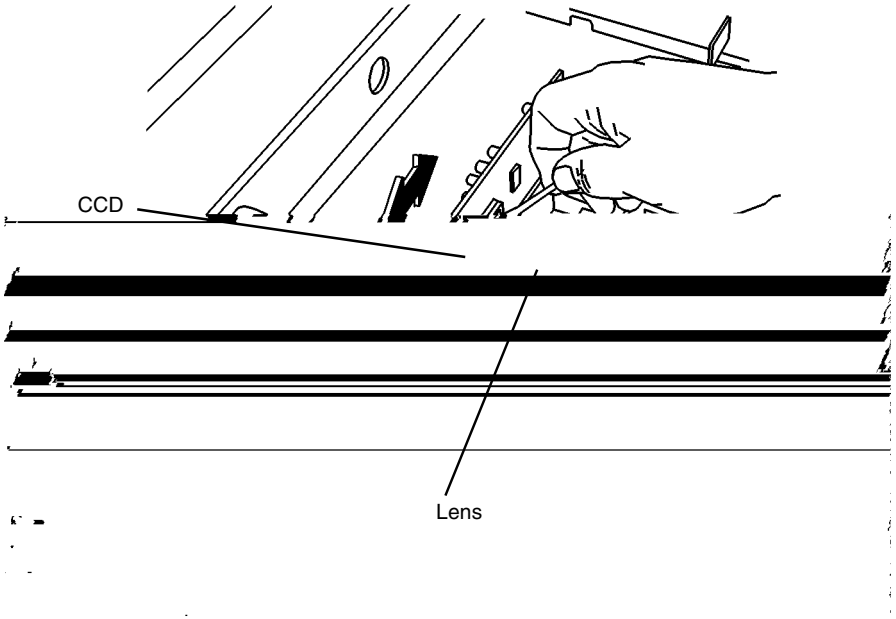

Figure 2 Cleaning CCD front glass

7. Reassemble in reverse order.

CAUTION

Check that surface of CCD and lens is clean. Image Quality problems will result if CCD is not clean.

CAUTION

Do not remove or loosen any screws in CCD area.

REP 6.7 Exposure Lamp Power Supply

Parts List on PL 2.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Disconnect Printer Cable. Switch off machine power and disconnect machine Power Cord.

1. Remove ADF (REP 5.1).
2. Remove Top Cover (REP 14.1).
3. Remove CVT Glass and Registration mount (REP 6.4).
4. Remove Document Glass (REP 6.5).
5. Remove the Exposure Lamp (REP 6.2).
6. Remove Exposure Lamp Power Supply (Figure 1).

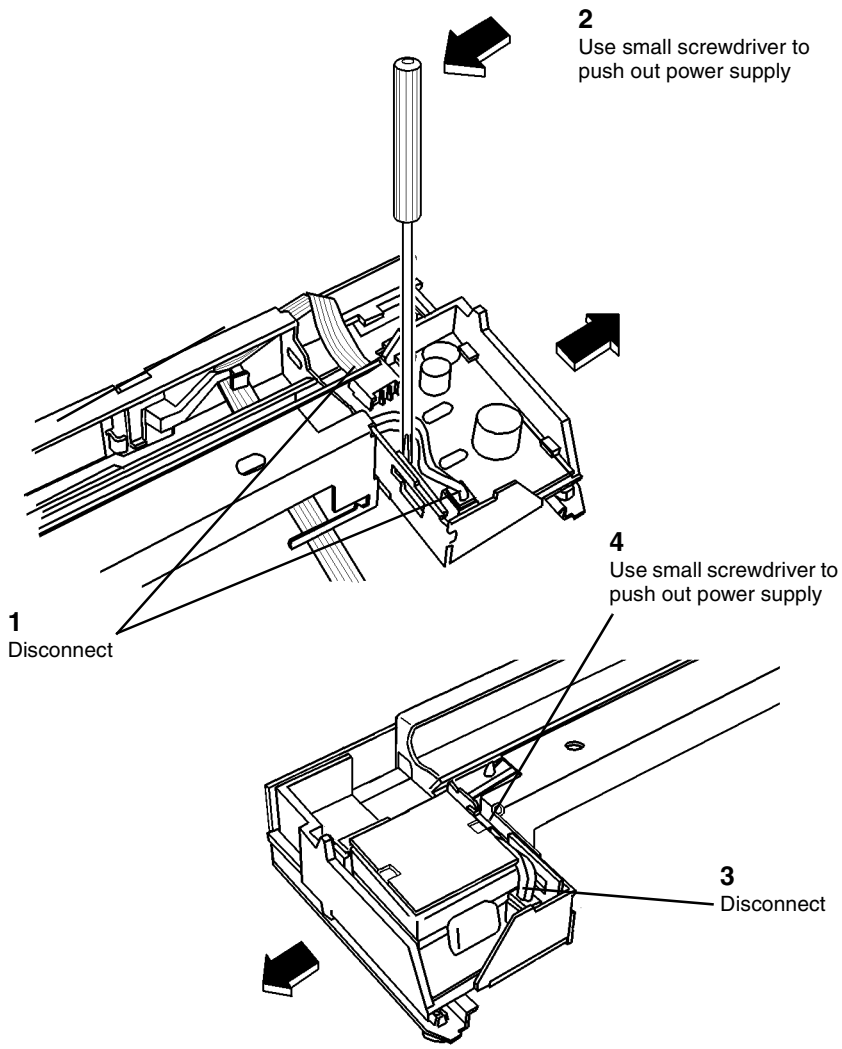

Figure 1 Removing Exposure Lamp Power Supply

Replacement

1. Install Exposure Lamp Power Supply.

CAUTION

Do not use a brush attachment on vacuum cleaner. Brush may contaminate mirrors. Use a crevice attachment to reach corners.

2. Clean and vacuum entire area inside RIS. Refer to GP 9 R in Section 6.
3. Install Document Glass (REP 6.5).
4. Install CVT Glass and Registration mount (REP 6.4).
5. Install Top Cover (REP 14.1).
6. Install Document Cover (REP 14.4).
7. Reconnect machine Power Cord and switch on machine power.

REP 8.1 Door Module

Parts List on PL 6.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove Rear Cover (REP 14.2).
2. Open Door Module and disconnect P/J's (3).

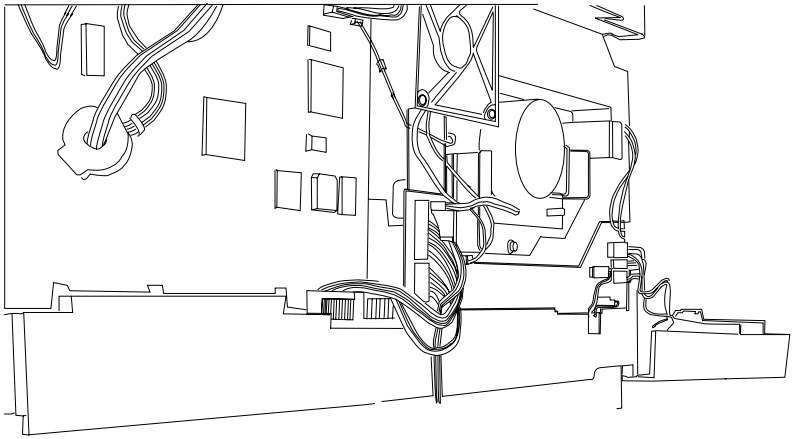

Figure 1 Disconnecting P/J's

3. Support Door Module while disconnecting Tethers (Figure 2).

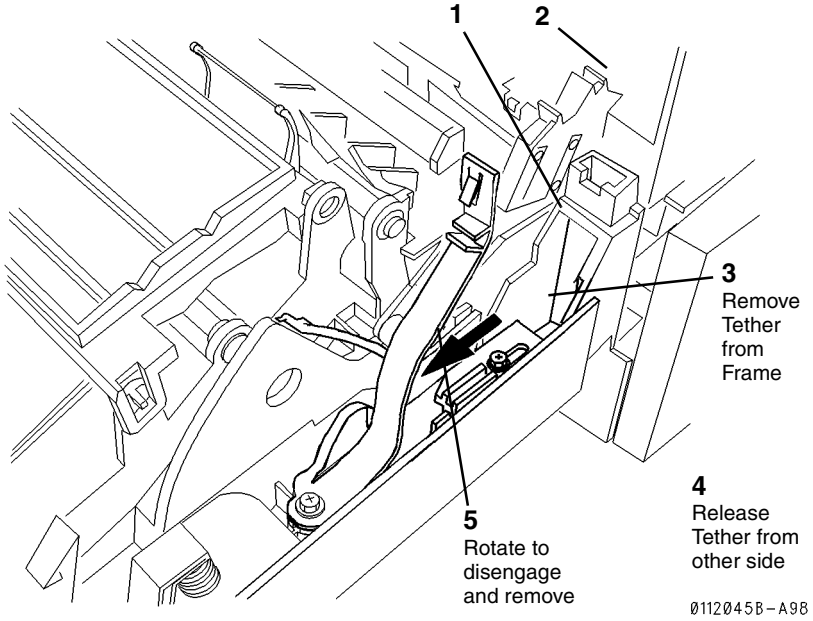

Figure 2 Disconnecting Tethers

4. Remove Door Module (Figure 3).

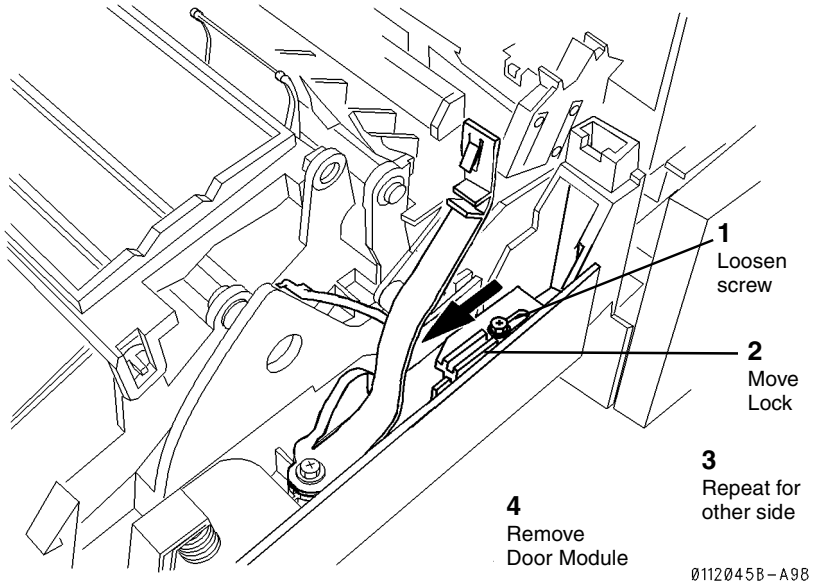

Figure 3 Removing Door Module

REP 8.2 Registration Assembly

Parts List on PL 5.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove Rear Cover (REP 14.2).
2. Disconnect Plugs (Figure 1).

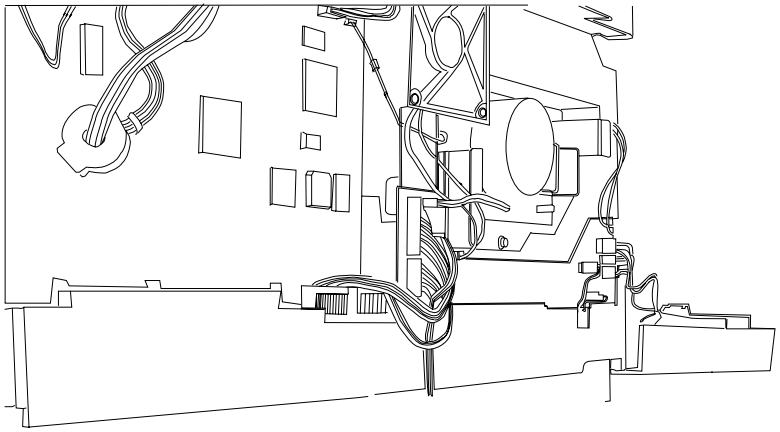

Figure 1 Disconnecting Plugs

3. Open Door Module.
4. Disconnect Tether (Figure 2).

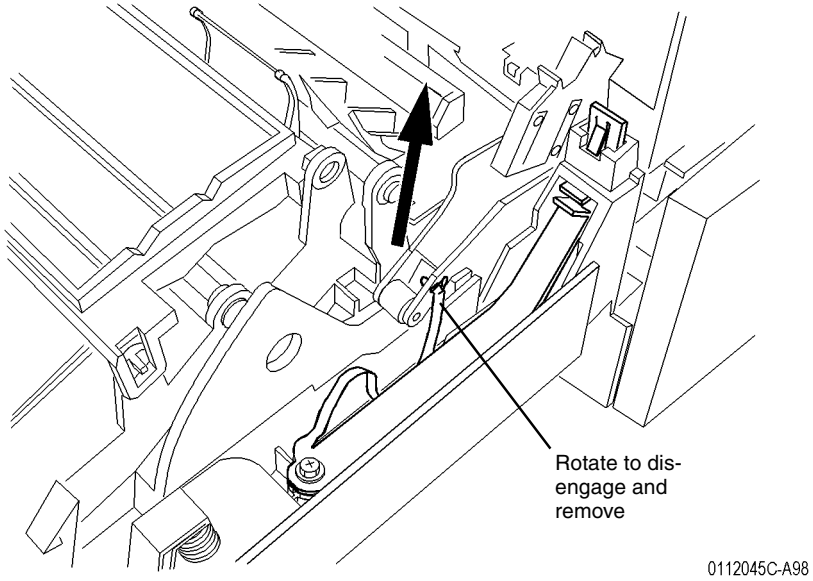

Figure 2 Disconnecting Tether

5. Remove Transfer Detack Corotron (REP 9.2).
6. Remove Registration Assembly (Figure 3).
   a. Push Lock to release Hinge Pin and lift front. Then remove Registration Assembly while feeding wires through hole.

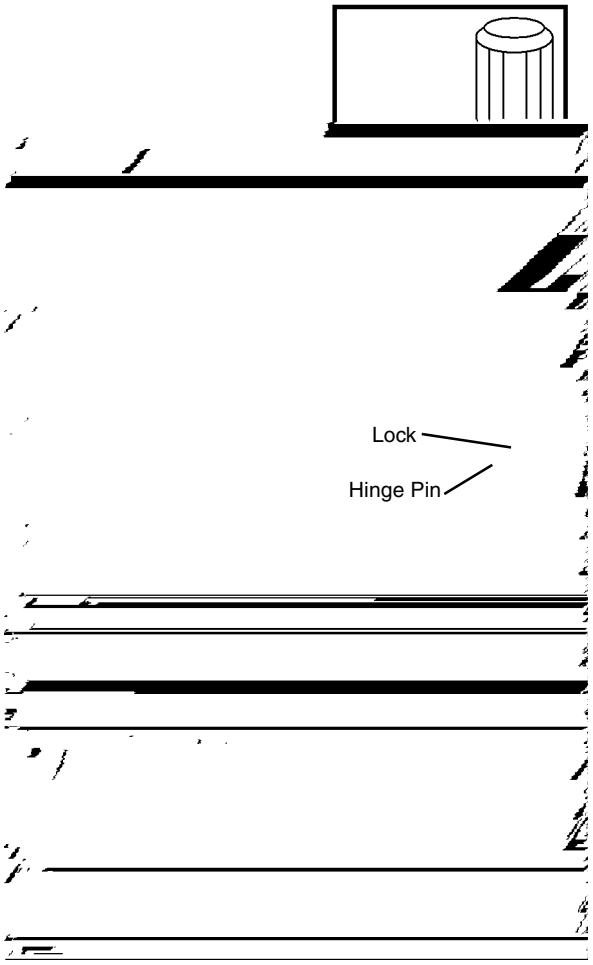

Figure 3 Removing Registration Assembly

REP 8.3 Registration Sensor

Parts List on PL 5.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove Screws (2) and Rear Cover (REP 14.2).
2. Disconnect Plugs (Figure 1).

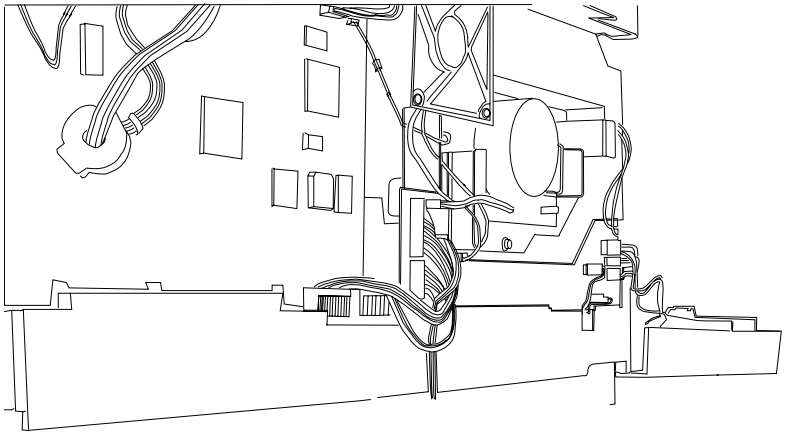

Figure 1 Disconnecting Plugs

3. Open Door Module.
4. Remove Registration Assembly (REP 8.2).

CAUTION

Actuator damage may result from careless sensor removal.

5. Remove Registration Sensor (Figure 2).
   a. Pry up Lock to remove Lock.
   b. Push Tabs down.
   c. Remove sensor while checking that Actuator remains undamaged.
   d. Disconnect Plug.

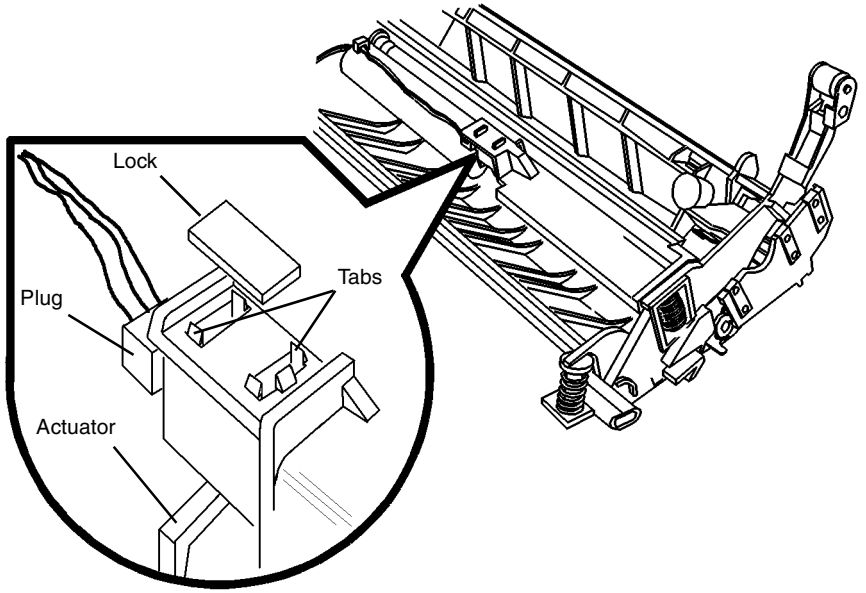

Figure 2 Removing Registration Sensor

REP 8.5 Registration Clutch

Parts List on PL 5.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove Screws (2) and Rear Cover (REP 14.2).
2. Disconnect Plugs (Figure 1).

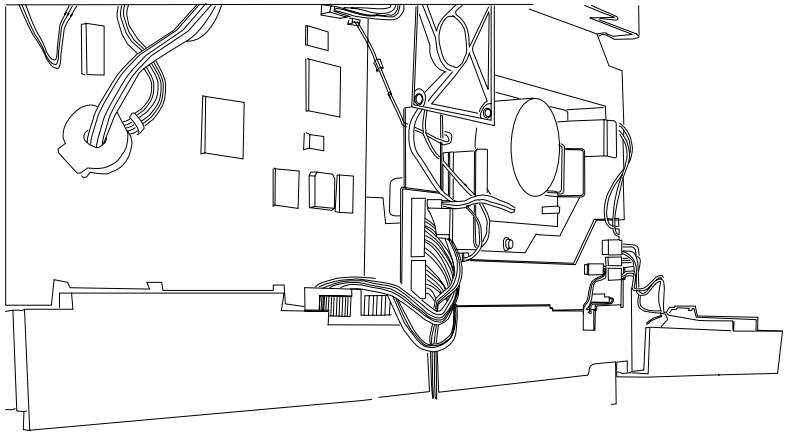

Figure 1 Disconnecting Plugs

3. Open Door Module.
4. Remove Registration Assembly (REP 8.2).
5. Remove Registration Clutch (Figure 2).

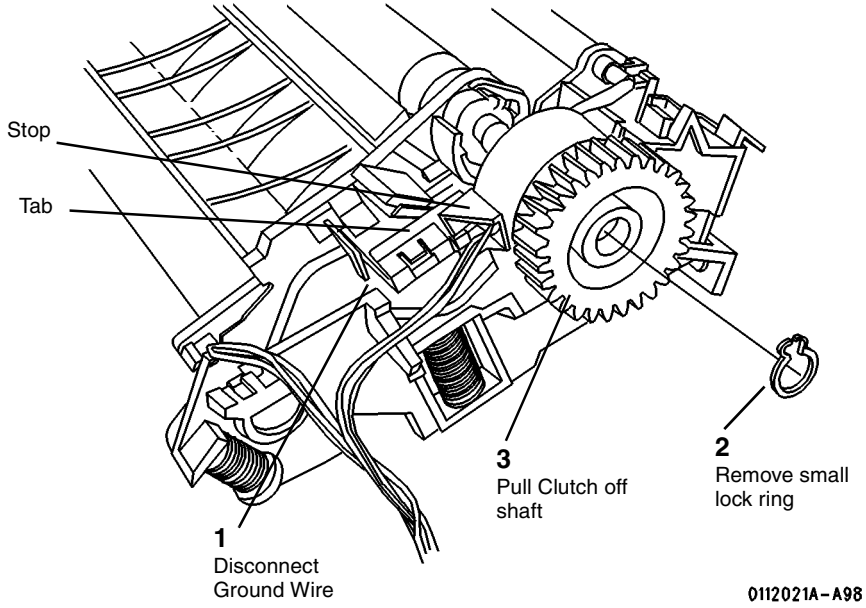

Figure 2 Removing Registration Clutch

Replacement

1. Install clutch (Figure 2).
   a. Engage Stop with Tab.
   b. Install lock ring.
   c. Connect Ground Wire.
2. Install Registration Assembly (REP 8.2).
3. Close Door Module.
4. Reconnect machine power Cord and switch on machine.

7. Remove Registration Roll (Figure 3).
   a. Remove Spring.
   b. Press Anti-rotation Tab with a small screwdriver so it can be moved past Stop and rotate bearing counterclockwise until Lock is visible.
   c. Pull bearing out to remove it.
   d. Optional step: Remove bearing at other end of Registration Roll same way as in step b.
   e. Remove end of Registration Roll from frame and pull Registration Roll out of bearing at other end. Manually rotate shaft while removing it to assist removal.

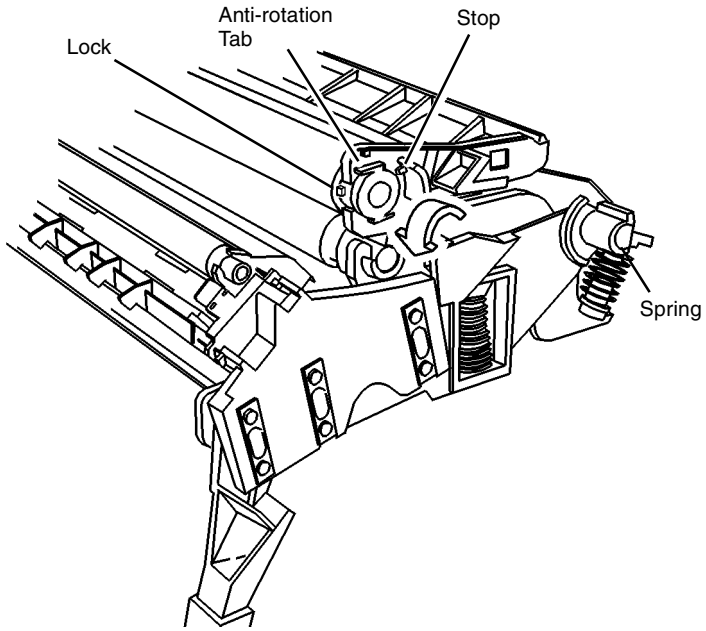

Figure 3 Removing Registration Roll

Replacement

NOTE: *The bearing is equipped with two Anti-rotation Tabs. If one breaks during removal, install bearing so other tab is employed.*

NOTE: *Check that ground spring is pressing against Bronze bushing after installing it.*

REP 8.7 Output Tray

Parts List on PL 6.3

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove Output Tray (Figure 1).

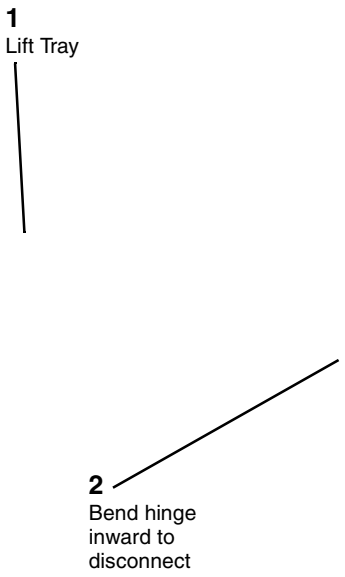

Figure 1 Removing Output Tray

REP 8.8 Bypass Tray

Parts List on PL 6.3

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Open Door Module.
2. Remove Door Module (REP 8.1).
3. Remove components (Figure 1).

NOTE: *Steps 3 and 4 are optional. These steps enable easier disassembly and reassembly.*

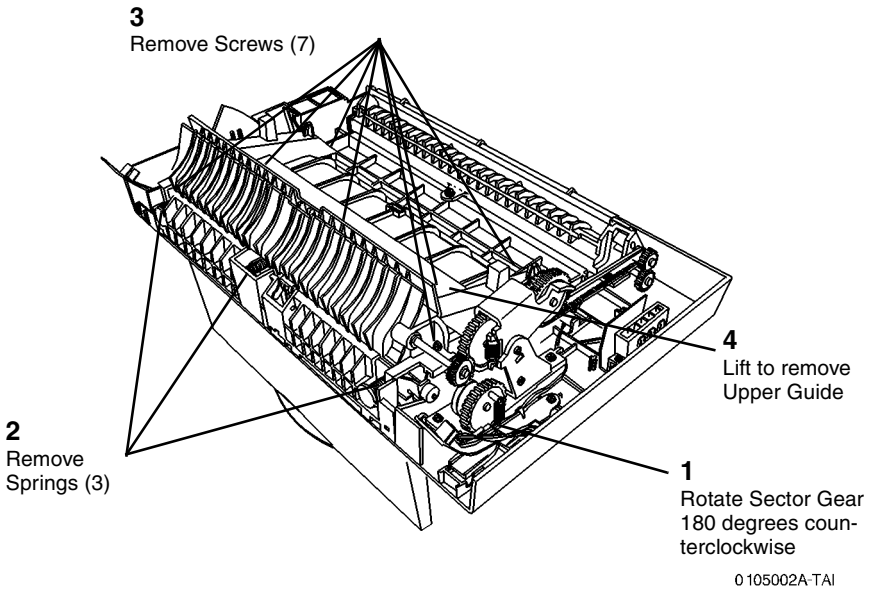

Figure 1 Removing components

4. Remove Lower Guide (7), (Figure 2).

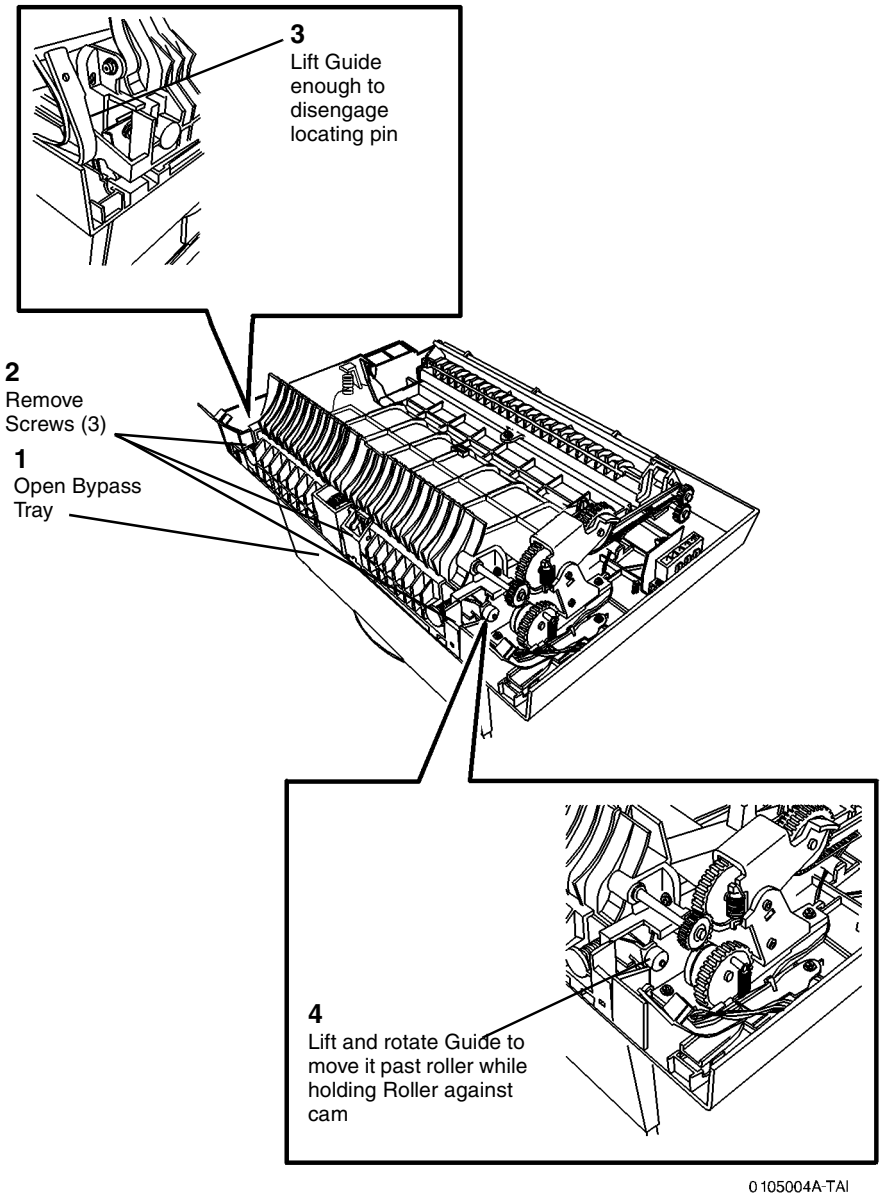

Figure 2 Removing Lower Guide

5. Remove Bypass Tray (Figure 3).
   a. Close Bypass Tray so that it can be removed in direction shown.
   b. Bend frame so Bypass Tray can be removed.

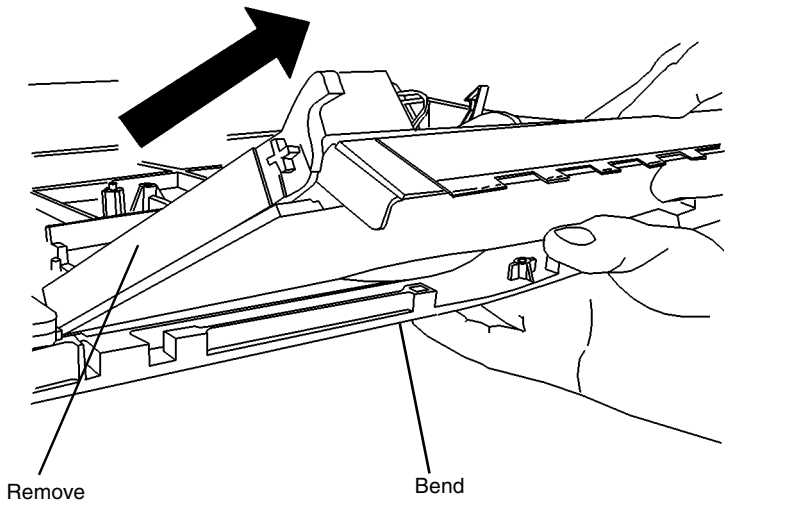

Figure 3 Removing Bypass Tray

Replacement

1. Install Bypass Tray in Door Module (Figure 4).

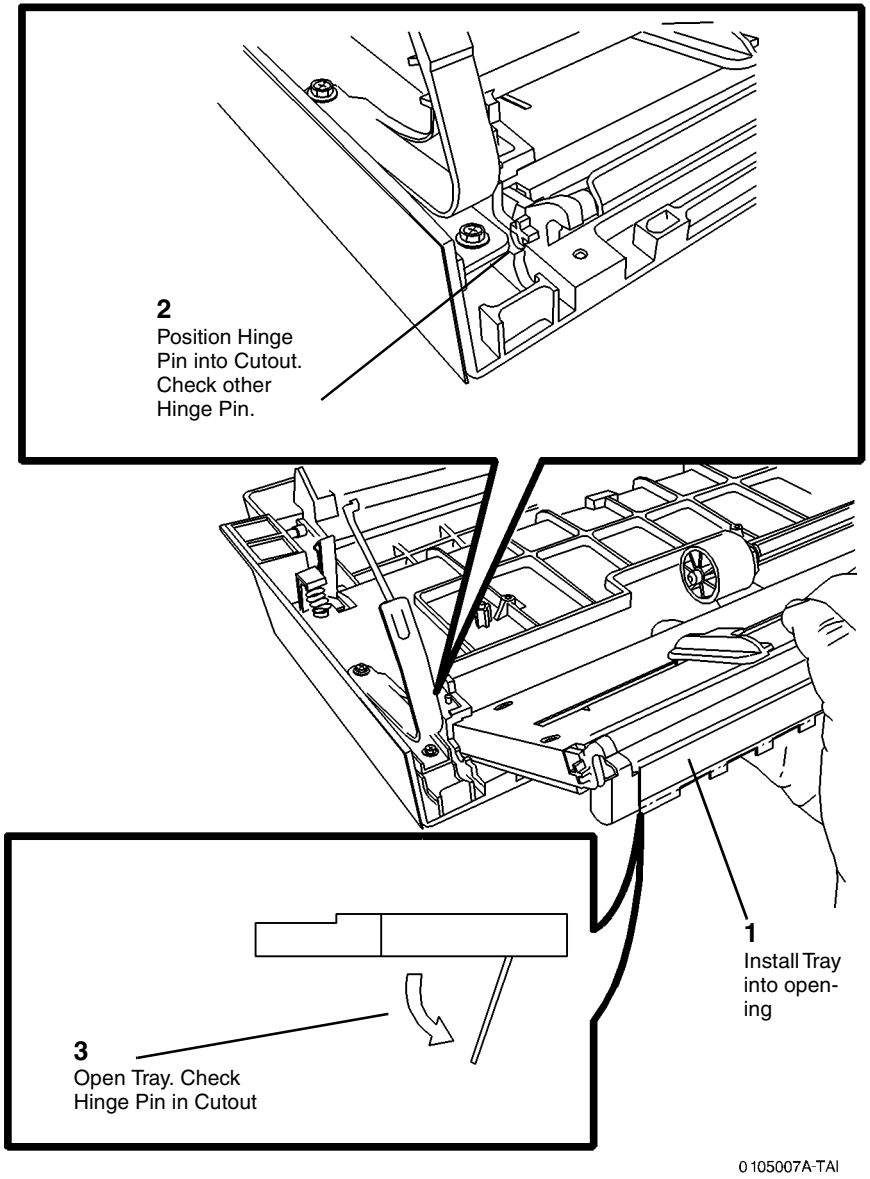

Figure 4 Installing Bypass Tray

2. Position Paper Stop and Bypass Retard Pad as shown during reassembly in step 2 to avoid C3 jams (Figure 5).

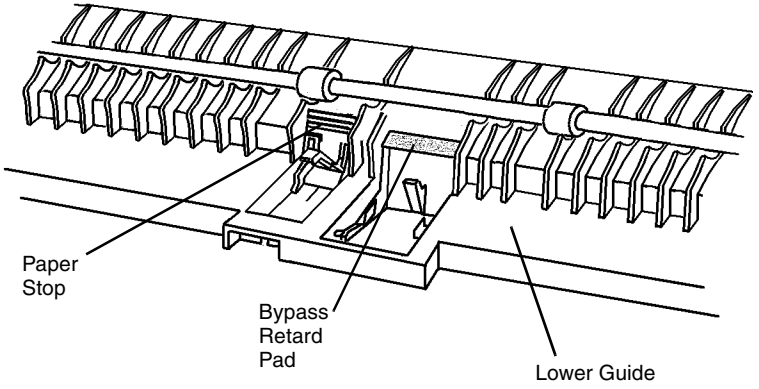

Figure 5 Positioning Paper Stop

3. Install Lower Guide (Figure 6).
   a. Position Lower Guide against Door Flange as shown.
   b. Hold Retard Pad and Paper Stop in position shown (refer to step 2 required).
   c. Rotate lower guide so Hole engages Pin on Door Module.

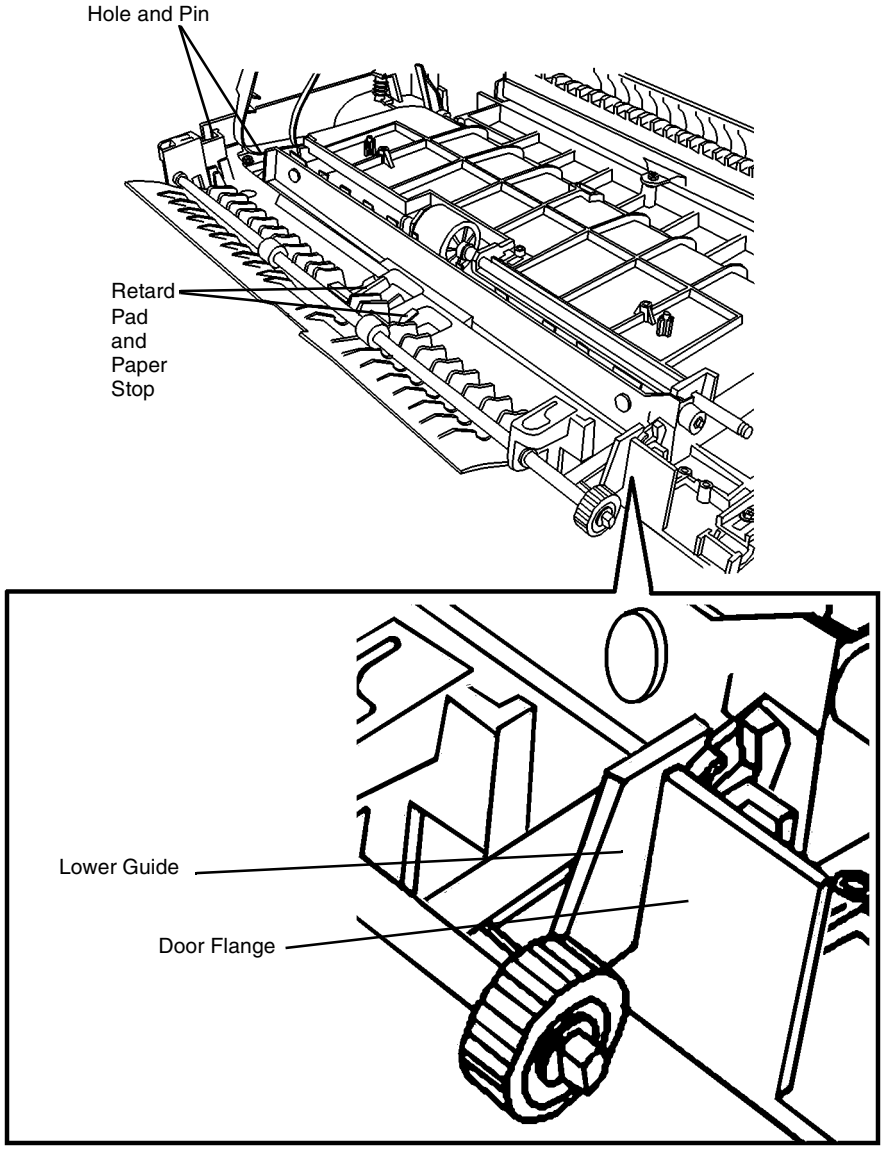

Figure 6 Installing Lower Guide

4. Install lower guide screws (3), springs (3), upper guide, screws (7) (Figure 7).

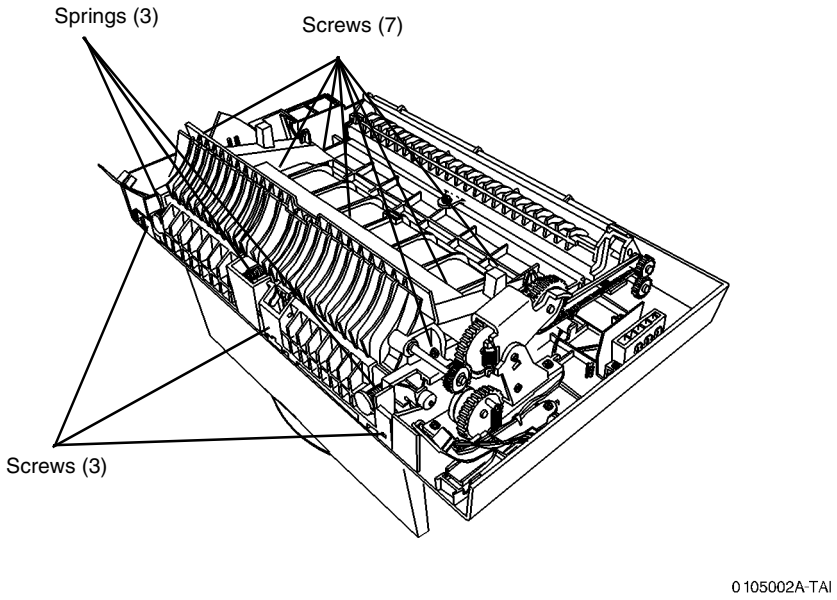

Figure 7 Installing Lower and Upper Guides

5. Install Door Module (REP 8.1).
6. Reconnect machine power Cord and switch on machine.

REP 8.9A Tray 2 Module with 1 Service Persons

Parts List on PL 4.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove ADF (REP 5.1).
2. Remove Drum cartridge (REP 9.1).
3. Remove Top Cover (REP 14.1).
4. Remove CVT Glass (REP 6.4).
5. Remove Document Glass (REP 6.5).
6. Remove RIS Module (REP 6.1).
7. Remove Fuser Module (REP 10.1).
8. Remove ROS Module (REP 6.3).
9. Remove machine from Tray 2 Module.
   a. Remove Tray 1 (REP 8.10).
   b. Remove screw from frame at each corner of machine.
   c. Remove Rear Cover (REP 14.2).
   d. Remove screw from frame at each corner of machine.
   e. Lift machine off of Tray 2 Module.
   f. If Tray 2 Module is secured to a wheeled stand, go to 9.
10. Remove Tray 2 Module from Stand.
    a. Open front door of stand and remove hardware that secures Tray 2 to stand.

Replacement

NOTE: *Manually push in screws (4) that secure machine to Tray 2 Module.*

REP 8.9B Tray 2 Module with 2 Service Person

Parts List on PL 4.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove machine from Tray 2 Module.
   a. Pull out Tray 1 to access screws.
   b. Remove screw from frame at each corner of Tray 1.
   c. Remove Rear Cover (REP 14.2).
   d. Remove screw from frame at each corner of machine.
   e. Lift machine off of Tray 2 Module.
   f. If Tray 2 Module is secured to a wheeled stand, go to 2.
2. Remove screws (4) at corners to remove Tray 2 Module from Stand.

Replacement

NOTE: *Manually push in screws (4) that secure machine to Tray 2 Module.*

REP 8.10 Tray 1 or Tray 2

Parts List on PL 4.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Switch off copier and disconnect machine Power Cord.
2. Pull out, lift, and pull out to remove Tray 1 or Tray 2 (Figure 1).

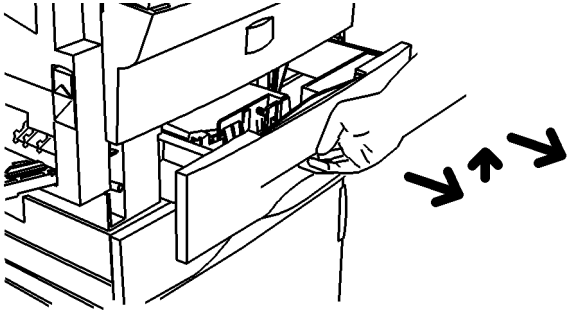

Figure 1 Tray 1 / Tray 2 Removal

REP 8.11 Bypass Feed Roll

Parts List on PL 6.3

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove Bypass Feed Roll (Figure 1).

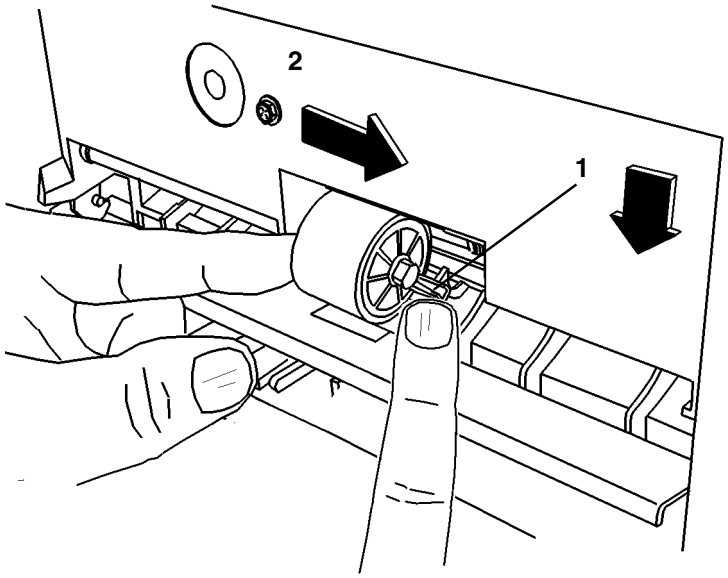

Figure 1 Removing Bypass Feed Roll

REP 8.12 Bypass Retard Pad

Parts List on PL 6.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Open Door Module.
2. Remove Door Module (REP 8.1).
3. Remove components (Figure 1).

