Product	Title	Part Number
WorkCentre Pro Series	**Service Documentation**	**701P17380**
Status		Date
REISSUE		**April 2000**

Reissue Highlights

This reissue results from the addition of a new model to the WorkCentre Pro Series - the WorkCentre Pro 215, and from technical corrections and the availability of additional diagnostic and service information for the WorkCentre Pro 16 fx and Pro 16p. Additional changes reflect the feedback from Publication Comment Sheets and input from Field Engineering and the Product Development Team.

WorkCentre Pro Series
Copier/Printer
Service Documentation

CAUTION
Certain components in the WorkCentre XD
Series Copier/Printer are susceptible to damage
from electrostatic discharge. Observe all ESD
procedures to avoid component damage.

NOTICE

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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction documentation may cause harmful interference, in which case the user will be required to correct the interference at his own expense. If necessary, the user should consult the dealer or an experienced radio/television technication for additional suggestions. The user may find the Federal Communications Commission helpful:

How to Identify and Resolve Radio-TV Interference Problems
Stock number: 004-000-00345-4

This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402

WARNING

Use of controls or adjustments other than those specified in this documentation may result in an exposure to dangerous laser radiation. The WorkCentre XD Series Copier/Printer is certified to comply with Laser Product Performance Standards set by the 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, the laser beam could cause eye damage if looked at directly. The service procedures must be followed exactly as written.

The laser warning symbol is repeated in specific service procedures where laser light exposure is possible.

WorkCentre Pro 16 Series

WorkCentre Pro 16 Series

Introduction

About This Manual

This manual is part of a documentation system which also includes training. This manual contains Repair Analysis Procedures, Repair Procedures, Adjustment Procedures, Parts List, Diagnostic Procedures, and Wiring Data information that will enable a Service Representative to repair the WorkCentre Pro 16fx, WorkCentre Pro 16p and WorkCentre Pro 215.

Organization

This manual is divided into seven sections. The title and description of each section is listed below.

A Publication Comment Sheet is provided at the end of this manual.

Section 1 - SERVICE CALL PROCEDURES

This section contains the following:

    Initial Actions/System Checks
    System Checkout
    Final Action

Initial Actions/System Checks

This identifies how to collect the data necessary to decide how to proceed with the service call. It classifies the problem and refers you to the appropriate Repair Analysis Procedure.

System Checkout

The System Checkout procedure is used to verify that the copier is operating properly after a repair has been made.

Final Action

The Final Action procedure identifies the steps that must be performed before closing out the service call.

Section 2 - REPAIR ANALYSIS PROCEDURES (RAPs)

This section contains the Repair Analysis Procedures (RAPs) necessary to repair faults. When using a RAP, always exit the procedure when the fault is fixed. Do not perform the remaining steps.

Section 3 - IMAGE QUALITY REPAIR ANALYSIS PROCEDURES (RAPs)

This section contains the Repair Analysis Procedures (RAPs) necessary to repair copy quality faults. The first RAP, CQ1 Copy Defect Entry Procedure, is used to classify a copy quality problem and will reference the RAP to be used to repair the problem. When using a RAP, exit the procedure when the fault is fixed. Do not perform the remaining steps.

Section 4 - REPAIR/ADJUSTMENT PROCEDURES

This section contains the repair and adjustment procedures for the WorkCentre Pro 16fx, WorkCentre Pro 16p and WorkCentre Pro 215.

Section 5 - PARTS LIST

This section contains the detailed Parts List for the WorkCentre Pro 16fx, WorkCentre Pro 16p and WorkCentre Pro 215.

Section 6 - GENERAL PROCEDURES/ GENERAL INFORMATION

This section contains Diagnostic Procedures, Installation and Removal Procedures, and General Information which includes Product Specifications for the WorkCentre Pro 16fx, WorkCentre Pro 16p and WorkCentre Pro 215.