NOTE: *Steps 3 and 4 are optional. These steps enable easier disassembly and reassembly.*

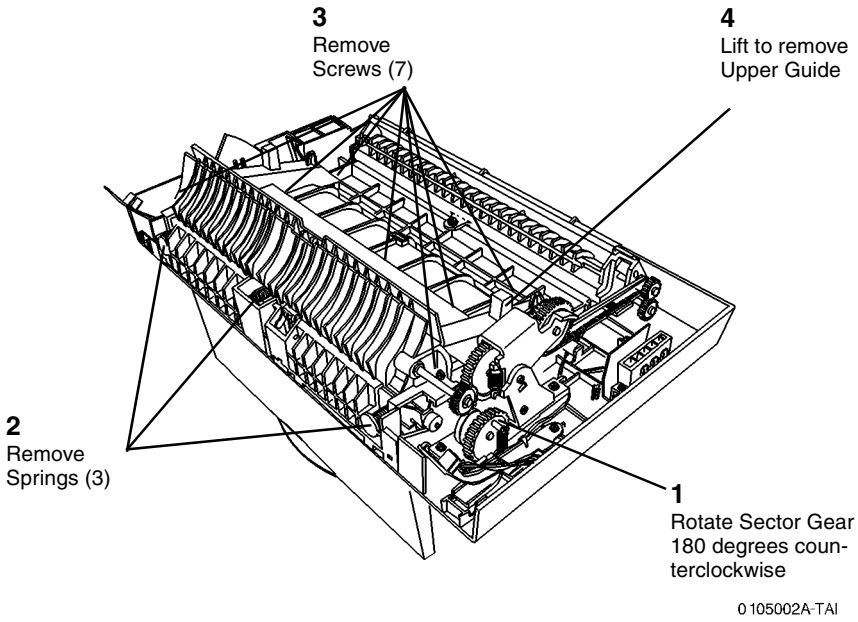

Figure 1 Removing components

4. Remove Screws (3) and Lower Guide (7), (Figure 2).

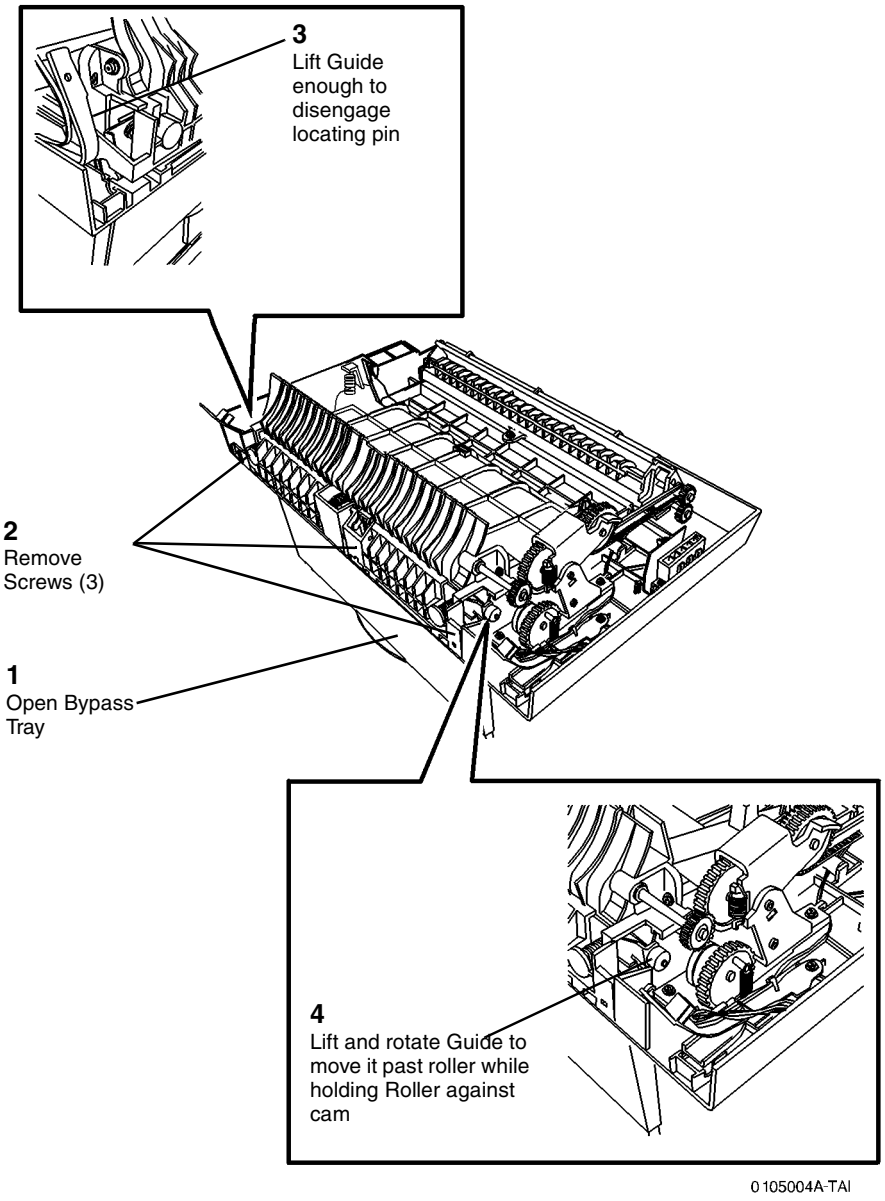

Figure 2 Removing Lower Guide

5. Squeeze Arms together to remove Bypass Retard Pad (Figure 3).

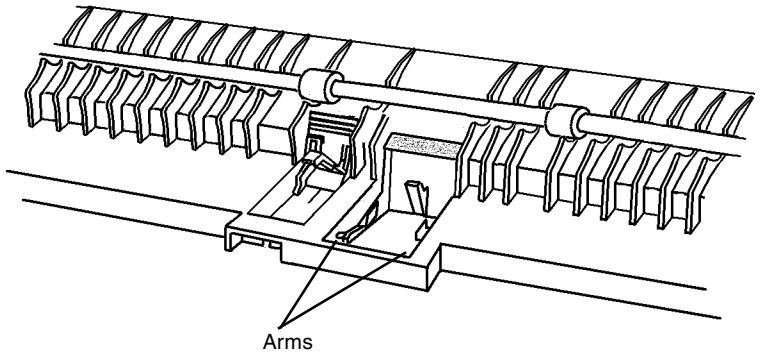

Figure 3 Removing Bypass Retard Pad

Replacement

1. Position Paper Stop and Bypass Retard Pad as shown during reassembly in step 2 to avoid C3 jams (Figure 4).

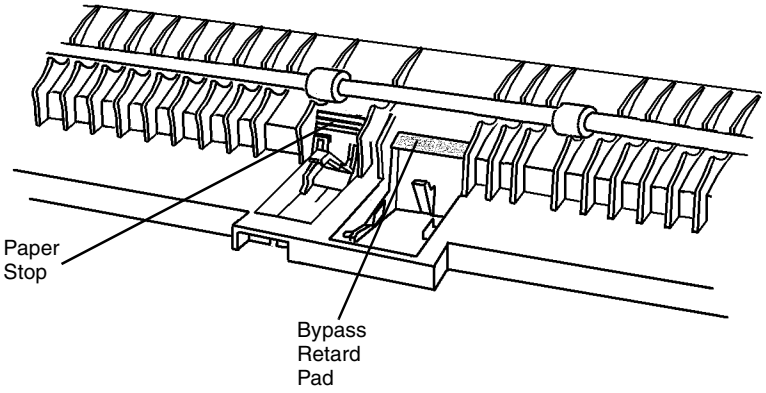

Figure 4 Positioning Paper Stop

2. Install Lower Guide (Figure 5).
   a. Position Lower Guide against Door Flange as shown.
   b. Hold Retard Pad and Paper Stop in position shown (refer to step 1 required).
   c. Rotate lower guide so Hole engages Pin on Door Module.

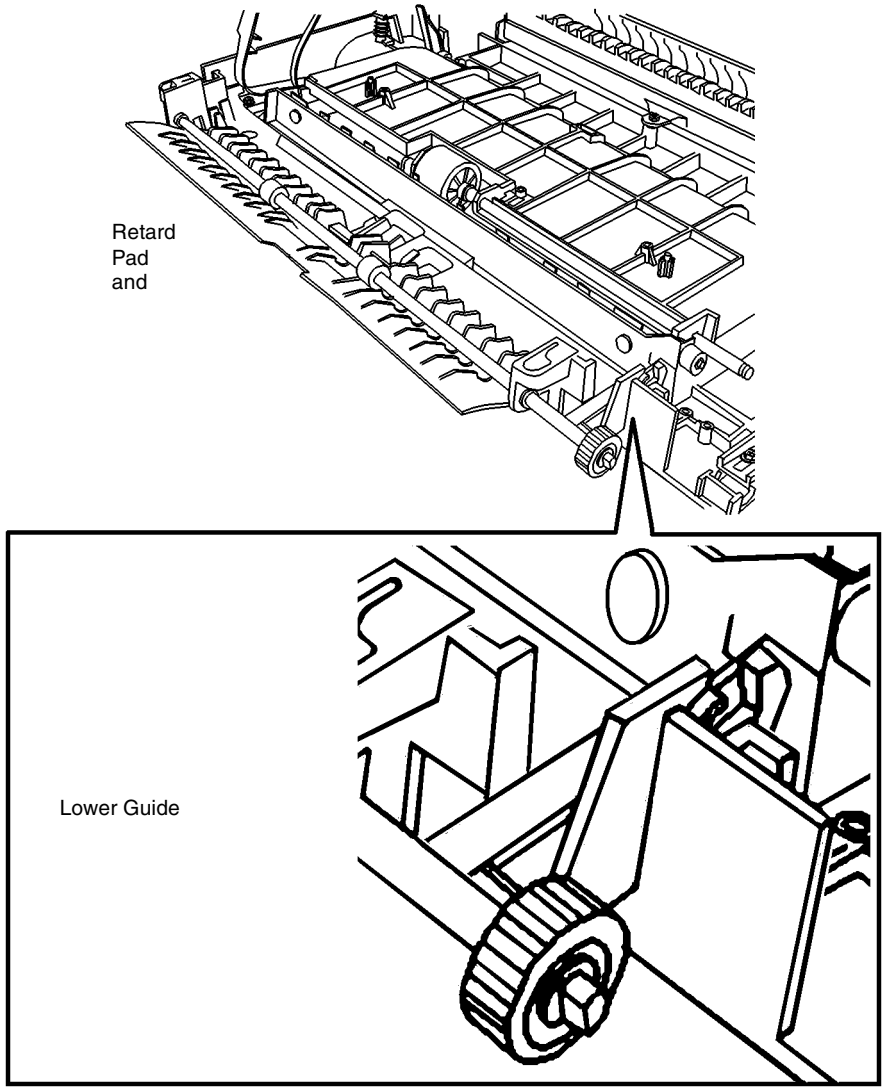

Figure 5 Installing Lower Guide

3. Install lower guide screws (3), springs (3), upper guide, and screws (7) (Figure 6).

Figure 6 Installing Lower and Upper Guides

4. Install Door Module (REP 8.1).
5. Reconnect machine power Cord and switch on machine.

REP 8.14 Takeaway Clutch, Tray 1 or Tray 2

Parts List on PL 4.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

The way of removing Tray 1 or Tray 2 Feed Clutch is the same.

1. Remove Rear Cover and Tray 2 Rear Cover.
2. Disconnect the connector P/J 408 on Tray and Tray 2 PWB separately.
3. Remove the screws (2).
4. Remove the stop of clutch and the clutch.

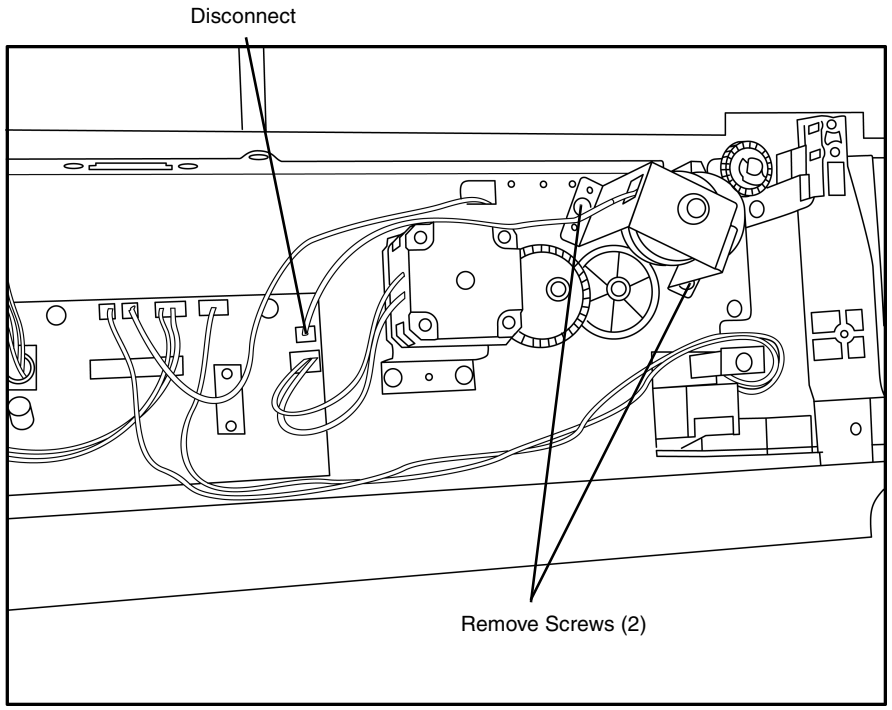

Figure 1 Disconnecting Feed Assembly

Installation

NOTE: *When installing, ensure that the concave of the clutch engages the mount plate.*

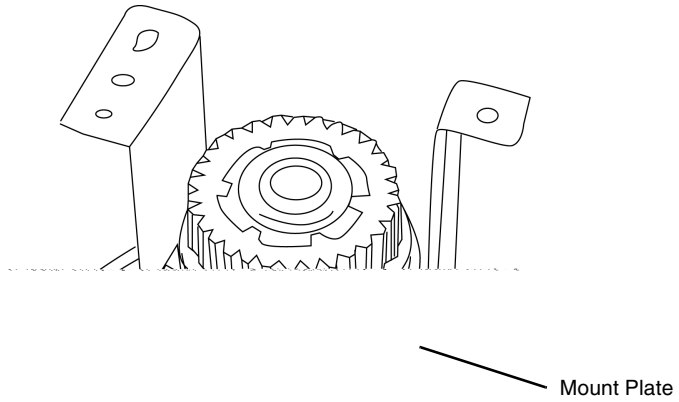

Figure 2 Disconnecting Feed Assembly

1 Operate in reverse order of the removal.

REP 8.15 Feed Roll, Tray 1 or Tray 2

Parts List on PL 4.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove Tray 1 and Tray 2.
2. Remove Feed Roll assembly (Figure 1).
   a. Remove E-ring and bearing.
   b. Remove Feed Roll assembly.

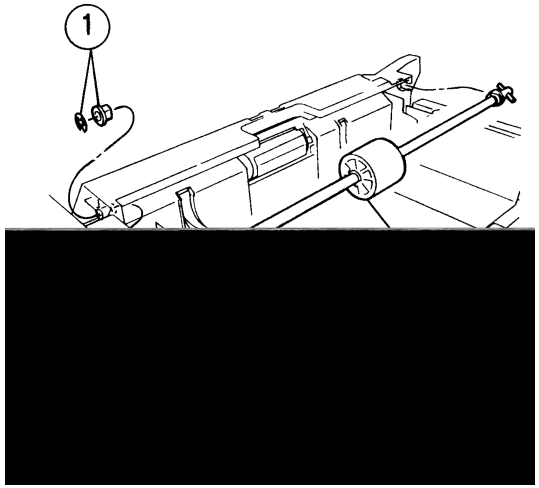

Figure 1 Removing Feed Roll Assembly

3. Remove Feed Roll assembly (Figure 2).
   a. Remove E-ring.
   b. Remove Feed Roll.

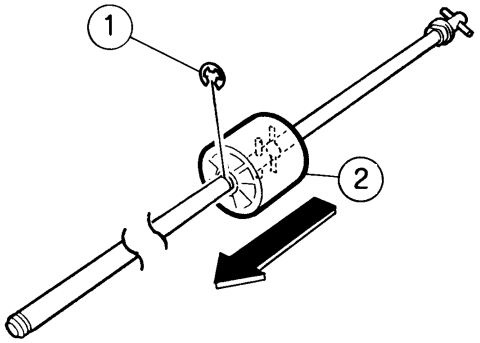

Figure 2 Removing Feed Roll

Installation

1 Operate in reverse order of the removal.

REP 8.16 Paper Size Cam

Parts List on PL 4.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Slide the tail guide to B4 (Tray 1-2) position to align the hole of fan-shaped plate with the hole of Tray.
2. Align the hole position of Size Cam with U-slot of Tray and make installation.
   a. Install the Paper Size Cam.
   b. Insert locking pins.

Replacement

Figure 1 Removing Tray 1 or Tray 2 Side Door

Removal

1. Remove Tray.
2. Rmove Retard Roll assembly (Figure 1).
   a. Hold the bends at two ends.
   b. Press on the bends.
   c. Remove the Retard Roll Assembly.

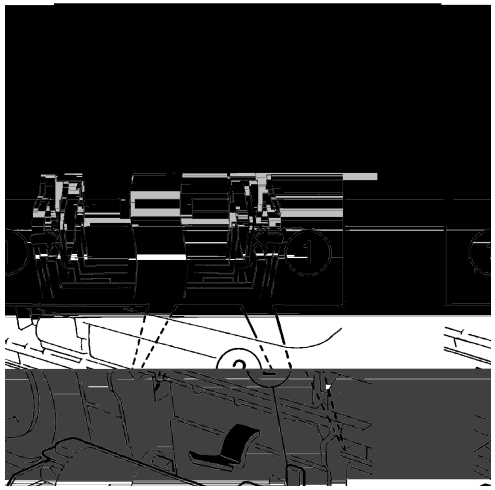

Figure 3 Removing Retard Roll Assembly

3. Remove the Retard Roll along with the clutch.
   a. Hold the bends.
   b. Remove the Retard Roll along with the clutch.

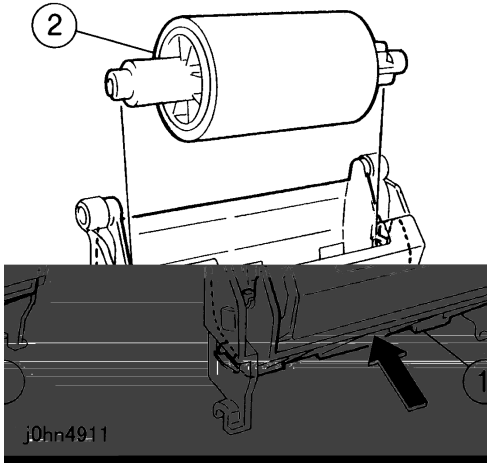

Figure 4 Removing Retard Roll Along with Clutch

4. Remove the Retard Roll.
   a. Push the bend toward the arrow.
   b. Poll out the shaft and remove the Retard Roll.

Figure 5 Removing Retard Roll

Installation

1 Operate in reverse order of the removal.

REP 8.17 Takeaway Roll Shaft, Tray 1

Parts List on PL 4.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove machine from Tray 1 (REP 8.19A 2 person) or (REP 8.19B 1 person).
2. Remove Takeaway Motor for Tray 1 (REP 8.14).
3. Use a small screwdriver in location shown to pry Front Bearing away from tray frame and off of Takeaway Roll Shaft (Figure 1).

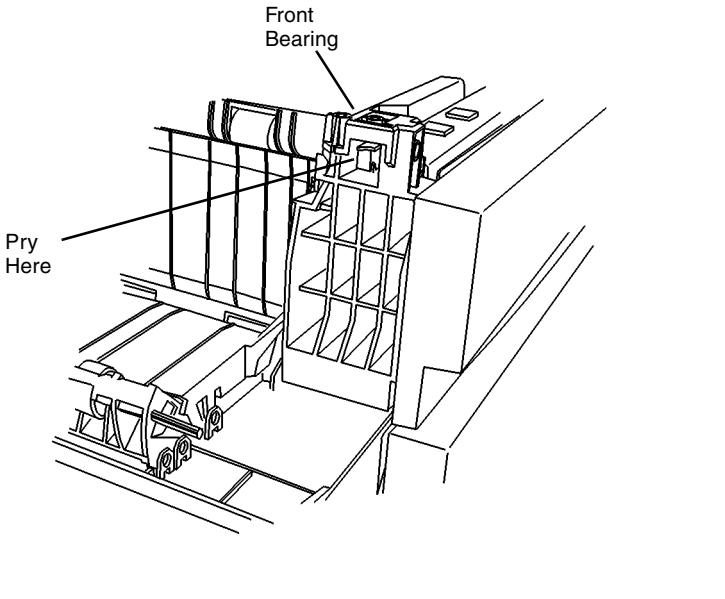

Figure 1 Removing Front Bearing

4. Remove Takeaway Roll Shaft.

REP 8.18 Takeaway Roll Shaft, Tray 2

Parts List on PL 4.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove machine from Tray 2 (REP 8.9A 1 person) or (REP 8.9B 2 person).
2. Remove Takeaway Motor for Tray 2 (REP 8.14).
3. Use a small screwdriver in location shown to pry Front Bearing away from tray frame and off of Takeaway Roll Shaft (Figure 1).

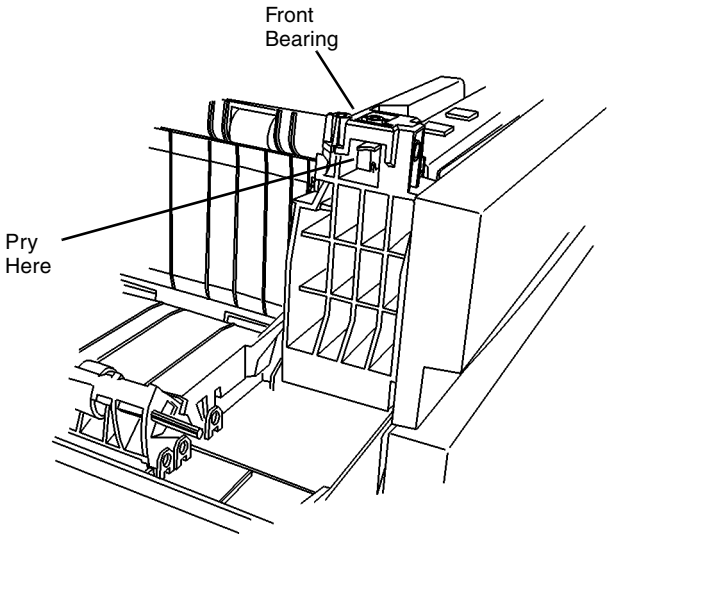

Figure 1 Removing Front Bearing

4. Remove Takeaway Roll Shaft.

REP 8.18A Tray 1 Module with 1 Service Person

Parts List on PL 4.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove ADF (REP 5.1).
2. Remove Drum cartridge (REP 9.1).
3. Remove Output Tray (REP 8.7).
4. Open Door Module.
5. Remove Top Cover (REP 14.1).
6. Remove Document Glass (REP 6.5).
7. Remove CVT Glass (REP 6.4).
8. Remove RIS Module (REP 6.1).
9. Remove Fuser Module (REP 10.1).
10. Remove ROS Module (REP 6.3).
11. Remove machine from Tray 1 Module (Figure 1).

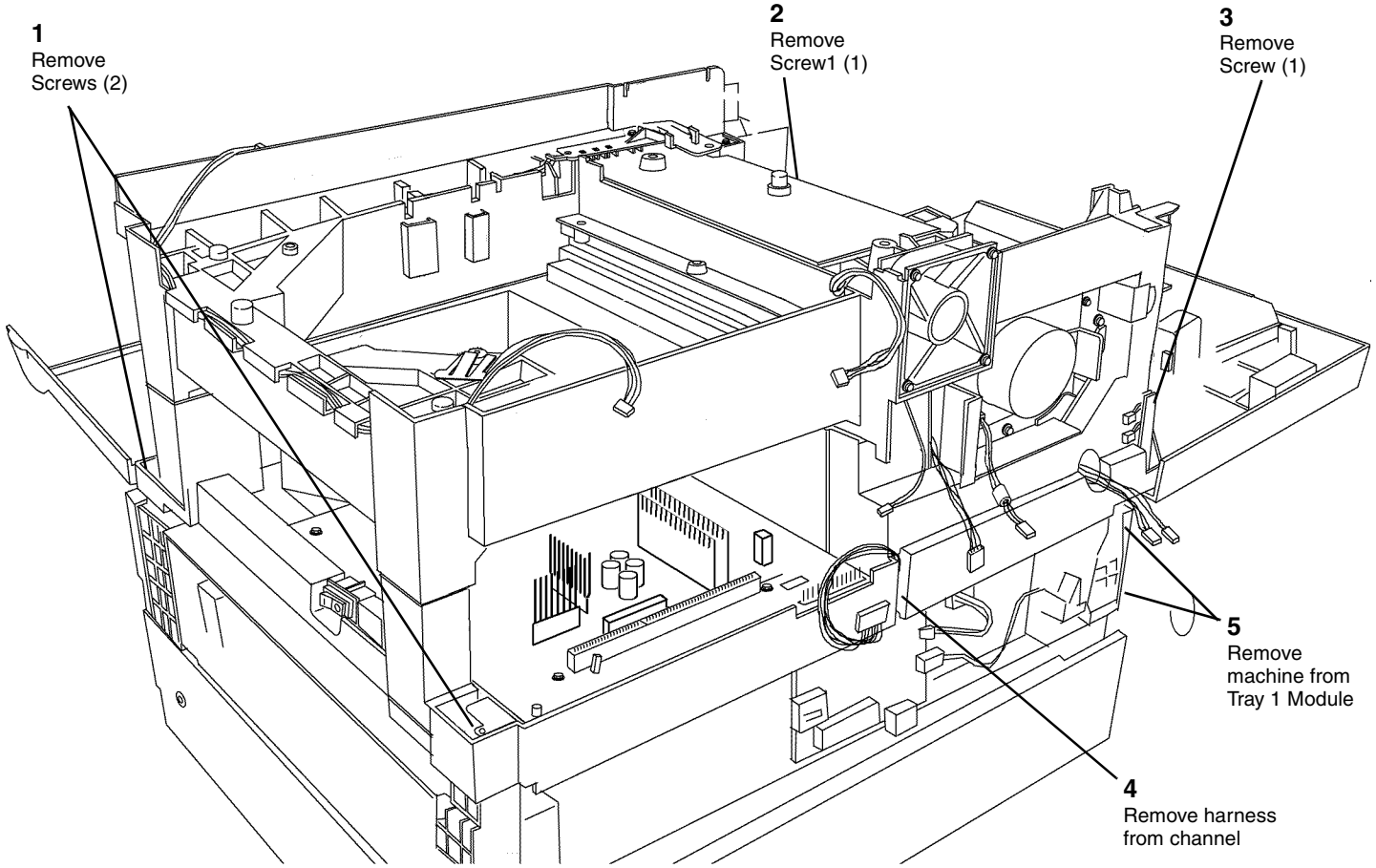

Figure 1 Removing Machine from Tray 1 Module

REP 8.18B Tray 1 Module with 2 Service Persons

Parts List on PL 4.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove Output Tray (REP 8.7).
2. Remove Rear Cover (REP 14.2).
3. Remove Right Cover (REP 14.3).
4. Prepare to remove machine from Tray 1 Module (Figure 1).

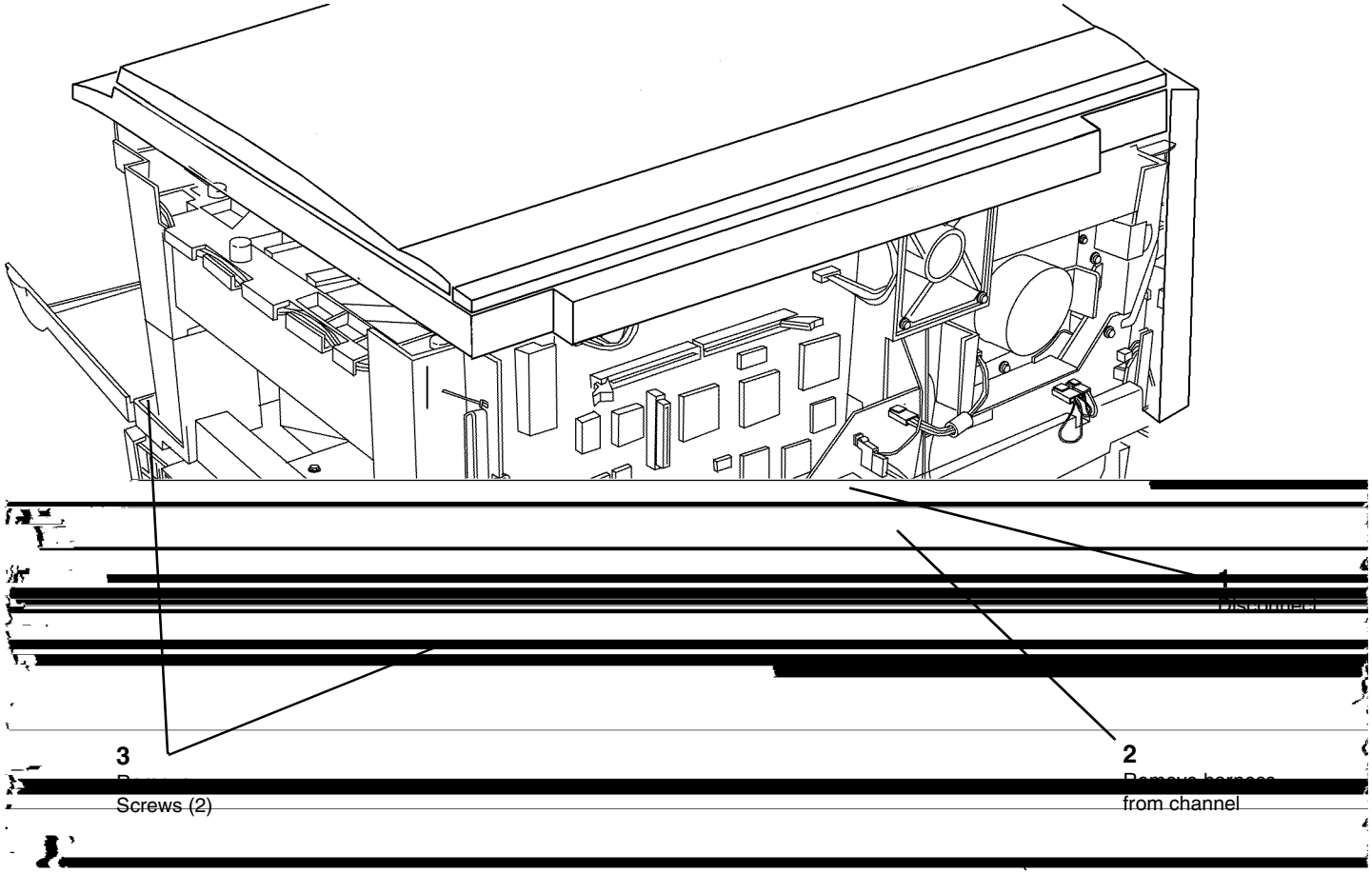

Figure 1 Preparing to remove Tray 1 Module

5. Continue to prepare to remove machine from Tray 1 Module (Figure 2).

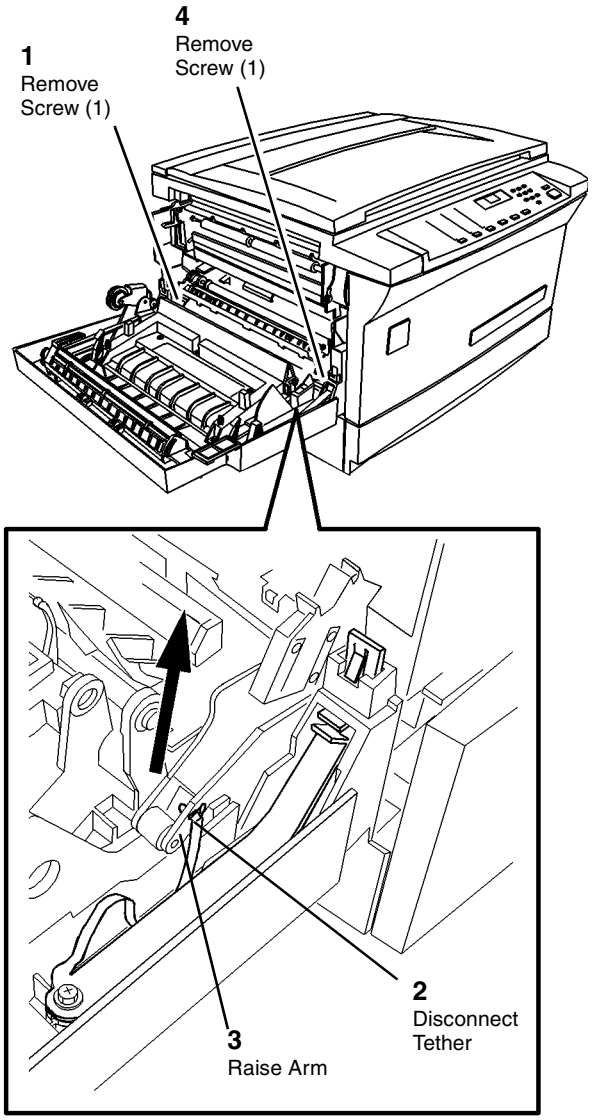

Figure 2 Removing Screws (2)

6. Lift machine off of Tray 1 Module.
7. Remove Tray 1 Module from Stand if required.
   a. Open front door of stand and remove hardware that secures Tray 2 to stand.

REP 8.19 Tray Control PWB, Tray 1 or Tray 2

Parts List on PL 4.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. To remove Tray 1 Control PWB remove Rear Cover (REP 14.2).
   To remove Tray 2 Control PWB remove screws (2) and Tray 2 Rear Cover.
2. Remove Tray 1 or Tray 2 Control PWB (Figure 1).
   a. Disconnect connectors (7).
   b. Remove Acrews (2).

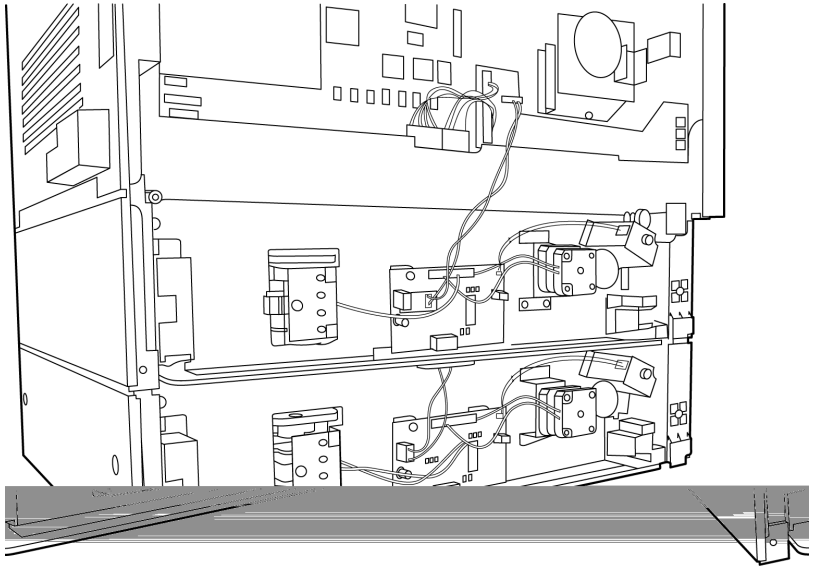

Figure 1 Removing Tray 1 or Tray 2 Control PWB

Installation

1 Operate in reverse order of the removal.

REP 8.20 Bypass Solenoid

Parts List on PL 4.2

Removal

NOTE: *Ensure harness in Clips so wires not loose between PWB and Clips.*

1. Open Door Module.
2. Lossen rear Tether but not Upper Clip.
3. Lossen screw in locking tab on Rear Side Door.
4. Remove the spring of indented gear, turn the indentation toward locking tab, then remove fan-shaped gear.
5. Remove Reverse Solenoid.
6. Use a small screwdriver to press the hook on the belt pulley shaft, then remove the belt pulley.
7. Remove Belt Mount Assembly.
   a. Remove screws (2).
   b. Use a small screwdriver to press the hood on rear shaft, then remove the shaft.
   c. Remove Bypass Solenoid.

Installation

1 Operate in reverse order of the removal.

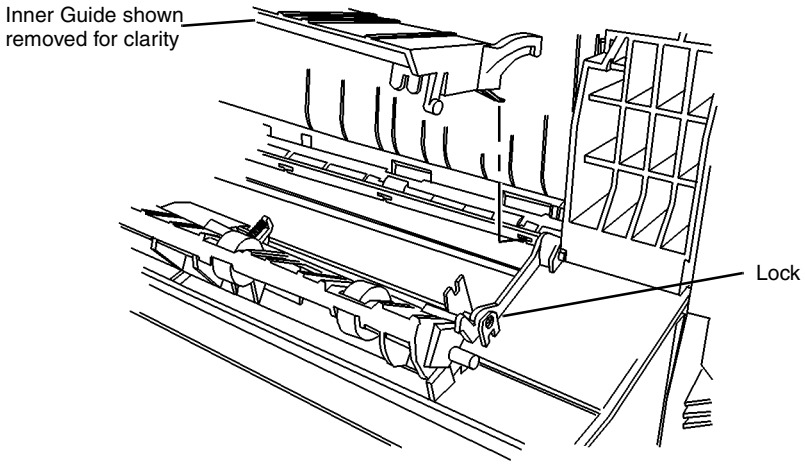

Figure 1 Wires Position in Clips

REP 8.21 Exit Sensor

Parts List on PL 6.2

Replacement

NOTE: *Ensure harness in Clips so Wires not loose between PWB and Clip.*

1. Open Door Module.
2. Remove Reverse Solenoid (Figure 1).
   a Remove screw (1).
3. Remove Reverse Door (Figure 2).
4. Remove Exit Sensor Assembly (Figure 3).
   a Remove screw.
5. Remove Sensor from Exit Sensor Assembly.

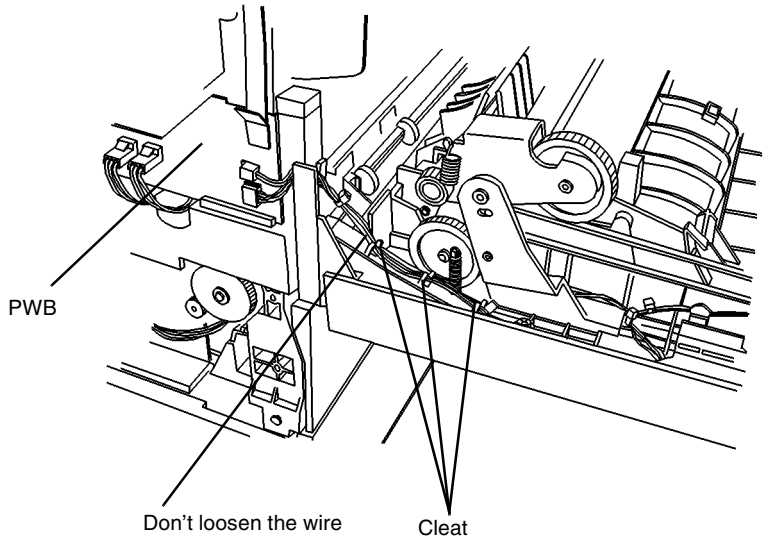

Figure 1 Wires Position in Clips

Installation

1 Operate in reverse order of the removal.

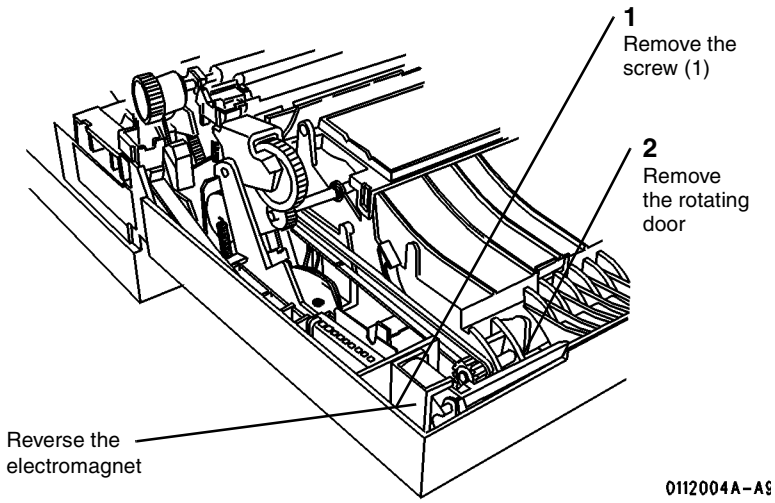

Figure 2 Wires Position in Clips

REP 8.22 Duplex Module

Parts List on PL 6.2

Replacement

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1 Open Door Module.

2 Lift latches (both sides).

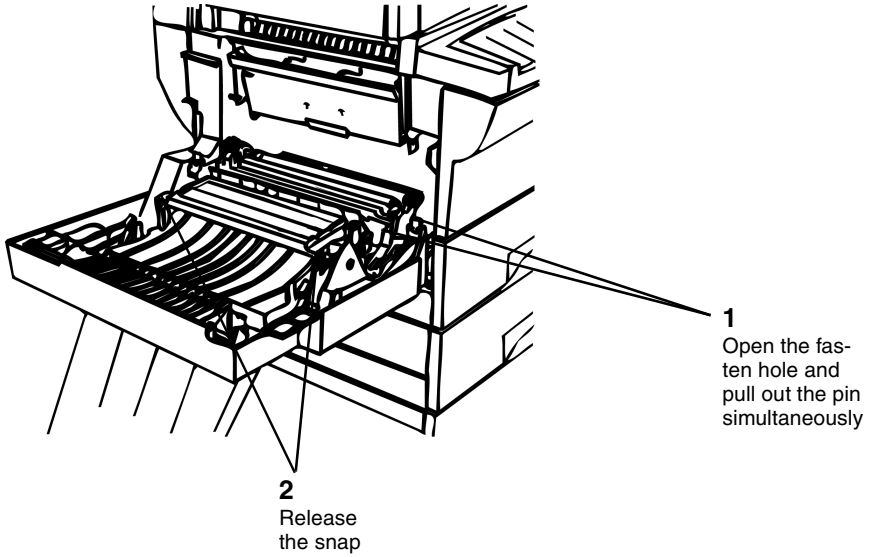

Figure 1 Wires Position in Clips

3 Remove Duplex Module.

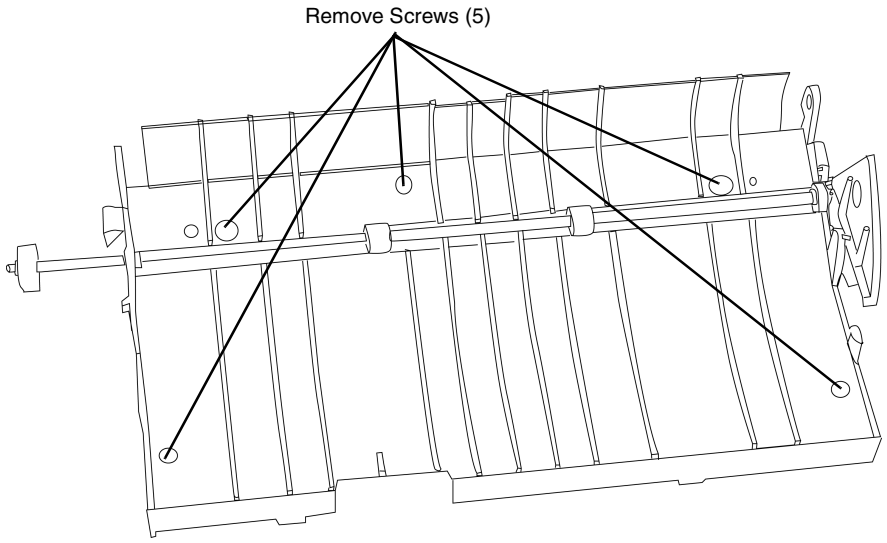

Figure 2 Wires Position in Clips

REP 8.23 No Paper Sensor

Parts List on PL 6.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Pull out, lift and pull out to Remove Tray 1 or Tray 2.
2. Remove No Paper Sensor (Figure 1).
   a. Remove No Paper Sensor bracket.
   b. Remove Sensor mount plate.
   c. Remove Sensor.

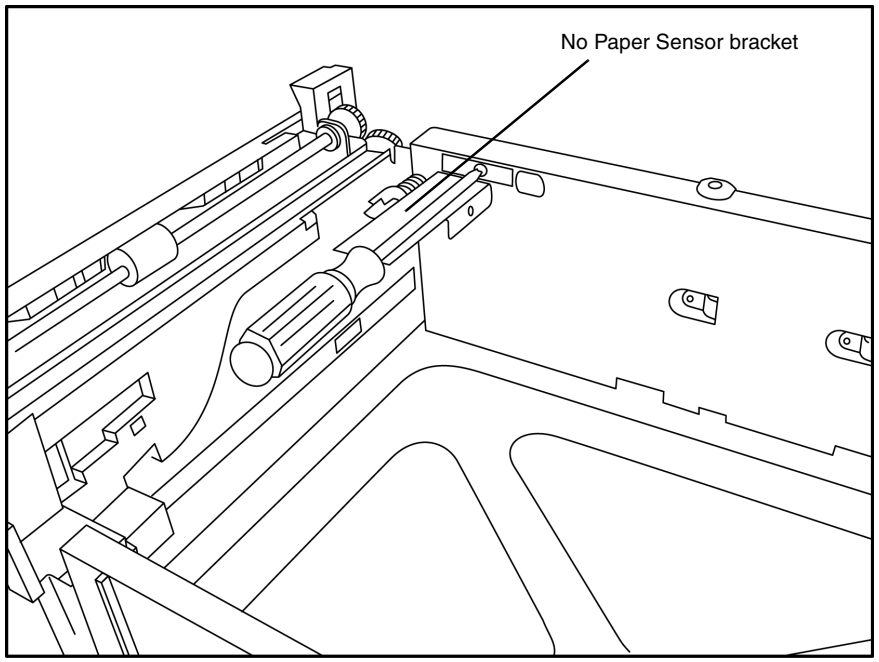

Figure 1 Remove Sensor bracket

Installation

1 Operate in reverse order of the removal.

REP 8.24 Takeaway Sensor

Parts List on PL 6.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Pull out, lift and pull out to Remove Tray 1 or Tray 2.
2. Remove takeaway sensor bracket (Figure 1).
   a. Remove takeaway sensor bracket.
   b. Remove Sensor. (FIgure 2)

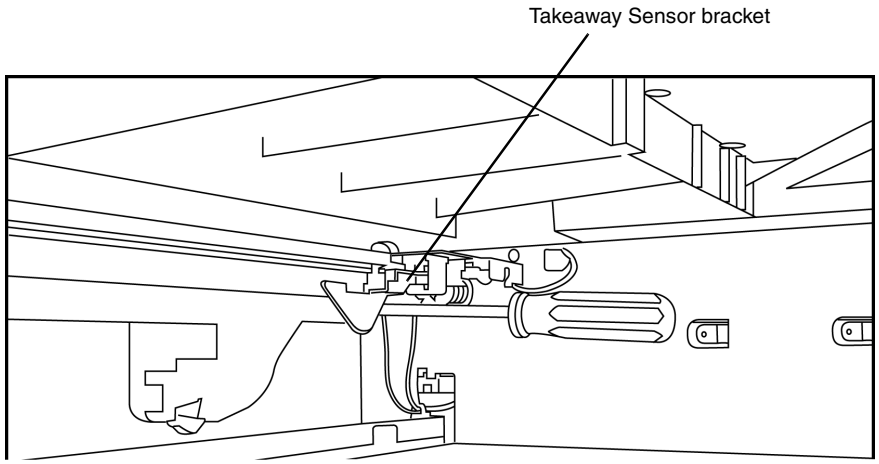

Figure 1 Remove takeaway sensor bracket

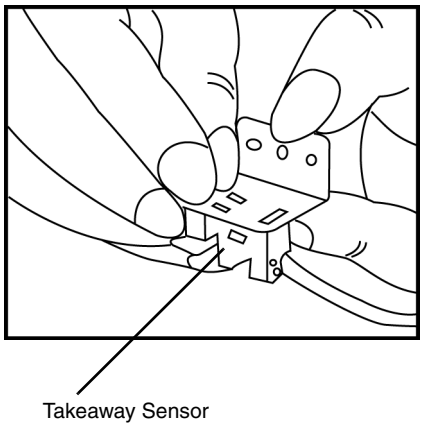

Figure 2 Remove takeaway sensor

Installation

1 Operate in reverse order of the removal.

REP 8.25 Lift Upper Cover Interlock Switch

Parts List on PL 6.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Open lift upper cover.
2. Remove interlock switch (Figure 1).
   a. Use screwdriver stir up interlock switch stopper.
   b. Remove interlock switch.(Figure 2)

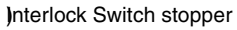

Figure 1 Remove interlock switch stopper

Figure 1 Remove interlock switch stopper

Figure 2 Remove interlock switch

Installation

1 Operate in reverse order of the removal.

Figure 2 Remove interlock switch

REP 9.1 Drum Cartridge

Parts List on PL 1.4

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove Drum Cartridge.
   a. Open Door Module.
   b. Open Front Door.
   c. Actuate orange release and pull out Drum Cartridge.

CAUTION

Drum Cartridge photoreceptor damage is likely if Drum Cartridge is handled carelessly. This results in image quality defects. Use caution when Drum Cartridge is removed from machine.

   d. Place Drum Cartridge in a black bag.

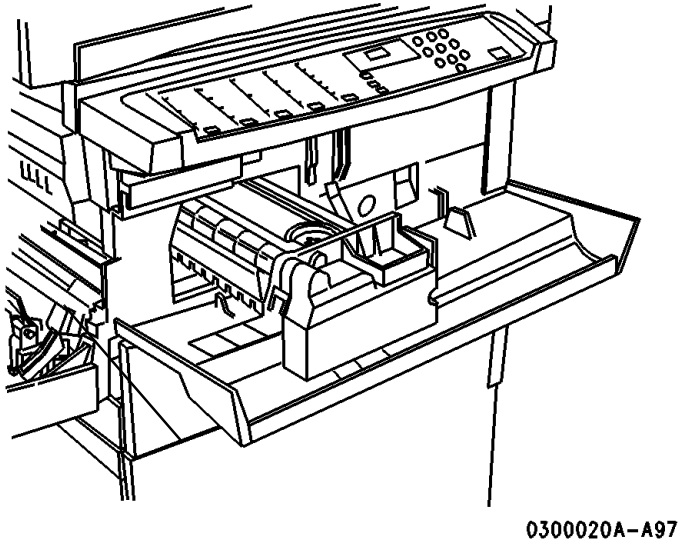

Figure 1 Wires Position in Clips

REP 9.2 Transfer Detack Corotron

Parts List on PL 5.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Open Door Module.

WARNING

The sawtooth metal blade of Transfer Detack Corotron is sharp and could cause injury if handled carelessly.

2. Remove Transfer Detack Corotron (Figure 1).
   a. Lift Green Arm of Registration Assembly.
   b. Push Gray Locking Tabs to rear to release corotron. Check springs under corotron.
   c. Lower Green Arm and then remove corotron.

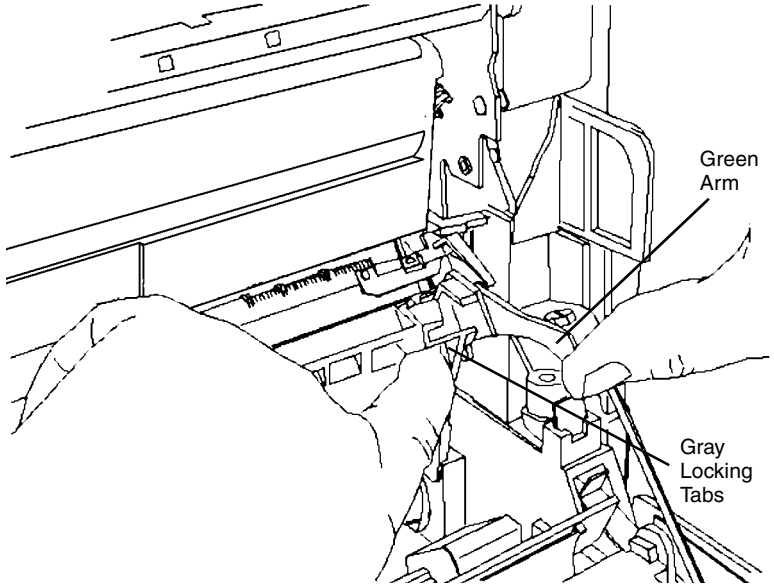

Figure 1 Removing Transfer Detack Corotron

Replacement

1. Install Transfer Detack Corotron (Figure 2).
   a. Check that both Springs are present.
   b. Install Corotron Legs into holes.
   c. Install front Gray Locking Tabs into front holes (removed in Figure 1)

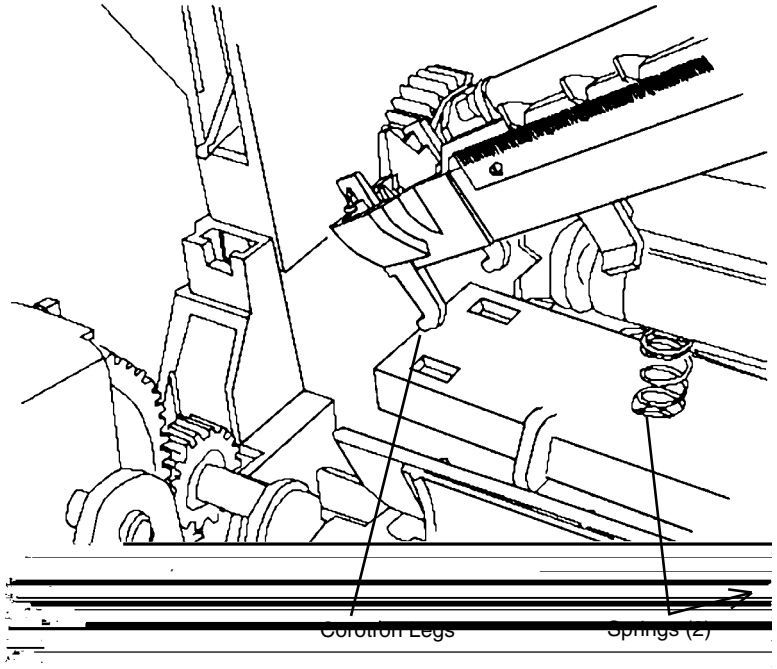

Figure 2 Installing Transfer Detack Corotron Legs

2. Close Door Module.
3. Reconnect machine power Cord and switch on machine.

Replacement

CAUTION

Do not touch corotron wire. Use tools to install wire.

1. Install corotron wire (Figure 3).

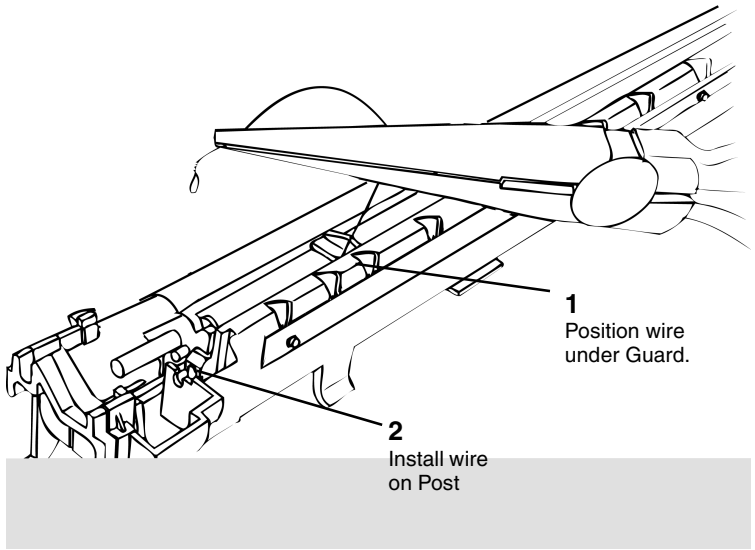

Figure 2 Installing Wire Loop End

2. Install Spring on wire loop and install spring on clip (Figure 4).

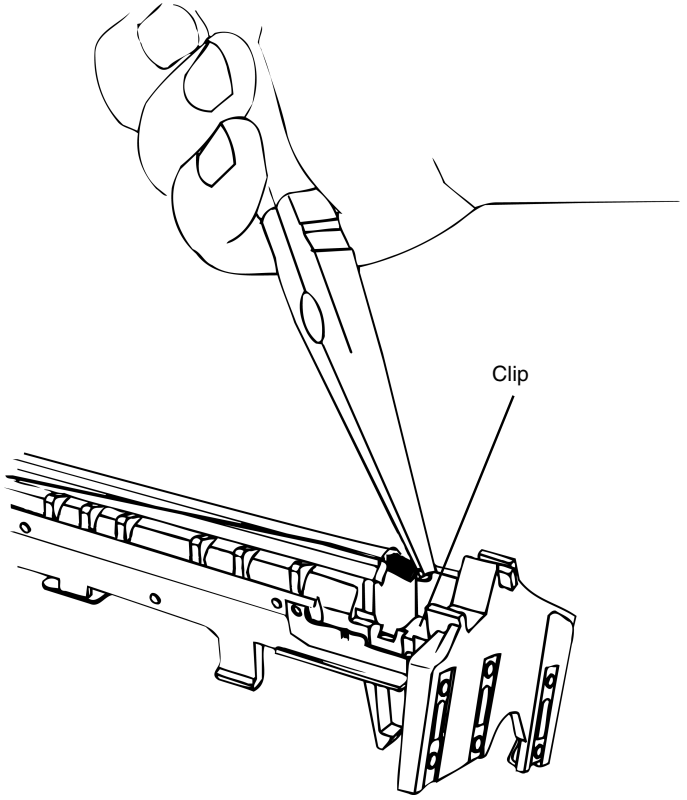

Figure 3 Installing Wire Spring End

3. Reinstall Front End Guard (Figure 2).
4. Slide Guard toward end (Figure 1).
5. Reinstall Transfer Detack Corotron (REP 9.2).
6. Close Door Module.
7. Reconnect machine power Cord and switch on machine.

REP 10.1 Fuser Module

Parts List on PL 1.4

Removal

WARNING

Skin burns may result from grasping hot areas of Fuser Module. If a hot Fuser Module must be removed, grasp Fuser Module by black plastic frame component, shown in figure (Figure 1).

Damage to work surface may result if a hot Fuser Module is removed and positioned on an unprotected work surface. Place a hot fuser on ten sheets of paper.

1. Open Front Door.
2. Open Door Module.
3. Remove Fuser Module (Figure 1).
   a. Pull Paper Release outward until it latches into place.
   b. Remove Screw.
   c. Remove Screw.
   d. Remove Nut and Ground Wire.

CAUTION

If machine was making copies within 30 minutes, Fuser Module is hot. Grasp Fuser Module in areas shown and slide Fuser Module toward front of machine to clear tabs on Upper PCM Frame.

   e. Grasp Paper Release Handle to move Fuser Module toward front to release mounts.
   f. Pull outward to remove Fuser Module while removing Ground Wire from Fuser Module Frame.

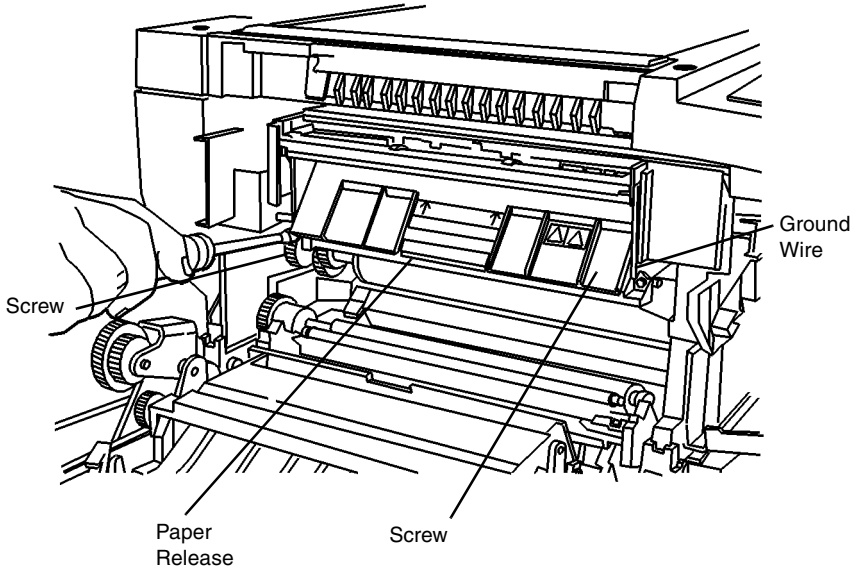

Figure 1 Removing Fuser Module

Replacement

1. Install Fuser Module (Figure 2).
   a. Position Fuser module so Front Fuser Mount and Rear Fuser Mount are next to Molded Retainers.

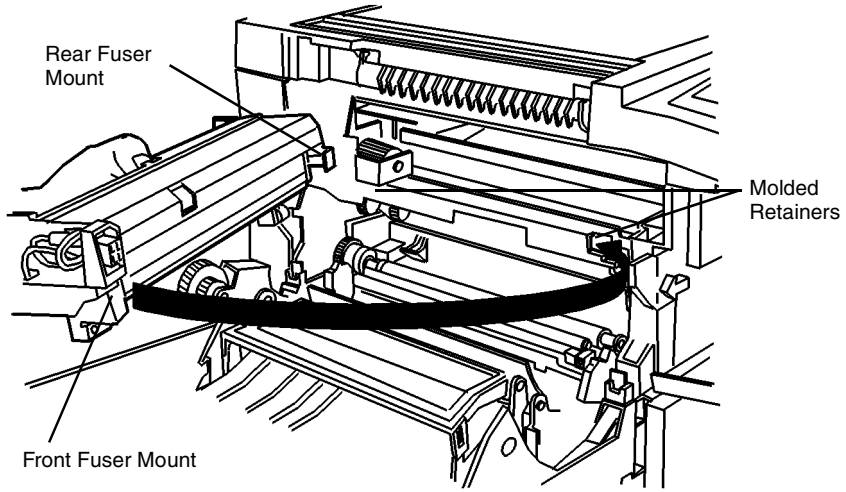

Figure 2 Installing Fuser Module

2. Secure Fuser Module (Figure 3)
   a. Slide Fuser Module toward rear. Check that Mounts are behind Retainers.
   b. Install Screws (2).

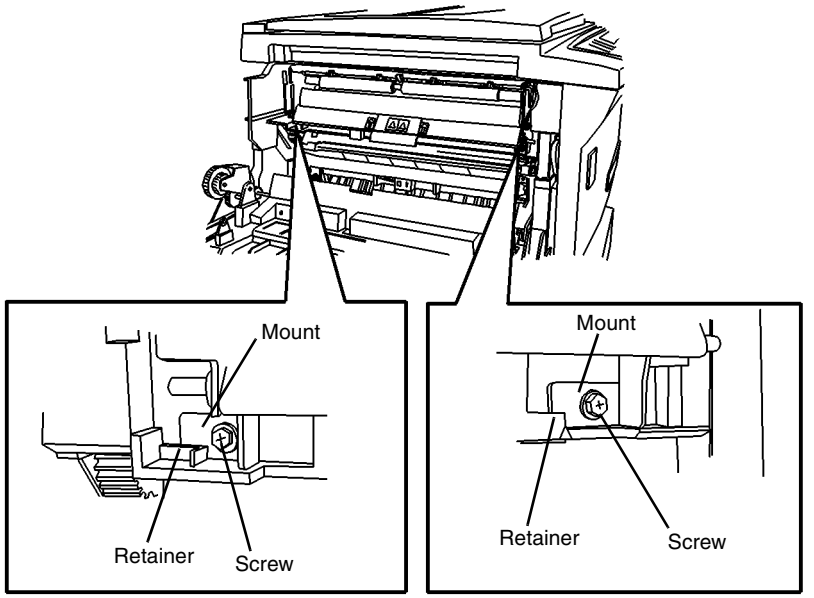

Figure 3 Securing Fuser Module

3. Install Safety Ground Wire and install nut.
4. Close Door Module.
5. Reconnect machine power Cord and switch on machine.

REP 10.2 Heat Rod

Parts List on PL 1.4

Removal

WARNING

Skin burns may result from grasping hot areas of Fuser Module. If a hot Fuser Module must be removed, grasp Fuser Module by black plastic frame component, shown in figure (Figure 1).

Damage to work surface may result if a hot Fuser Module is removed and positioned on an unprotected work surface. Place a hot fuser on ten sheets of paper.

1. Remove Fuser Module (REP 10.1).
2. Position Fuser Module upside down.
3. Remove screws (2) (Figure 1).

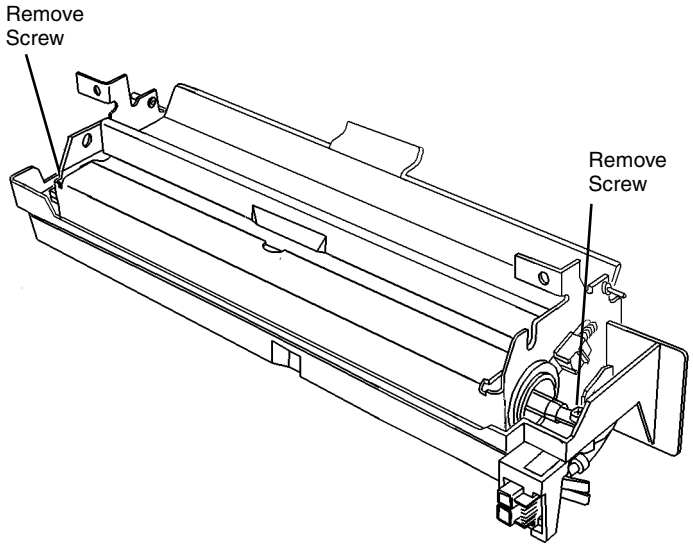

Figure 1 Removing Screws (2)

4. Remove Heat Rod (Figure 2).

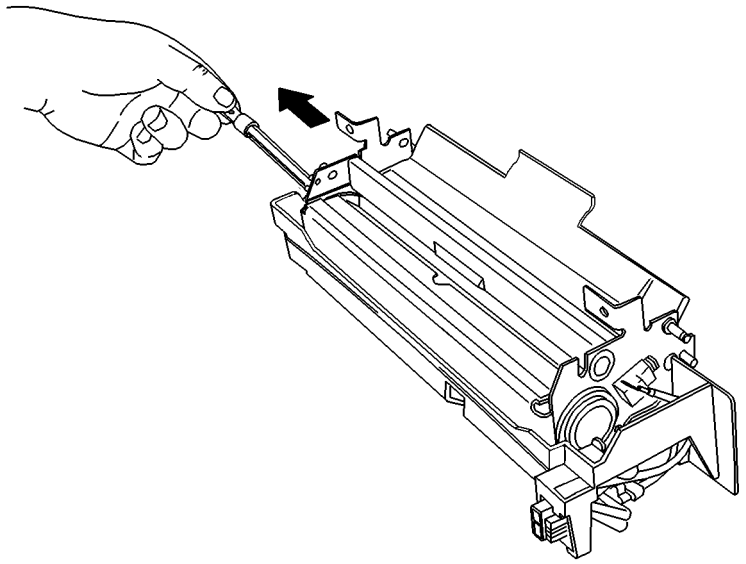

Figure 2 Removing Heat Rod

Replacement

CAUTION

Do not touch or handle surface of Heat Rod. Film Remover/General Cleaning Solvent and a lint free cloth can be used to clean surface of Heat Rod if necessary.

CAUTION

Do not flex or bend Heat Rod metal end tabs. One bend can destroy Heat Rod.

1. Install Heat Rod without touching glass surface and install screws (2).
2. Reinstall Fuser Module (REP 10.1).
3. Reconnect machine power Cord and switch on machine.

REP 14.1 Top Cover

Parts List on PL 1.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove Document Cover (REP 14.4).
2. Open Door Module.
3. Open Front Door.
4. Remove Top Cover (Figure 1).

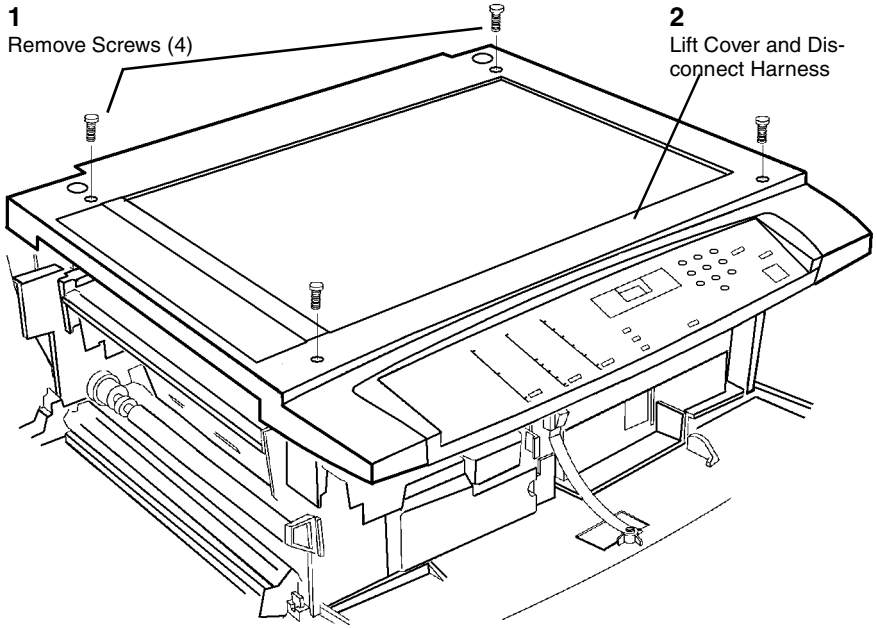

Figure 1 Removing Top Cover

REP 14.2 Rear Cover

Parts List on PL 7.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

CAUTION

Broken connectors may result if Rear Cover moves down after screws are removed.

1. Support Rear Cover while removing screws (Figure 1).

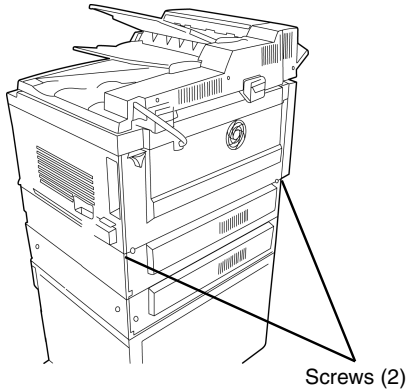

Figure 1 Removing Rear Cover

REP 14.3 Right Cover

Parts List on PL 7.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove Right Cover.
   a. Open Front Door.
   b. Remove Screws (2) and Right Cover (Figure 1).

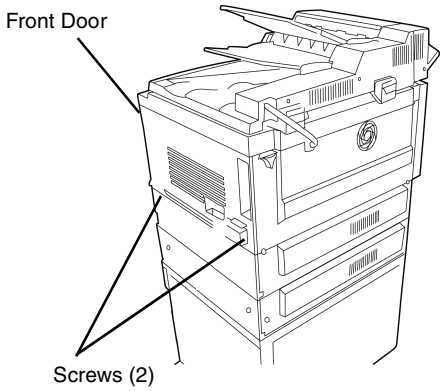

Figure 1 Removing Right Cover.

REP 14.5 Tray 2 Rear Cover

Parts List on PL 4.2

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Remove screws and cover (Figure 1).

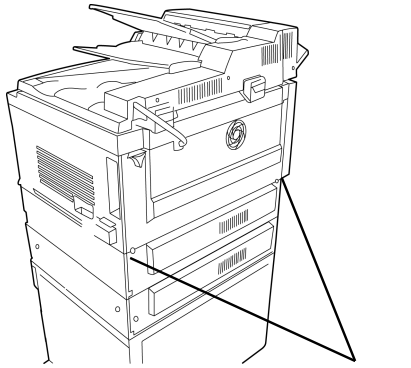

Figure 1 Removing Tray 2 Rear Cover

REP 14.6 Front Door

Parts List on PL 7.1

Removal

WARNING

Inadvertent operation could cause machine damage or personal injury. Switch off machine power. Disconnect Printer Cable and disconnect machine Power Cord.

1. Open Tray 1 50 mm.
2. Push Lock right to release and to move right end of Front Door down (Figure 1).
   Move door left to release left hinge.

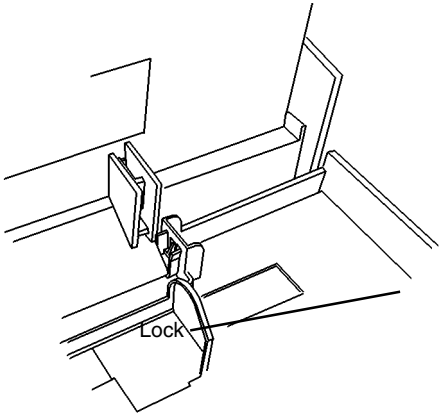

Figure 1 Removing Front Door

ADJ 5.1 Carriages

Purpose

The purpose of this procedure is to ensure that Document is always in correct position when using ADF.

NOTE: *Only when skew is caused by ADF, can this adjustment be made.*

Check.

1. Switch on power.
2. Ensure that Guide on the side of Input Tray has been adjusted to the size of document to be copied.
3. Check any obstacle in Document Paper Path.
4. Insert Test Pattern in ADF Document Input Tray.
5. Check that the copy of Test Pattern is within ADF skew specifications (2).
6. Cut two paper slips of 1x11 inch.
7. Put a paper slip of 1x11 inch under Feed Roll Assembly.
8. Use the second paper slip to actuate Document Exit Sensor, with actuating time enough to feed the first paper slip in between transport pulley and cross bar.
9. Pull out the slip in between to text resistance. If no resistance is present, replace or clean Feed Roll, Cross Bar and Retard Pad on Input Tray.
10. To check that Takeaway Roll smoothly transport paper, put the paper slip obtained in 6 toward Input Stop Door (when standing facing right side of ADF, there it is left door).
11. Use the second paper slip to actuate Document Exist Sensor. When Document Feed Roll Assembly is in motion, push in the first paper slip until the Takeaway Roll input the slip by 1 inch.
12. Pull out the gripped slip to detemine the resistance. If no resistance is present, clean or replace Takeaway Roll (PL 3.2).
13. As for Rear Takeaway Roll, perform 10,11 and Y.
14. Tocheck that the pressure between Front CVT Cross Bar and Rear CVT Cross Bar is even, lift the front part of ADF.
15. Put a slip of paper under each roll to check that it is smoothly pulled. If it is not pulled properly, clean Cross Bar and CVT Board Roll. Check the state of spring on ends of Front and Rear CVT Cross Bar shafts. Replace if required.
16. Insert Test Pattern in ADF Document Transport Tray.
17. Check that the copy of Test Pattern is within ADF skew specifications (Figure 2). If skew is still present, make adjustment. (Figure 3)

ADJ 6.1 Carriages

Purpose

Purpose is to align carriages to RIS Frame.

Adjustment

NOTE: *Adjust only if following occurs.*

- *Image appears skewed (Figure 1).*

Figure 1 Skewed Image

- *Exposure Lamp replaced*
- *Exposure Lamp Power Supply replaced*
- *Direction to adjustment given in RAP.*

1 Switch off machine and disconnect machine power cord.

2 Remove ADF (REP 5.2).

3 Remove Top Cover (REP).

4 Remove CVT Glass (REP 6.4).

5 Remove Document Glass (REP 6.5).

6 Check the parallel degree of full-speed and half-speed Carriages.

1. Adjust Carriages (Figure 2).
   a. Move Exposure Lamp Carriage to Right End.
   b. Loosen Screw at each end. Rear end shown.
   c. Hold Exposure Lamp Carriage tightly against Right End and tighten screws (2).

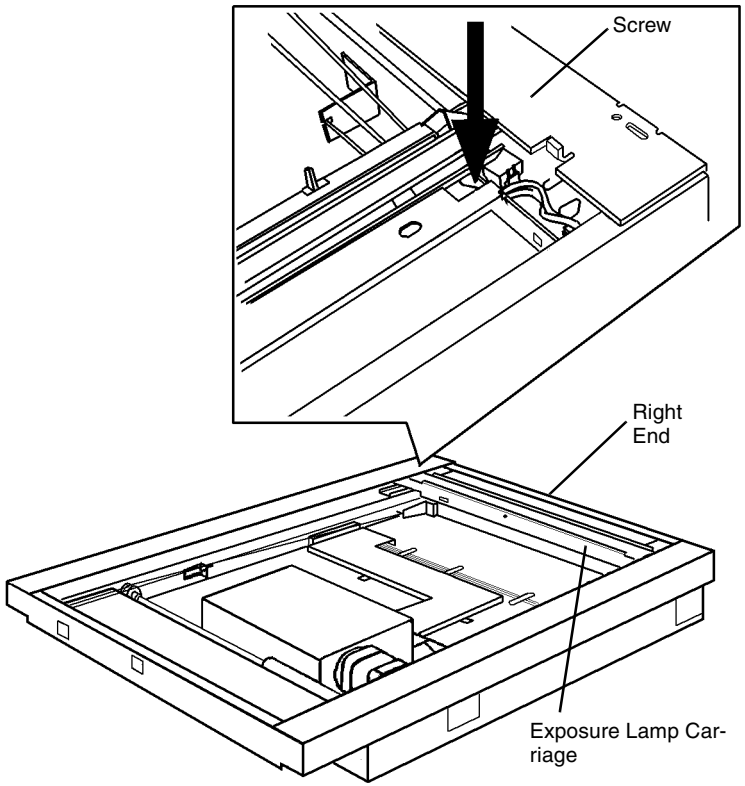

Figure 2 Adjusting Carriages

CAUTION

Do not use a brush attachment on vacuum cleaner. Brush may contaminate mirrors. Use a crevice attachment to reach corners.

2. Clean and vacuum entire area inside RIS. Refer to GP 9 R in Section 6.
3. Install Document Glass (REP 6.5).
4. Install Top Cover (REP 14.1).
5. Install Document Cover (REP 14.4).
6. Reconnect machine Power Cord and switch on machine power.

ADJ 6.2 RIS Values

Purpose

Purpose is to load calibration value for RIS assembly in NVM.

Check

1. Enter diagnostics [3-13].
2. Record value. This is RIS Gain Value stored in NVM.
3. Press **Stop** button once to prepare for next entry.
4. Enter [14].
5. Record value. This is RIS Offset Value stored in NVM.
6. Remove Top Cover (REP 14.1). RIS Values are on a label that is located on top of front RIS frame.

   If values stored in NVM are same as values on label, no change is required.

   If values are different, Adjustment is required.

   Reinstall Top Cover (REP 14.1).

Adjustment

1. Enter diagnostics [3-13].
2. Use number keys to enter RIS Gain value recorded in Check (from label that is located on top of front RIS frame). Press **Start** button to load value. Display flashes value when it is correctly loaded.
3. Press **Stop** button once to prepare for next entry.
4. Enter [14].
5. Use number keys to enter RIS Offset value recorded in Check (from label that is located on top of front RIS frame) Press **Start** button to load value. Display flashes value when it is correctly loaded.
6. Press **Stop** button 5 times to exit diagnostics.

ADJ 9.1 Transfer Timing

Purpose

Purpose of this adjustment is to set on timing and off timing of Transfer Corotron.

Adjustment

1. Adjust [9–10] Transfer Off Timing.
   a. 37 - 46 is best range of values. Default value is 46.
   b. Make 4 copies of Side B of Test Pattern on 11”/A4 paper.
   c. Enter diagnostic [9–10] and press Start. Value is displayed flashing.
   d. If problem is trail edge background, enter 46 by pressing number keys and pressing Start. New value is displayed flashing.
   e. If problem is lead edge background, enter lower value by pressing number keys and pressing Start. New value is displayed flashing.
   f. Exit diagnostics and make 4 copies of Side B of Test Pattern on 11”/A4 paper and go back to step c to adjust if required.
2. Adjust [9–9] Transfer On Timing
   a. Enter diagnostic [9–9]
   b. Press **4** key and then **0** key to enter 40.
   c. Press **Start** button to load value. Value is displayed flashing.
   d. Exit diagnostics.

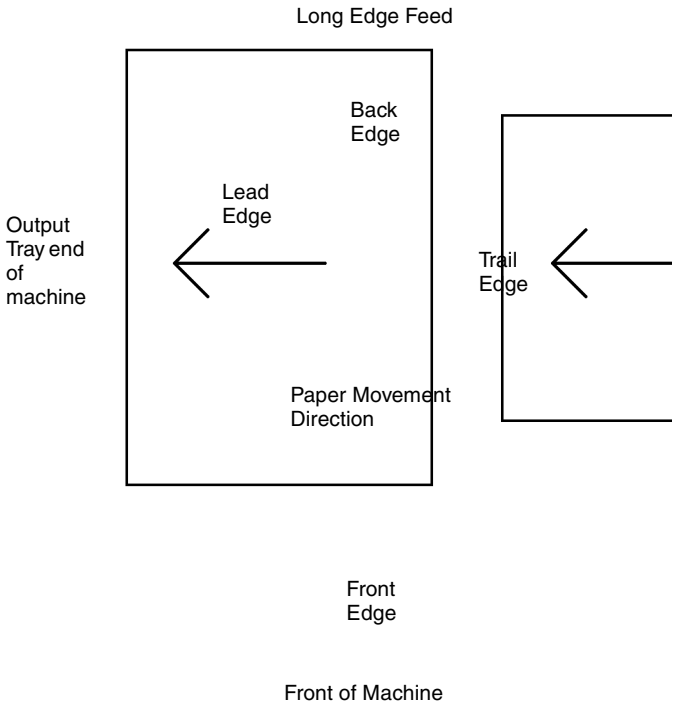

Figure 1 Paper Orientation Terms

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Introduction

Overview

The Parts List section identifies all part numbers and the corresponding location of all spared subsystem components.

Organization

Parts Lists

Each item number in the part number listing corresponds to an item number in the related illustration. All the parts in a given subsystem of the machine will be located in the same illustration or in a series of associated illustrations.

Electrical Connectors and Fasteners

This section contains the illustrations and descriptions of the plugs, jacks, and fasteners used in the machine. A part number listing of the connectors is included.

Common Hardware

The common hardware is listed in alphabetical order by the letter or letters used to identify each item in the part number listing and in the illustrations. Dimensions are in millimeters unless otherwise identified.

Part Number Index

This index lists all the spared parts in the machine in numerical order. Each number is followed by a reference to the parts list on which the part may be found.

Other Information

Abbreviations

Abbreviations are used in the parts lists and the exploded view illustrations to provide information in a limited amount of space. The following abbreviations are used in this manual:

Table 1

Abbreviation	Meaning
A3	297 x 420 Millimeters
A4	210 x 297 Millimeters
A5	148 x 210 Millimeters
AD	Auto Duplex
AWG	American Wire Gauge
EMI	Electro Magnetic Induction
GB	Giga Byte
KB	Kilo Byte
MB	Mega Byte
MM	Millimeters
MOD	Magneto Optical Drive
NOHAD	Noise Ozone Heat Air Dirt
PL	Part List
P/O	Part of
R/E	Reduction/Enlargement
REF:	Refer to
SCSI	Small Computer Systems Interface
W/	With
W/O	Without

Table 2

	Operating Companies
Abbreviation	**Meaning**
AO	Americas Operations
USMG	United States Marketing Operations
USO	United States Operations
XCL	Xerox Canada Limited
XE	Xerox Europe

Symbology

Symbology used in the Parts List section is identified in the Symbology section.

Service Procedure Referencing

If a part or assembly has an associated repair or adjustment procedure, the procedure number will be listed at the end of the part description in the parts lists e.g. (REP 5.1, ADJ 5.3)

Subsystem Information

Use of the Term "Assembly"

The term "assembly" will be used for items in the part number listing that include other itemized parts in the part number listing. When the word "assembly is found in the part number listing, there will be a corresponding item number on the illustrations followed by a bracket and a listing of the contents of the assembly.

Brackets

A bracket is used when an assembly or kit is spared, but is not shown in the illustration. The item number of the assembly or kit precedes the bracket; the item numbers of the piece parts follow the bracket.

Tag

The notation "W/Tag" in the parts description indicates that the part configuration has been updated. Check the change Tag index in the General Information section of the Service Data for the name and purpose of the modification.

In some cases, a part or assembly may be spared in two versions: with the Tag and without the Tag. In those cases, use whichever part is appropriate for the configuration of the machine on which the part is to be installed. If the machine does not have a particular Tag and the only replacement part available is listed as "W/Tag," install the Tag kit or all of the piece parts. The Change Tag Index tells you which kit or piece parts you need.

Whenever you install a Tag kit or all the piece parts that make up a Tag, mark the appropriate number on the Tag matrix.

Symbology

A Tag number within a circle pointing to an item number shows that the part has been changed by the tag number within the circle (Figure 1). Information on the modification is in the Change Tag Index.

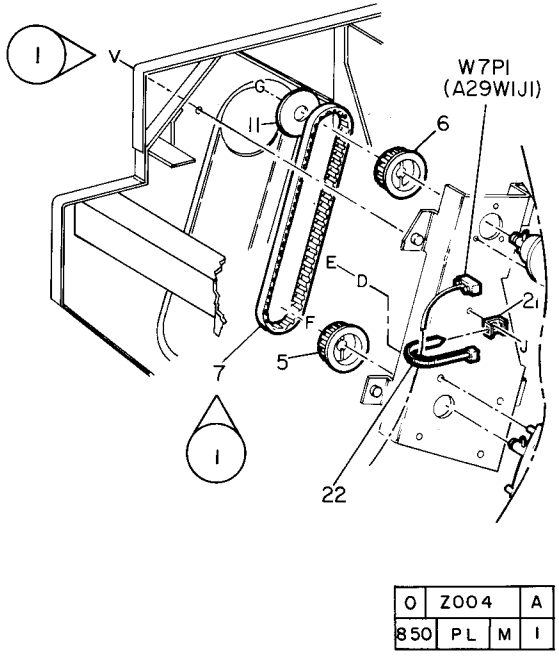


Figure 1 With Tag Symbol

A Tag number within a circle having a shaded bar and pointing to an item number shows that the configuration of the part shown is the configuration before the part was changed by the Tag number within the circle (Figure 2).

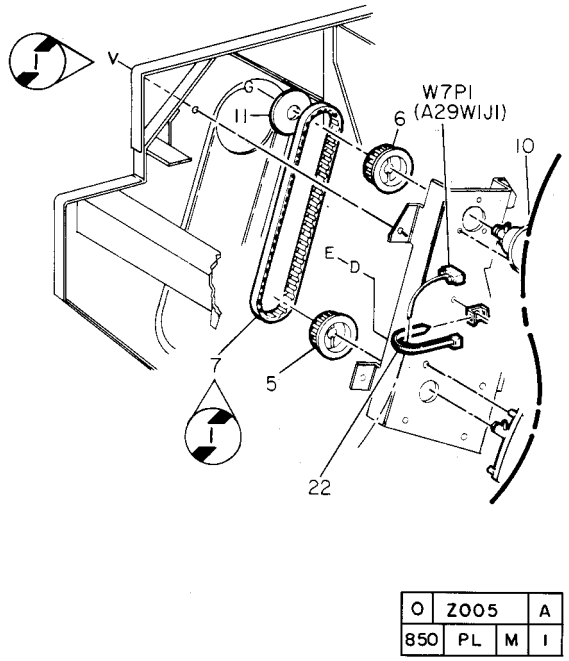


Figure 2 Without Tag Symbol

A tag number within a circle with no apex shows that the entire drawing has been changed by the tag number within the circle (Figure 3). Information on the modification is in the Change Tag Index.

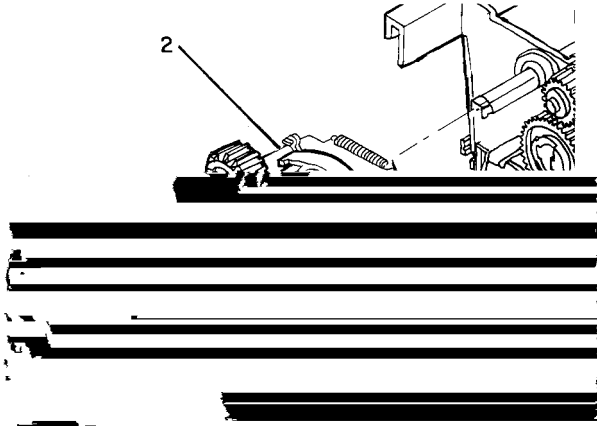


Figure 3 Entire Drawing With Tag Symbol

A tag number within a circle with no apex and having a shaded bar shows that the entire drawing was the configuration before being changed by the tag number within the circle (Figure 4).

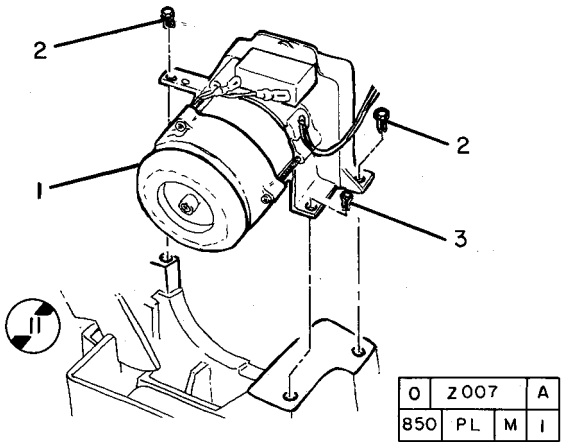
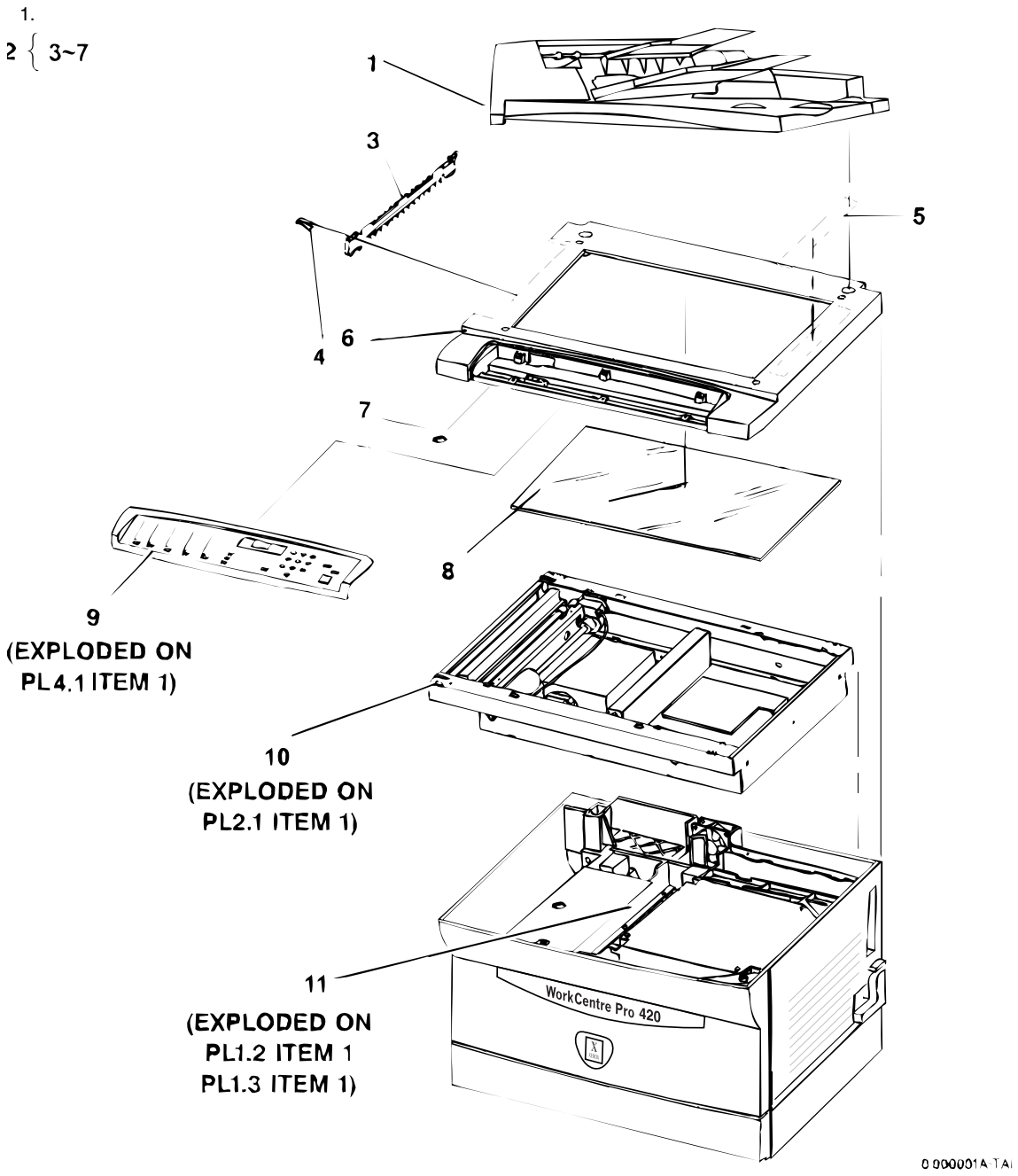


Figure 4 Entire Drawing Without Tag Symbol

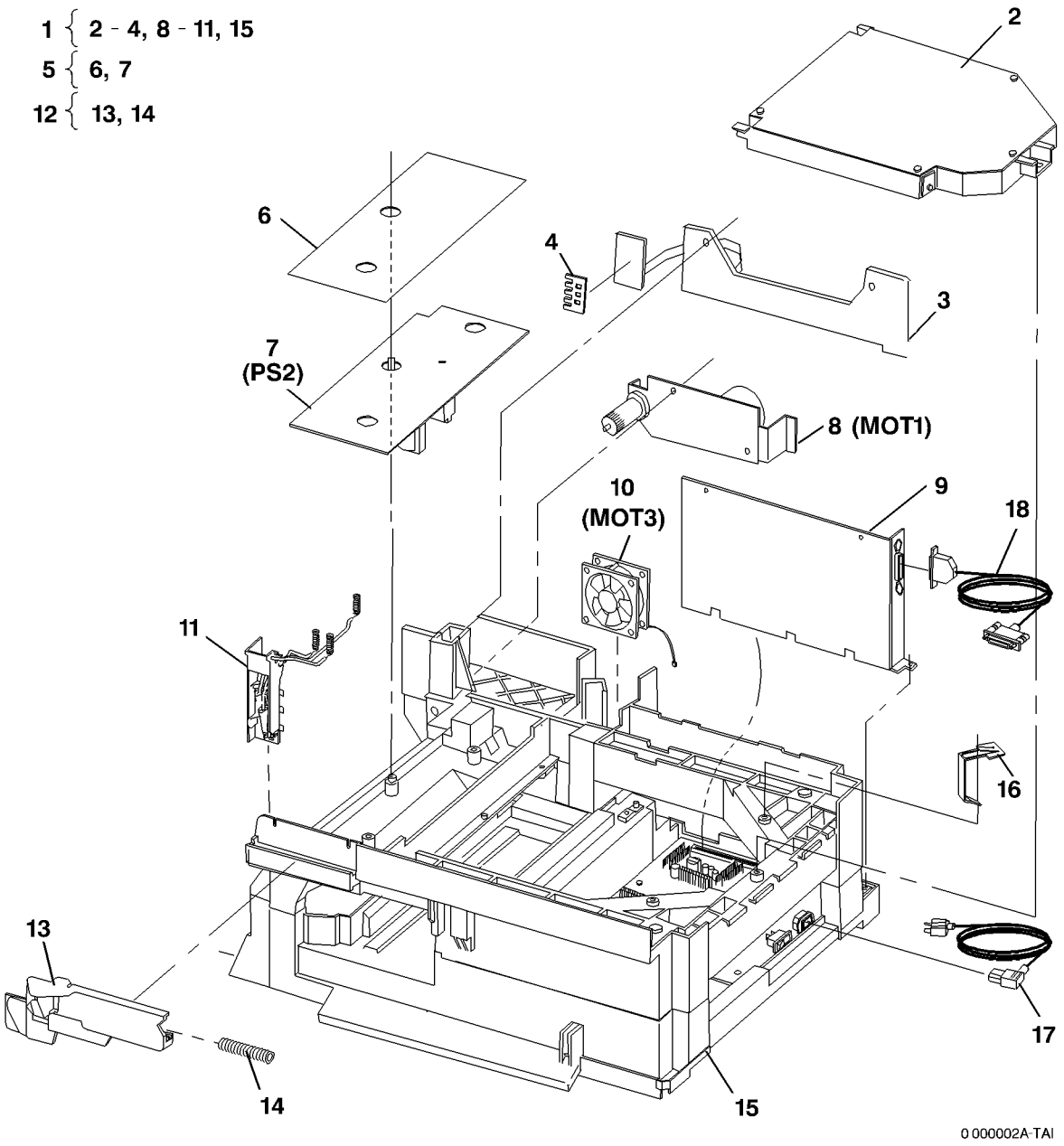
PL 1.1 PCM Assembly, RIS Module, Control Console

Item	Part	Description
1	–	ADF Assembly (REP 5.1)
2	802K53800	Top Cover Assembly (PR China) (REP 14.1) (Including 3-7)
–	802K62090	Top Cover Assembly (DMO) (REP 14.1) (Including 3-4, 6-7)
3	802E51840	Copy Exit Baffle
4	809E48410	Leaf Spring
5	802E95250	Status Code Label Kit (English)
–	892E54181	Status Code Label Kit (Chinese)
6	–	Top Cover
7	–	Magnet
8	090E02520	Platen Glass (REP 6.5)
9	101K48480	420 Control Console (Metric)(220V)
	101K49020	420 Control Console (Inch)(110V)
10	801K13160	RIS Assembly (REP 6.1)
11	–	PCM Assembly (Not Spare) (REP 1.9)



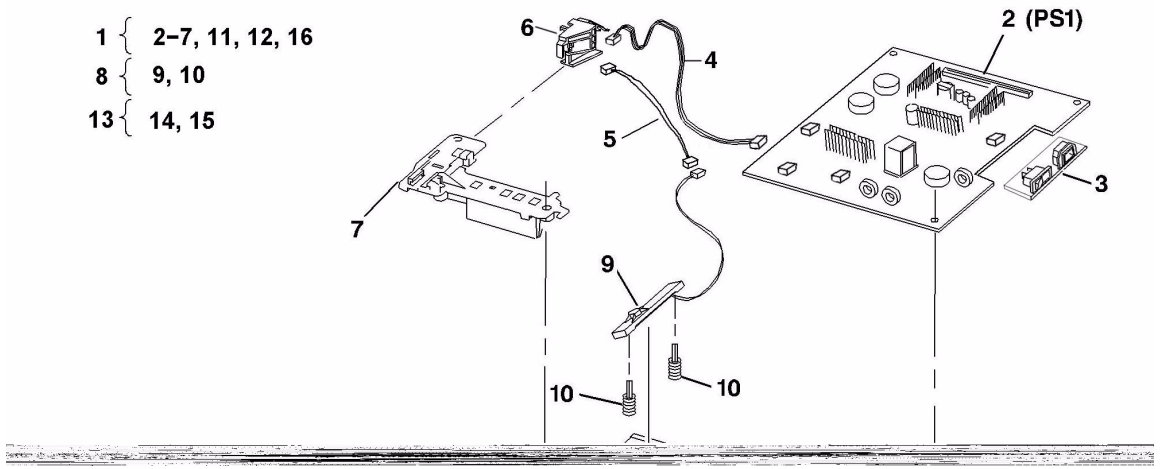
PL 1.2 Upper PCM Components

Item	Part	Description
1	–	Part of PCM Assembly (REF: PL 1.1 Item 9)
2	062K13011	ROS Module (REP 6.3)
3	160K96570	PCM Interface PWB (REP 1.3)
4	120E20080	Contact Spacer
5	604K17760	HVPS Repair Kit
6	055E49173	HVPS Mylar
7	105E15500	High Voltage Power Supply (HVPS) (PS2) (REP 1.5)
8	007K12173	Drive Module (MOT1) (REP 4.1)
9	960K10230	Main PWB (REP 1.2)
10	127K41250	Cooling Fan (MOT)
11	014K07852	Transfer Detack Contact Support (REP 1.6)
12	604K04040	CRU Blocker Kit
13	–	CRU Blocker (P/O PL 1.2 Item 12)
14	–	Spring (P/O PL 1.2 Item 12)
15	–	PCM Upper Frame (P/O PL 1.2 Item 1)
16	809E45010	RIS Ground Spring
17	117E23661	Power Cord (110v) (DMO)
–	117E10550	Power Cord (220v) (DMO)
–	117E23621	Power Cord (220v) (Europe/Iran/Africa/Turkey/Arabia/Russia)
–	117E23652	Power Cord (220v) (China)
–	117E23631	Power Cord (240v) (India/Hong Kong)
18	117E22910	Printer Cable