Section 7 - WIRING DATA

This section contains Plug/Jack Location Drawings and BSDs.

How to Use This Manual

Introduction

The Service Call Procedures will direct you to the proper section of the Service Manual.

You should begin the service call with the Initial Actions/System Checks Procedure. From there, you will be referred to either Section 2, Status Indicator RAPs or Section 3, Image Quality RAPs.

If you are sent to Section 3, you will perform the CQ1 Copy Defect Entry Procedure to classify the copy quality problem. You will then be directed to the proper RAP to begin your troubleshooting. From these RAPs you may be referred to other sections of the manual to make checks, adjustments, or to replace parts.

When you have made a repair, return to the System Checkout/Final Action to complete the call.

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 is located in the table below. Table 1

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/CQ	Image Quality/Copy 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

Specific Terms

Test Pattern 82P524 (NASG & XCL) and 82P523 (XE) will be referred to in this documentation as the Standard Test Pattern.

The Density Output Reference Guide, 82P520, and the Copy/Image Quality Rating Guide, 82P284, will also be referred to in this documentation.

The terms "dry ink" and "toner" are interchangeable.

Conventions

The conventions that are used in this service documentation are presented in the table below. Table 2

Table 2 Conventions

[nn-nn]	Hyphenated numbers enclosed in brackets indicate a diagnostic code to be used
E7-[nn]	When a Status Code has more than one sub-code, the subcode will appear in brackets.
bolding	When used in a sentence beginning with "Press the", any bolded numbers or words will represent an actual keypad button on the Control Console.

Reference Symbology

Reference Symbols

The reference symbols (icons) used in this documentation denote supportive data which 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 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 (CDs).

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

The table below lists the electrical wire colors that are identified in this service documentation and reflects the use of standardized abbreviations. Table 1

Table 1 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.

Note

This symbol is used to refer to notes found on the same page.

Adjustments

ADJ 4.1 This symbol refers to an adjustment procedure located in Section 4 of this Service Documentation. The number adjacent to the symbol indicates the number that is assigned to that adjustment

Parts List

PL 10.6

This number refers to the parts list located in section 5 of the Service Manual. The number after the PL designation indicates the number that is assigned to that parts list.
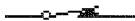
Switches and Relay Contacts

Safety interlock switch that is open.

Safety interlock switch that is closed.

Switch or relay contacts with momentary contacts shown normally open.

Switch or relay contacts with momentary contacts shown normally closed.

Miscellaneous Symbols

Descriptions of all commonly used graphic symbols are included in order to help you in troubleshooting when performing the RAP's.

Standby Power Input

+24 VDC

This symbol indicates the continuation of a standby power line that is interrupted in the vertical direction.

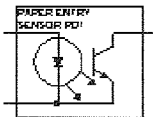## Feed Back

This symbol indicates a feedback signal.

Flag

This symbol indicates an area of a Circuit Diagram that you should check.

Ground

This symbol indicates a machine ground.

LED/Phototransistor Sensor

This type of sensor is used in the document and paper path. It uses reflected light to switch the sensor off and on.

Without Tag Change

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

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

With Tag Change

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

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

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

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

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
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:

DOCUMENT JAM SENSED (L) +5 VDC

1. **DOCUMENT JAM SENSED**=Signal Name
2. **(L)** = Logic State when the signal is available in its named state. In this case the signal is Lo when a document jam is sensed.
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 2

Table 2 DC Voltage Levels

Voltage	Specification
+3.3 VDC	+3.3 VDC +/- 10%
+5 VDC	+5 VDC +/-10%
+12 VDC	+12 VDC +/- 5%
+24 VDC	+24 VDC +/- 5%

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 3

Table 3 Logic Voltage Levels

Nominal Voltage	Logic State	Actual Voltage Ranges
+5 VDC	H	+4.8 VDC to +5.2 VDC
	L	0.0 VDC to +1.0 VDC
+24 VDC	H	+22.0 VDC to +25.7 VDC
	L	0.0 VDC to +3.0 VDC

Introduction

Use the Service Call Procedures as a maintenance guide when performing service on the WorkCentre Pro 16fx, WorkCentre Pro 16p and WorkCentre Pro 215.