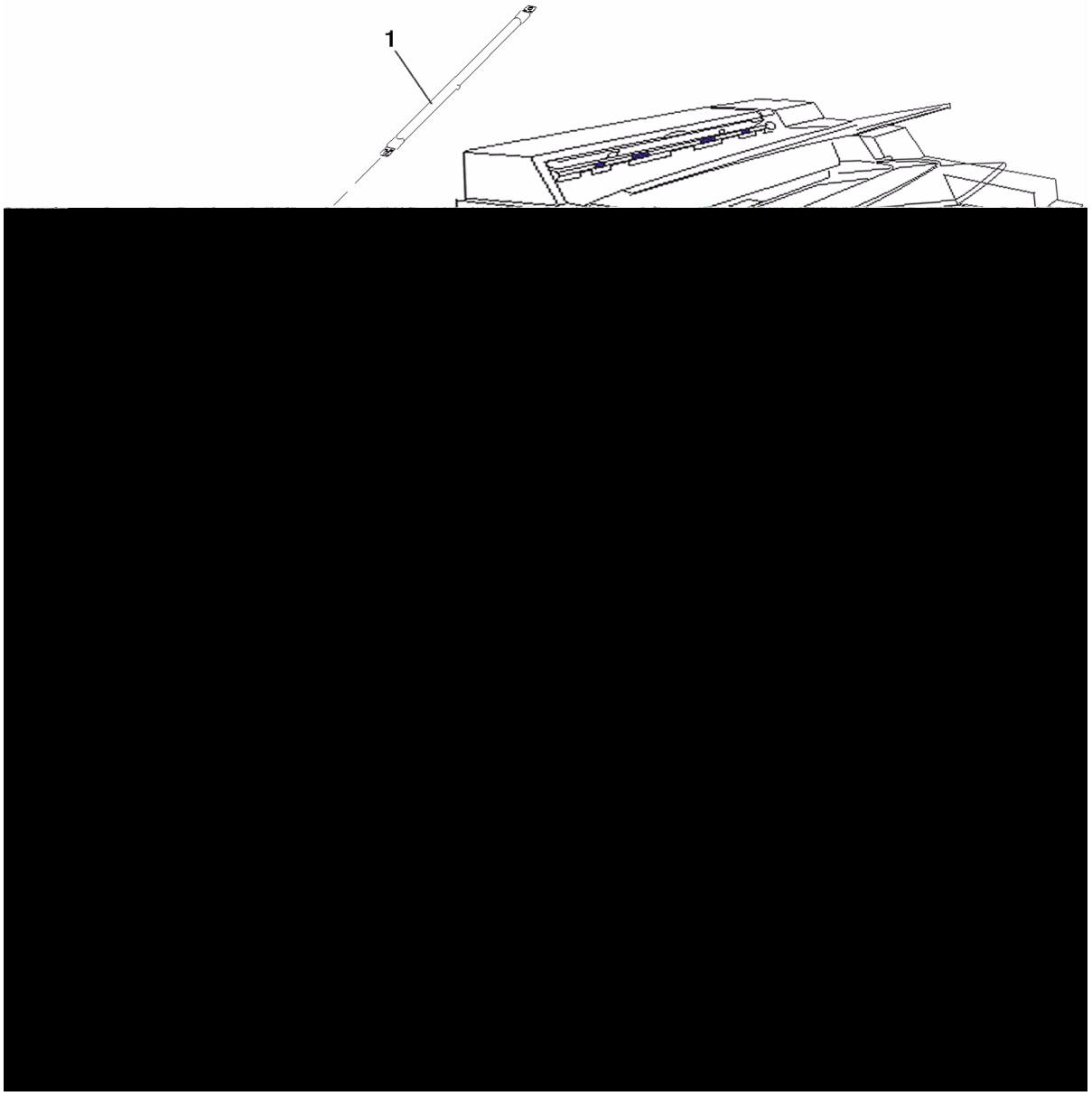
PL 1.3 Lower PCM Components

Item	Part	Description
1	–	Part of PCM Assembly (REF: PL1.1 Item 9)
2	105E26600	LVPS (110V) (PS1) (REP 1.4)
–	105E15490	LVPS (220V) (PS1) (REP 1.4) (China Mainland)
	105E15680	LVPS (220V) (PS1) (REP 1.4) (DMO-WAST)
3	160K96140	Power Switch Board (220V)
	960K10030	Power Switch Board (110V)
4	–	DC Harness
5	962K16160	AC Harness (220V)
	962K20650	AC Harness (110V)
6	–	Conversion Socket
7	115K02072	Durm Cartridge Contact Support (REP 1.7)
8	604K17750	Toner Sensor Kit
9	130K66180	Toner Sensor (P/O PL 1.3 Item 4)
10	–	Toner Sensor Spring (P/O PL 1.3 Item 4)
11	122K02330	Wrase Lamp (LP1) (REP 1.8)
12	–	Crum Connector (Not Spared)
13	604K17860	Interlock Actuator Kit
14	–	Spring (P/O PL 1.3 Item 13)
15	–	Front Door Interlock Actuator Kit (P/O PL 1.3 Item 13)
16	–	PCM Lower Frame (P/O PL 1.3 Item 13)



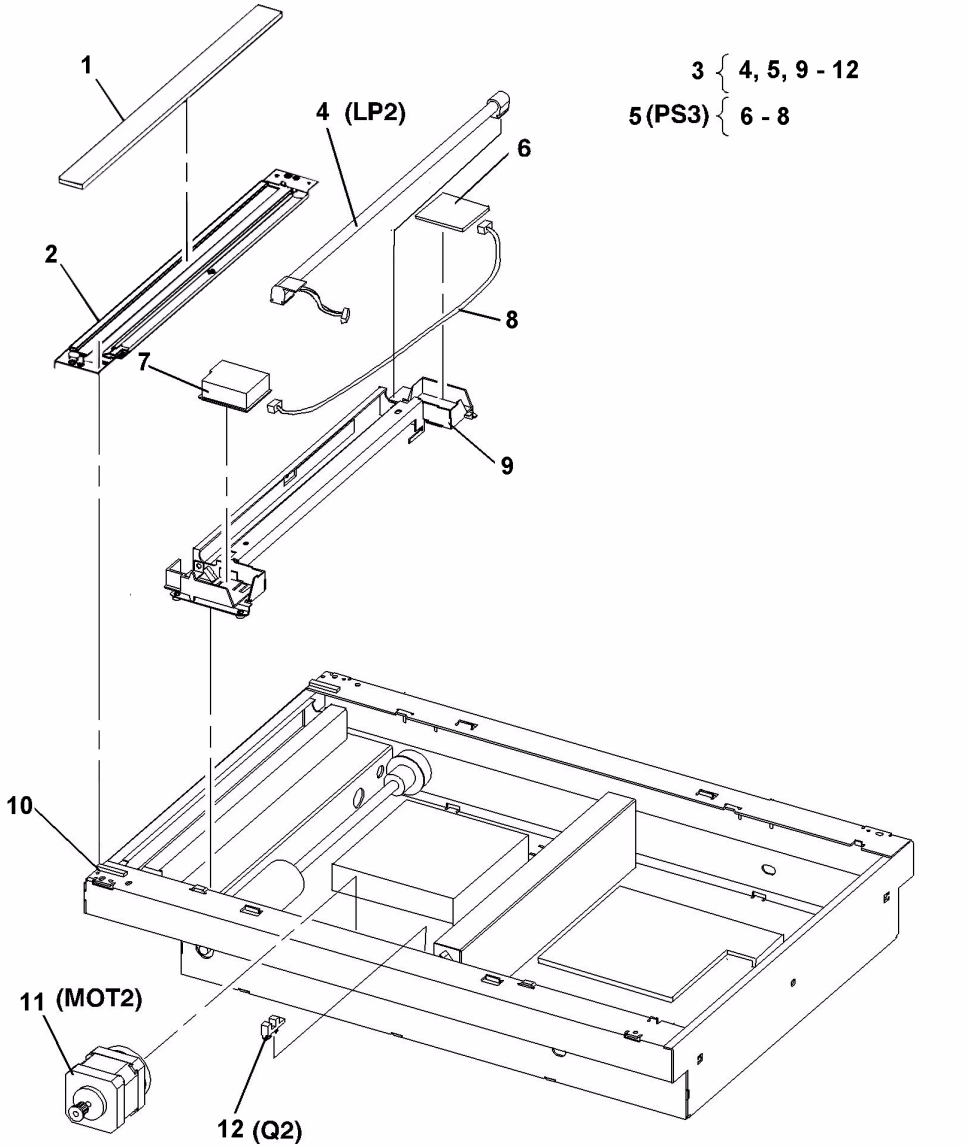
PL 1.4 Fuser, Drum Cartridge

Item	Part	Description
1	126E02101	Heat Rod (110V) (REP 10.2)
–	126E02111	Heat Rod (220V) (REP 10.1)
2	126K22680	Fuser Module (110V) (REP 10.1)
–	126K00540	Fuser Module (220V) (REP 10.1)
3	106R00280	Toner Bottle
4	113R00022	Drum Cartridge (China Mainland) (REP 9.1)
–	113R00023	Drum Cartridge (DMO-East) (REP 9.1)
–	113R00024	Drum Cartridge (DMO-Wast) (REP 9.1)
–	113R00025	Drum Cartridge (HongKong/Korea) (REP 9.1)
–	113R00026	Drum Cartridge (DMO-India) (REP 9.1)



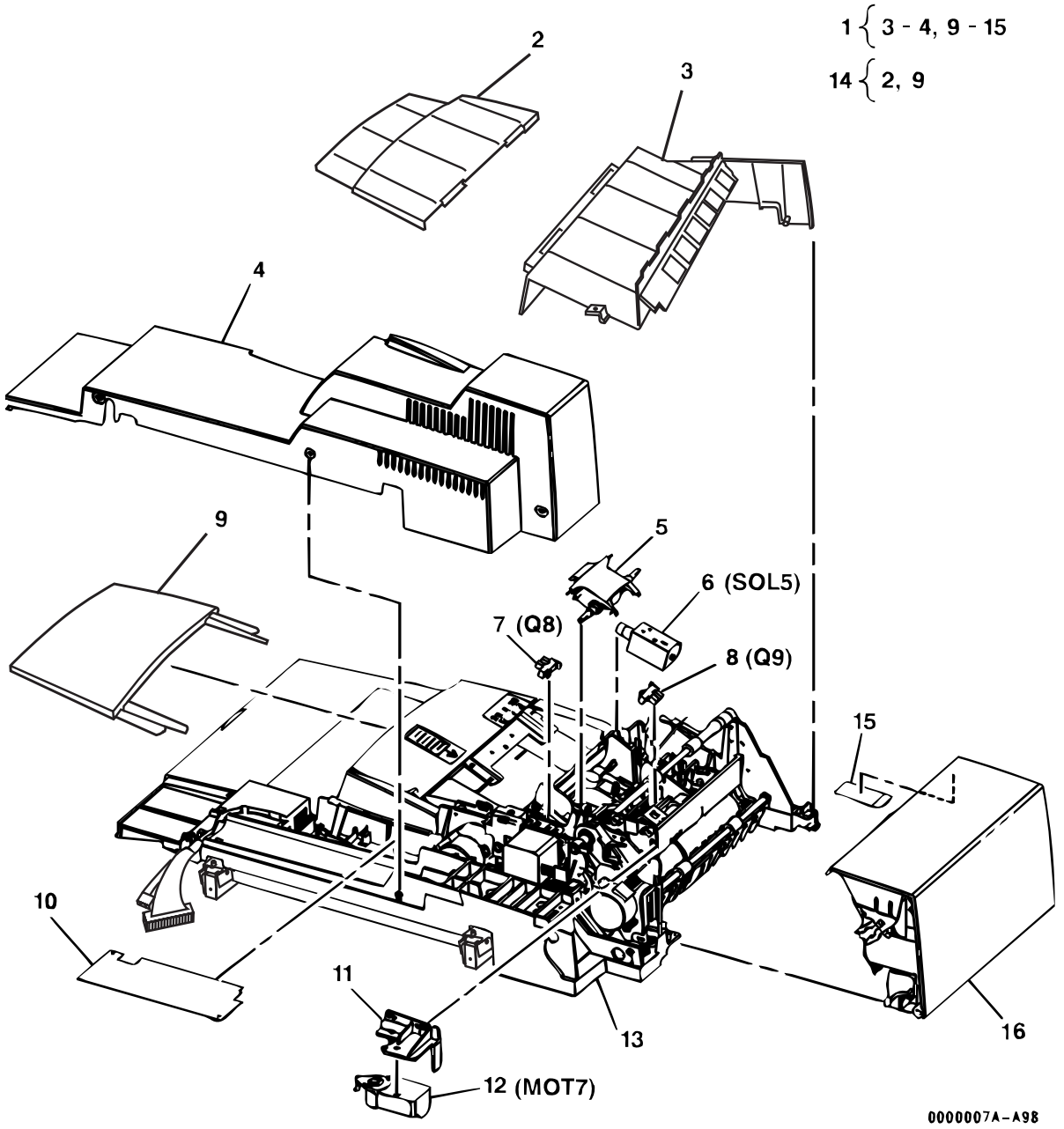
PL 2.1 Imager Components

Item	Part	Description
1	090E02550	CVT Glass (REP 6.4)
2	018K01250	Registration Guide
3	–	Prat of Imager Assembly (REP 6.7 PL 1.1 Item)
4	122E02580	Exposure Lamp (LP2) (REP 6.2)
5	105K18490	Exposure Lamp Power Supply (SP3) (REP 6.7)
6	–	Rear Power Supply (P/O PL 2.1 Item 5)
7	–	Front Power Supply (P/O PL 2.1 Item 5)
8	–	Harness (P/O PL 2.1 Item 5)
9	–	Harness (P/O PL 2.1 Item 3)
10	–	Imager House (P/O Item 3)
11	–	Scan Driver Motor (MOT2) (P/O PL 2.1 Item 3)
9	130E09310	Scan Home Sensor (Q2)



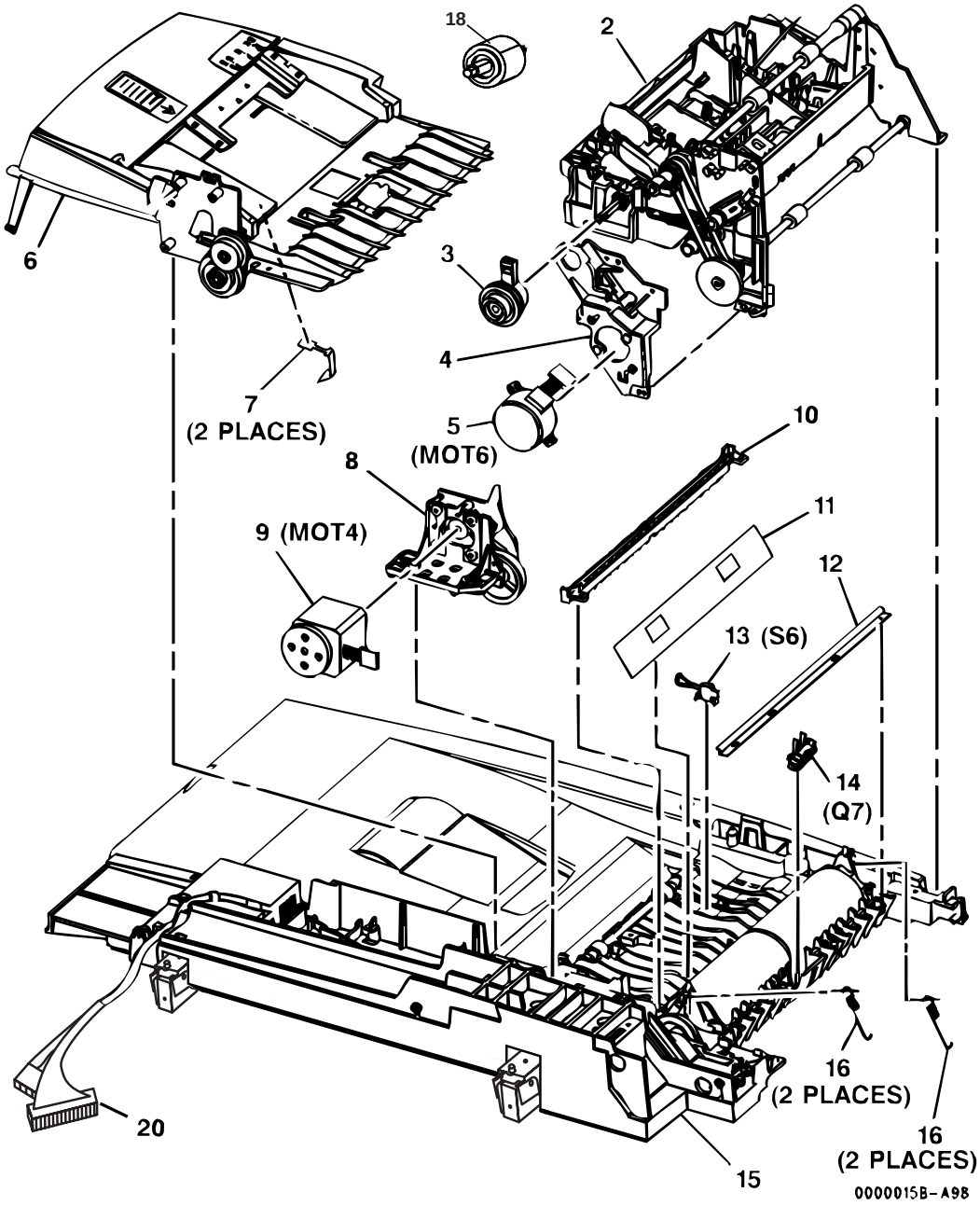
PL 3.1 Control Panel Components

Item	Part	Description
1	–	Part of ADF Module (REF: PL3.1 Item 1)
2	050K54810	Oct Output Tray Extension (P/O Item 1)
3	–	Offset Catch Tray (Rep 6.7 PL Item)
4	–	ADF Driver Cover (REP 5.2)
5	022K60222	Feed Roll (REP 5.5)
6	121K33560	Document Nudger Solenoid (REP 5.4)
7	107E94941	Document Present Sensor (REP 5.10)
8	107E94941	Document Pre Registration Sensor (REP 5.11)
9	–	Catch Tray Extension
10	160K96430	ADF Control PWB (REP 5.7)
11	–	OCT Motor Bracket (MOT2) (P/O PL 3.1 Item 3)
12	127K30560	OCT Motor (MOT2) (P/O PL 2.1 Item 3) (REP 5.15)
13	–	Document Feeder Housing
14	–	Tray Extension Kit
15	038K13220	Copy Exit Guide
16	802K53830	ADF Access Door (REP 5.13)



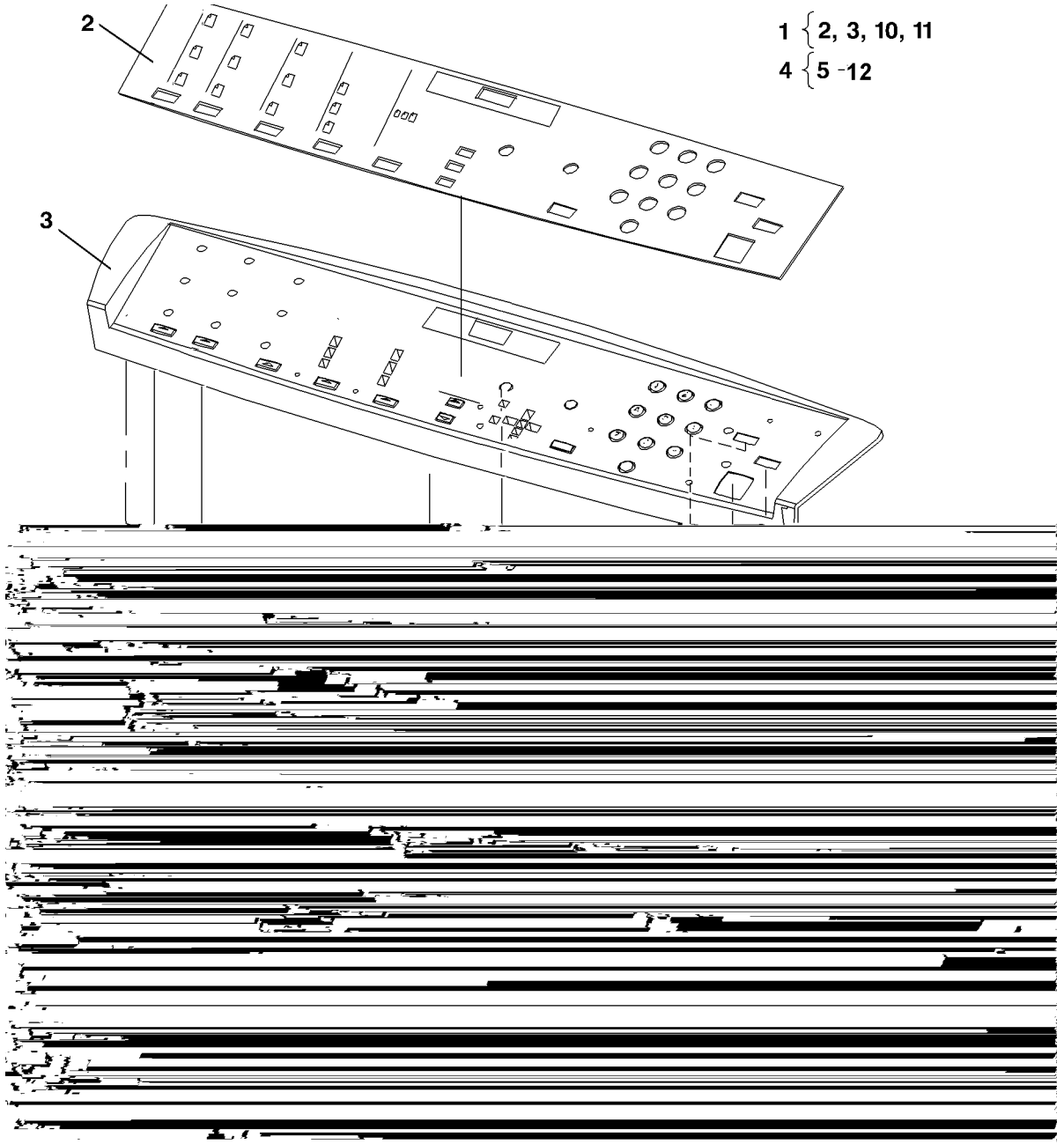
PL 3.2 ADF Module (2of2)

Item	Part	Description
1	–	Part of ADF Module (REF: PL 3.2 Item 1)
2	–	Document Input Transport (P/L 3.2 Item 1) (REP 5.14, ADJ 5.1)
3	121K25271	Document Feed Clutch (REP 5.14)
4	–	Copy Exit Motor Bracket (P/O PL 3.2 Item 1)
5	127K43940	Copy/Print Exit Motor (REP 5.16) (P/O PL 3.2 Item 1)
6	001E76280	Document Transport (Input Tray) (REP 5.14)
7	038K13331	Document Output Guide
8	–	CVT Motor Bracket (P/O PL 3.2 Item 1)
9	127K43720	CVT Motor (REP) (P/O PL 3.2 Item 1)
10	055K34430	Baffle Passive Assembly (P/O PL 3.2 Item 1)
11	–	Paper Guide (P/O PL 3.2 Item 1)
12	–	Frame Stiffener (P/O PL 3.2 Item 1)
13	130K65042	Document Exit Switch (REP 5.12)
14	130E09390	Registration Sensor (REP 5.9)
15	809E48730	CVT Idler Spring
16	–	Document Feeder Housing
17	962K16430	ADF Interface Cable
18	059K34770	Retard Roller (REP 5.6)



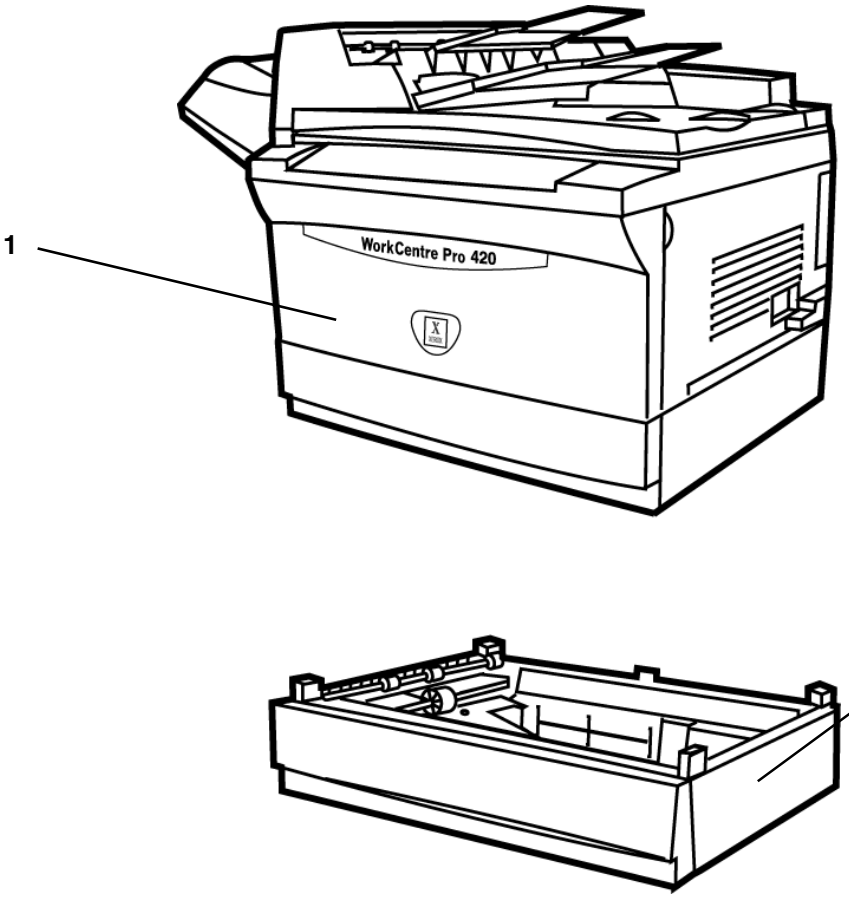
PL 4.1 Control Panel Assembly

Item	Part	Description
1	–	Part of Control Panel Assembly (REP PL 1.1 Item 1)
2	–	Control Panel Label (P/O PL 4.1 Item 1)
3	–	Control Panel Top Cover (P/O PL 4.1 Item 1)
4	604K17730	Control Panel Repair Kit
5	–	Print Pause Resume Button (P/O PL 4.1 Item 4)
6	–	Stop Clear Button (P/O PL 4.1 Item 4)
7	–	Start Button (P/O PL 4.1 Item 4)
8	–	Numeric Button (P/O PL 4.1 Item 4)
9	–	Features Button (P/O PL 4.1 Item 4)
10	–	Single /Duplex Button (P/O PL 4.1 Item 4)
11	–	Pagination Button (P/O PL 4.1 Item 4)
12	–	Key Button (P/O PL 4.1 Item 4)
13	–	Control Panel Harness (Not Spared)
14	160K96350	Control Panel PWB



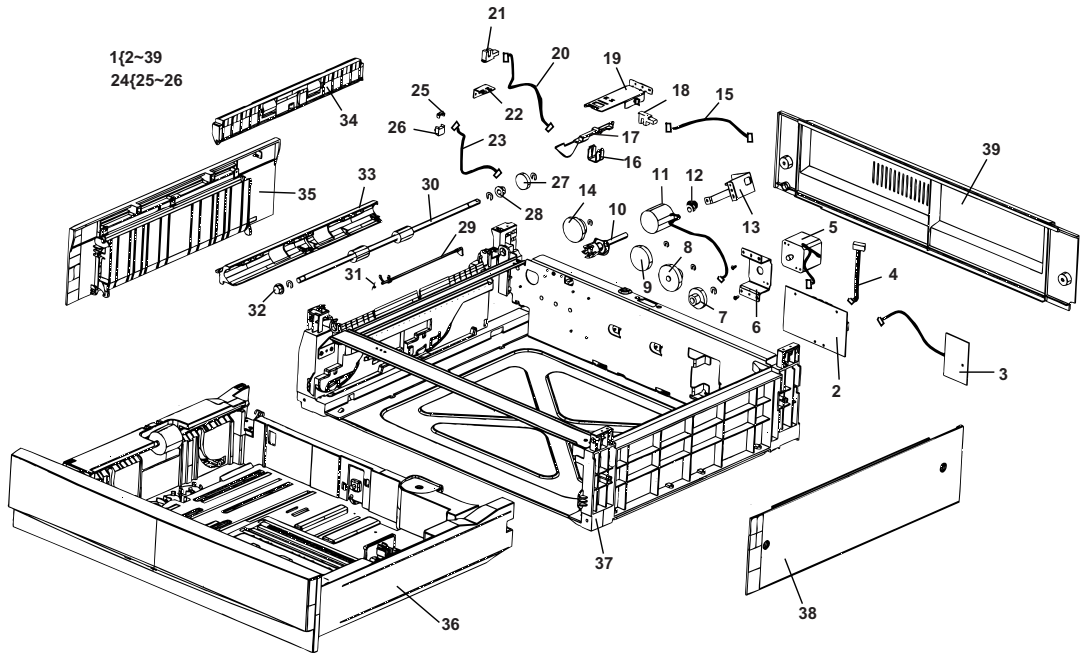
PL 5.1 Tray 1/Tr ay 2

Item	Part	Description
1	–	Tray 1 Module (REF: Item 2) (Note: Tray 1 Same As Tray 2, Minus Rear Cover, Right Cover And Harness) (REP 8.19A REP 8.19B)
2	097S50213	Tray 2 Module (REP 8.9A REP 8.9B)



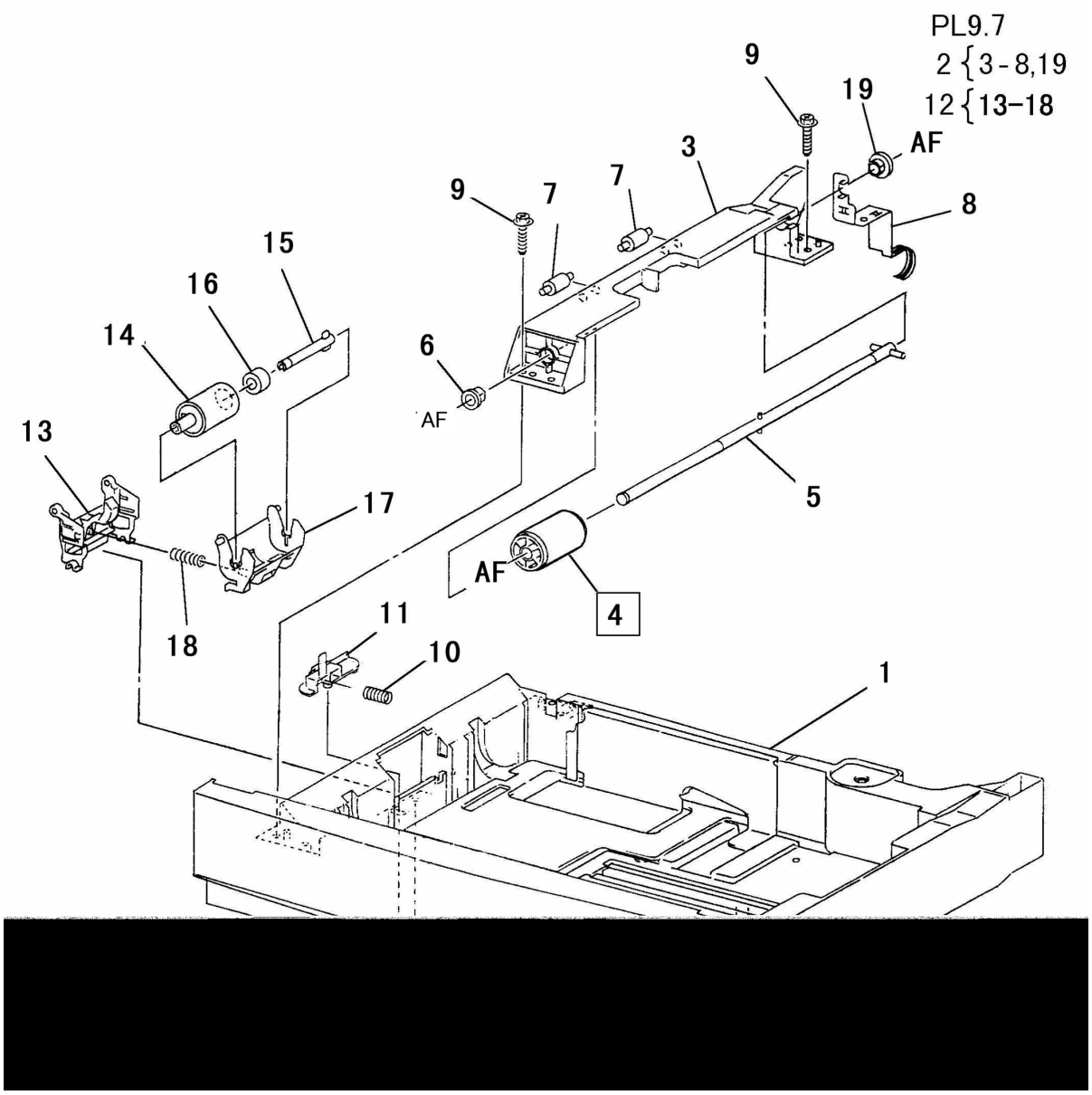
PL 5.2 Tray Module

Item	Part	Description
1	–	CIM Module
2	160K96420	Tray 1 Control PWB
3	110K14070	Harness
4	962K17460	Paper Size Switch
5	127K43280	CIM Motor (REP 18.15)
6	–	CIM Motor Bracket
7	807E05500	Gear (T51/15)
8	007E66810	Gear (T40/18)
9	007E01240	Gear (T37)
10	011K02940	Joint Assy Drive
11	121K28300	CIM Clutch (REP 8.14)
12	413W77559	Bearing
13	–	CIM Clutch Bracket
14	007E66820	Gear (T38/26)
15	–	Harness
16	–	Bracket
17	120E25110	No Paper Sensor Actuator
18	130E82740	No Paper Sensor (REP 8.23)
19	–	No Paper Sensor Bracket
20	–	Harness
21	130E82740	Take Away Sensor (REP 8.24)
22	–	Take Away Sensor Bracket
23	–	Harness
24	604K18040	Left Cover Interlock Switch Kit (REP 8.25) (Include 25-26)
25	–	Left Cover Interlock Bracket
26	–	Left Cover Interlock
27	007E60720	Gear (T22)
28	413W77559	Bearing
29	120E25170	Take Away Sensor Actuator
30	059K34020	T/A Roller
31	809E48760	Spring
32	013E90840	Bearing
33	–	Upper Feed Chute
34	604K18010	Left Cover Baffle Kit
35	–	Left Cover
36	050K54370	Tray
37	–	Tray Outline Border
38	802E53140	Right Cover (REP 14.3)
39	802E53130	Rear Cover (REP 14.2)



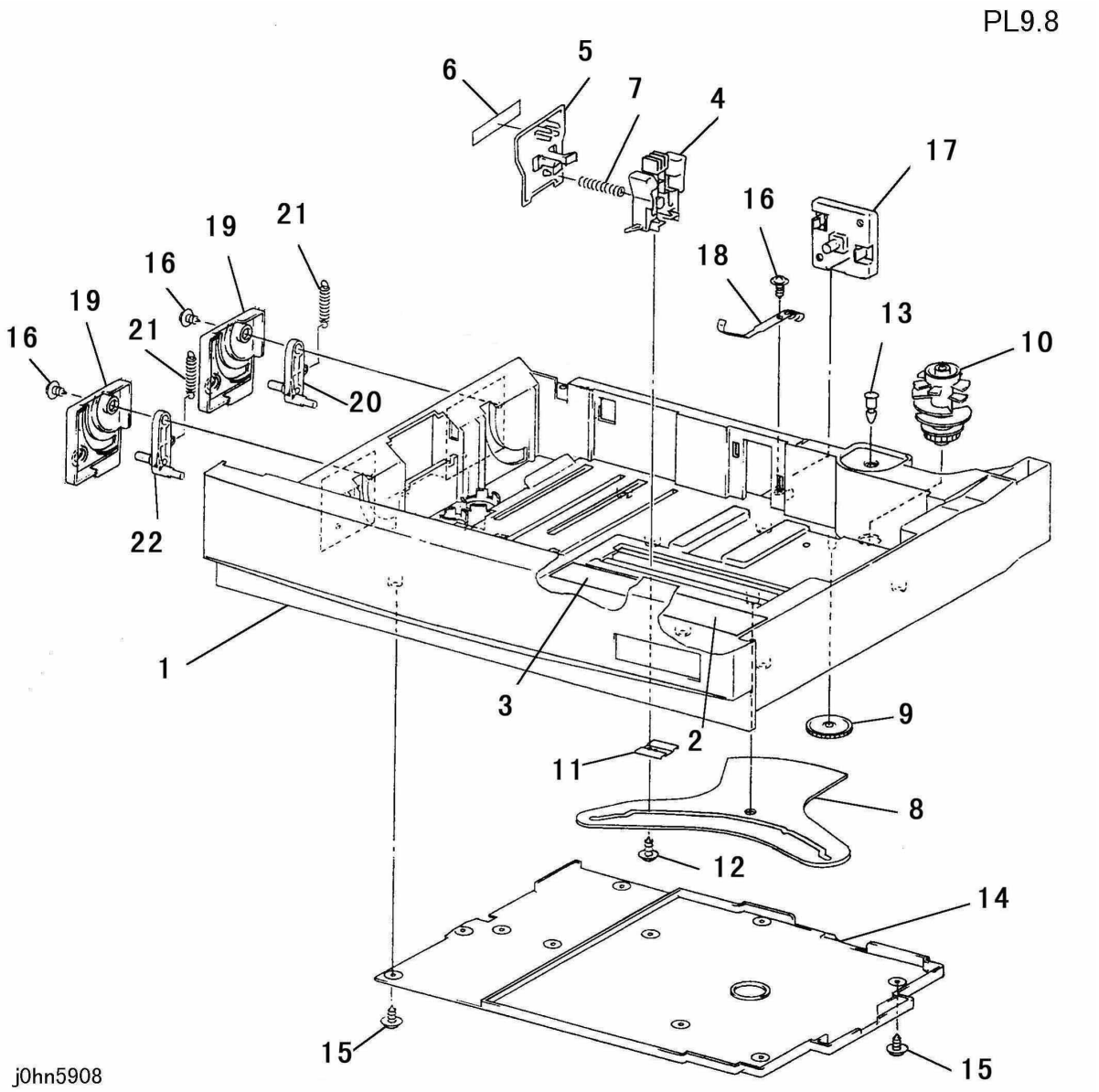
PL 5.3 Tray (1of3)

Item	Part	Description
1	–	Tray Assembly
2	050K54370	Feeder Assembly
3	054E25140	Chute
4	059K21970	Feed Roller Assembly (REP 8.15)
5	006K28430	Shaft Assembly
6	–	Bearing
7	–	Roller
8	–	Earth Plate
9	–	Screw
10	809E33160	Spring
11	031E10340	Holder
12	019K97497	Retard Holder Assembly (REP 8.17)
13	–	Retard Housing
14	059K21960	Retard Roller
15	–	Shaft
16	005K06110	Friction Clutch
17	–	Retard Holder
18	809E49210	Spring
19	–	Bearing



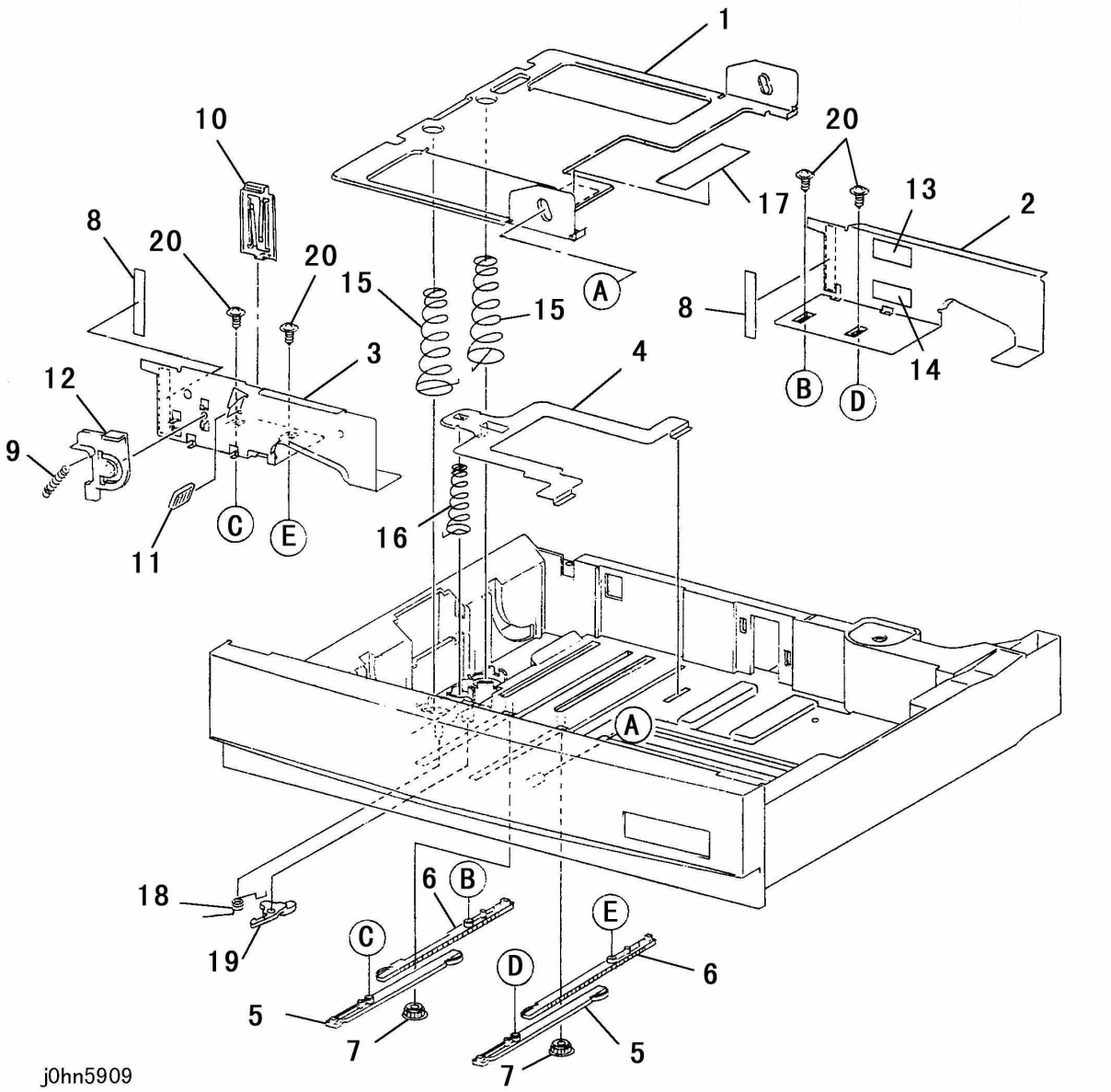
PL 5.4 Tray (2of3)

Item	Part	Description
1	–	Housing
2	–	Label Instruction
3	–	Label Instruction (End Guide)
4	038E29640	End Guide
5	038E29870	Plate End Guide
6	038E24300	Guide
7	809E14810	Spring
8	807E05440	Gear
9	007E55290	Idler Gear
10	008E93921	Size Cam (REP 8.16)
11	–	End Guide Lock
12	–	Screw
13	029E14970	Pin
14	–	Cover
15	–	Screw
16	–	Screw
17	–	Cover
18	809E48590	Earth Spring
19	–	Latch
20	003K17710	Rear Latch
21	809E32960	Spring
22	003K17700	Front Latch



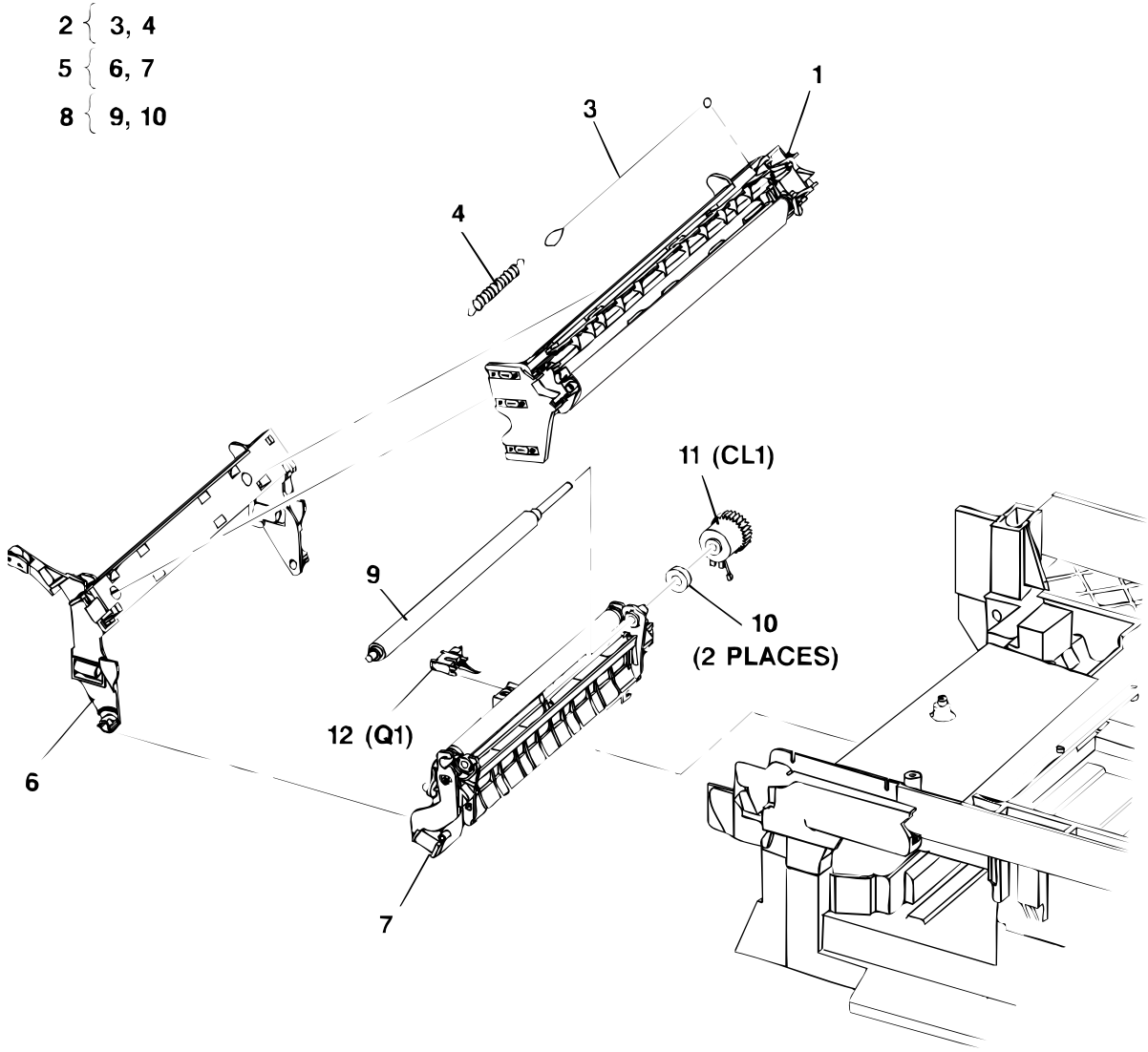
PL 5.5 Tray (3of3)

Item	Part	Description
1	–	Bottom Flate Assembly (Upper)
2	038E29630	Side Baffle (Rear)
3	038E29620	Side Baffle (Front)
4	–	Bottom Plate
5	807E05430	Rack
6	807E05450	Rack
7	007E55261	Pinion
8	–	Guide
9	809E34771	Spring
10	–	Spring Plate
11	–	Cap
12	011E14240	Lever
13	–	Label (Max)
14	–	Label (OHP Max)
15	809E38040	Spring
16	809E38050	Spring
17	–	Label (Size)
18	809E48460	Spring
19	–	Latch
20	–	Screw



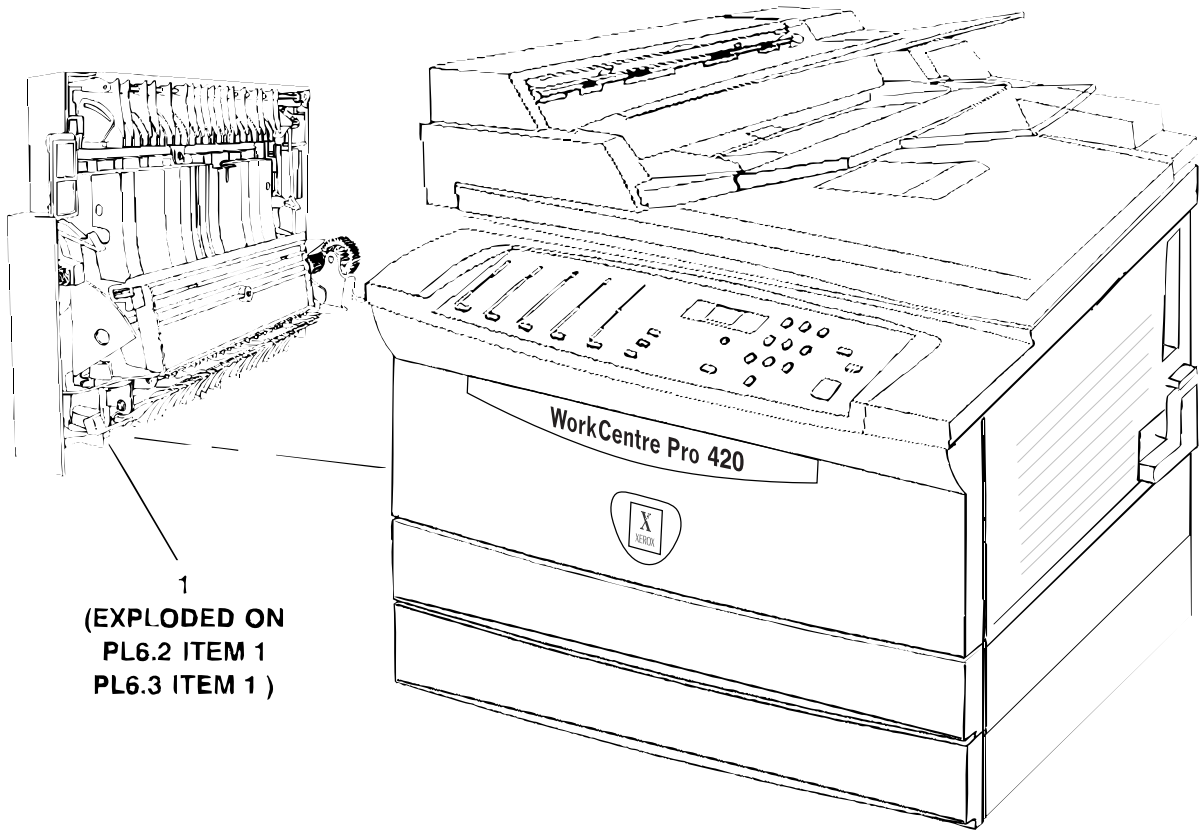
PL 6.1 Registration And corotron

Item	Part	Description
1	125K03930	Registration Assembly (REP 8.2)
2	125K03950	Transfer Detack Corpotron (REP 9.2)
3	604K00570	Corotron Wire Kit (REP 9.3)
4	–	Transfer Detack Corotron Wire (P/O PL 5.1 Item 2)
5	–	Spring (P/O PL 6.1 Item) (P/O PL 5.1 Item 5)
6	–	Transfer/Detack Corotron Support (P/O PL 5.1 Item 5)
7	–	Registration Framework (P/O PL 5.1 Item 5)
8	604K00580	Registration Roller Kit (REP 8.6)
9	–	Registration Roller (P/O PL 5.1 Item 8) (REP 8.6)
10	–	Bearing (P/O PL 5.1 Item 8)
11	604K00590	Registration Clutch Kit (CL1) (REP 8.5)
12	604K00600	Registration Sensor Kit (Q1) (REP 8.6)



PL 7.1 Door

Item	Part	Description
1	–	Door Module (REP 8.1)



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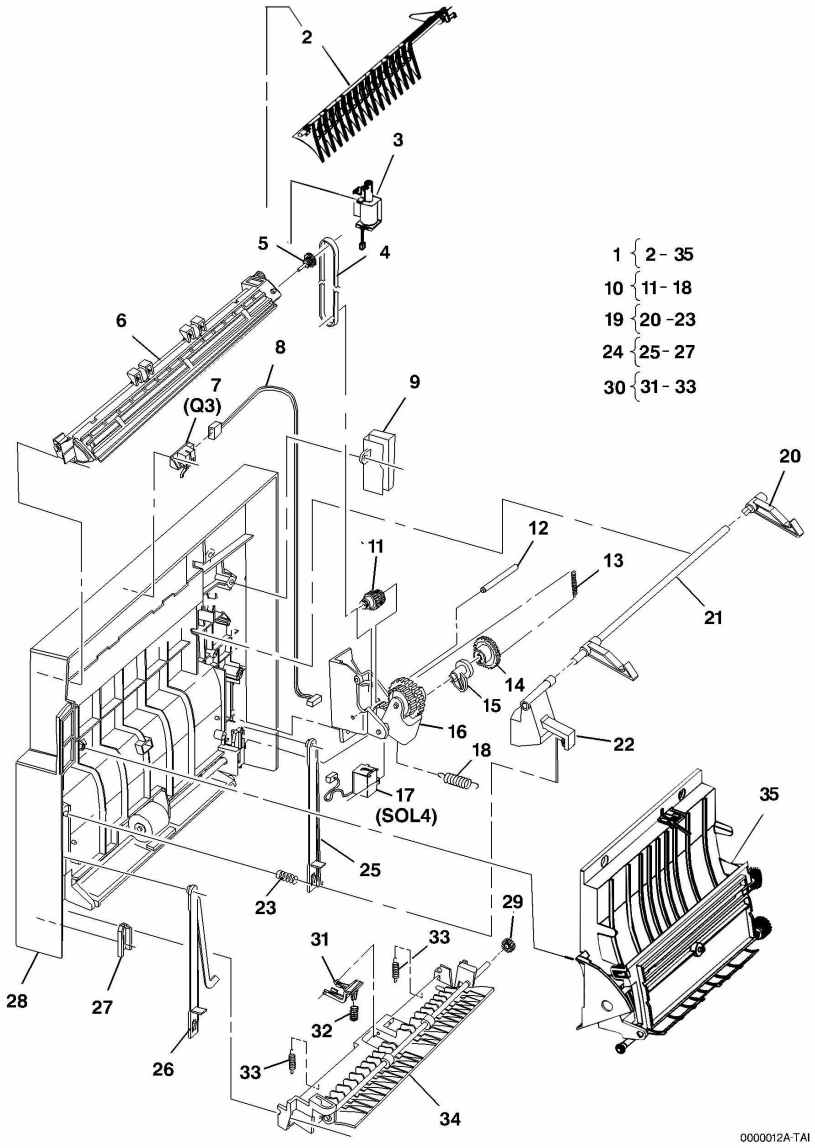
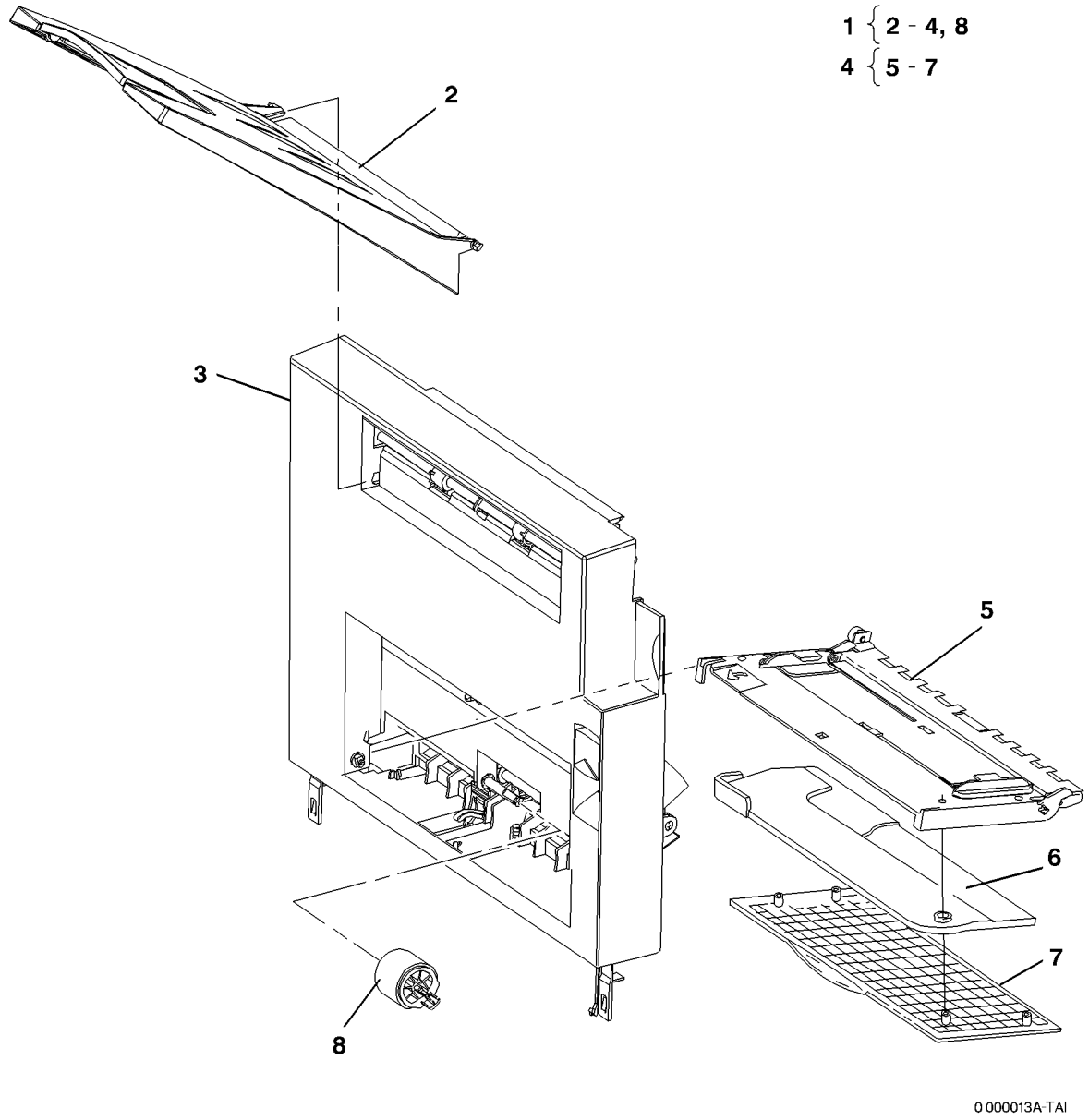
PL 7.2 Door Components (1of2)

Item	Part	Description
1	–	Part Of Door Module (REP PL 7.1 Item 1)
2	006K28370	Driver Gate (P/O PL 7.2 Item 1)
3	121E18780	Driver Gate Solenoid (P/O PL 7.2 Item 1)
4	–	24Belt (P/O PL 7.2 Item 1)
5	–	Transport Gear (P/O PL 7.2 Item 1)
6	–	Exit Transport (P/O PL 7.2 Item 1)
7	130K83340	Exit Sensor (Q3) (REP 8.21)
8	962K02671	Exit Sensor Harness (P/O PL 7.2 Item 1)
9	–	Door Connector (P/O PL 7.2 Item 1)
10	604K04010	Door Gear Kit
11	–	Sector Gear Spring (P/O PL 7.2 Item 7)
12	–	Shaft (P/O PL 7.2 Item 7)
13	–	Gear (18T/15T) (P/O PL 7.2 Item 7)
14	–	Sector Gear (P/O PL 7.2 Item 7)
15	008E07390	Cam (P/O PL 7.2 Item 7)
16	–	Gears and Housing (P/O PL 7.2 Item 7)
17	121E17524	Bypass Solenoid (SOL 4) (REP 8.23)
18	–	Spring
19	604K04000	Door Latch Kit
20	–	Door Latch (P/O PL 6.2 Item 15)
21	–	Latch Shaft (P/O PL 6.2 Item 15)
22	–	Door Handle (P/O PL 6.2 Item 15)
23	–	Door Latch Spring (P/O PL 6.2 Item 15)
24	604K04140	Door Tether Kit
25	–	Rear Tether (P/O PL 7.2 Item 20)
26	–	Front Tether (P/O PL 7.2 Item 20)
27	–	Hinge Lock (P/O PL 7.2 Item 1)
28	–	Door (P/O PL 7.2 Item 1)
29	–	Gear (T18) (P/O PL 7.2 Item 1)
30	–	Bypass Retard Pad Kit (P/O PL 7.2 Item 1)
31	019K06310	Bypass Retard Pad (REP 8.12)
32	809E49500	Retard Pad Spring (P/O PL 7.2 Item 1)
33	–	Spring
34	–	Lower Guide
35	–	Main Baffle (REP 8.22)



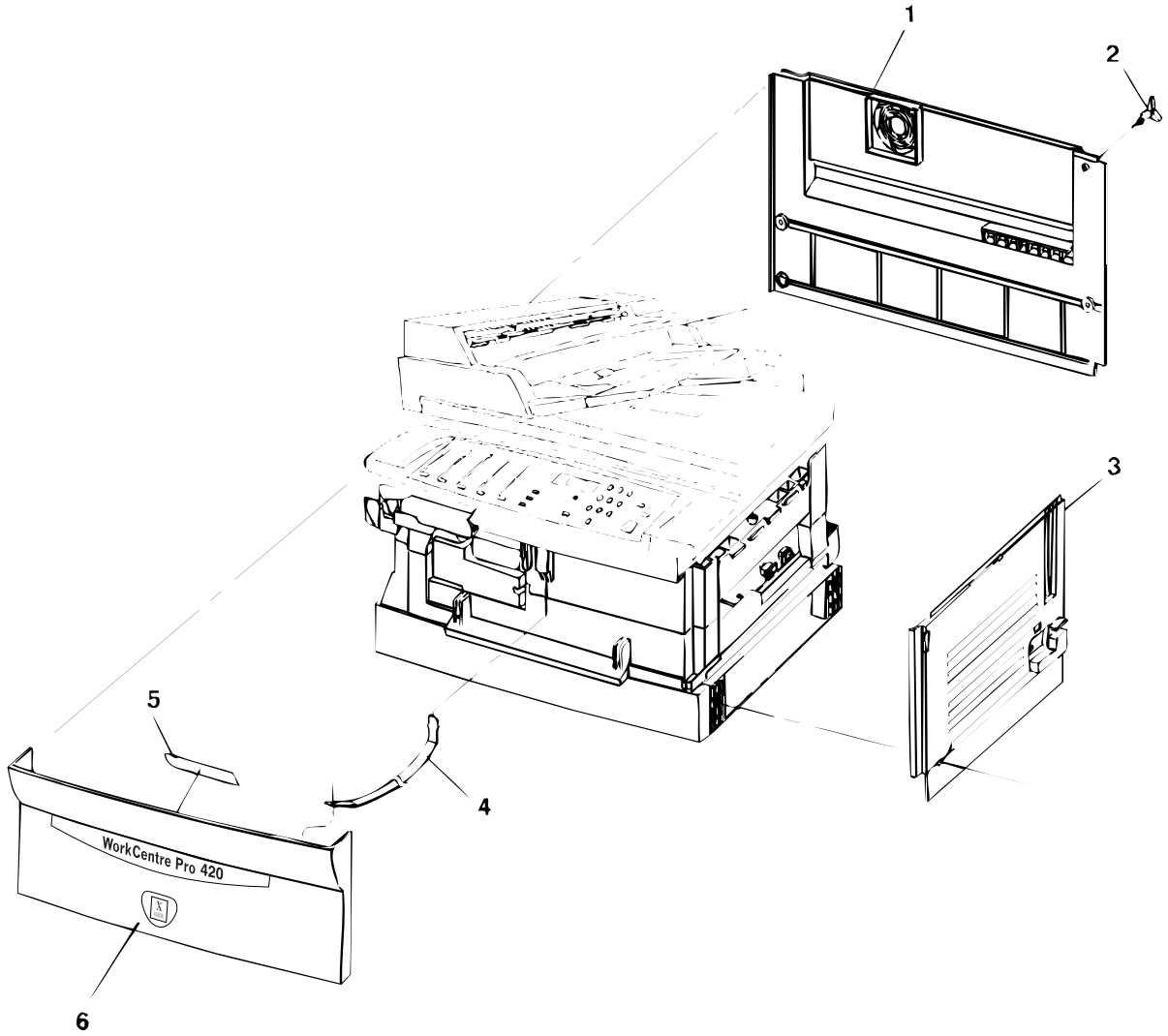
PL 7.3 Door Components (2of2)

Item	Part	Description
1	–	Part of Door Module (REP PL 7.1 Item 1)
2	050K53311	Side Output Tray (REP 8.7)
3	–	Door (P/O PL 7.3 Item 1)
4	050K53451	Bypass Tray Kit (P/O PL 7.3 Item 1) (REP 8.8)
5	–	Bypass Tray (P/O PL 7.3 Item 4)
6	–	Bypass Tray Extensior (P/O PL 7.3 Item 4)
7	–	Cover (P/O PL 7.3 Item 4)
8	059K28550	Bypass Feed Roller (REP 8.11)



PL 8.1 Covers

Item	Part	Description
1	802E51970	Rear Cover (REP 14.2)
2	–	Optics Locking Screw (Not Spared)
3	802E52200	Right Cover (REP 14.3)
4	001E73111	Front Door Tether
5	893E01350	J1/J7 Label (English)
–	893e01290	J1/J7 Label (Chinese)
6	802K62460	Front Door (REP 14.6)



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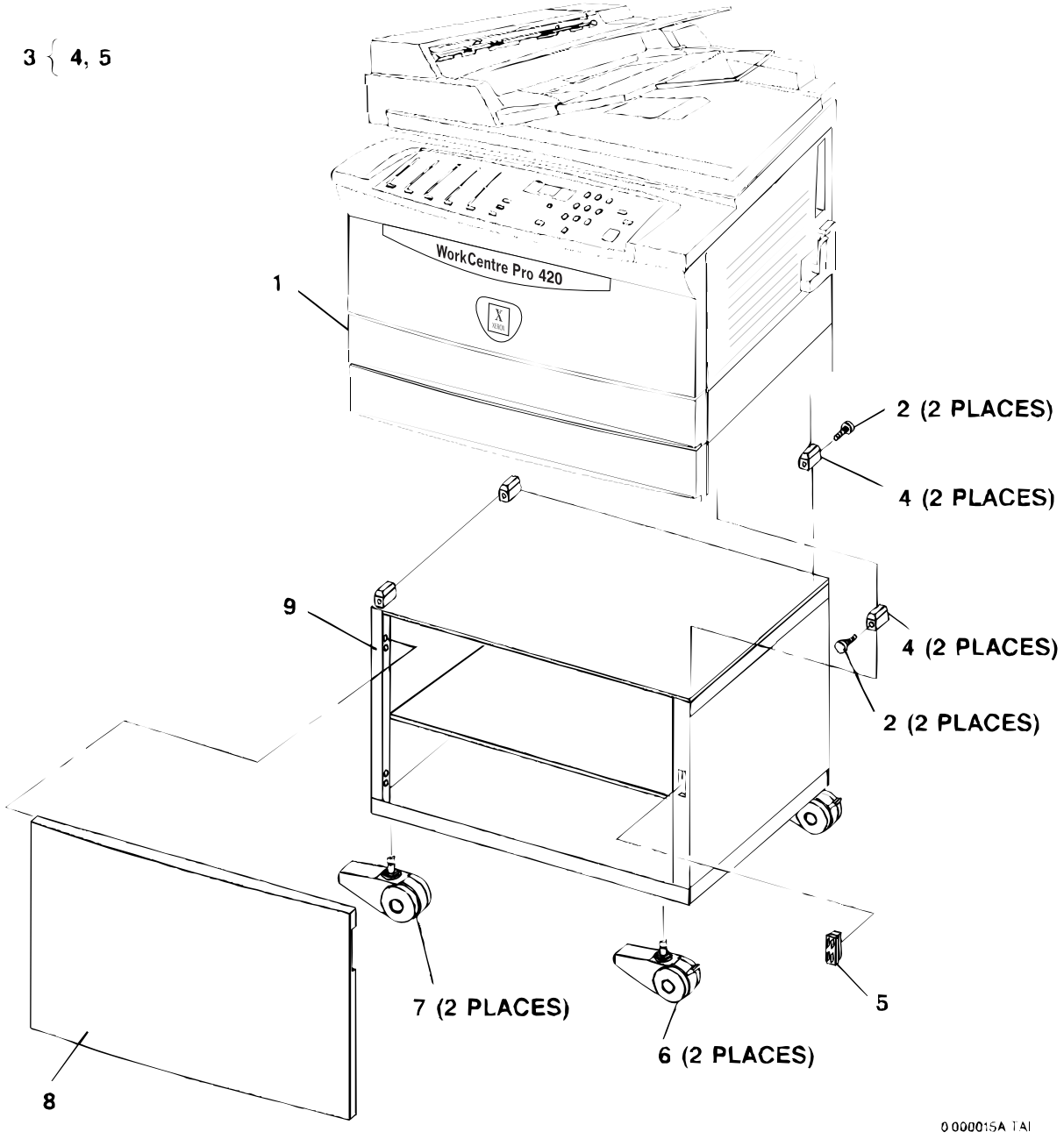
PL 8.2 Stand

Item	Part	Description
1	–	Print/Copier (Not Spared)
2	–	Stand Installation Screw (P/O PL 7.2)
3	604K04020	Stand Repair Kit
4	–	Locator Registration (P/O PL 7.2 Item 3)
5	–	Magnet (P/O PL 7.2 Item 3)
6	017K00590	Swivel Caster
7	017E08790	Rigid Caster
8	802K39340	Stand Door
9	097S02556	Stand



Part Number Index

Table 1 Part Number Index

Part Number	Part List
802K53800	PL 1.1
802K62090	PL 1.1
802E51840	PL 1.1
809E48410	PL 1.1
802E95250	PL 1.1
892E54181	PL 1.1
090E02520	PL 1.1
101K48480	PL 1.1
101K49020	PL 1.1
801K13160	PL 1.1
062K13011	PL 1.2
160K96570	PL 1.2
120E20080	PL 1.2
604K17760	PL 1.2
055E49173	PL 1.2
105E15500	PL 1.2
007K12173	PL 1.2
960K10230	PL 1.2
127K41250	PL 1.2
014K07852	PL 1.2
604K04040	PL 1.2
809E45010	PL 1.2
117E23652	PL 1.2
117E22910	PL 1.2
105K26600	PL 1.3
105E15490	PL 1.3
105E15680	PL 1.3
160K96140	PL 1.3
960K10030	PL 1.3
962K16160	PL 1.3
962K20650	PL 1.3
115K02072	PL 1.3
604K17750	PL 1.3
130K66180	PL 1.3
122K02330	PL 1.3
604K17860	PL 1.3
126E02101	PL 1.4
126E02111	PL 1.4
126K22680	PL 1.4

Table 1 Part Number Index

Part Number	Part List
126K22540	PL 1.4
106R00280	PL 1.4
101R00022	PL 1.4
101R00023	PL 1.4
101R00024	PL 1.4
101R00025	PL 1.4
101R00026	PL 1.4
090E02550	PL 2.1
018K01250	PL 2.1
122E02580	PL 2.1
105K18490	PL 2.1
130E09310	PL 2.1
050K54810	PL 3.1
022K60222	PL 3.1
121K33560	PL 3.1
107E94941	PL 3.1
107E94941	PL 3.1
160K96430	PL 3.1
127K30560	PL 3.1
038K13220	PL 3.1
802K53830	PL 3.1
121K25271	PL 3.2
127K43940	PL 3.2
001E76280	PL 3.2
038K13331	PL 3.2
127K43720	PL 3.2
055K34430	PL 3.2
130K65042	PL 3.2
130E09390	PL 3.2
809E48730	PL 3.2
962K16430	PL 3.2
059K34770	PL 3.2
604K17730	PL 4.1
160K96350	PL 4.1
097S50213	PL 5.1
160K96420	PL 5.2
110K14070	PL 5.2
962K17460	PL 5.2
127K43280	PL 5.2
807E05500	PL 5.2
007E66810	PL 5.2

Table 1 Part Number Index

Part Number	Part List
007E1240	PL 5.2
11K02940	PL 5.2
121K28300	PL 5.2
413W77559	PL 5.2
007E66820	PL 5.2
120E25110	PL 5.2
130E82740	PL 5.2
130E82740	PL 5.2
604K18040	PL 5.2
007E60720	PL 5.2
413W77559	PL 5.2
120E25170	PL 5.2
059K34020	PL 5.2
809E48760	PL 5.2
013E90840	PL 5.2
604K18010	PL 5.2
50K54370	PL 5.2
802E53140	PL 5.2
802E53130	PL 5.2
050K54390	PL 5.3
054E25140	PL 5.3
059K21970	PL 5.3
006K28430	PL 5.3
809E33160	PL 5.3
031E10340	PL 5.3
019K97497	PL 5.3
059K21960	PL 5.3
005K06110	PL 5.3
809E49210	PL 5.3
038E29640	PL 5.4
038E29870	PL 5.4
038E24300	PL 5.4
809E14810	PL 5.4
807E05440	PL 5.4
007E55290	PL 5.4
008E93921	PL 5.4
029E14970	PL 5.4
809E48590	PL 5.4
003K17710	PL 5.4
809E32960	PL 5.4
003K17700	PL 5.4

Table 1 Part Number Index

Part Number	Part List
038E29630	PL 5.5
038E29620	PL 5.5
807E05430	PL 5.5
807E05450	PL 5.5
007E55261	PL 5.5
809E34771	PL 5.5
011E14240	PL 5.5
809E38040	PL 5.5
809E38050	PL 5.5
125K03930	PL 6.1
125K03950	PL 6.1
604K00570	PL 6.1
604K00580	PL 6.1
604K00590	PL 6.1
604K00600	PL 6.1
055E49342	PL 6.2
121E17523	PL 6.2
130K83340	PL 6.2
604K04000	PL 6.2
604K04011	PL 6.2
604K04141	PL 6.2
604K04381	PL 6.2
604K04390	PL 6.2
962K02670	PL 6.2
050K53311	PL 6.3
050K53451	PL 6.3
059K28550	PL 6.3
006K28370	PL 7.2
121E18780	PL 7.2
130K83340	PL 7.2
962K02671	PL 7.2
604K04010	PL 7.2
008E07390	PL 7.2
121E17524	PL 7.2
604K04000	PL 7.2
604K04140	PL 7.2
019K06310	PL 7.2
809E49500	PL 7.2
050K53311	PL 7.3
050K53451	PL 7.3
059K28550	PL 7.3

Table 1 Part Number Index

Part Number	Part List
802E51970	PL 8.1
802E52200	PL 8.1
001E73111	PL 8.1
893E01350	PL 8.1
893E01290	PL 8.1
802K62460	PL 8.1
604K04020	PL 8.2
017K00590	PL 8.2
017E08790	PL 8.2
802K39340	PL 8.2
097S02556	PL 8.2

6 General Procedures / Information

General Procedures

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Diagnostics

Enter Diagnostic Mode

CAUTION

Do not switch off power while Exposure Lamp Carriage moves to initialize. Switching off power before Exposure Lamp Carriage stops moving may produce U2 status code or Scan Drive Motor noise when power is switched on.

1. Switch off machine.
2. Wait 5 seconds.
3. Press and hold down **0** button, switch on machine. Release **0** button after Control Panel indicators illuminate.

Machine is in Diagnostic Mode and diagnostic code can be entered after control panel indicators go out.

Exit Diagnostic Mode

Exit Diagnostic Mode using either of following:

- Press **Stop/Clear** button 5 times.

  or
- Switch off machine, and then switch on machine.

Enter Diagnostic Code

1. Enter Diagnostic Mode
2. Enter code number that is to left of hyphen (in table), using number keys. A **C** and number are displayed. Press **Start** button and 3 hyphens are displayed.
3. Enter code number that is to right of hyphen (in table), using number keys. Number is displayed. Press **Start** button to energize an output component or to enable an input component to respond to manual actuation. A Component such as motor, clutch, or solenoid will energize at this time. Components such as sensor or button require manual actuation to verify operation.

Clear Diagnostic Code

Press **Stop/Clear** button to clear diagnostic code.

Enter an NVM value

1. Enter Diagnostic Code. Existing value is displayed flashing slowly.
2. Use number keys to enter different value. Your indication will be value is displayed without flashing.
3. Press **Start** button to load value. Your indication will be new value is displayed flashing slowly.
4. Press **Stop** button 3 times to enter another diagnostic code.

Status Code

A status code has two parts, primary code and secondary code.

- Primary code identifies area of machine and is displayed flashing slowly.
- Secondary code identifies specific detail of area.

  Press **0** button to display secondary status code when primary status code is flashing.

Component Codes

Input Component Codes

NOTE: *There are no service actions in this table that are performed independently from direction given in Sections 2, 3, or 4.*

An Input Component Code is entered to check operation of sensor or switch. Enter code for component. Manually actuate component while observing copy count display to verify operation.

Table 1 Input Component Codes

Code	Input Component
2 - 2	Control Panel Buttons: Pressing button will change display and releasing button will change display.
4 - 2	Door Transport Interlock Switch and Front Door Interlock Switch
5 - 9	Document Present Sensor
5 - 10	ADF Feed Sensor
5 - 11	ADF Registration Sensor
5 - 12	Document Exit Sensor
5 - 13	Copy Exit Sensor
5 - 15	ADF Platen Sensor
5 - 16	ADF Interlock Cover
6 - 3	Scan Home Sensor
7 - 1	CIM Paper Size Sensor
7 - 2	ACIM Paper Size Sensor
7 - 3	CIM Tray Out Switch
7 - 4	ACIM Tray Out Switch
7 - 5	CIM No Paper Sensor
7 - 6	ACIM No Paper Sensor
7 - 7	CIM Takeaway Sensor
7 - 8	ACIM Takeaway Sensor
8 - 6	Registration Sensor
9 - 7	Toner Sensor (Front Door must be closed)
10 - 6	Fuser Switch
10 - 7	Side Exit Sensor

Output Component Codes

NOTE: *There are no service actions in this table that are performed independently from direction given in Sections 2, 3, or 4.*

An Output Component Control Code is entered to check operation of an output component such as clutch or motor. Start button is used to energize component and Stop button is used to de-energize component.

Table 2 Output Component Codes

Code	Output Component	Time Out
1 - 1	Internal Test Print - Main PWB, ROS, Xerographic, and paper path check	
2 - 1	Control Panel indicators ***NOTE:*** *After entering Diagnostic Mode all Control Panel indicators illuminate temporarily.*	30 sec.
2 - 4	2 - 3 digit numbers are displayed for 6 digit print count. First 3 digits are displayed (d6,d5,d4 _ _ _) for 4 seconds. After display clears for 1 second, 3 remaining digits are displayed (_ _ _ d3,d2,d1)	
3 - 11	Internal Test Print-Printer	1 print
4 - 1	Main Drive Motor	30 sec.
5 - 1	CVT Motor	30 sec.
5 - 2	OCT Motor	30 sec.
5 - 3	Copy Exit Motor	30 sec.
5 - 5	ADF Nudge Solenoid	30 sec.
5 - 6	ADF Interlock Alarm	
5 - 7	Document Feed Clutch	30 sec.
5 - 14	ADF Simplex Feed	30 sec.
6 - 1	Exposure Lamp	30 sec.
6 - 2	Scan Drive Motor (moves carriages to right and then to left)	No Time-out
6 - 4	ROS Polygon Motor	30 sec.
6 - 5	Exposure Lamp Value (displays average pixel value for currently scanned image)	No Time-out
7 - 11	CIM Feed Clutch	30 sec.
7 - 12	ACIM Feed Clutch	30 sec.
7 - 13	CIM Takeaway Motor	30 sec.
7 - 14	ACIM Takeaway Motor	30 sec.
8 - 3	Registration Clutch	30 sec.
8 - 4	Deflector Gate Solenoid	30 sec.
8 - 5	Bypass Feed Solenoid	30 sec.
9 - 5	HVPS/Main Drive Motor	30 sec.

Table 2 Output Component Codes

Code	Output Component	Time Out
9 - 6	Erase Lamp	30 sec.
10 - 3	Fuser Temperature Thermistor Temp value	No Time-out
10 - 9	Cooling Fan (operates at low speed)	30 sec.
10 - 10	Cooling Fan (operates at high speed)	30 sec.

Diagnostic Programs

Table lists diagnostic codes for programs that are used to repair problems or provide information about machine condition or configuration.

NOTE: *There are no service actions in this table that are performed independently from direction given in Sections 2, 3, or 4.*

1. Enter Diagnostic Mode.
2. Enter Code and press **Start** button. Your indication is data is displayed, or an output is produced.
3. Press **Stop/Clear** button to clear display and enter another code or press Stop/Clear button again to exit diagnostics.

Table 1 Diagnostic Programs

Code	Name	Description
1–1	Main PWB Internal Test Print	A test print is generated from Main PWB to verify that digital image path, starting at Main PWB, going through ROS, and ending at Drum Cartridge, is capable of producing specified image.
2–3	Total Page Count	2 - 3 digit numbers are displayed for 6 digit copy count, d6, d5, d4, d3, d2, d1 First 3 digits are displayed (d6,d5,d4 _ _ _) for 4 seconds. After display clears for 1 second, 3 remaining digits are displayed (_ _ _ d3,d2,d1) ***NOTE:*** *Subtract Print Count from Total Copy/Print count to find Copy only count*
2–4	Print Count	2 - 3 digit numbers are displayed for 6 digit print count. First 3 digits are displayed (d6,d5,d4 _ _ _) for 4 seconds. After display clears for 1 second, 3 remaining digits are displayed (_ _ _ d3,d2,d1)
3 - 1	NVM Initialize	Pressing Start button after entering this code resets NVM to default settings.
3–2	Status Code History	Most recent 10 status codes are displayed in sequence (GP 7 Status Code History).
3–3	Main PWB Software Revision ID	Displays Software Revision ID for Main PWB
3 - 5	Tray 2	0 = No Tray 2 1 = Tray 2 Enabled ***NOTE:*** *Automatically set when Tray 2 is installed.*
3–9	NIC Reset	Resets NIC to default settings
3–10	NIC Test	NIC test print with configuration settings
3–11	Printer Internal Test Print	Generates test print.
3–12	Clear Fault History	With this code entered, press **Start** button to clear fault history.
3–15	Reset Administrator User Password to default value	Reset Administrator User Password in Multi User Electronic Account mode.

Table 1 Diagnostic Programs

Code	Name	Description
6 - 5	Exposure Lamp Value	Displays Exposure Lamp value.
6 - 6	Scanner Park	Moves carriages to right end of RIS. Shipping screw, stored in Tray 1, can be installed through hole in Right Side Cover.
9 - 4	CRUM Count	Total CRUM count
10 - 1	U4 reset	0 - Fuser operation enabled 1 - Overtemperature Error 2 - Life failure 3 - Warm up time exceeded limit
10 - 3	Thermistor	Current Thermistor temperature

Diagnostic Settings

NOTE: *There are no service actions in this table that are performed independently from direction given in Sections 2, 3, or 4.*

1. Enter Diagnostic Mode.
2. Enter Code and press **Start** button. A number is displayed flashing. This indicates setting can be changed, like code 2-6
3. Enter required number using number keypad. Your indication is value is displayed without flashing.
4. Press **Start** button to store new value. Your indication is value is displayed flashing.
5. Press **Stop/Clear** button to clear display and enter another code or press Stop/Clear button again to exit diagnostics.

Table 1 Diagnostic Settings

Code	Name	Description
2 - 6	Power Saver Override	0 - Disables customer programmable power saver features and sets Fuser standby temp to 107ºC (245ºF) after 10 minutes of UI inactivity. 1=Default setting; enables customer programmable power saver features.
3 - 1	NVM Initialize	Pressing Start button after entering this code resets NVM to default settings.
3 - 6	Inch/Millimeter Paper Size	1 = Inch paper size 2 = Millimeter paper size
3 - 13	RIS Gain value	Value noted on RIS Label (REP 6.1)
3 - 14	RIS Offset value	Value noted on RIS Label (REP 6.1)
8 - 7	Document Glass Lead Edge Registration	Nominal = 6 (default) Range = 0 - 12 Adjust = +/- 3 mm Each value changes image position on paper by 0.5 mm. (Image Geometry adjustment 3 of 7)
8 - 8	Document Glass Side Edge Registration	Nominal = 6 (default) Range = 0 - 12 Adjust = +/- 3 mm Each value changes image position on paper by 0.5 mm. (Image Geometry adjustment 2 of 7)
8 - 9	ADF Horizontal registration Adjustment	Nominal = 6 (default) Range = 0 - 12 Adjustment = +/- 3 mm Each value changes image position on paper by 0.5 mm. (Image Geometry adjustment 2 of 7)
8 - 10	Image to Paper Side Edge Registration	Nominal = 12 (default) Range = 0 - 24 Adjust = +/- 3 mm Each value changes image position on paper by 0.25 mm. (Image Geometry adjustment 1 of 7)

Table 1 Diagnostic Settings

Code	Name	Description
8 - 11	ADF Vertical Registration Adjustment	Nominal = 8 (default) Range = 0 - 16 Adjustment = +/- 3 mm Each value changes image position on paper by 0.4 mm.
8 - 12	Lead Edge Deletion	Nominal = 12 (default) Range = 0 - 24 Adjust = +/- 3 mm Each value changes image position on paper by 0.25 mm. (Image Geometry adjustment 7 of 7)
8 - 13	Image to Paper Lead Edge Registration	Nominal = 8 (default) Range = 0 - 16 Adjust = +/- 3 mm Each value changes image position on paper by 0.4 mm. (Image Geometry adjustment 4 of 7)
8 - 14	Side Edge Deletion	Nominal = 8 (default) Range = 0 - 15 Adjust = +2.5 / -1.4 mm Each value changes image position on paper by 0.25 mm. (Image Geometry adjustment 5 of 7)
8 - 15	Trail Edge Deletion	Nominal = 5 (default) Range = 0 - 15 Adjust = +1 / - 2 mm Each value changes image position on paper by 0.2 mm. (Image Geometry adjustment 6 of 7)
8 - 16	Duplex Horizontal Adjustment	Normal = 12 (default) Range = 0 - 24 Adjustment = + / - 3 mm Each value changes image position on paper by 0.25 mm. (Image Geometry adjustment of)
9 - 9	Transfer on Timing	Changes when Transfer energizes
9 - 10	Transfer off Timing	Changes when Transfer de-energizes
9 - 11	Laser Output	Adjustment range of 0 - 4 0 is factory setting
10 - 1	U4 reset	0 - Fuser operation enabled 1 - Overtemperature Error 2 - Life failure 3 - Warm up time exceeded limit
10 - 4	Fuser Run Temperature	1 - 186ºC (366ºF) 2 - 191ºC (376ºF) (default) 3 - 197ºC (386ºF)
10 - 8	Cooling Fan	Duty Cycle in standby 30 (default)

Drum Cartridge Data

NOTE: *There are no service actions in this table that are performed independently from direction given in Sections 2, 3, or 4.*

Table 1 Drum Cartridge Data

MARKET	SERVICE/USAGE	PART NUMBER
Chinese Mailand	Sold / Hardstop	101R00022
DMO Eest/ not Mexico	Sold / Hardstop	101R00023
DMO West/ Mexico	Sold / Hardstop	101R00024
HK/Korea	Sold / Hardstop	101R00025
DMO India	Sold / Hardstop	101R00026

EP is an Environmental Partner who contracts to return used Drum Cartridge for recycling.

General Procedures

GP 1 Drum Cartridge Type

This procedure uses appropriate intended Drum Cartridge to convert machine to different service plan.

1. Remove Drum Cartridge (REP 9.1).
2. Close Door Transport and switch on machine.
3. Enter Diagnostic Code [9-1] and press **Start** button.
4. Switch off machine and install new or intended Drum Cartridge.
5. Switch on machine.

GP 2 Main PWB Generated Image

GP 2 verifies Main PWB image process function from ROS.

To run GP2, perform following:

1. Enter Diagnostics.
2. Enter [1-1].
3. Press **Start** button.

   After few seconds of cycle up time, 1 copy will be made with image shown in Figure 1 appearing on entire sheet of paper. Large white or black squares in pattern measure approximately 10mm per side. A copy that is covered with image shown below indicates that image processing components under GP2 in Figure 2 are functional.

If GP2 image is good, this also verifies following components:

- Drum Cartridge
- Transfer/Detack Corotron
- Fusing
- Copy transportation

If an image defect is present, and GP 2 is good, check the following:

- RIS
- Mirror/Carriages
- Lens
- Exposure Lamp
- Document Glass

If image defect occurs at drum, or between drum and exit area, Figure 2 will help identify suspect component.

To perform GP2, enter [1–1] and press **Start** button to generate test pattern. After few seconds of cycle up time, 1 copy will be made with image shown below appearing on entire sheet of paper. Large white or black squares in pattern measure approximately 10mm per side. A copy that is covered with image shown below indicates that image processing components under GP 2 in Figure 2 are functional.

GP 2 can also be used to isolate cause of Deletions by opening Door Transport while copy is exiting. Remove Drum Cartridge to examine drum for deletion. If deletion is present, drum is defective. If deletion is not present, perform GP 8. If deletion is present, problem is in RIS or components to right of RIS in Figure 2. If deletion is not present after running GP 8, problem is in Transfer/Detack Corotron

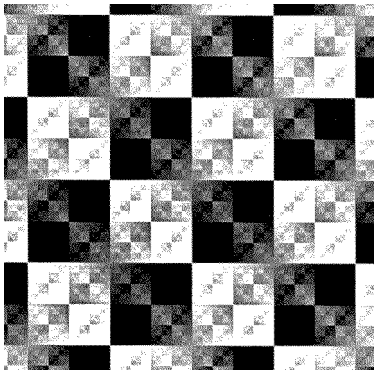


Figure 1 GP 2 Main PWB Generated Image

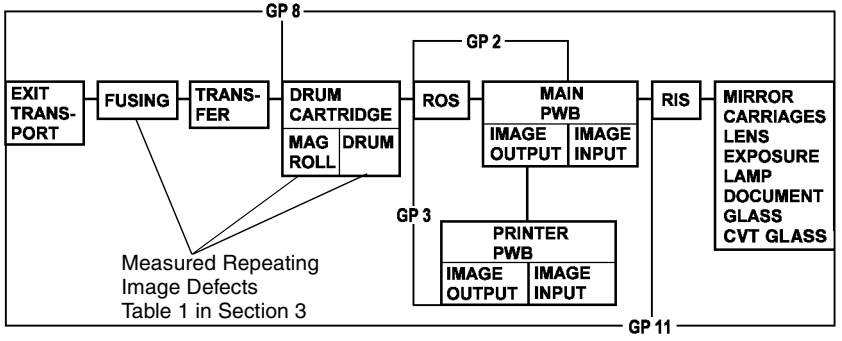


Figure 2 GP 2, GP 3, GP 8 and Measured Repeating Image Defects in Table 1.

GP3 Main PWB Printer Function Generated Image

GP3 tests print processing function of Main PWB.

To run GP3, perform following:

1. Enter Diagnostics.
2. Enter [3-11].
3. Press **Start** button.

   After 10 to 30 seconds of cycle up time, at least 1 test pattern will be delivered with an image similar to one shown (Figure 3). This indicates that Printer is functional. This test assumes GP2 Diagnostic Code [1-1] Test Pattern is good.

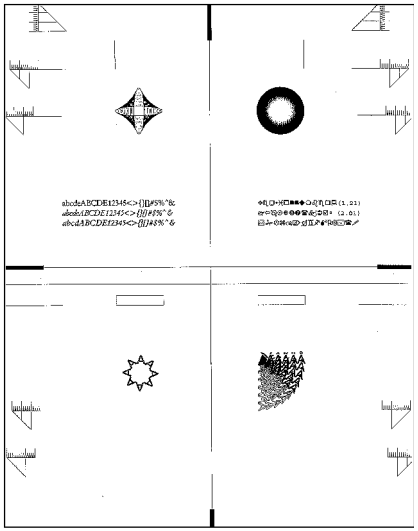


Figure 3 GP 3 Printer Generated Image

GP 5 ESD Hookup Procedure

GP5 is used to identify location of connection points for ESD prevention cable.

On right side of machine connect ESD prevention cable to Middle Terminal (Figure 4).

On rear of machine connect ESD prevention cable to Main PWB Metal Frame (Figure 5).

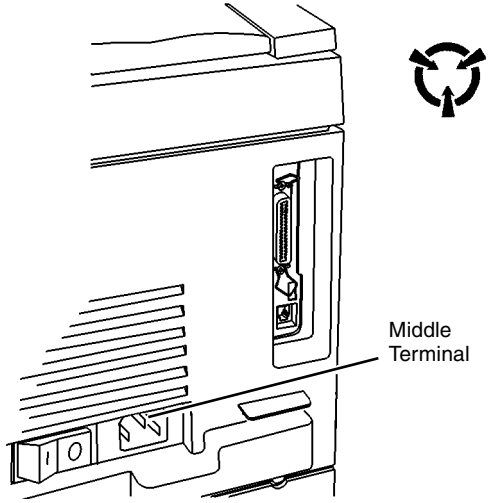


Figure 4 Connecting ESD Cable to Middle Terminal

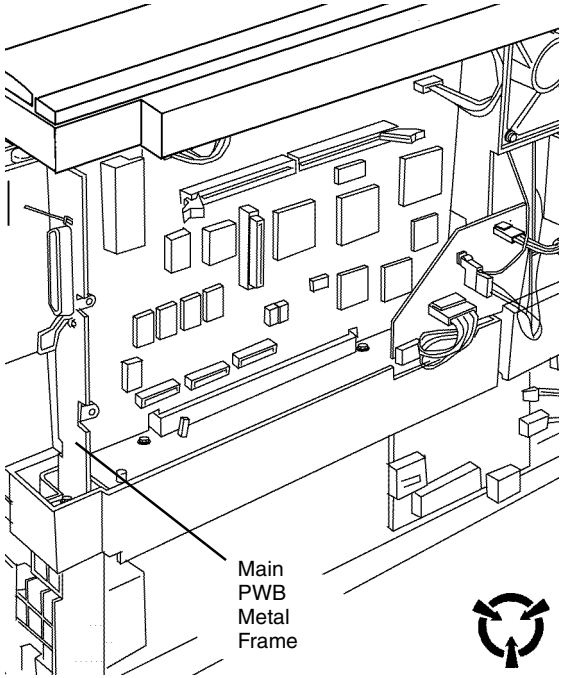


Figure 5 Main PWB Metal Frame

GP 7 Status Code History

GP 7 is used to display 10 most recent status codes. Perform following to review status codes.

1. Enter [3–2] and press Start button.
2. **FH** is displayed, indicating fault history is ready to start displaying status codes, starting at top of list or 10.
3. Press reduction/enlargement down button to move viewing window down list. Press 0 button to display secondary code.
4. Continue pressing R/E selection down button until **End** is displayed, indicating all 10 codes were displayed, and bottom of list is reached.
5. Press up button to move back up list.

NOTE: *Status Code History cannot be corrupted or changed by incorrect keyboard entries while in [3–2]. However, [3–12] can be used to clear status code history by entering code and pressing* ***Start*** *button.*

GP 8 Image on Drum

GP 8 is used to isolate source of an image defect between drum and image output or drum and image input (Figure 6).

Perform GP 8 by opening Door Module as copy exits machine while running GP 2 or making copy using customers document. If using customers document, attempt to open Door Module when image defect is transferred to drum. This will require several trial and error attempts. Remove Drum Cartridge and examine image on drum for image defect.

If image defect is visible, defect is caused by component to right of drum in Figure 6 .

If image defect is not visible on drum, image defect is cause by component to left of drum in Figure 6.

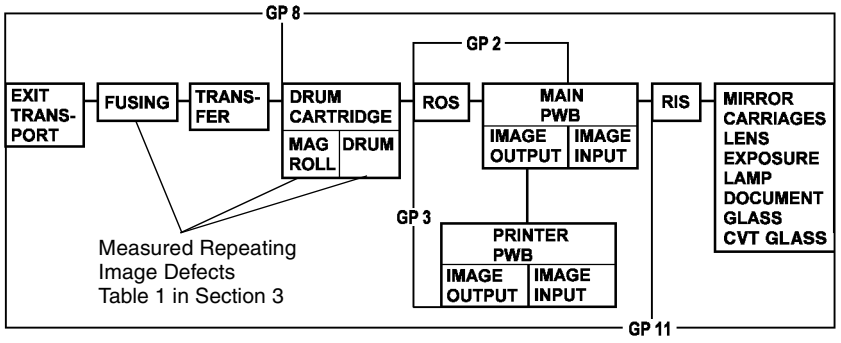


Figure 6 GP 2, GP 3, GP 8, GP 11

GP 9 RIS and Mirrors Cleaning

GP 9 is used to identify specific process that yields best results in cleaning mirrors in RIS.

NOTE: *Laser Optics are sensitive to smallest changes of reflectivity in light path and reproduce result on copies. Any dust particle is seen by optics as document image and reproduced according to characteristics of imaging process.*

CAUTION

Image Quality defects will occur if RIS Module is not vacuumed before reinstalling Document Glass.

1. Remove ADF module. (REP5.1)
2. Remove Top Cover (REP 14.1) and Document Glass (REP 6.5).
3. Clean Calibration Strip below Registration Edge with Lens and Mirror Cleaner (Table 1) and lint-free cloth.
4. Soak finger-sized portion of dry towel with lens and mirror cleaner so that it is quite wet.
5. Swipe towel across mirror surface. Lens and Mirror Cleaner should form droplets on mirror, indicating correct amount was used, and begin to evaporate.
6. Before Lens and Mirror Cleaner evaporates, gently swipe finger-sized portion of dry lint-free towel across mirror to remove remaining droplets.
7. Clean other mirrors using same process.
8. Clean Document Glass using same process.
9. Remove CVT glass, Clean CVT Glass using same process. Align and confirm it on BO machine.

CAUTION

Do not use a brush attachment on vacuum cleaner. Brush may contaminate mirrors. Use a crevice attachment to reach corners.

10. Vacuum inside of RIS.
11. Reinstall CVT Glass.
12. Reinstall Document Glass (REP 6.5).
13. Reinstall Top Cover (REP 14.1).
14. Reinstall ADF.

GP10 Drum Cartridge Warranty

A Xerox Drum Cartridge is failed if one of following exist:

- Drum Cartridge causes excessive noise or vibration and Stop 2 value is more than 0.
- Drum Cartridge does not lock in position, or toner can not be loaded, or cartridge can not be installed and Stop 2 value is higher than 0 for any problem.
- Image Quality is not acceptable and the Stop 2 value is higher than 0.

NOTE: *If Stop 2 value is 0, Xerox Drum Cartridge Warranty is expired. Machine may continue to deliver acceptable image quality.*

Perform following to transfer data from old Drum Cartridge CRUM to new Drum Cartridge CRUM. Failed Drum Cartridge must be installed.

1. Enter Diagnostics.
2. Enter 9 and press **Start** button, enter 8 and press **Start** button.
   CRUM data is now stored on Main PWB.
3. Open Front Door and replace defective Drum Cartridge with new Drum Cartridge.
4. Close Front Door. Press Start button to load CRUM data on new CRUM.
5. Exit diagnostics.

GP11 RIS Contamination

Determines if image defect is caused by RIS contamination.

RIS image defects are parallel to direction of paper movement and appear as follows:

- Black line in white area
- White line in gray or black image
- Black band approximately 1 to 4 mm wide in gray image
- White band approximately 1 to 4 mm wide in gray image

1. Measure position of image defect compared to any adjacent image.
   In step 3, defect will change position if caused by other xerographic parts or defect will not change position if RIS caused defect.
2. Select reduction % if defect is near edge of paper.
   - Too much reduction and defect difficult to see.
   - Not enough reduction and defect may not appear to change position compared to any adjacent image

   Select enlargement % if defect is not near edge of paper
   - Too much enlargement and compared adjacent image may not be on paper
   - Not enough enlargement possible defect may not appear to change position compared to any adjacent image
3. Make a copy.
   - If defect moved compared to any adjacent image, RIS is not source of defect.
     Do GP 8 Image on Drum.
   - If defect did not move compared to any adjacent image, RIS is source of defect.
     Do GP 9 RIS and Mirrors Cleaning.

Customer Accessed Data

Control Panel Accessed Data/Programs

Table 1 Control Panel Data/Programs

Function	Key Press	Description
Printer RAM	Stop + 0	2 digit code displayed indicates Printer RAM in MB
NIC Test Print	Stop + 1	Test Print from NIC is generated and sent to Output Tray
Copies Remaining	Stop + 2	Percent of life remaining on Drum Cartridge, in 5% increments, is displayed for 4 seconds
Displays Administrator's or current Administrator User's Remained copy count	Stop + 3	No translation
Machine Serial Number	Stop + 4	No translation
Software Level	Stop + 5	2 - 3 digit codes are displayed indicating revision level.
Configuration	Stop + 6	3 digit code displayed for Machine Hardware Configuration
Total Copy/Print Count	Stop + 7	2 - 3 digit numbers are displayed for 6 digit copy count, d6, d5, d4, d3, d2, d1 First 3 digits are displayed (d6,d5,d4 _ _ _) for 4 seconds. After display clears for 1 second, 3 remaining digits are displayed (_ _ _ d3,d2,d1) ***NOTE:*** *Subtract Print Count from Total Copy/Print count to find Copy only count*
Print Count	Stop + 8	2 - 3 digit numbers are displayed for 6 digit print count. First 3 digits are displayed (d6,d5,d4 _ _ _) for 4 seconds. After display clears for 1 second, 3 remaining digits are displayed (_ _ _ d3,d2,d1)
Printer Test Print	Stop + 9	Test Print from Printer is generated and sent to Output Tray.
RIS Carriage Park	Stop + Preset Mag	RIS Carriage moves to right end of RIS so that shipping screw can be installed. Shipping screw is stored in Tray 1 at left end of tray. Press Clear to return carriage to home position.

Customer Programmable Options

User Program Mode allows user to select and modify various machine features.

Enter Customer Programmable Mode:

1. Press Paper Tray select button for 4 seconds minimum.
   Your indication will be flashing machine mimic LED's.

View current selection of any feature:

1. Enter Program Number.
2. Press **Start** button.
   Your indication will be current selection is displayed flashing.

Change current selection:

1. Enter applicable value in Program Options column.
2. Press **Start** button to store new selection.

To exit Customer Program Mode, press **Paper Tray Select** button.

Asterisk in table is default setting.

Table 1 Customer Programmable Options

Feature	Program	Program Options
Priority Paper Tray	10	1=Tray 1 (default) 2=Tray 2 (selectable if Tray 2 installed) 3=Bypass Tray
Auto Clear Time-out	11	0=no auto clear/auto clear ability disabled or off 1=20 seconds 2=30 seconds 3=60 seconds (default) 4=90 seconds
Low Power Time-out (Fuser Off, Display shows --) ***NOTE:*** *first Copy Output time increases.*	12	0=no low power/low power ability disabled or off (default) 1=5 minutes 2=20 minutes 3=60 minutes 4=120 minutes 5=240 minutes
Time-out to Power Saver (Fuser Temp Lowered, Display is blank) ***NOTE:*** *Increases First Copy Out Time.*	13	0=5 minutes 1=20 minutes (default) 2=60 minutes 3=120 minutes 4=240 minutes
Reduction/Enlargement Preset	14	Press **Start** to view current value Using number keys, enter any value between 50 and 200 and then press **Start** button 82% default for metric 64% default for inch

Table 1 Customer Programmable Options

Feature	Program	Program Options
Copy Quality	15	1 = Text Mode (default) 2 = Mixed Mode 3 = Photo Mode
Inch vs. metric R/E	16	0 = Inch (standard for 115 VAC) 1 = Metric (standard for 220 VAC)
Non Image Area Background Suppression	17	0 = Off (default) 1 = On ***NOTE:*** *Set to 1 to reduce toner consumption and background when copying very light weight documents or colored documents. These are not as reflective as 80 g/m or 20 lb. white paper therefore non image areas of copies will be darker.* *First few millimeters of scanned document determines overall background suppression.*
Copier Idle time out (Machine comes back to Print Module)	18	0 = off line, not available to print, remains offline 1 = 0 seconds, Machine can immediately print after copy cycle down. 2 = 30 seconds required before waiting print job will begin (default). 3 = 60 seconds before waiting print job will begin. 4 = 90 seconds 5 = 120 seconds 6 = 180 seconds
Contrast Level	19	0 = Darker 1 = Darkest 2 = Normal (default) 3 = Lighter 4 = Lightest 5 = Toner Saver
R/E Presets in %	20	0 = 100% (default) 1 = 50% 2 = 82% metric, 64% inch 3 = 70% metric, 78% inch 4 = 141% metric, 129% inch 5 = 200%
Automatic Tray Switching (Same Size Setting)	21	0 = Off (default) 1 = On
Set Start Machine Mode	27	0 = No Administrator User Mode (default) 1 = single Administrator User Mode 2 = Multi Administrator User Mode

Space Requirements

Space requirements for movable machine shown in Figure 1 and stationary machine shown in Figure 2.

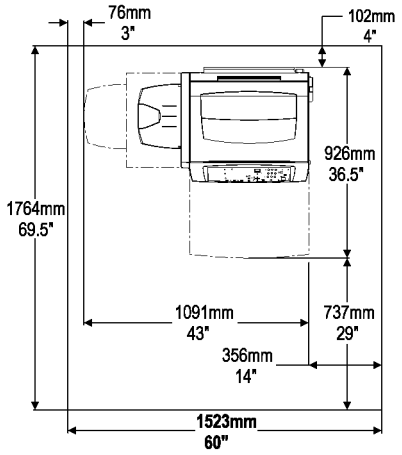


Figure 1 Movable Machine Space Requirements

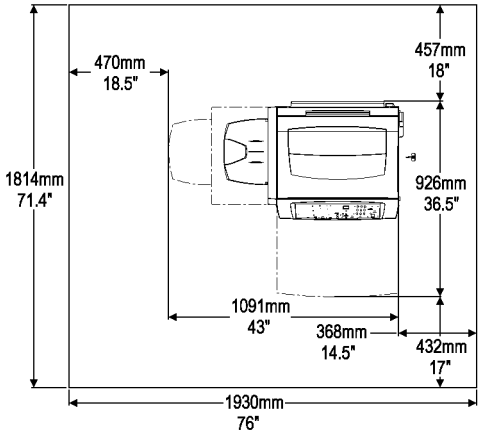


Figure 2 Stationary Machine Space Requirements

Product Configurations

Table 1 Product Configurations

Machine	• 50 - 200% R/E with Document Cover, 500 Sheet paper tray (Tray 1) and 50 sheet Bypass Tray
Accessories	• Auxiliary 500 sheet paper tray (Tray 2) • Stand • NIC or USB • EPS

Paper Specs.

Table 1 Paper Specifications

	Paper Trays 1 & 2	Bypass Tray
Paper Sizes	16k, 8k, B5, B4, A5, 5.5”x8.5”, A4, 8.5”x11”, 215mmx330mm, A3, 11”x17”, 215mmx315mm, 8.5”x13”, 8.5”x14”	A5, 5.5”x8.5”, A4, 8.5”x11”, 215mmx330mm, A3, 11”x17”, 215mmx315mm, 8.5”x13”, 8.5”x14”
Paper Weights	Optimum = 20 lb. / 80 gsm) Range = 16-24 lb. / 60-90 gsm simplex	Optimum = 20 lb. / 80 gsm Range: 16-32 lb. / 52-176 gsm 1 or 2-sided
Capacities 20 lb. (80 gsm)	Tray 1: 500 sheets Tray 2: 500 sheets Output Tray 100 sheets maximum	50 sheets
Letterhead, Predrilled Paper	Yes	Yes
Labels, Transparencies (non-paperbacked)	No No	Yes (one sheet at a time)
Inkjet paper Inkjet transparencies Paperback transparencies Offset paper carbon paper Paper with irregular edges Vellum paper Embossed letterhead Paper with multipart forms Damaged or wrinkled paper Paper with staples or paper clips.	No No No No No No No No No No No	No No No No No No No No No No

Product Specs.

Table 1 Product Specifications

Document Size: Document Glass	5.5” x 8.5” (A5) LEF to 11” x 17” SEF (A3)
R/E Capability: Metric	Variable Percentages: 50% to 200% Preset Percentages: 50%, 70%, 100%, 141%, & 200%
R/E Capability: Inches	Variable Percentages: 50% to 200% Preset Percentages: 50%, 78%, 100%, 129%, & 200%
Copy/Print Rate	20 copies / minute 8.5” x 11” (A4) or 17 copies / minute 8.5” x 11” (A4)
Output Tray Capacity	100 sheets maximum
First Copy Output Time	8.5” x 11” (A4): 6 seconds, Tray 1
Warm Up Time	less than 45 seconds
Machine Weight	80 lb. / 36.3 kg Stand: 46 lbs. / 20.9 kg Tray 2: 14 lbs. / 6.4 kg

Power Requirements

- Single phase (two wires plus ground)
- 110 VAC (104 to 127 VAC, 57 to 63 Hz)
- 220 VAC (198 to 255 VAC, 47 to 53 Hz)

Power Consumption (5 minute average)

- Machine Running: 1500 w (maximum)
- Power Saver: TBD
- Low Power: <70 w

Environmental Data and Requirements

Ambient Temperature and Humidity requirement:

- Minimum: 10º C/50ºF at 15% humidity
- Maximum: 32º C/90ºF at 85% humidity

Heat Output (5 minute average)

- Machine Running Maximum: 1537 BTU/Hr.
- Standby Ready: 341 BTU/Hr.
- Power Saver: 198 BTU/Hr.
- Low Power: 150 BTU/Hr.

Temperature and Humidity Requirement

- minimum 10C - 50F at 15% to 85% relative humidity
- maximum 32C - 90F at 15% to 85% relative humidity

Toner Bottle / Drum Cartridge Yield

Percent of printed area on document affects number of copies yielded from each Toner Bottle and each Drum Cartridge.

Toner Bottle yields approximately 5000 copies/prints at 6% area coverage.

Xerox Drum Cartridge yields 14,000 copies/prints under warranty.

Other items that affect Toner Bottle yield are:

- Size of documents being copied
- Background of document
- Whether or not Document Cover is open during copy operation
- Making two-sided copies, or copies using Darker settings
- High humidity in machine environment

Figure 1 shows typical area coverage. Table 1 lists expected quantity.

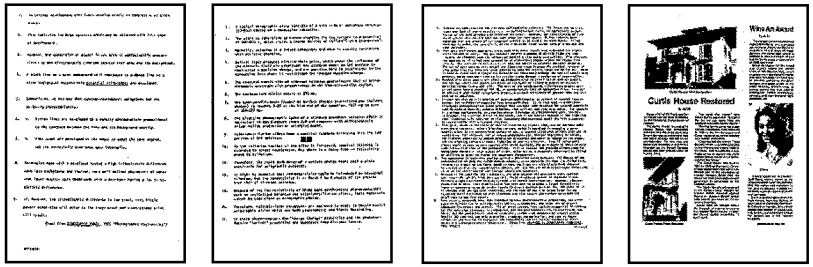


Figure 1 Area Coverage

Table 1

Document Coverage	Expected Copies
3% Minimal Text	10,000
5% Medium Text	5,000
11% Dense Text	3,000
23% Dense Text with Graphics	1,250

Supplemental Tools and Supplies

Tools

Table 1 Tools

Tool	Part Number
All Purpose Cleaner	8R90175
Antistatic Fluid	8R90273
Black Bag	95P2362
Bottom Pad	All - 19P580
Cotton Swab	35P2162
Cleaning Cloth	8R90019
Film Remover	43P45
Formula A	43P48 8R90175
General Cleaning Solvent	43P78 8R90176
Grease	All - 43E550
Heavy-Duty Towels	35P3191
Lens and Mirror Cleaner	43P81 8R901784
Lint-Free Cloth	600S4372
Oil	All - 70P95
Test Pattern	110V - 82P524 220V - 82P523

Supplies

Table 2 Supplies

Supply Name	Part Number
Drum Cartridge	PL 1.4
Toner Bottle	PL 1.4

Hints and Tips

Hints and Tips is presented in two sections, Service Call Highlights and General Service Information.

Service Call Highlights

Transfer components cleaning

Transfer components cleaning: This service action is required to ensure image quality.

- Clean Transfer Corotron wire with cotton swab and Film Remover or General Cleaning Solvent.
- Ensure no lint from swab remains on corotron or corotron frame.
- Clean Detack Corotron with dry brush.
- Wipe all Transfer Detack Corotron contacts at front end of corotron frame with lint free cloth.
- Clean Registration Roll
- Clean Paper guides
- Clean Ground contact/electrical contacts

General Service Information

NOTE: *Following Hints and Tips are organized into Diagnostic, Removal and Replacement, Adjustment, and Maintenance information.*

Diagnostic

Paper Trays

- Following actions increase paper feeding reliability from Tray 1 and Tray 2:
  - Adjust Paper Guides so that they touch paper stack without wrinkling or squeezing paper.
  - Closing tray forcefully may cause paper tray side guides misalignment. This will cause side-to-side misregistration and E1 jams.
- Bypass Tray paper should be pushed fully into tray for reliable feeding.

Image Quality

Most Image Quality defects are serviced with thorough cleaning of following:

- Top of Document Glass, CVT Glass.
- Transfer/Detack Corotron including Corotron housing and ribs
- Drum Cartridge housing and ribs
- Fuser Exit Rolls and paper guides in Fuser Module.
- Paper guides that guide paper from trays to image transfer area and then to Fuser Module.

CAUTION

Drum Cartridge photoreceptor damage is likely if Drum Cartridge is handled carelessly. This results in image quality defects. Use caution when Drum Cartridge is removed from machine.

NOTE: *Removing Document Glass or RIS should be done only when this course of action is sure to result in effective repairs. Cleaning RIS and Document Glass before assembly, whenever these components are removed from machine, is required to avoid Image Quality defects.*

CAUTION

Image Quality defects will occur if RIS Module is not vacuumed before reinstalling Document Glass.

GP 9 R should be used anytime Document Glass (REP 6.1) is removed.

GP 2 Main PWB Generated Image can be used to verify ability of digital processing components to deliver an image to photoreceptor. Assuming copier is producing unacceptable image quality, good image produced with Diagnostic Code [1–1] indicates problem is in scanning optics components.

Image quality defects will result from dust, lint, or other contaminants on any of optics components closest to document on document glass.

White Calibration Strip, located under Registration Edge, must be free of fingerprints and other contamination for optimum image quality.

Registration is set when machine is switched on and Exposure Lamp illuminates and scans Black/White Registration Strip (located under Registration Strip). Position of strip and position of Exposure Lamp are synchronized for accurate registration.

- Narrow deletions that are sharply defined from top to bottom of copy may indicate contaminated mirrors.
- Side-to-side misregistration is most likely caused by mispositioned side guides in paper tray. Check Tray 1/Tray 2 Side Guides.
- Skewed image can result from not pushing Paper Tray in all way.
- Digital image processing errors cause defects with unique characteristics when compared to defects caused by optical, xerographic, or fusing subsystems. With experience, defect can be classified as digital problem or other.
- If an Image Defect is present, always attempt to service copying capability of machine before attempting to service printing capability. Before printing image quality diagnostics can be effective, machine must be known to be producing good copies.
- Switch off power, wait 5 seconds, switch on power may resolve some Image Quality defects.

CAUTION

Poor image quality will result if Main Drive Motor is handcranked in wrong direction which causes cleaning blade to fold over.

Correct direction to handcrank Main Drive Motor is counterclockwise while viewing motor from rear of machine.

Drives

- Noise like clicking sound at left end of machine could be Transfer Roll drive gears. Open Transport Door Assembly and check that Transfer Roll gears are secure and free of damage. They are located adjacent to rear end of Transfer Corotron.

Jams

- Position of lead edge of jammed copy may indicate area in which to look for failed component or paper path obstruction

RIS

- A short circuit in signal wire will cause carriages to move to left and continue to drive left, causing rapid banging noise.

Voltage Measurement

- When making DC voltage measurements in 5 to 24 volt range, same measurement results can be expected with Black meter lead connected to metal frame component or DC Common circuit.

Printer

If printing functions on machine are operational, continuing problem is responsibility of customer to resolve.

Removal and Replacement

NOTE: *Machine is designed to use less tools for service than previous designs. Refer to Removal and Replacement procedures until you are familiar with disassembly and reassembly of machine.*

CAUTION

Stripped threads will result when using firm hand grip on tools to tighten fasteners into plastic parts. Use only your fingers to hold tools when tightening fasteners.

Screw threads are cut in sheet metal or plastic frames first time screw is installed during manufacture. A screw that is removed and replaced first time during service activities requires sensitivity while finding screw threads that were cut during manufacture. Apply mild insertion force while rotating screw back and forth in order to find previously cut screw threads.

- Machine power can be switched on while Drive Assembly is removed.
- Document Glass breakage may occur if edge of document glass hits frame member or hard point (REP 6.5).

Adjustment

NOTE: *Adjustments that are made during manufacture of machine do not require service during life of machine. Attempts to correct problem by changing manufacturing adjustments will make real cause of problem difficult to find.*

Maintenance

Cleaning

- GP 9 R should be used to clean any RIS mirror. Neglecting to vacuum RIS prior to assembly will result in image quality defects after assembly.
- Document Glass breakage may occur if edge of document glass hits frame member or hard point.
- Corotron cleaning should be done with brush on Detack Corotron. Then use cotton swab dampened with film remover to wipe Transfer Corotron wire and shield. Excessive pressure on Transfer Corotron wire will stretch wire and cause image quality problems. Ensure no lint remains in Transfer/Detack Corotron assembly.
- Fuser and Pressure Roll cleaning is done by making 20 copies of white document.

Glossary of Terms

Table 1

Term	Description
A3	Paper size 297 millimeters (11.69 inches) x 420 millimeters (16.54 inches).
A4	Paper size 210 millimeters (8.27 inches) x 297 millimeters (11.69 inches).
AC	Alternating Current is type of current available at power source for machine.
ACT	Advanced Customer Training: A course that teaches customers to perform some of service that is normally performed by Xerox Service Representative.
A/D	Analog to Digital refers to conversion of signal
ADJ	Adjustment Procedure
Bit	Binary digit, either 1 or 0, representing an electrical state.
CCD	Charge Coupled Device (Photoelectric Converter)
CD	Circuit Diagram
Chip	An Integrated Circuit (IC) (see Firmware)
CRUM	Customer Replaceable Unit Monitor
DC	Direct Current is type of power for machine components. Machine converts AC power from power source to DC power.
DMM	Digital Multimeter is generic name for meter that measures voltage, current, or electrical resistance.
EME	Electromagnetic Emissions are emitted from machine during normal operation and power of these emissions are reduced by machine design features.
EP	Environmental Partner
EPS	External Print Server
ESD	Electrostatic Discharge. A transfer of charge between bodies at different electrostatic potential.
ESU	Electrostatic Set Up
FIRM-WARE	A Chip loaded with software identified by date or revision.
GFD	Ground Fault Device
GND	Ground
HFSI	High Frequency Service Item
HVPS	High Voltage Power Supply
Hz	Hertz (Cycles per second)
IEC	International Electro-technical Commission
IQ	Image Quality
KC	1000 copies
LCD	Liquid Crystal Display
LE	Lead Edge of copy or print paper, with reference to definition of term TE
LED	Light Emitting Diode
LEF	Long Edge Feed
LVPS	Low Voltage Power Supply
MN	Multinational
NIC	Network Interface Card

Table 1

Term	Description
NVM	Non Volatile Memory
OEM	Original equipment manufacturer
OGM	On-going Maintenance
PC	Personal Computer
PCM	Power and Control Module also referred to as Electronic Control System Module
PL	Parts List
PO	Part of (Assembly Name)
PWB	Printed Wiring Board
PWS	Portable Workstation for Service
PJ	Plug Jack (electrical connections)
RAM	Random Access Memory device. A digital memory circuit from which information can be accessed or where software information can be stored. RAM is its accepted name, but does not describe its function. A better name would be Read/Write Memory, because controller can read information and it can write information.
RAP	Repair Analysis Procedure for diagnosis of machine status codes and abnormal conditions
R/E	Reduction/Enlargement refers to features selection or components that enable reduction or enlargement
REP	Repair Procedure for disassembly and reassembly of component on machine
RIS	Raster Input Scanner - For this product: includes optics/exposure components, scanning components and CCD. RIS Module scans image, converts it to digital data and then transmits it to ROS.
ROM	Read Only Memory. A digital memory circuit that is designed to contain permanent software information. Name means that controller on PWB can only read information from ROM. Controller or any other device cannot change values or send any software information to ROM.
ROS	Raster Output Scanner - Device that transfers digitally processed image, using laser light, to photoreceptor.
SAD	Solid Area Density
SCP	Service Call Procedure
SEF	Short Edge Feed
Self Test	An automatic process that is used to check Control Logic circuitry. Any fault that is detected during self-test is displayed by fault code or by LED's on PWB.
SIMM	Single Inline Memory Module used to increase printing capacity
Simplex	Single sided copies
TE	Trail Edge of copy or print paper, with reference to definition of term LE
UM	Unscheduled Maintenance
UI	User Interface
USB	Universal Serial Bus
W/	With indicates machine condition where specified condition is present
W/O	Without indicates machine condition where specified condition is not present
XBRA	Xerox Brazil
XLA	Xerox Latin America

Table 1

Term	Description
XMEX	Xerox Mexico

Service Log

Make a two sided copy of this original document. Use the copy as the machine service log.

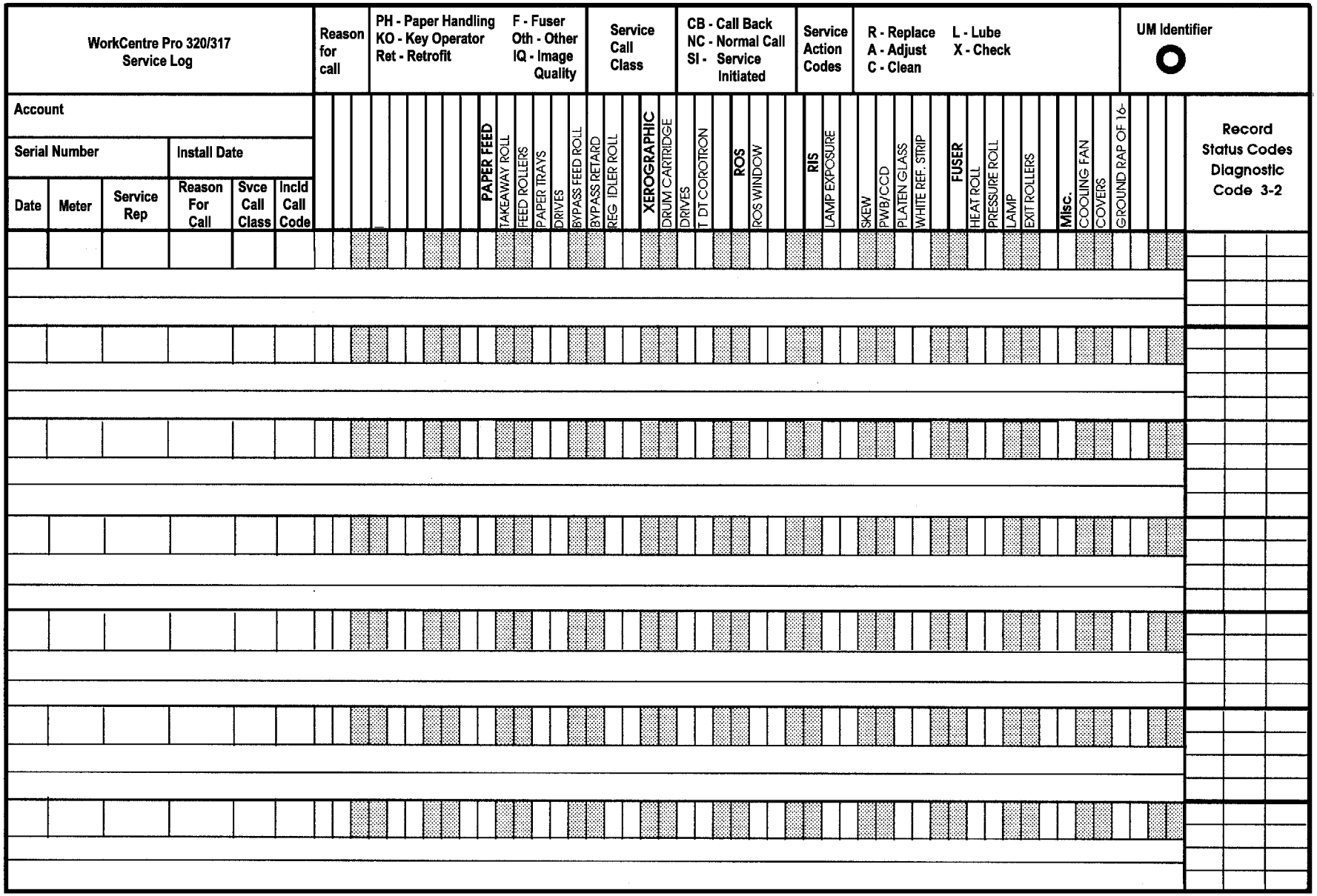


Figure 1 Service Log

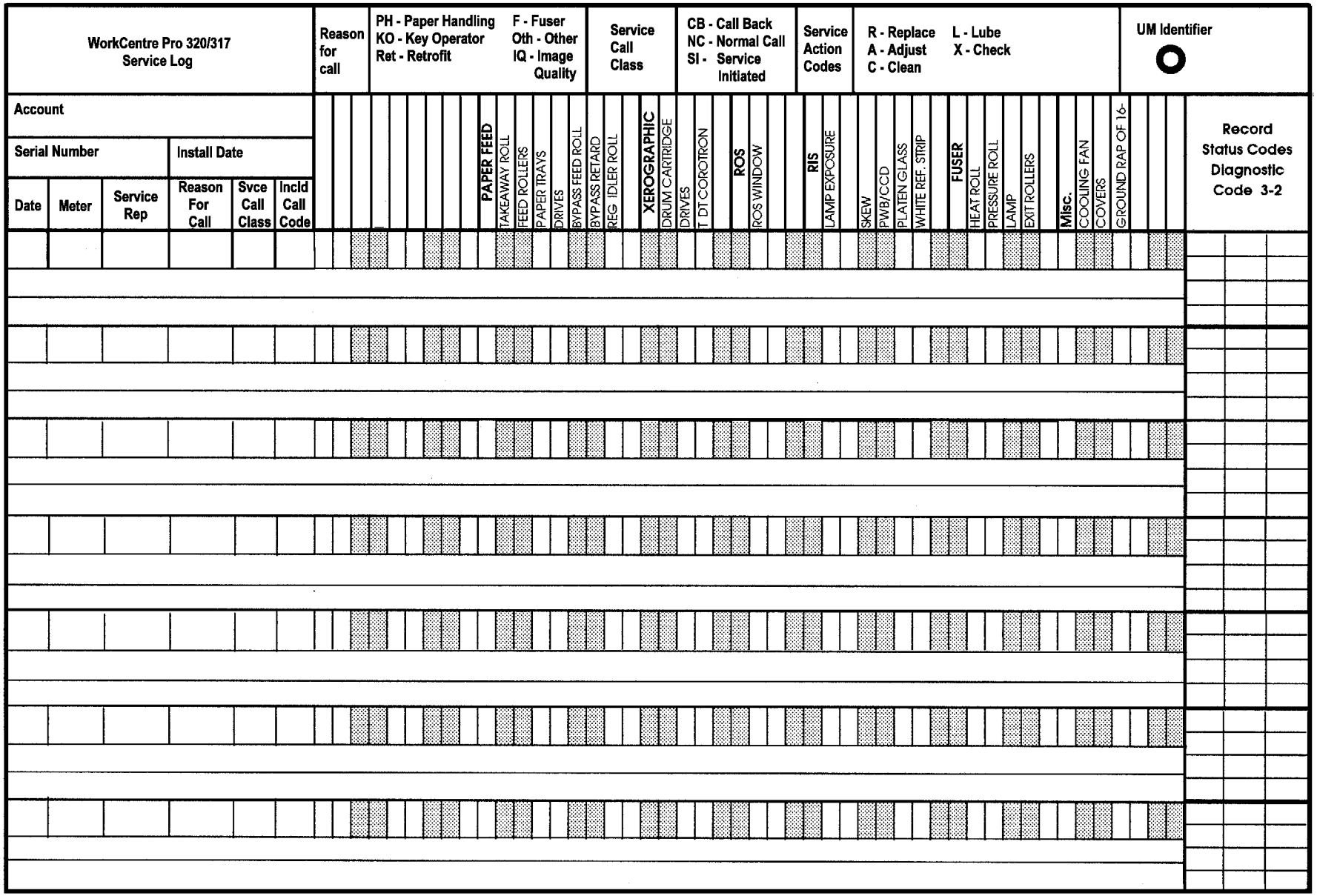
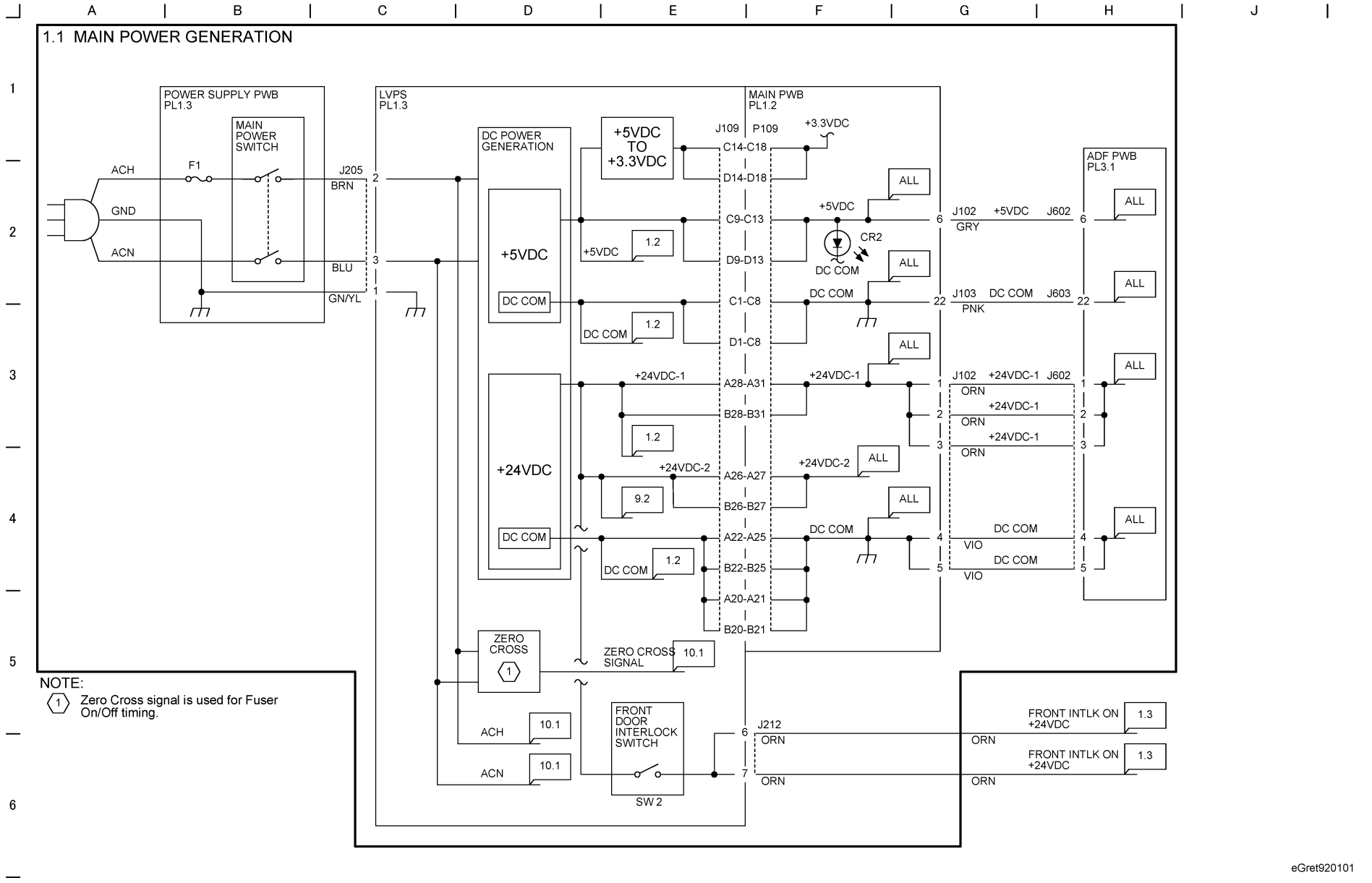
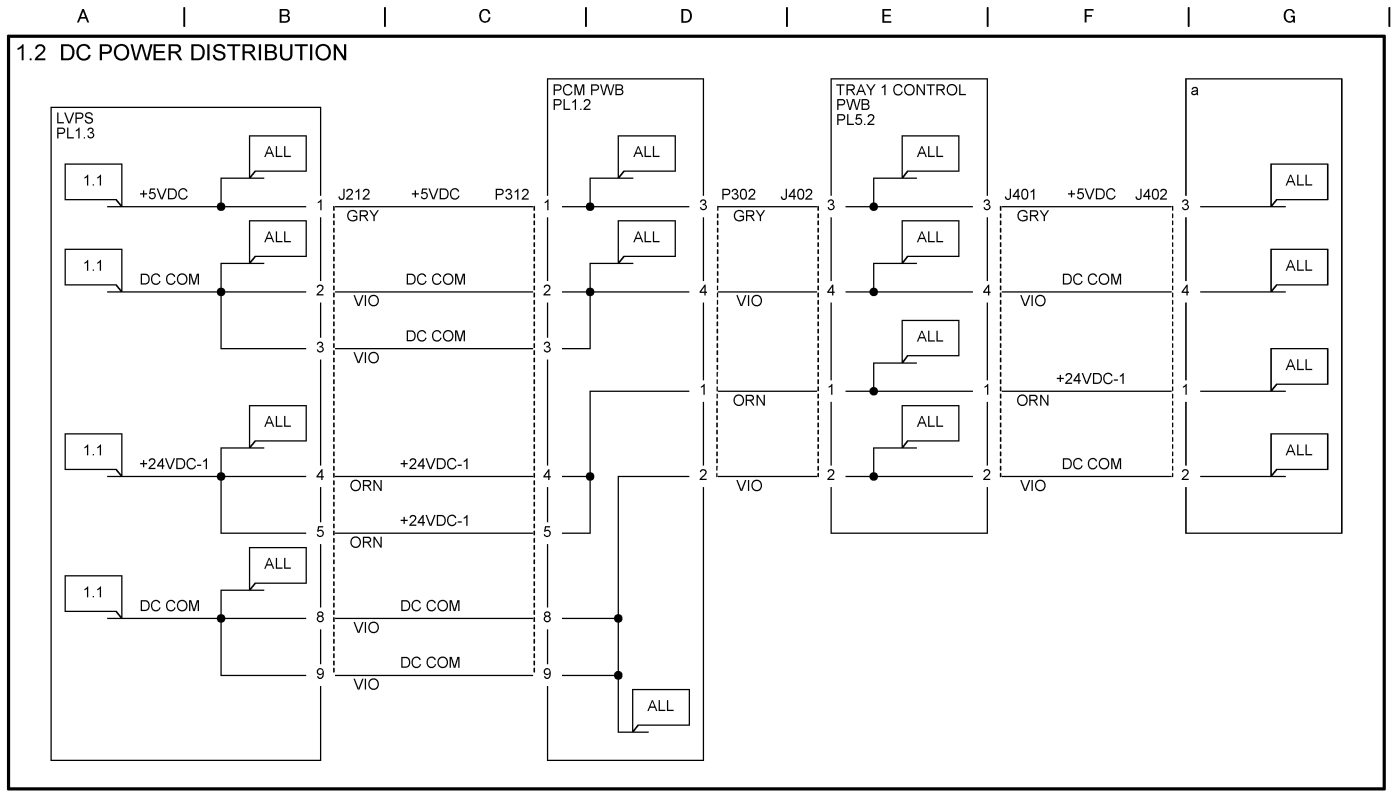


Figure 2 Service Log

Content

Chain 1 Standby Power 7-2
Chain 2 Mode Selection 7-5
Chain 3 Machine Run Control.....7-6
Chain 4 Start Power 7-8
Chain 5 Document Transportation 7-9
Chain 6 Imaging 7-14
Chain 7 Paper Supplying 7-17
Chain 8 Paper Transportation 7-22
Chain 9 Marking 7-26
Chain 10 Fusing and Copy Transportation 7-30

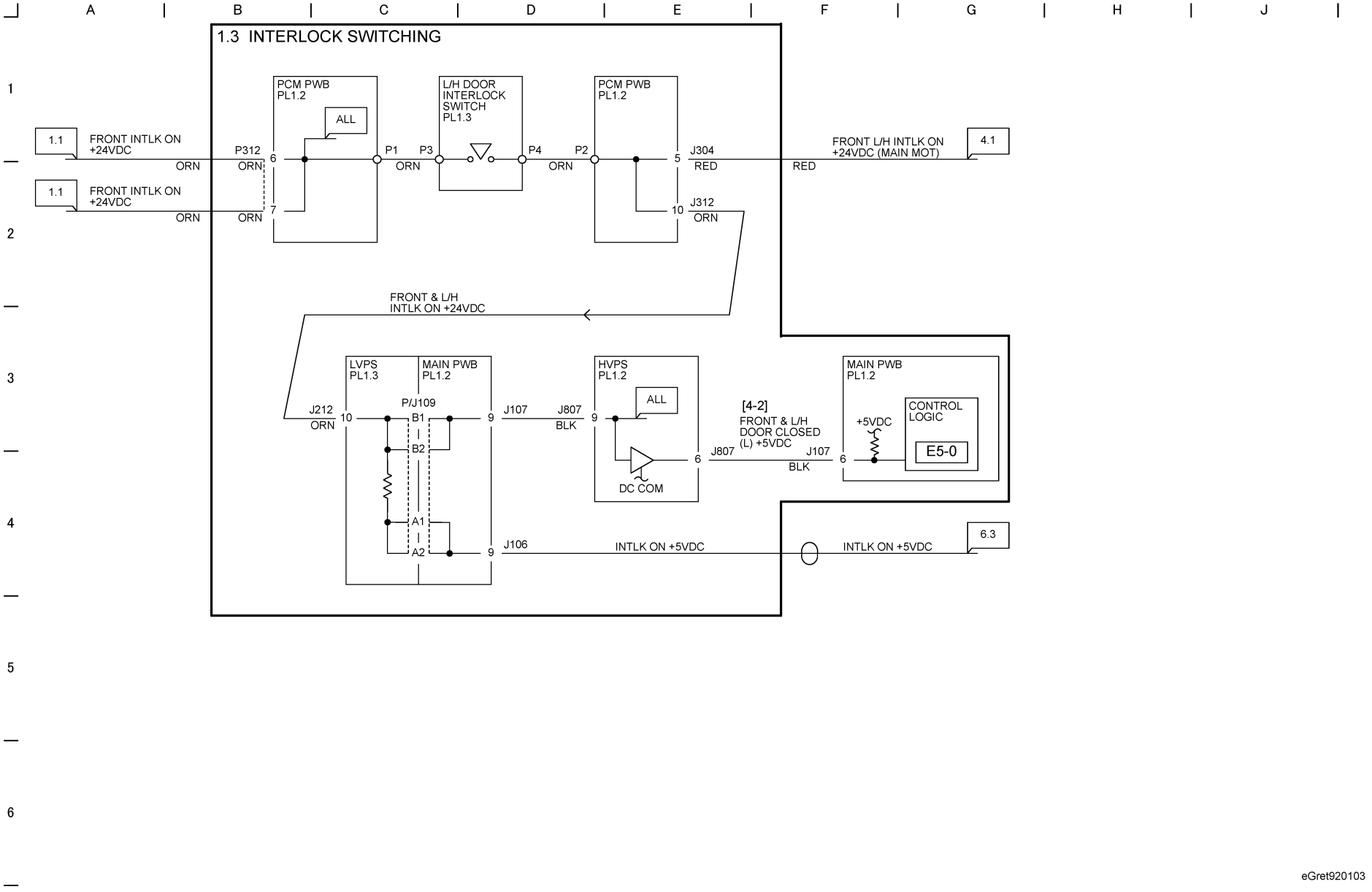

1.1 MAIN POWER GENERATION
POWER SUPPLY PWB
PL1.3
MAIN
POWER
SWITCH
F1
ACH
GND
ACN
J205
BRN
BLU
GN/YL
LVPS
PL1.3
DC POWER
GENERATION
+5VDC
DC COM
+24VDC
DC COM
+5VDC
TO
+3.3VDC
MAIN PWB
PL1.2
J109
P109
+3.3VDC
C14-C18
D14-D18
C9-C13
D9-D13
C1-C8
D1-C8
A28-A31
B28-B31
A26-A27
B26-B27
A22-A25
B22-B25
A20-A21
B20-B21
+5VDC
1.2
DC COM
1.2
+24VDC-1
1.2
+24VDC-2
9.2
DC COM
1.2
ALL
CR2
J102 +5VDC J602
GRY
J103 DC COM J603
PNK
J102 +24VDC-1 J602
ORN
VIO
ADF PWB
PL3.1
ZERO
CROSS
1
ZERO CROSS
SIGNAL
10.1
ACH
10.1
ACN
10.1
FRONT
DOOR
INTERLOCK
SWITCH
SW 2
J212
FRONT INTLK ON
+24VDC
1.3
NOTE:
1 Zero Cross signal is used for Fuser On/Off timing.
eGret920101



eGret920102

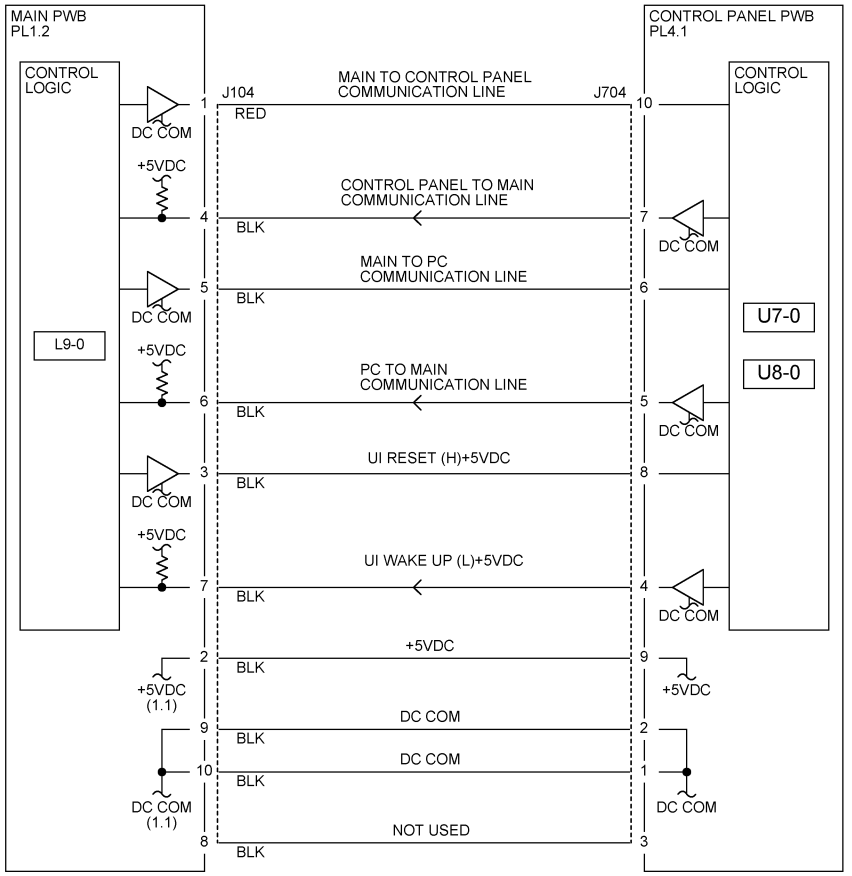
Chain 1 Standby Power

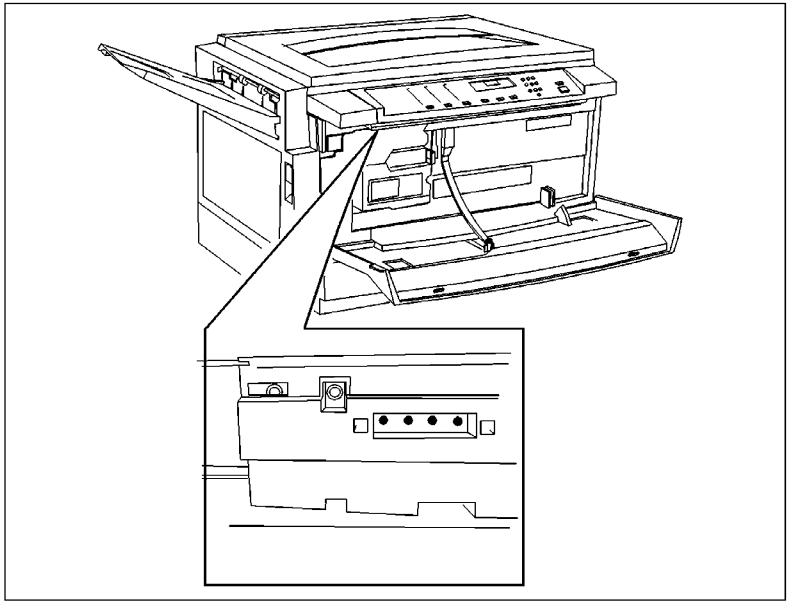
Chapter 7 BSD(Block Schematic Diagram)



eGret920103

2.1 CONTROL PANEL

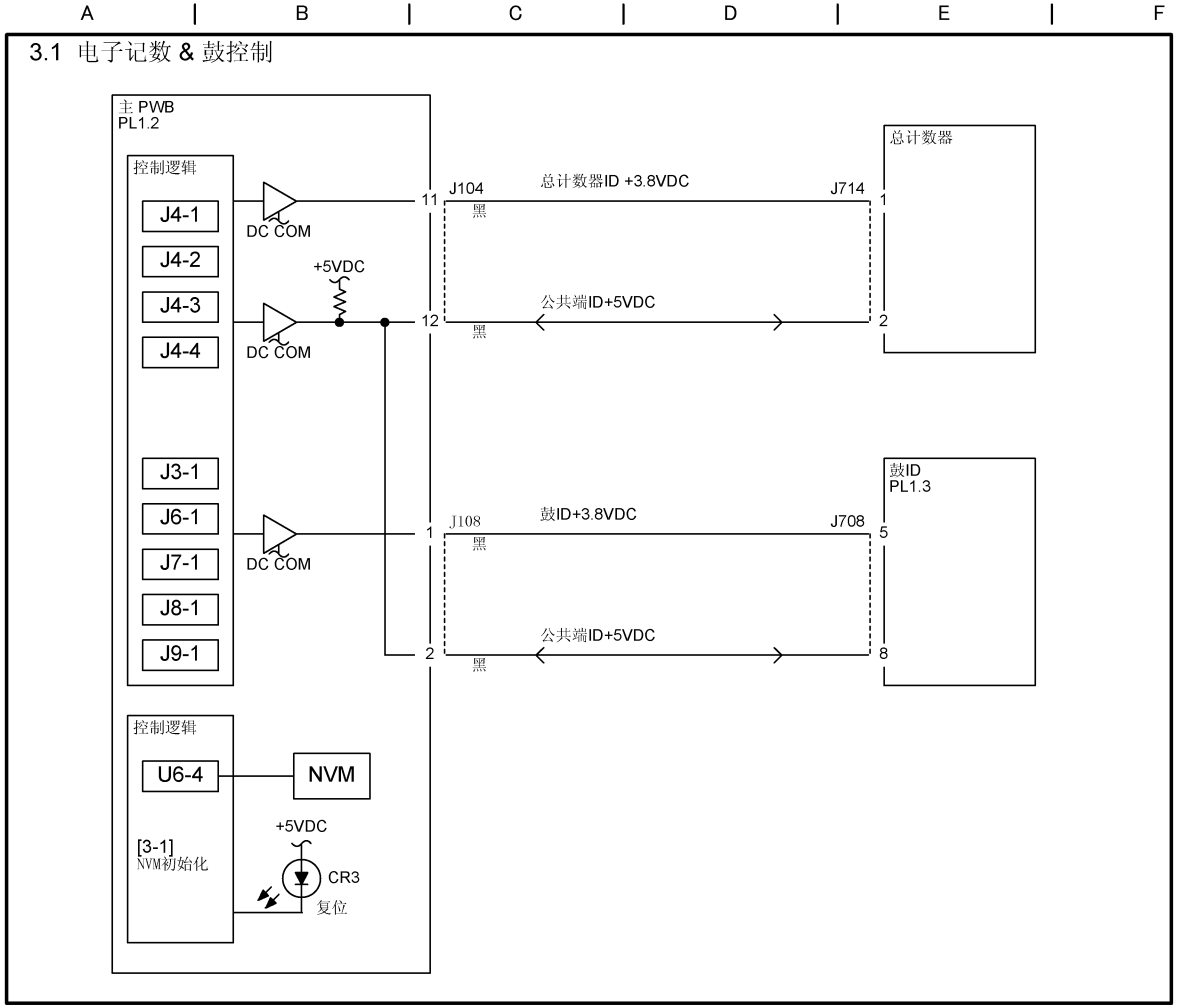




eGret920201

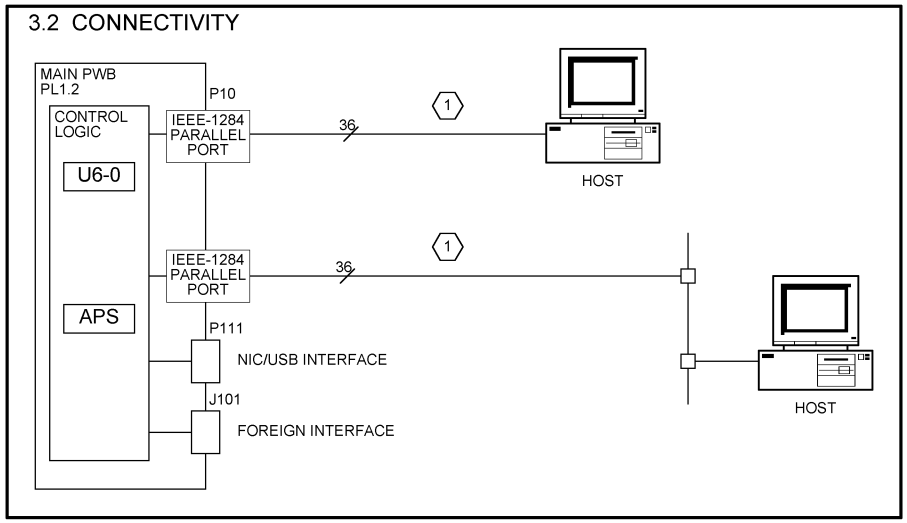
Chain 2 Mode Selection

Chapter 7 BSD(Block Schematic Diagram)



eGret920301

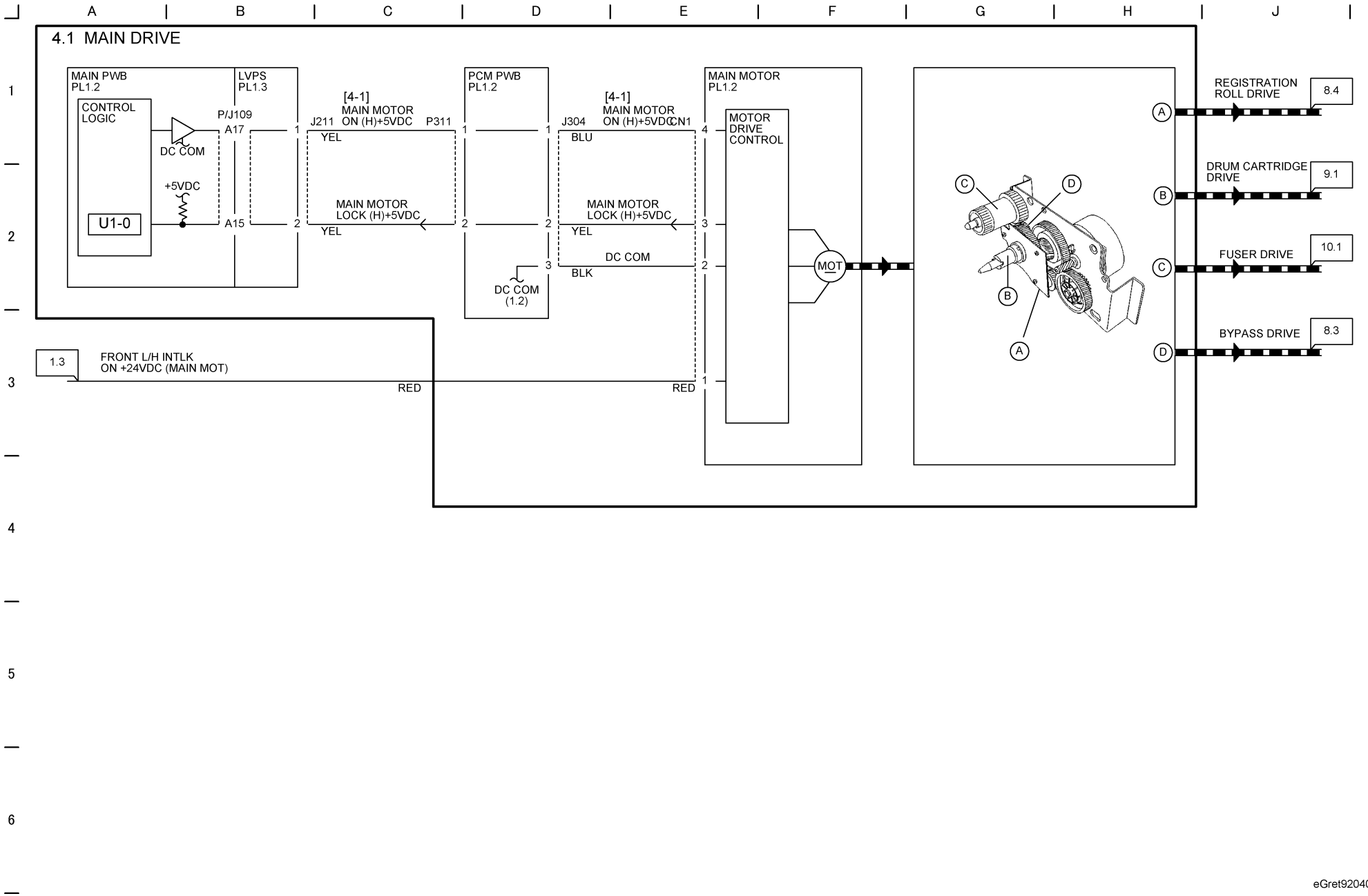
3.2 CONNECTIVITY



NOTE:

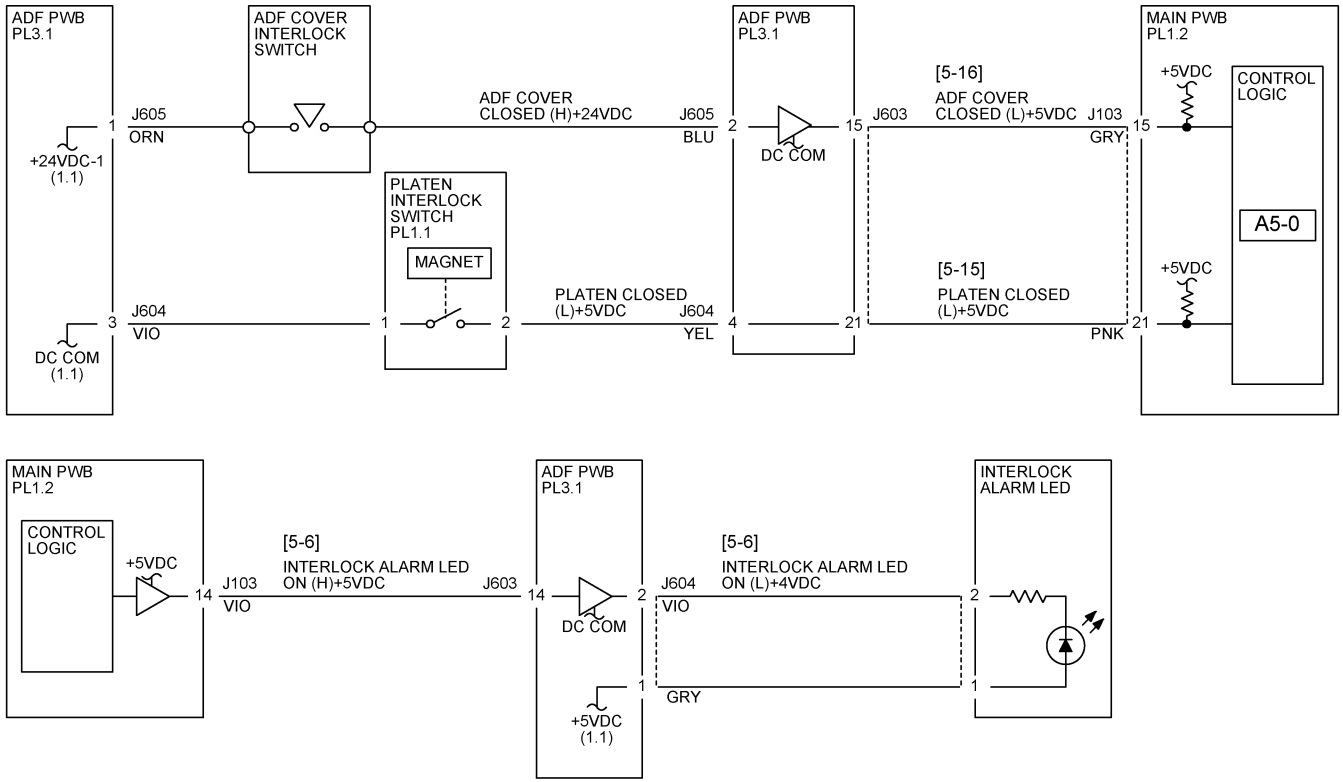
1 For connectivity, the printer could be connected to either a PC or a Network.

eGret920302

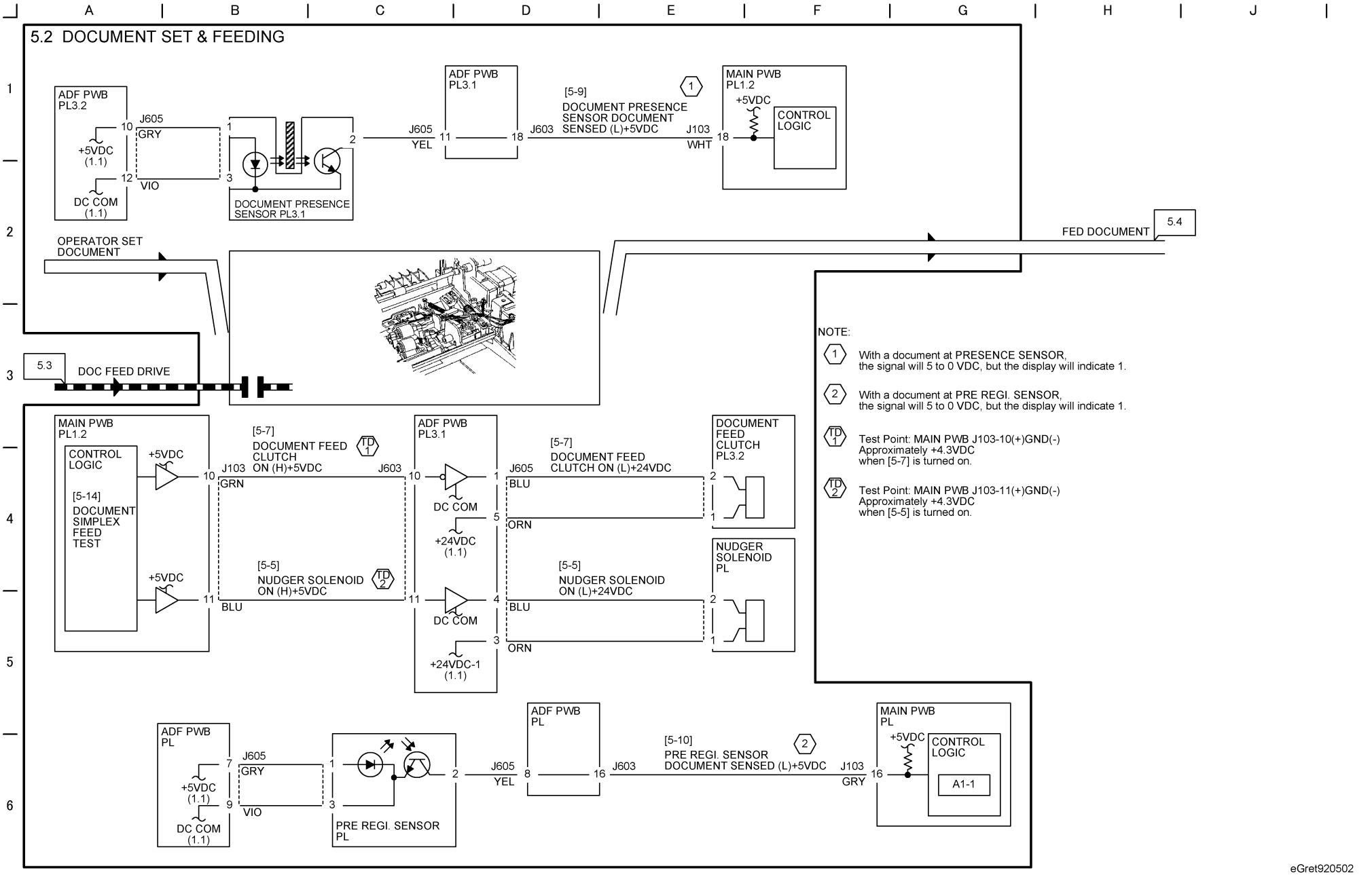


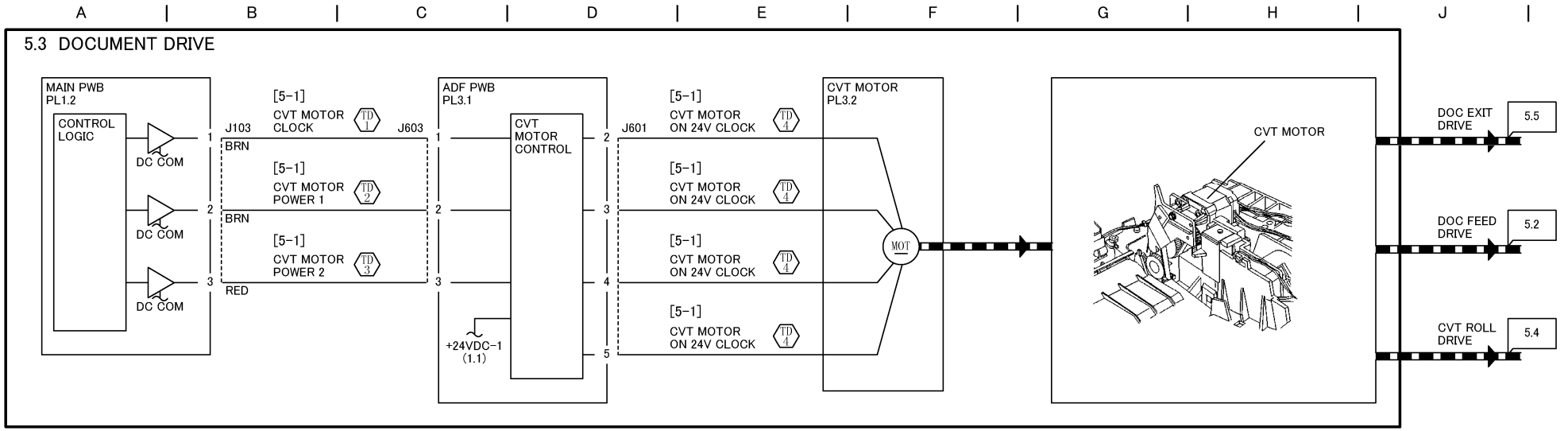
eGret920401

5.1 INTERLOCK MONITORING



eGret920501


5.2 DOCUMENT SET & FEEDING
ADF PWB PL3.2
J605
GRY
+5VDC (1.1)
DC COM (1.1)
VIO
DOCUMENT PRESENCE SENSOR PL3.1
ADF PWB PL3.1
J605 YEL
[5-9]
DOCUMENT PRESENCE SENSOR DOCUMENT SENSED (L)+5VDC
J603
J103 WHT
MAIN PWB PL1.2
+5VDC
CONTROL LOGIC
OPERATOR SET DOCUMENT
FED DOCUMENT
5.4
5.3
DOC FEED DRIVE
MAIN PWB PL1.2
CONTROL LOGIC
[5-14]
DOCUMENT SIMPLEX FEED TEST
[5-7]
DOCUMENT FEED CLUTCH ON (H)+5VDC
GRN
[5-5]
NUDGER SOLENOID ON (H)+5VDC
BLU
ADF PWB PL3.1
DC COM
+24VDC (1.1)
+24VDC-1 (1.1)
[5-7]
DOCUMENT FEED CLUTCH ON (L)+24VDC
BLU
ORN
[5-5]
NUDGER SOLENOID ON (L)+24VDC
BLU
ORN
DOCUMENT FEED CLUTCH PL3.2
NUDGER SOLENOID PL
NOTE:
With a document at PRESENCE SENSOR, the signal will 5 to 0 VDC, but the display will indicate 1.
With a document at PRE REGI. SENSOR, the signal will 5 to 0 VDC, but the display will indicate 1.
Test Point: MAIN PWB J103-10(+)GND(-) Approximately +4.3VDC when [5-7] is turned on.
Test Point: MAIN PWB J103-11(+)GND(-) Approximately +4.3VDC when [5-5] is turned on.
ADF PWB PL
+5VDC (1.1)
DC COM (1.1)
J605 GRY
VIO
PRE REGI. SENSOR PL
ADF PWB PL
J605 YEL
[5-10]
PRE REGI. SENSOR DOCUMENT SENSED (L)+5VDC
J603
J103 GRY
MAIN PWB PL
+5VDC
CONTROL LOGIC
A1-1
eGret920502



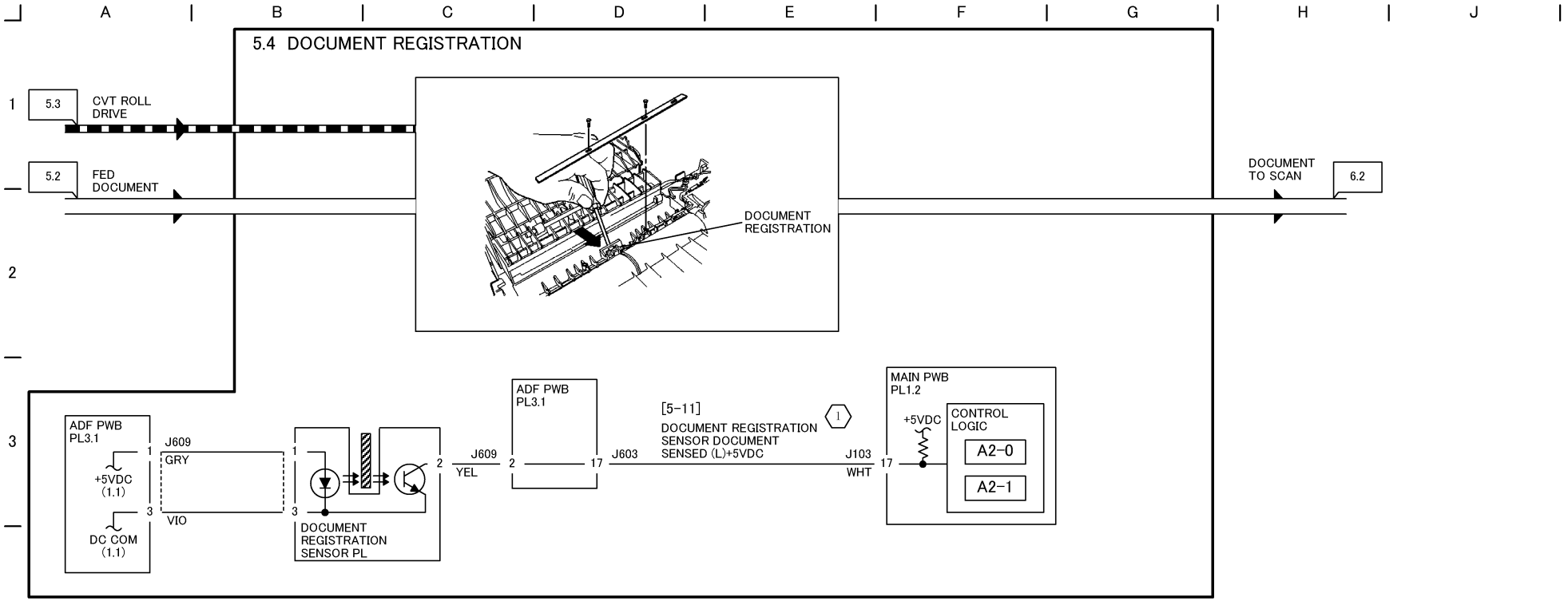
TD 1 Test Point: MAIN PWB J103-1(+)GND(-)
Approximately +1.3VDC when [5-1] is turned on.

TD 2 Test Point: MAIN PWB J103-2(+)GND(-)
Approximately +10VDC when [5-1] is turned on.

TD 3 Test Point: MAIN PWB J103-3(+)GND(-)
Approximately +5VDC when [5-1] is turned on.

TD 4 Test Point: ADF PWB J601-2,3,4,5(+)GND(-)
Approximately +10VDC when [5-1] is turned on.

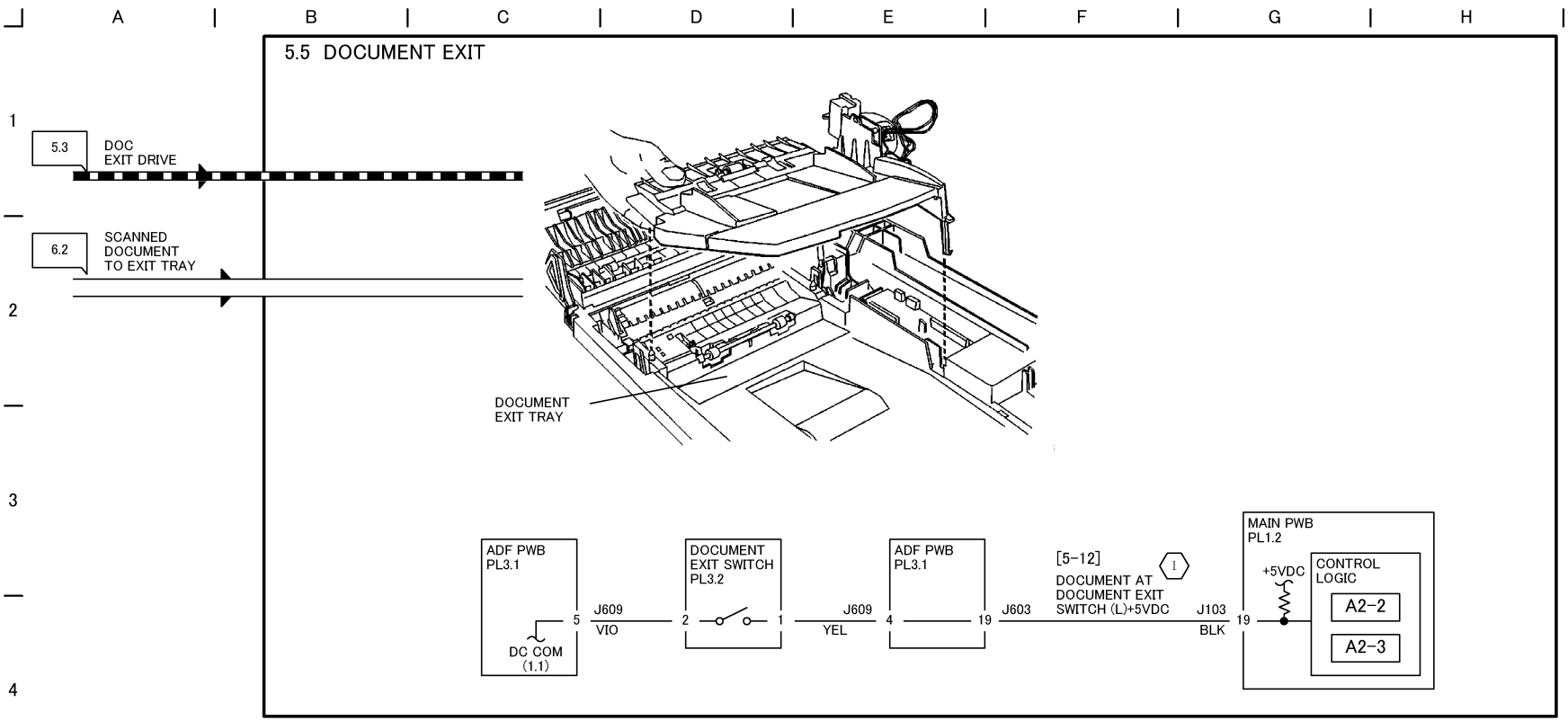
eGret920503



NOTE:

1 With a document at DOCUMENT REGISTRATION SENSOR, the signal will 5 to 0 VDC, but the display will indicate 1.

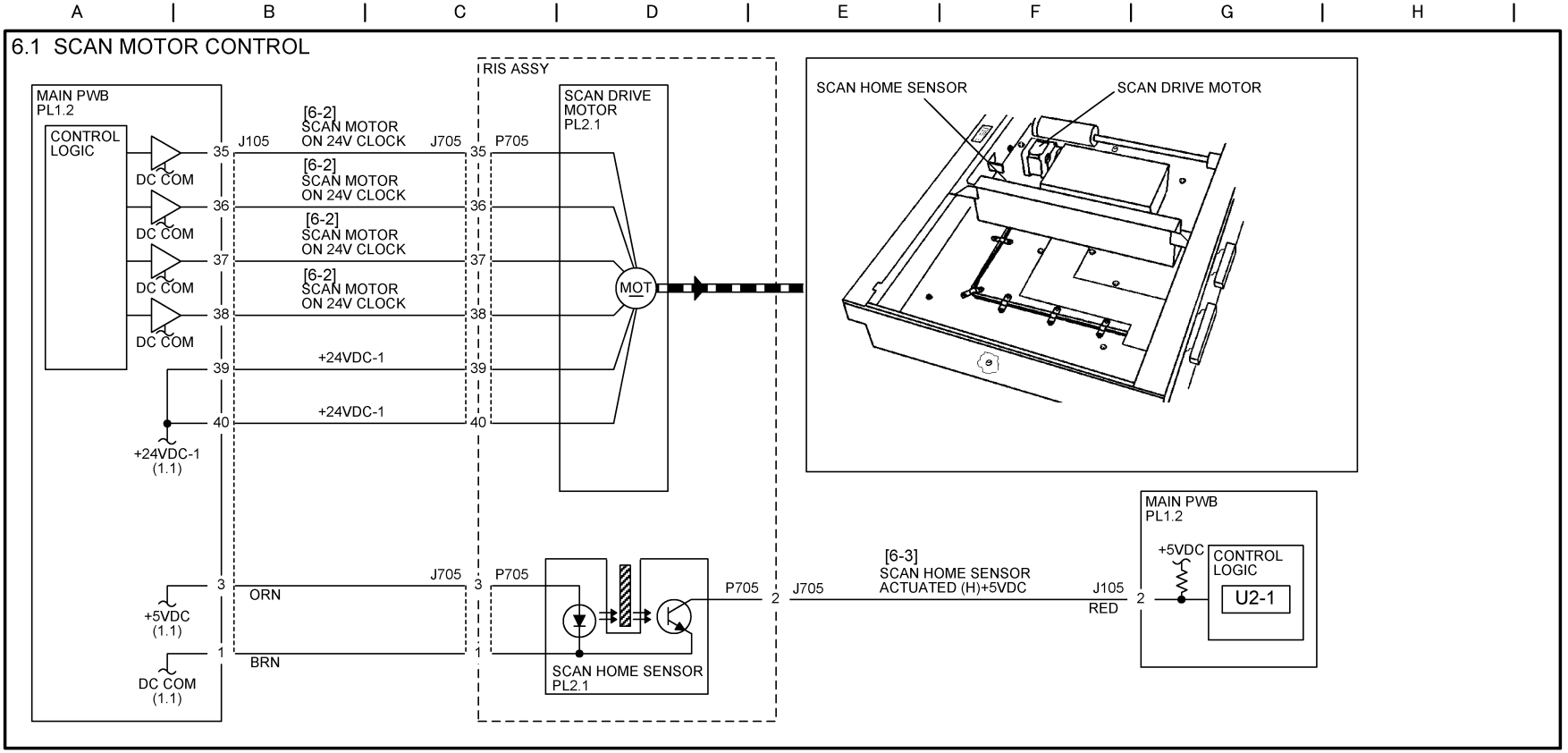
eGret920504



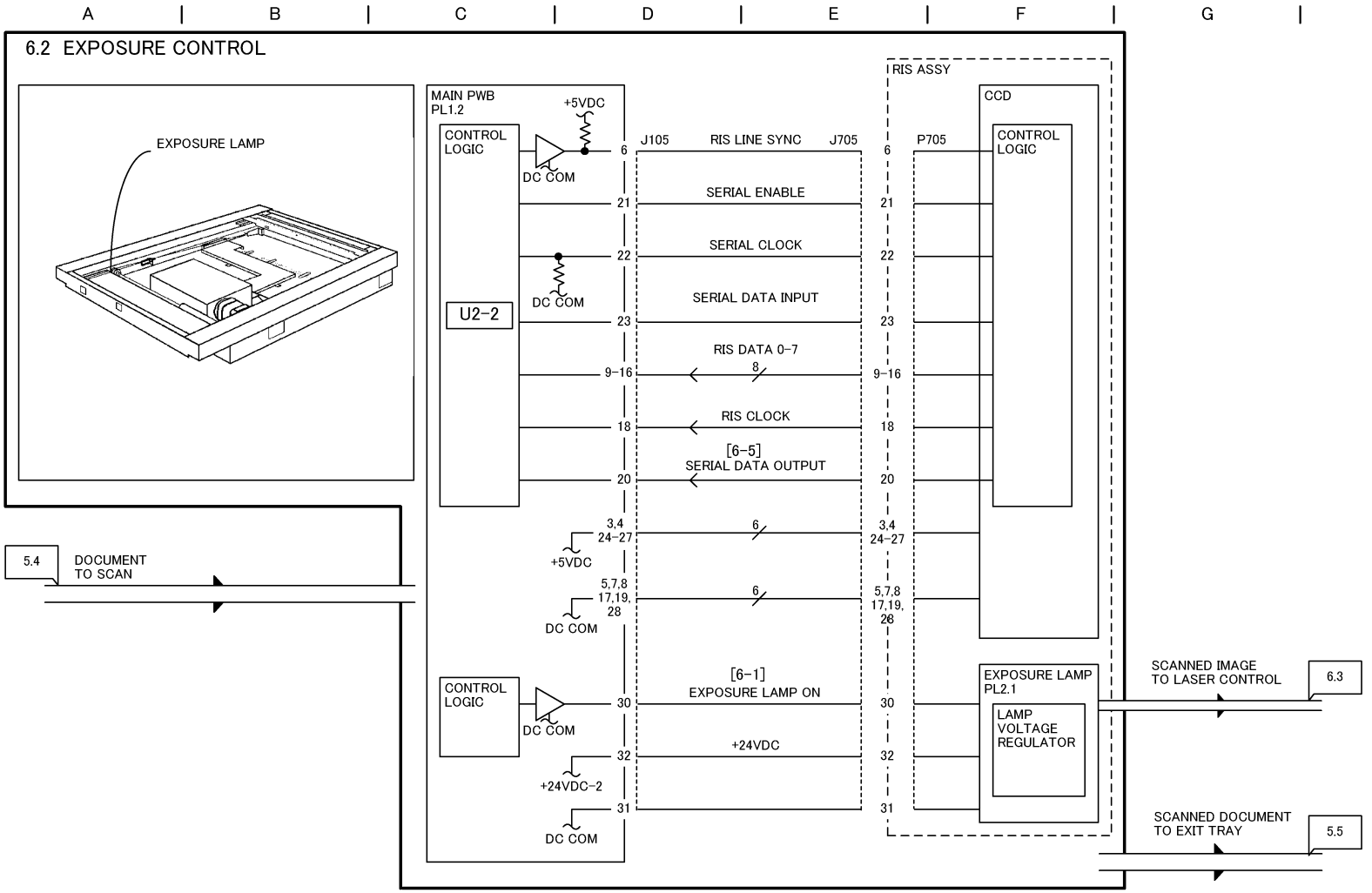
NOTE:

1 With a document at DOCUMENT EXIT SWITCH, the signal will 5 to 0 VDC, but the display will indicate 1.

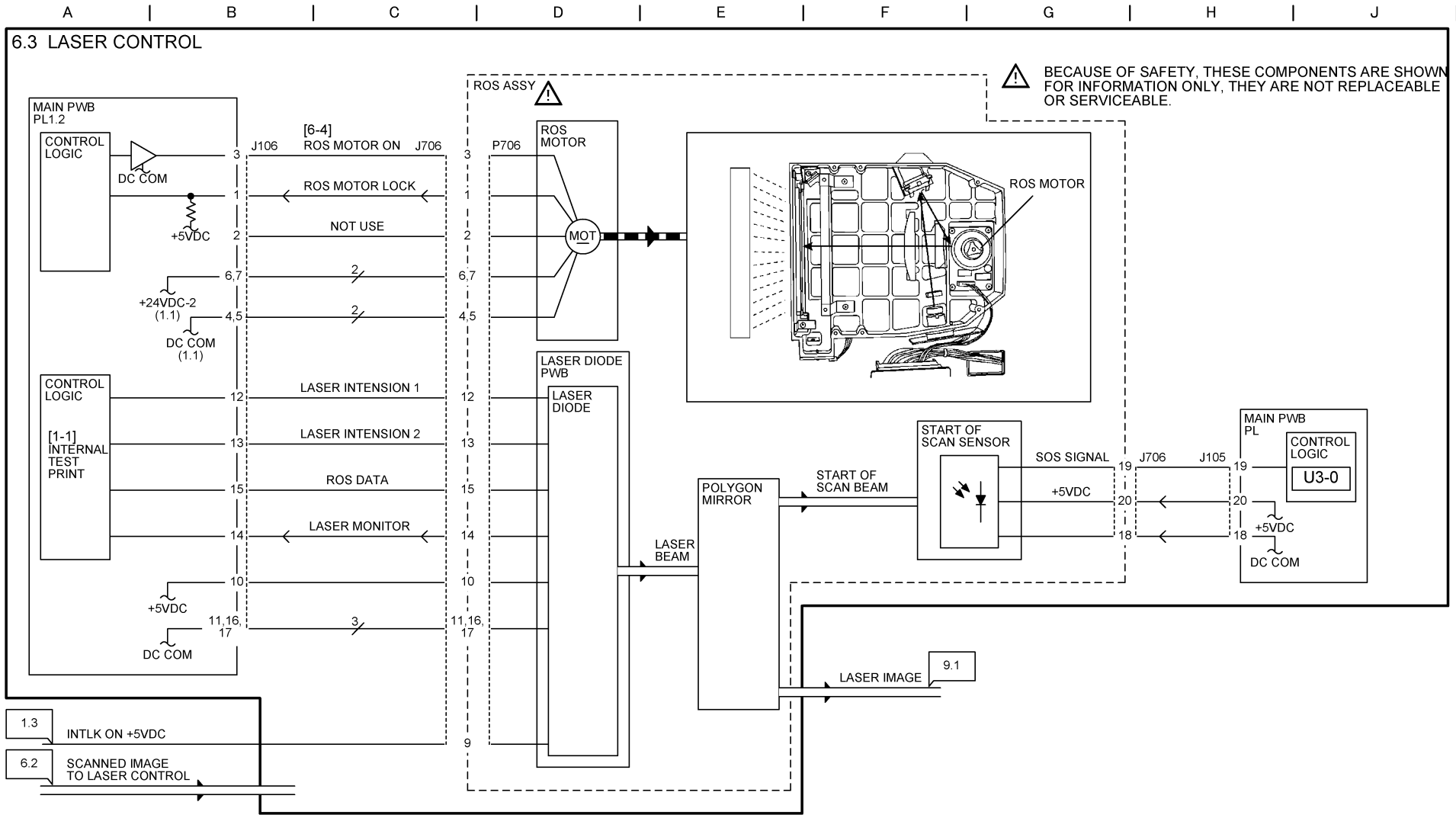
eGret920505



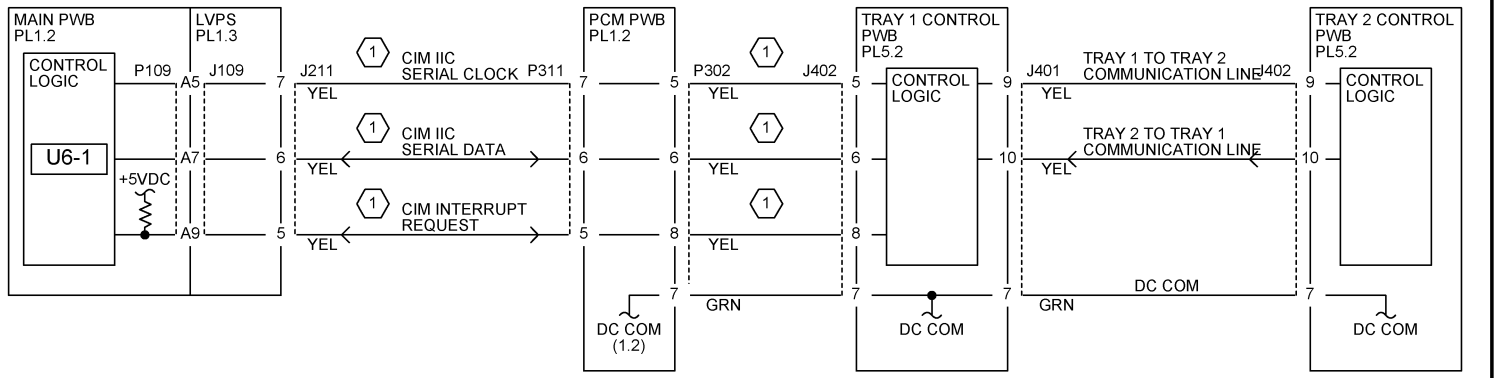
eGret920601



eGret920602


6.3 LASER CONTROL
BECAUSE OF SAFETY, THESE COMPONENTS ARE SHOWN FOR INFORMATION ONLY, THEY ARE NOT REPLACEABLE OR SERVICEABLE.
ROS ASSY
MAIN PWB
PL1.2
CONTROL LOGIC
DC COM
+5VDC
[6-4]
ROS MOTOR ON
J106
J706
P706
ROS MOTOR
ROS MOTOR LOCK
NOT USE
MOT
+24VDC-2
(1.1)
DC COM
(1.1)
LASER DIODE PWB
LASER DIODE
[1-1]
INTERNAL TEST PRINT
LASER INTENSION 1
LASER INTENSION 2
ROS DATA
LASER MONITOR
POLYGON MIRROR
LASER BEAM
START OF SCAN BEAM
START OF SCAN SENSOR
SOS SIGNAL
+5VDC
J705
MAIN PWB
PL
CONTROL LOGIC
U3-0
DC COM
11,16,17
1.3
INTLK ON +5VDC
6.2
SCANNED IMAGE TO LASER CONTROL
LASER IMAGE
9.1
eGret920603

7.1 PWB COMMUNICATION

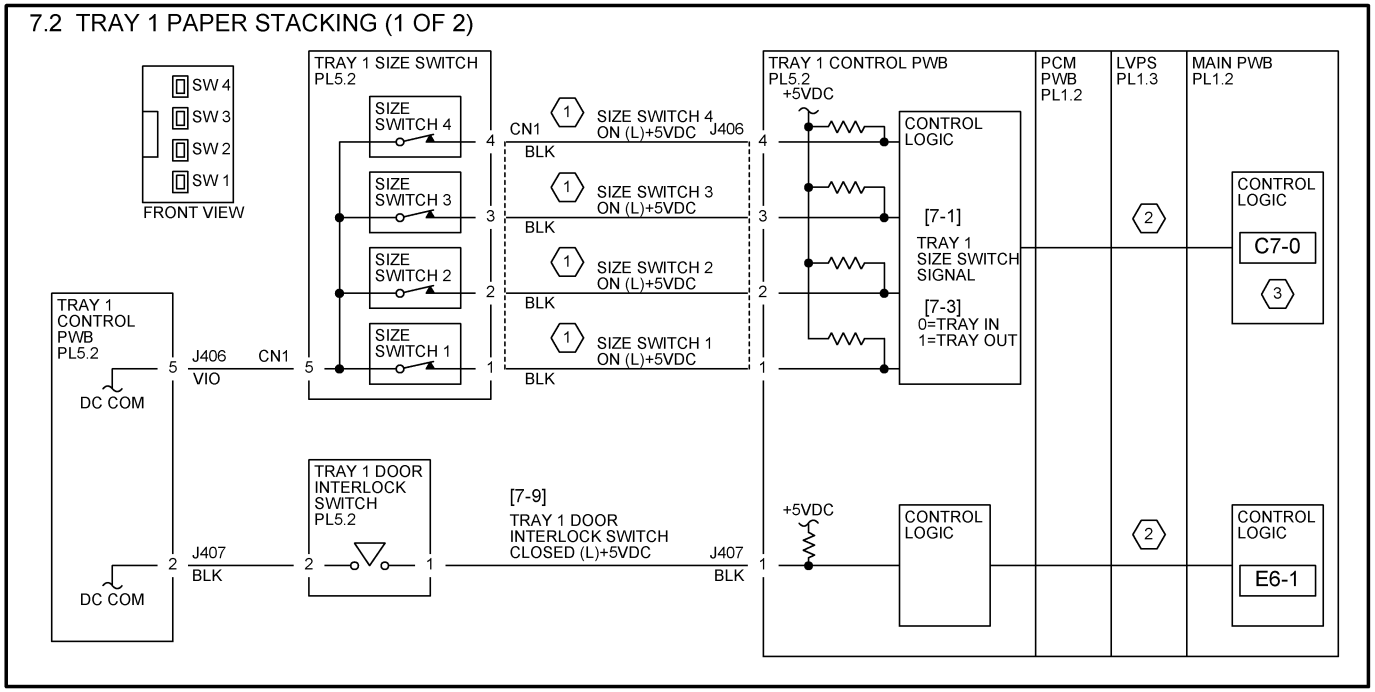


NOTE:

(1) Open Circuit Failure causes U6-1 Status Code.

eGret920701

7.2 TRAY 1 PAPER STACKING (1 OF 2)



NOTE:

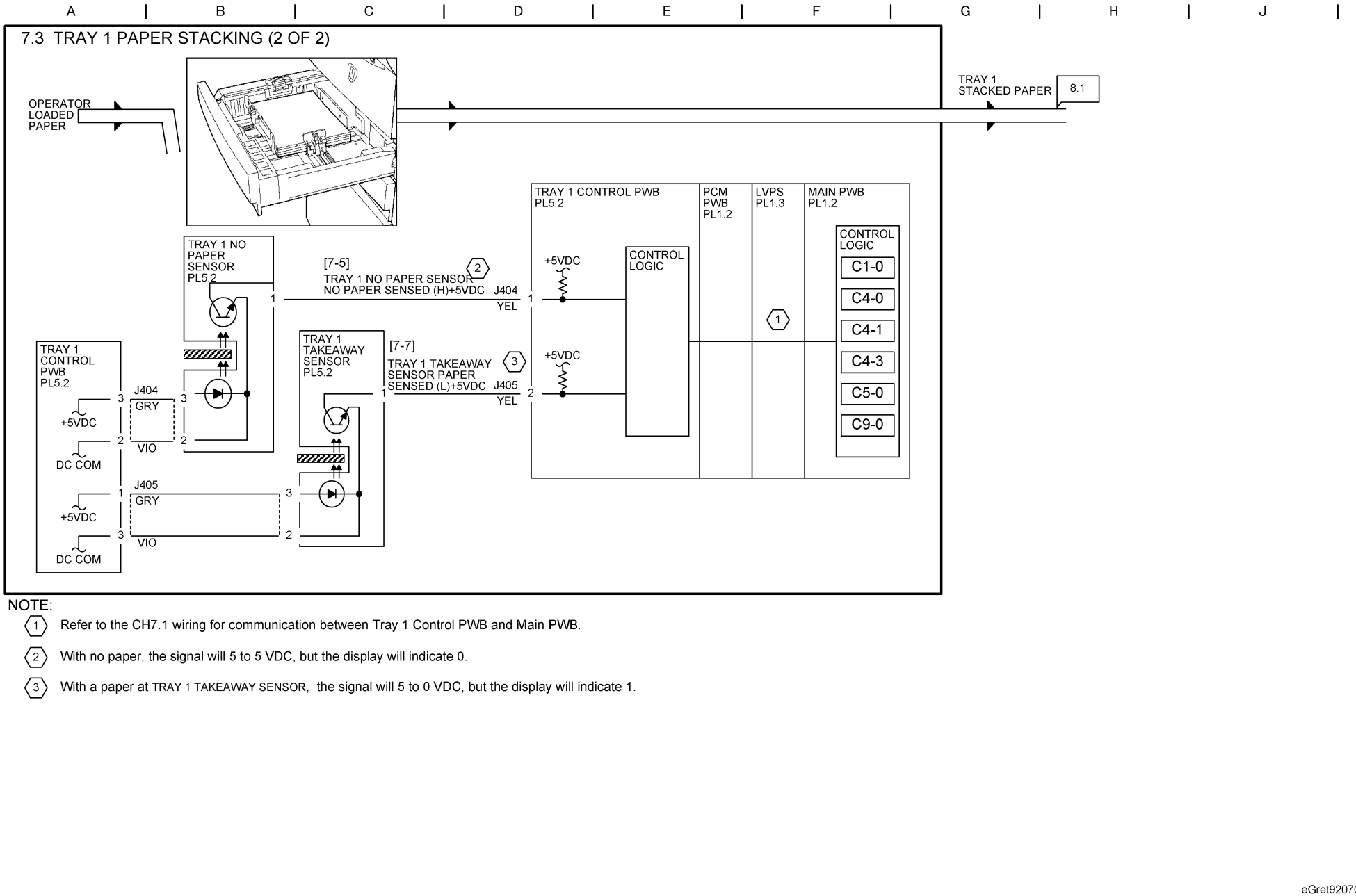
1. Open circuit failure causes C7-0 Status Code.
2. Refer to the CH7.1 wiring for communication between Tray 1 Control PWB and Main PWB.

3. PAPER SIZE SENSE

PAPER SIZE	SIZE SWITCH			
	1	2	3	4
14	O	O	O	O
8K	-	O	O	O
A4 SEF	-	-	O	O
17	O	O	-	O
8.5	O	-	-	O
B5 LEF	O	O	O	-
B4	-	O	O	-
A4 LEF	O	-	O	-
13	-	-	O	-
A3	O	O	-	-
8.5 SEF	-	O	-	-
B8 SEF	O	-	-	-
Tray Not Set	-	-	-	-

O : Switch is ON.
- : Switch is OFF.

eGret920702



NOTE:

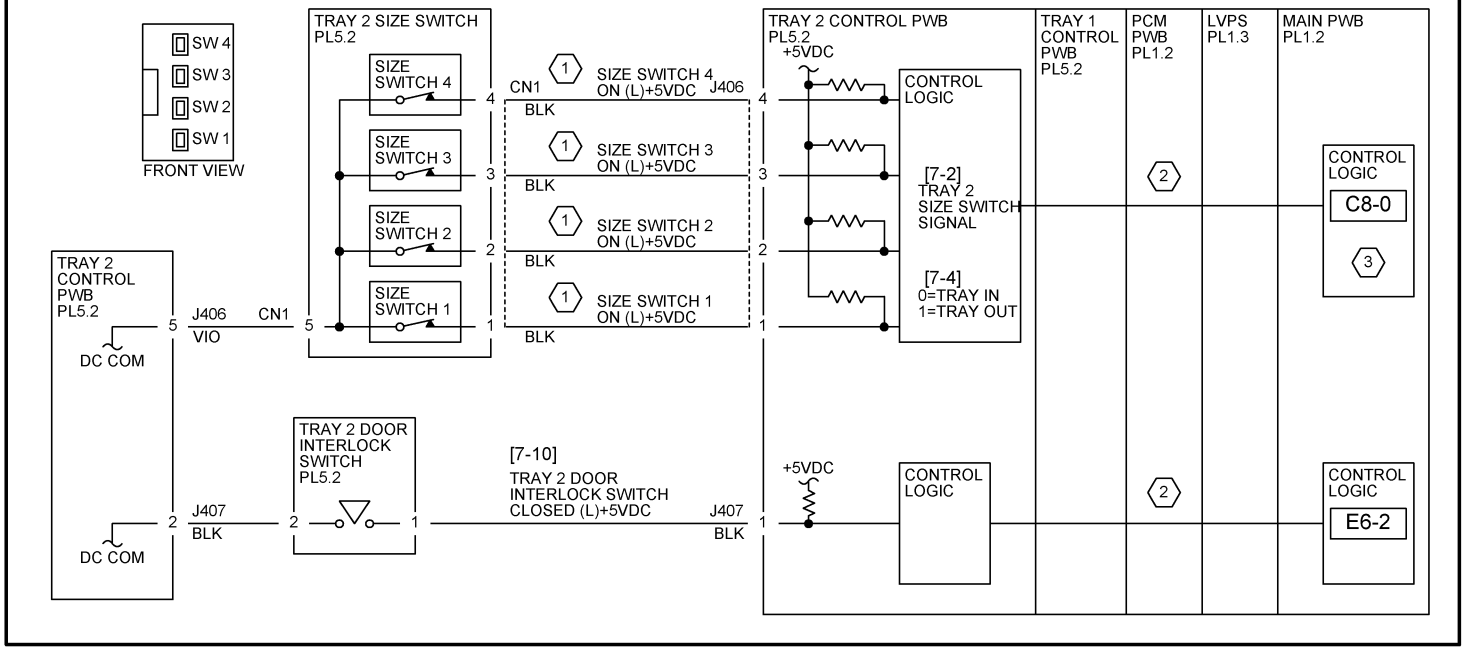
(1) Refer to the CH7.1 wiring for communication between Tray 1 Control PWB and Main PWB.

(2) With no paper, the signal will 5 to 5 VDC, but the display will indicate 0.

(3) With a paper at TRAY 1 TAKEAWAY SENSOR, the signal will 5 to 0 VDC, but the display will indicate 1.

eGret920703

7.4 TRAY 2 PAPER STACKING (1 OF 2)



NOTE:

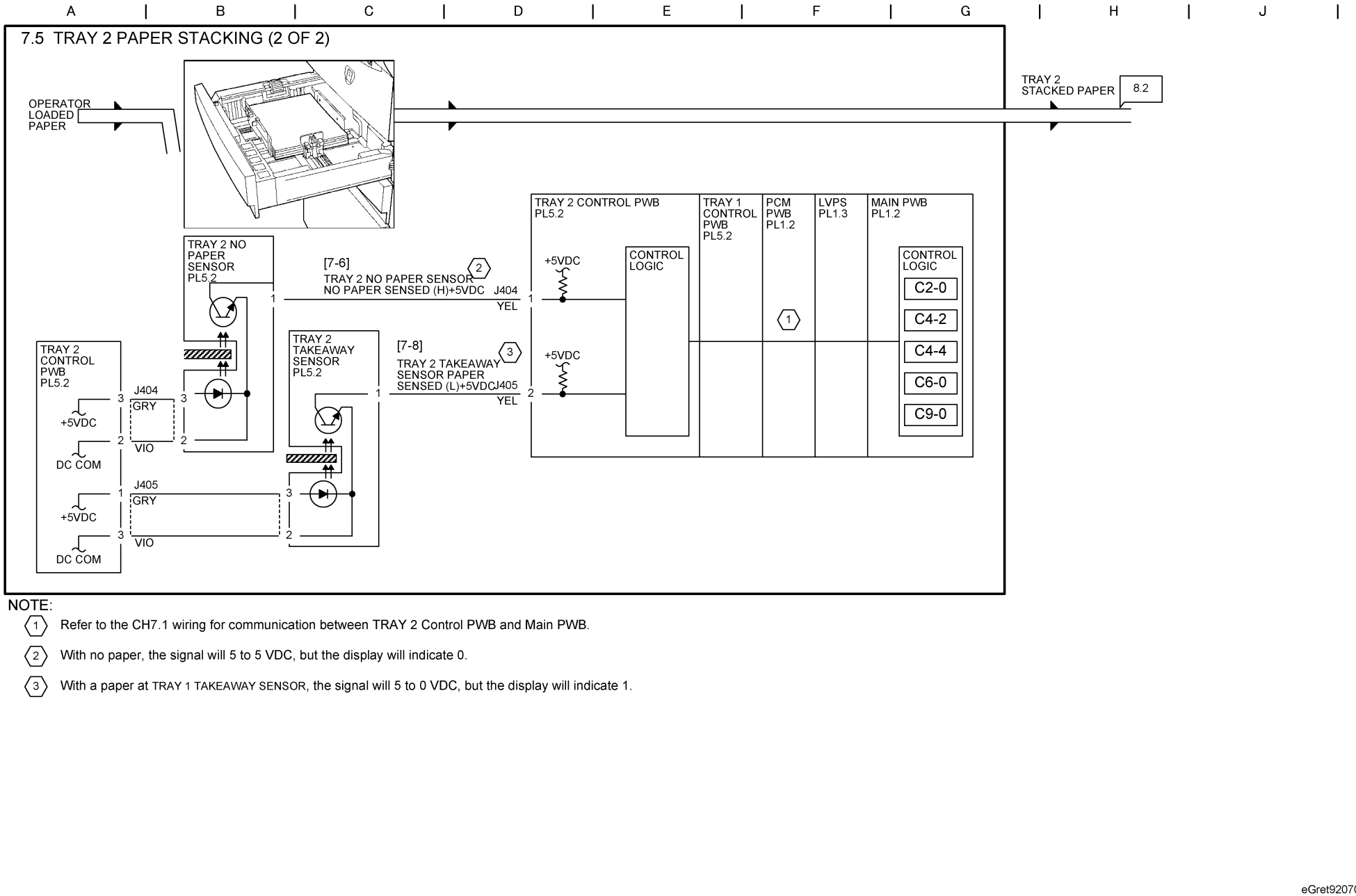
1. Open circuit failure causes C8-0 Status Code.
2. Refer to the CH7.1 wiring for communication between TRAY 2 Control PWB and Main PWB.

3. PAPER SIZE SENSE

PAPER SIZE	SIZE SWITCH			
	1	2	3	4
14	O	O	O	O
8K	-	O	O	O
A4 SEF	-	-	O	O
17	O	O	-	O
8.5	O	-	-	O
B5 LEF	O	O	O	-
B4	-	O	O	-
A4 LEF	O	-	O	-
13	-	-	O	-
A3	O	O	-	-
8.5 SEF	-	O	-	-
B8 SEF	O	-	-	-
Tray Not Set	-	-	-	-

O : Switch is ON.
- : Switch is OFF.

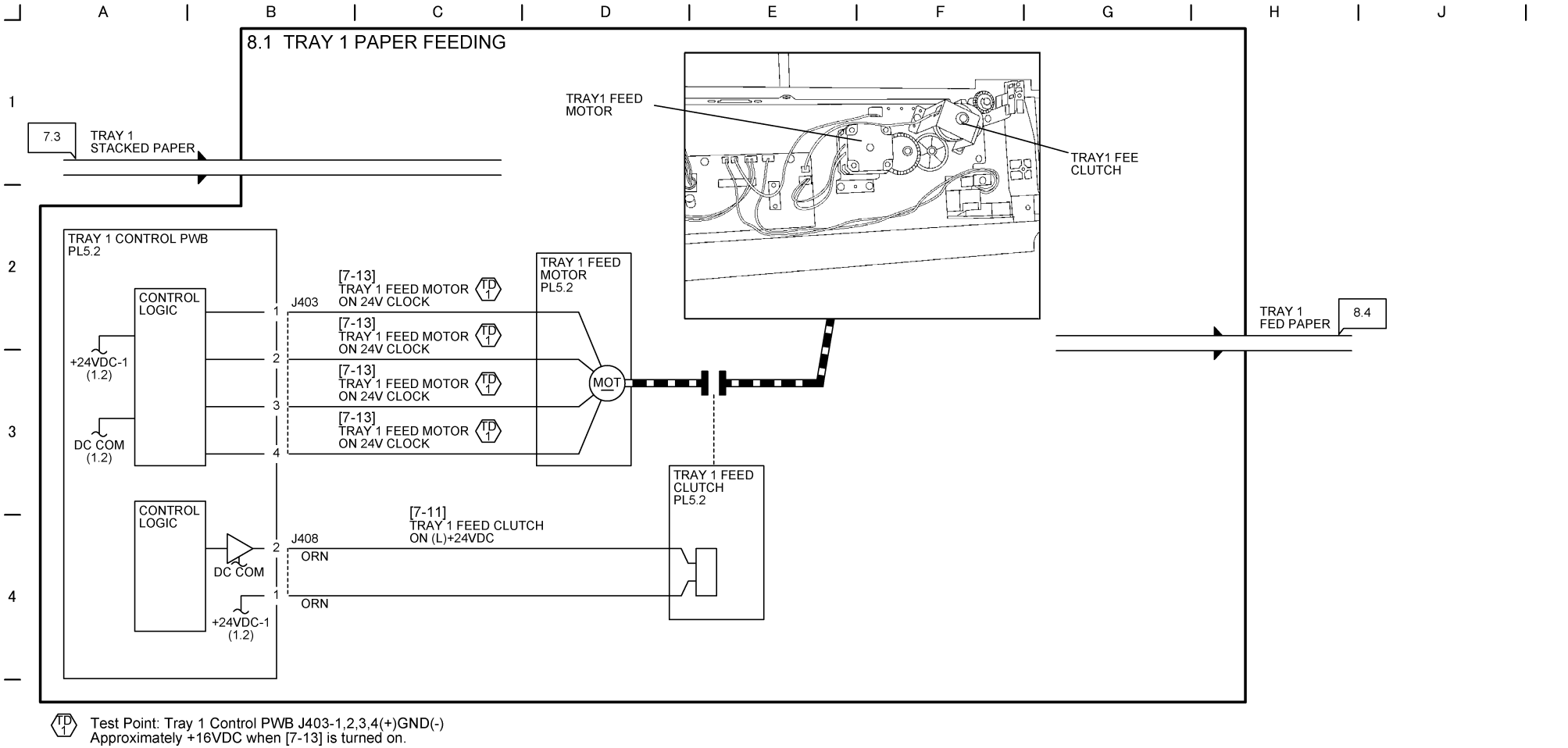
eGret920704

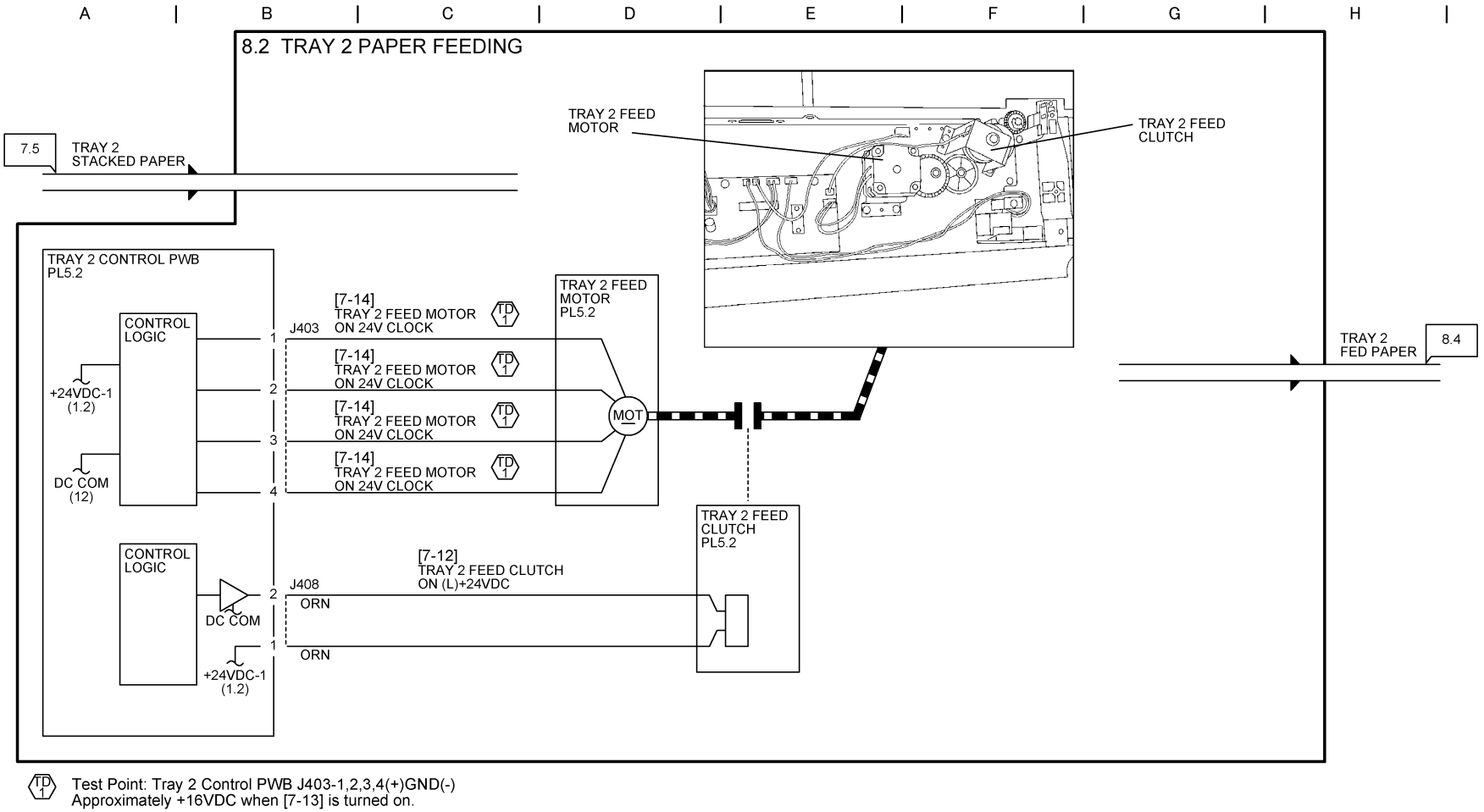


NOTE:

1. Refer to the CH7.1 wiring for communication between TRAY 2 Control PWB and Main PWB.
2. With no paper, the signal will 5 to 5 VDC, but the display will indicate 0.
3. With a paper at TRAY 1 TAKEAWAY SENSOR, the signal will 5 to 0 VDC, but the display will indicate 1.

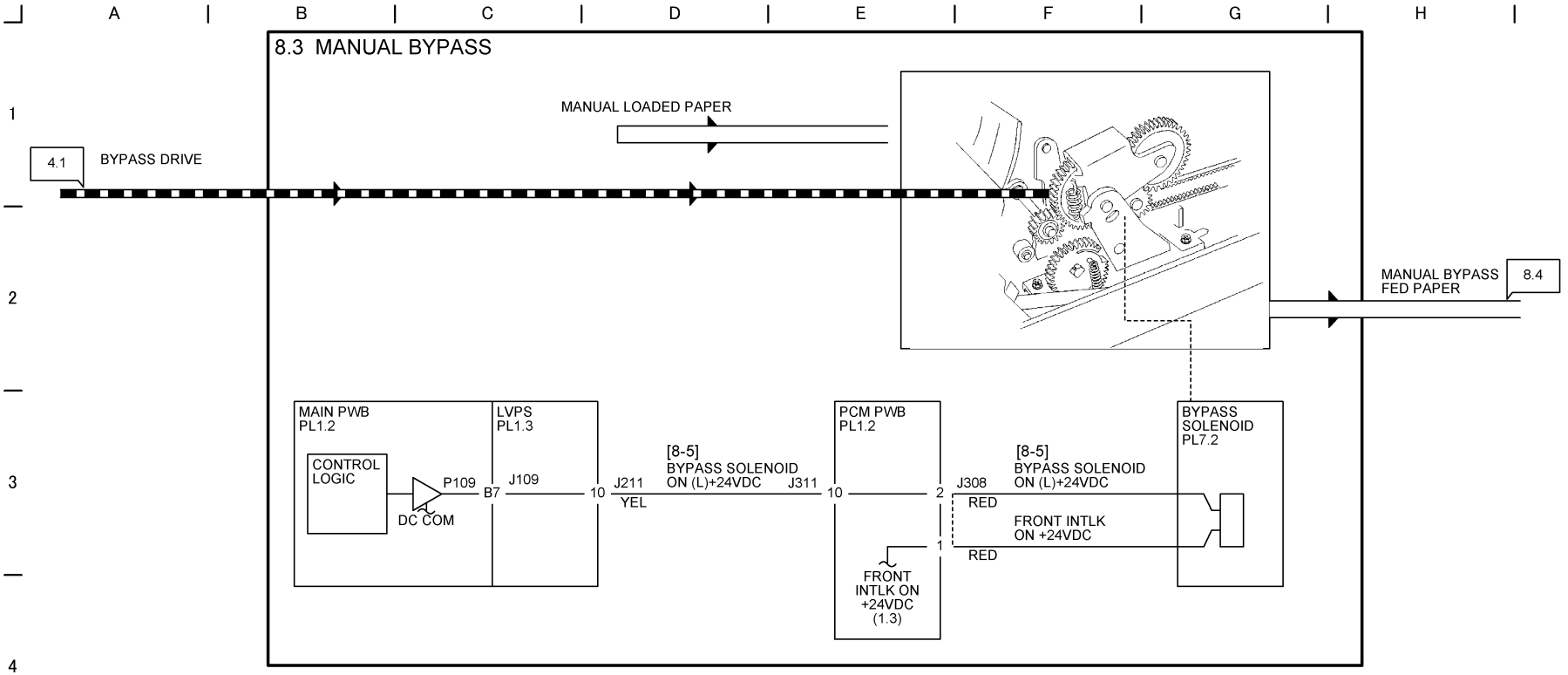
eGret920705


A
B
C
D
E
F
G
H
J
1
2
3
4
5
6
8.1 TRAY 1 PAPER FEEDING
7.3
TRAY 1
STACKED PAPER
TRAY1 FEED
MOTOR
TRAY1 FEE
CLUTCH
TRAY 1 CONTROL PWB
PL5.2
CONTROL
LOGIC
+24VDC-1
(1.2)
DC COM
(1.2)
J403
[7-13]
TRAY 1 FEED MOTOR
ON 24V CLOCK
TD 1
TRAY 1 FEED
MOTOR
PL5.2
MOT
TRAY 1
FED PAPER
8.4
CONTROL
LOGIC
DC COM
+24VDC-1
(1.2)
J408
ORN
[7-11]
TRAY 1 FEED CLUTCH
ON (L)+24VDC
TRAY 1 FEED
CLUTCH
PL5.2
TD 1
Test Point: Tray 1 Control PWB J403-1,2,3,4(+)GND(-)
Approximately +16VDC when [7-13] is turned on.
eGret920801

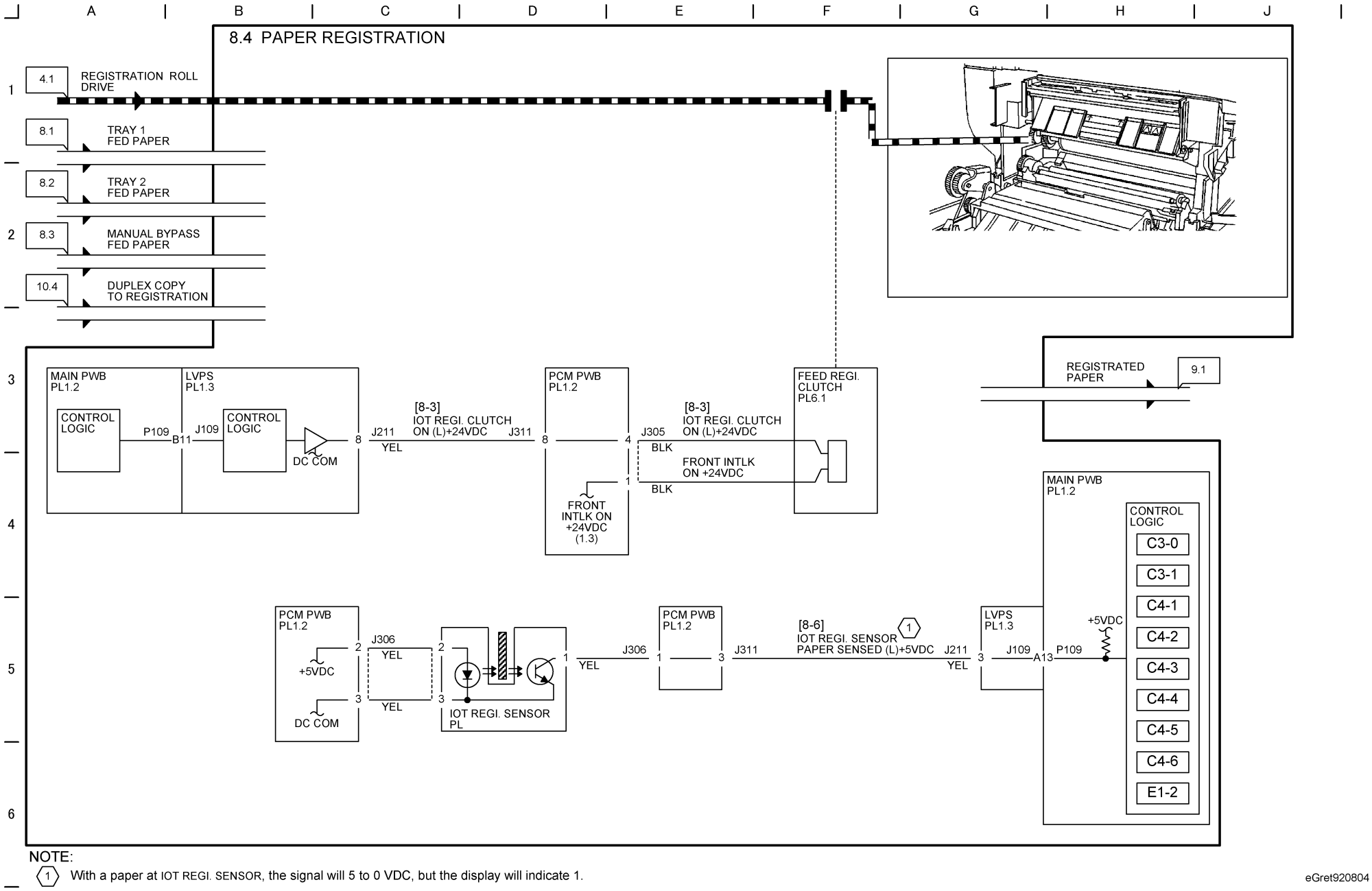


TD 1 Test Point: Tray 2 Control PWB J403-1,2,3,4(+)GND(-)
Approximately +16VDC when [7-13] is turned on.

eGret920802



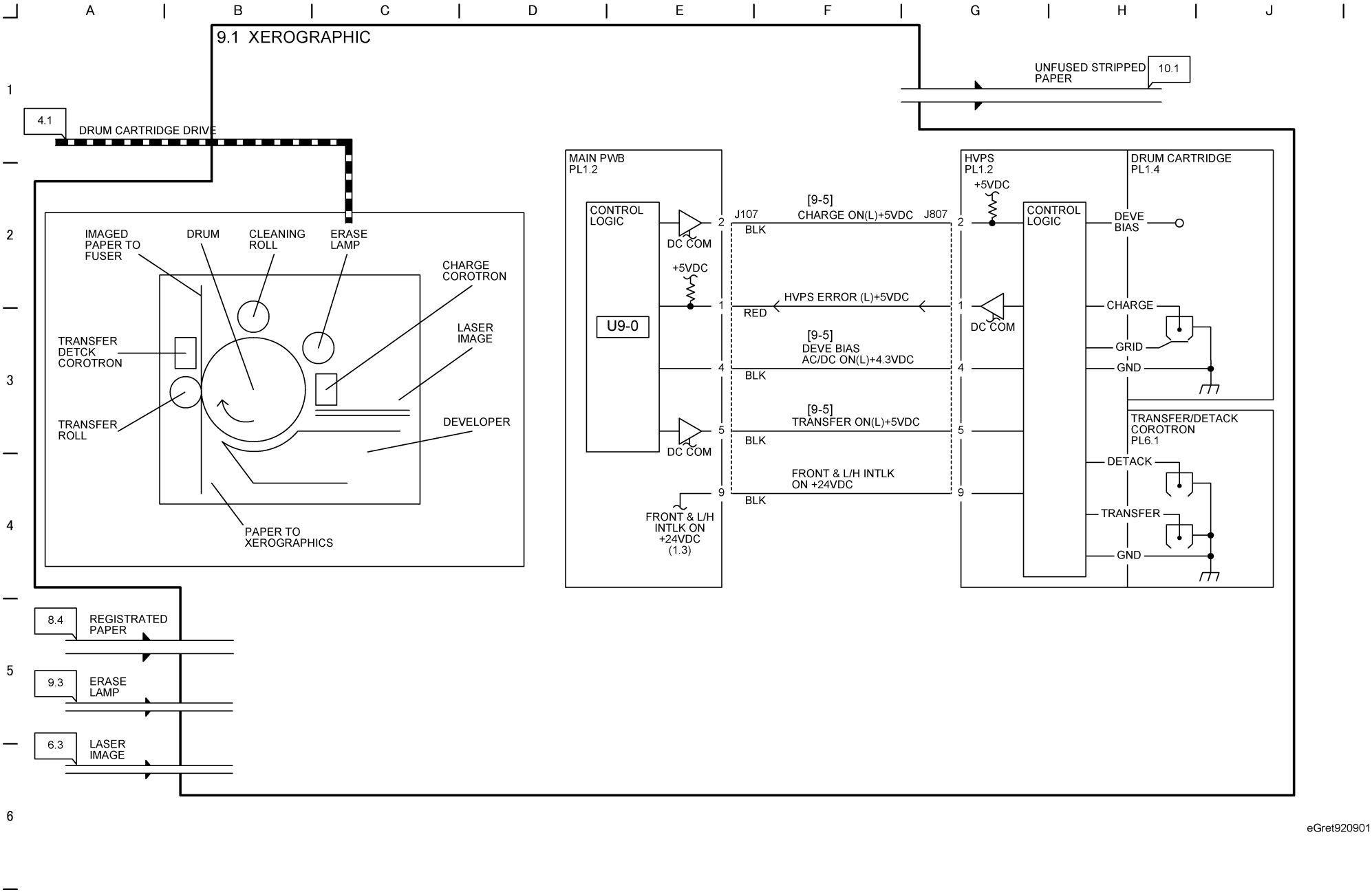
eGret920803



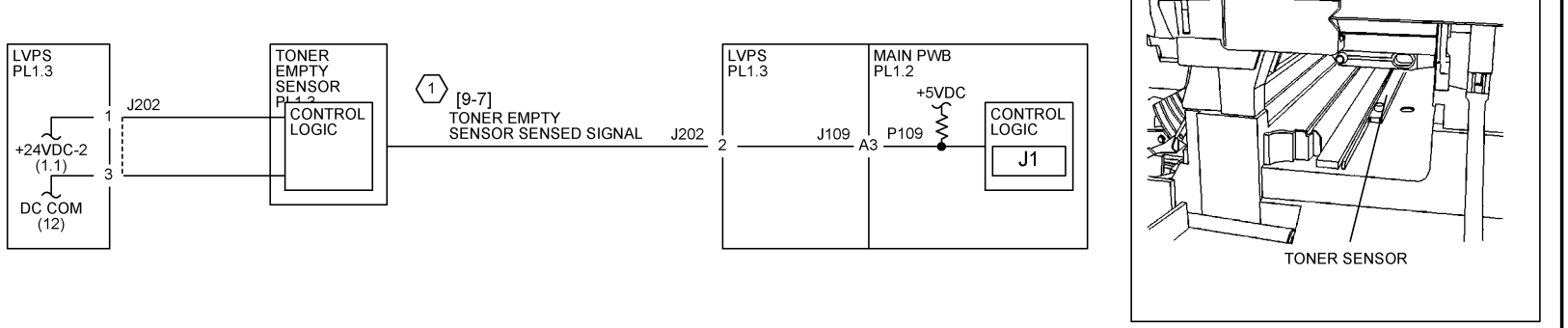
NOTE:

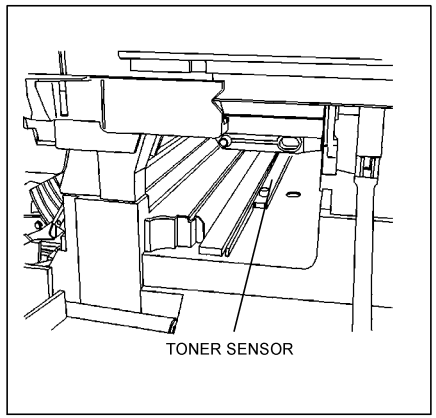
(1) With a paper at IOT REGI. SENSOR, the signal will 5 to 0 VDC, but the display will indicate 1.

eGret920804


A
B
C
D
E
F
G
H
J
1
2
3
4
5
6
9.1 XEROGRAPHIC
4.1
DRUM CARTRIDGE DRIVE
UNFUSED STRIPPED PAPER
10.1
IMAGED PAPER TO FUSER
DRUM
CLEANING ROLL
ERASE LAMP
CHARGE COROTRON
LASER IMAGE
TRANSFER DETCK COROTRON
TRANSFER ROLL
DEVELOPER
PAPER TO XEROGRAPHICS
MAIN PWB PL1.2
CONTROL LOGIC
U9-0
DC COM
+5VDC
FRONT & L/H INTLK ON +24VDC (1.3)
J107
J807
[9-5]
CHARGE ON(L)+5VDC
BLK
HVPS ERROR (L)+5VDC
RED
DEVE BIAS AC/DC ON(L)+4.3VDC
TRANSFER ON(L)+5VDC
FRONT & L/H INTLK ON +24VDC
HVPS PL1.2
DRUM CARTRIDGE PL1.4
DEVE BIAS
CHARGE
GRID
GND
TRANSFER/DETACK COROTRON PL6.1
DETACK
TRANSFER
8.4
REGISTRATED PAPER
9.3
ERASE LAMP
6.3
LASER IMAGE
eGret920901

9.2 TONER SENSE



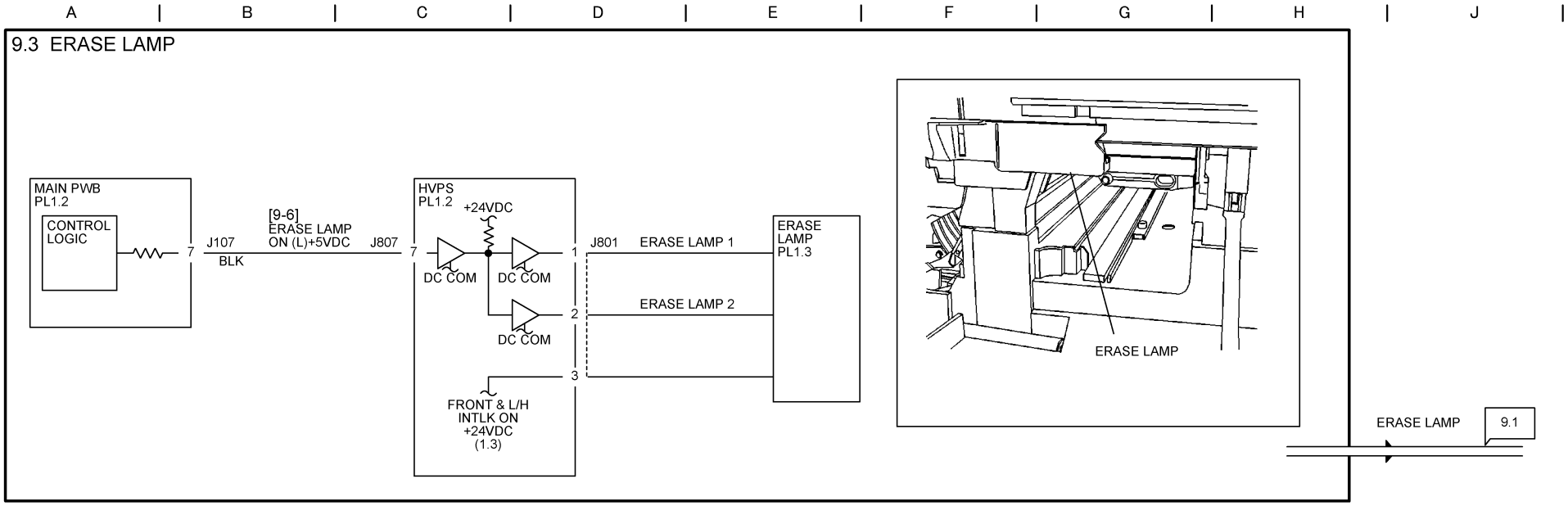


NOTE:
1 [9-7]
0= Toner low
1= Toner OK

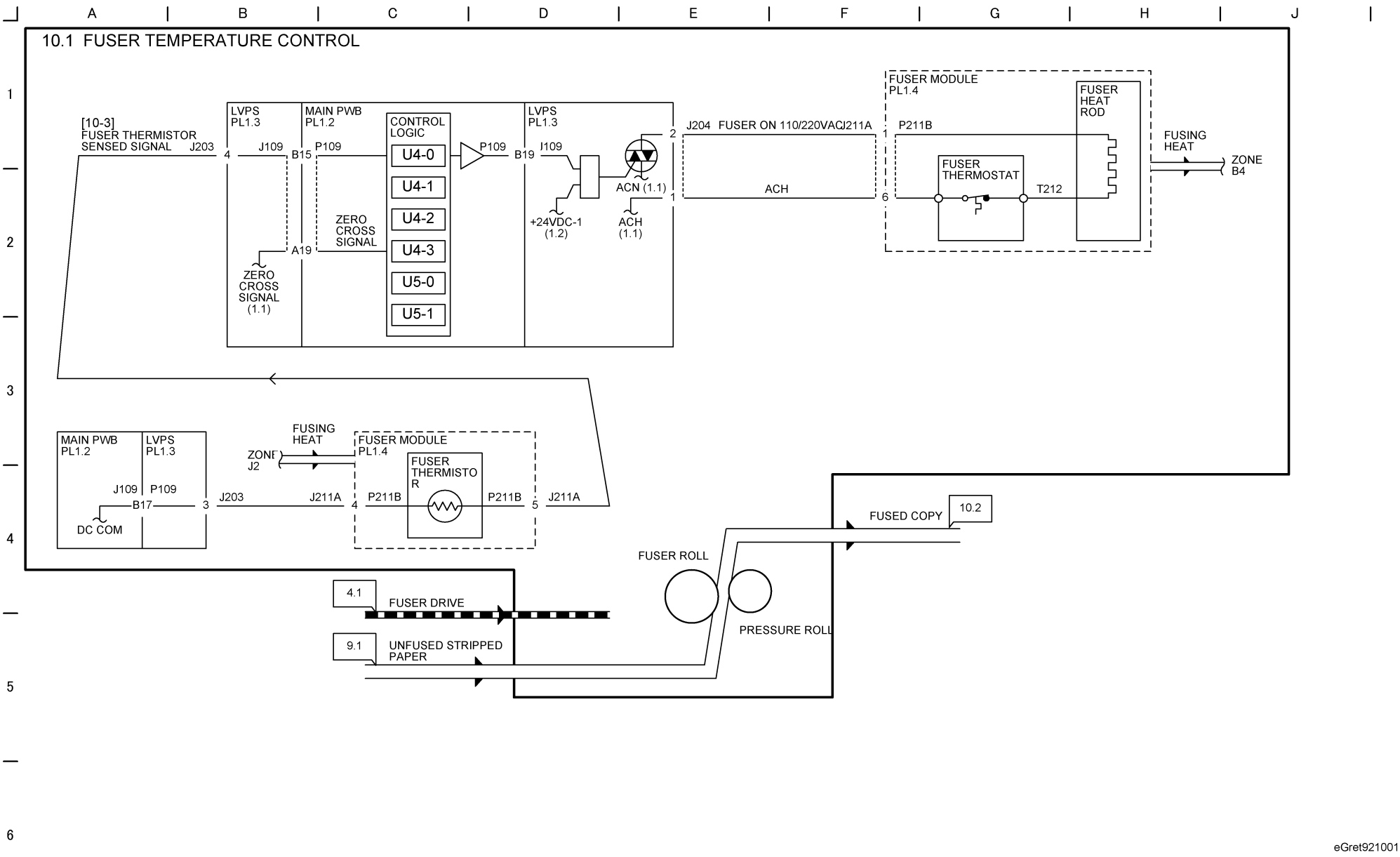
eGret920902

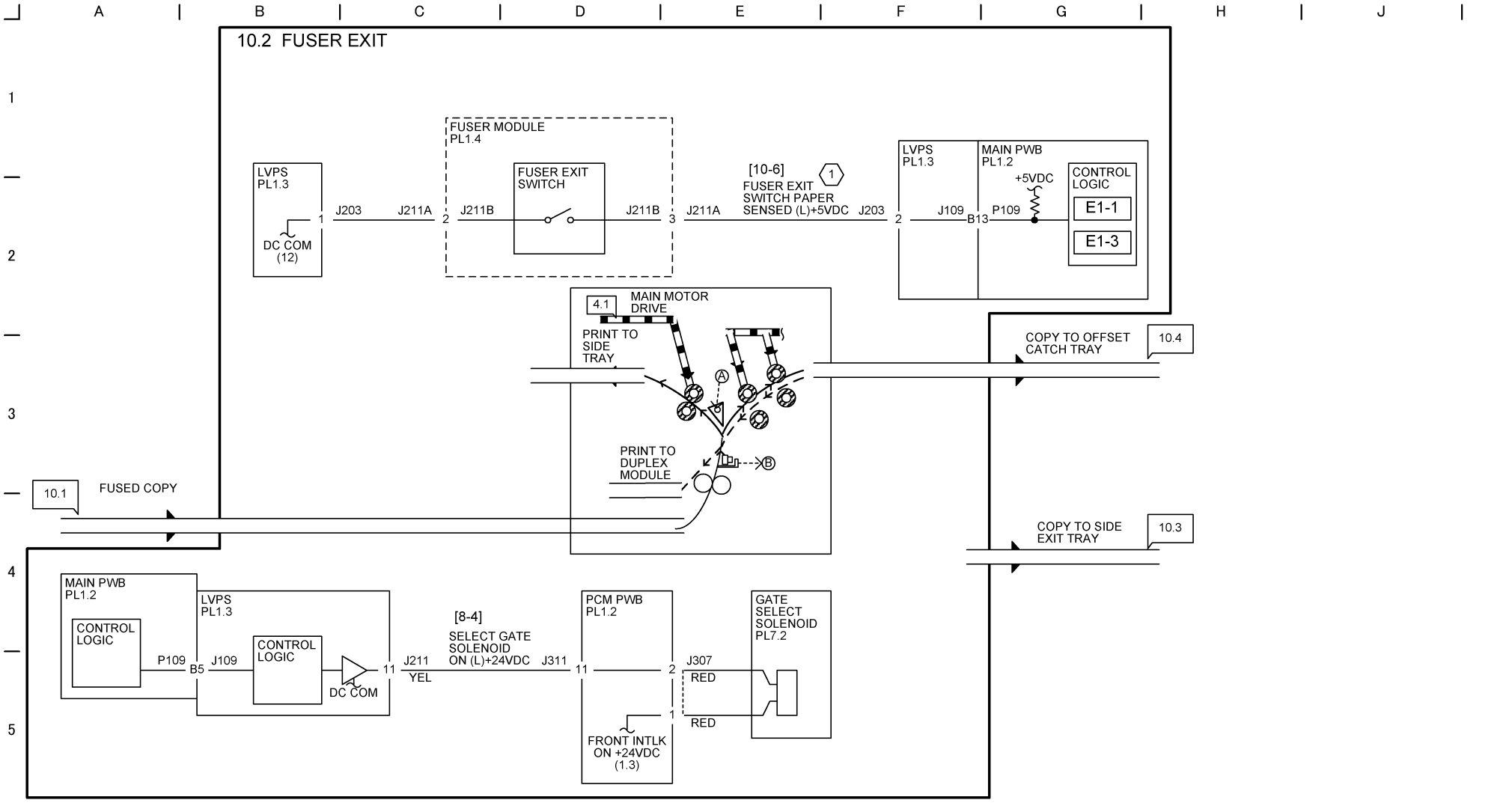
Chain 9 Marking

Chapter 7 BSD(Block Schematic Diagram)



eGret920903

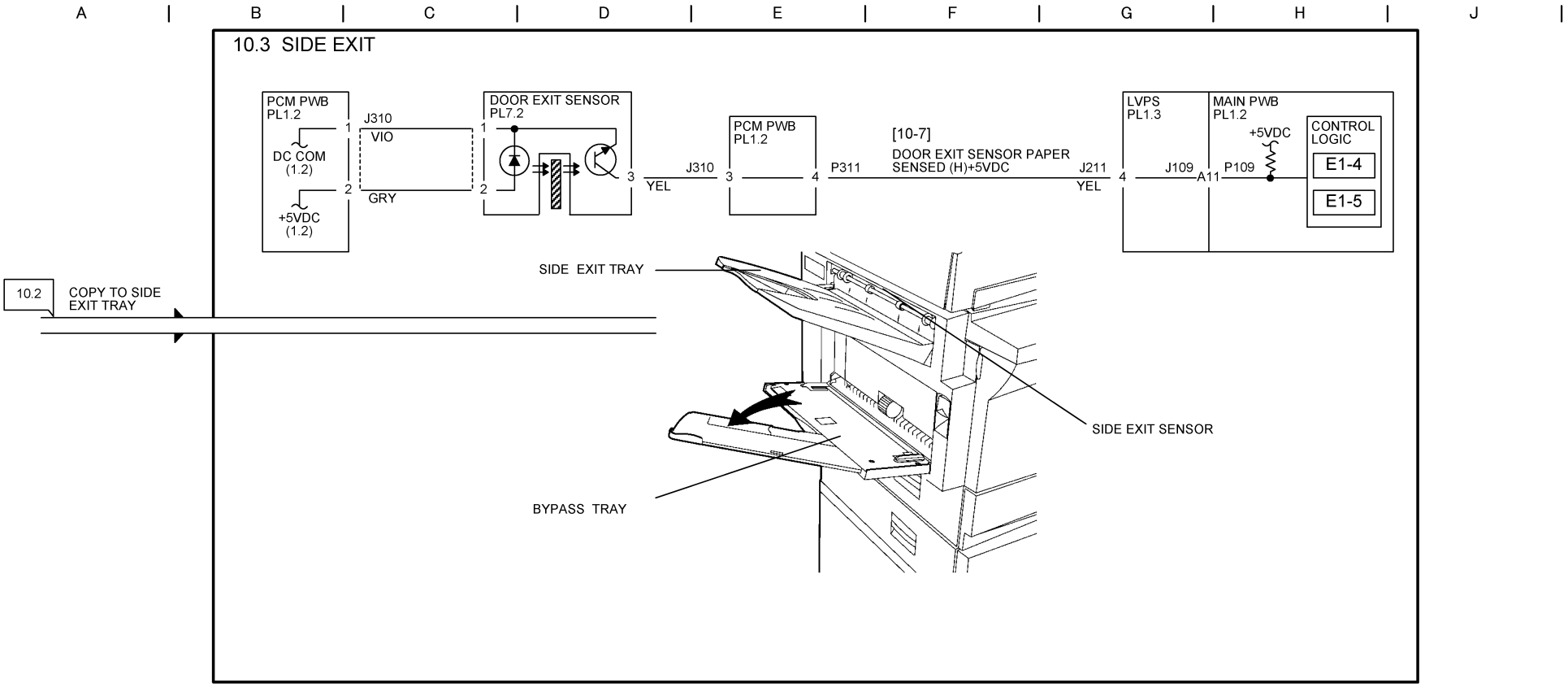

10.1 FUSER TEMPERATURE CONTROL
[10-3]
FUSER THERMISTOR
SENSED SIGNAL
J203
LVPS
PL1.3
MAIN PWB
PL1.2
CONTROL
LOGIC
U4-0
U4-1
U4-2
U4-3
U5-0
U5-1
J109
P109
B15
A19
ZERO
CROSS
SIGNAL
ZERO
CROSS
SIGNAL
(1.1)
LVPS
PL1.3
J109
B19
+24VDC-1
(1.2)
ACN (1.1)
ACH
(1.1)
J204 FUSER ON 110/220VAC
J211A
ACH
FUSER MODULE
PL1.4
P211B
FUSER
HEAT
ROD
FUSER
THERMOSTAT
T212
FUSING
HEAT
ZONE
B4
MAIN PWB
PL1.2
LVPS
PL1.3
J109
P109
B17
DC COM
J203
J211A
FUSING
HEAT
ZONE
J2
FUSER MODULE
PL1.4
FUSER
THERMISTO
R
P211B
P211B
J211A
FUSED COPY
10.2
FUSER ROLL
PRESSURE ROLL
4.1
FUSER DRIVE
9.1
UNFUSED STRIPPED
PAPER
eGret921001



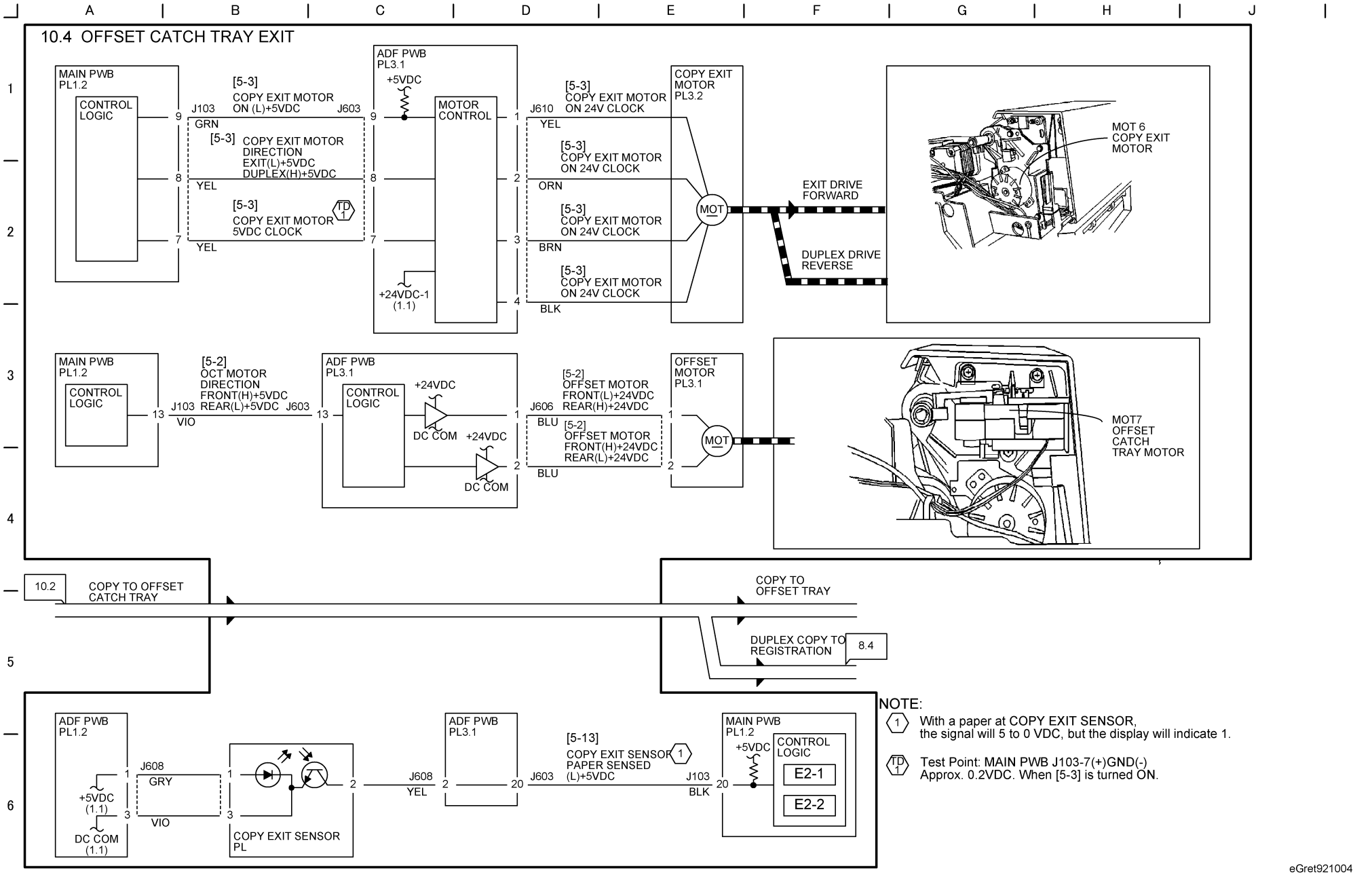
NOTE:

1 With a paper at FUSER EXIT SWITCH, the signal will 5 to 0 VDC, but the display will indicate 1.

eGret921002



eGret921003

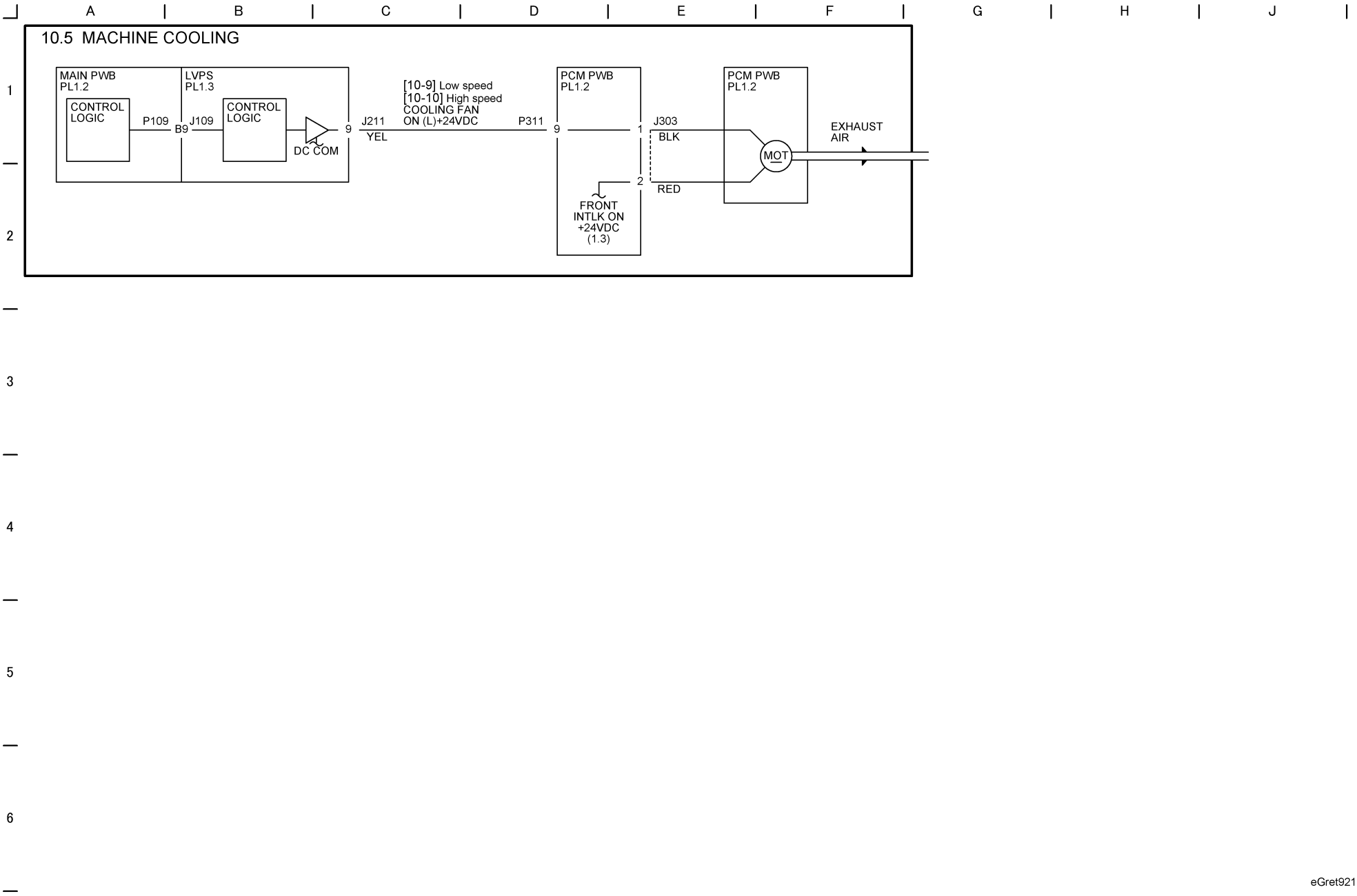


NOTE:

1 With a paper at COPY EXIT SENSOR, the signal will 5 to 0 VDC, but the display will indicate 1.

TD 1 Test Point: MAIN PWB J103-7(+)GND(-) Approx. 0.2VDC. When [5-3] is turned ON.

eGret921004


A
B
C
D
E
F
G
H
J
1
2
3
4
5
6
10.5 MACHINE COOLING
MAIN PWB
PL1.2
CONTROL
LOGIC
P109
B9
J109
LVPS
PL1.3
CONTROL
LOGIC
DC COM
9
J211
YEL
[10-9] Low speed
[10-10] High speed
COOLING FAN
ON (L)+24VDC
P311
PCM PWB
PL1.2
9
1
2
FRONT
INTLK ON
+24VDC
(1.3)
J303
BLK
RED
PCM PWB
PL1.2
MOT
EXHAUST
AIR
eGret921005