- **Copier Maintenance**

  The maintenance/cleaning should be performed when the copier/printer is being serviced.

- **Initial Actions/System Checks**

  This section is designed to identify and classify the copier/printer/fax problem and to refer you to the appropriate RAP to repair the problem. After the problem is repaired, perform the System Checkout/Final Action.

- **System Checkout/Final Actions**

  This procedure should be completed at the end of every service call to ensure that the copy paper and the document are transported properly and to ensure that copy quality is within specification.

Copier Maintenance

Introduction

The following maintenance procedure should be performed when the copier/printer is serviced.

Procedure

1. Clean the following parts every time the copier/printer is serviced (Table 1).

Table 1

Description	Procedure
Transfer Corotron Wire	Clean the Transfer Corotron Wire using the Corotron Cleaner (see the User Guide).
Document Glass and SDF Document Glass	Clean using water or 43H12 or 43P81 Xerox Lens and Mirror Cleaner and a lint-free Cloth. After cleaning, apply one drop of 8R90275 Anti-Static Fluid and spread it evenly from one end of the glass to the other using a lint-free cloth.

2. Perform the Total Copy Count Read procedure in Section 6. Clean the following parts when the total copy count reaches 120,000 (Table 2).

Table 2

Description	Procedure
Document Cover Cushion	Clean using Formula A on a lint-free cloth.
Optics Frame interior	Clean using Formula A on a lint-free cloth.
Mirrors 1, 2, and 3	Clean using Film Remover on a lint-free cloth.
Reflector	Clean using 43H12 or 43P81 Lens and Mirror Cleaner on a lint-free cloth.
Exposure Lamp	Clean using Film Remover on a lint-free cloth
Lens	Clean using Film Remover on a lint-free cloth.
Focus Correction Lens (Laser Assembly)	Do not open the Laser Assembly. Gently remove dust or toner deposits from the exposed lens surface with a damp cotton swab. Gently remove any remaining dampness from the cleaned lens with a dry swab.
Transport Roller (Tray 2 Paper Feed Assembly), Upper and Lower Registration Rollers, Exit Rollers	Clean using Film Remover on a lint-free cloth.
Thermistor	Clean using Film Remover on a lint-free cloth.
Thermostat	Clean using Film Remover on a lint-free cloth.

3. Perform the Total Copy Count Read procedure in Section 6. Lubricate the following when the total copy count reaches 120,000 (Table 3).

Table 3

Description	Procedure
Mirror Base Rail	Apply a thin film of 70P95 Turbine Oil to the upper surface of the rail.
Heat Roll	Lubricate the gear with 8R983 Fuser Lube.
Pressure Roll	Apply 1-2 drops of 70P95 Turbine Oil to the ends of the Pressure Roll Shaft
Bearings (other than Heat Roll bearings)	Lubricate the bearings with 70P95 Turbine Oil.
Bearings (Heat Roll)	Lubricate the bearings with 8R983 Fuser Lube.
Fuser Gear	Lubricate the Fuser Gear with 8R983 Fuser Lube.

4. Perform the Total Copy Count Read procedure in Section 6. Replace the following parts at the intervals shown in the table (Table 4).

Table 4

Description	Part Number	Copy Count	REP / PL
Ozone Filter	53N142	120,000	PL 1.1
SDF Retard Roller	22N977	120,000	REP 5.5
Exposure Lamp Carriage	62N139	120,000	REP 6.2
Lower Registration Roller	22N929	100,000	REP 8.13
Tray 2 Feed Roller	22N928	120,000	REP 8.25
Paper Feed Roller (Tray 1)	22N928	120,000	REP 8.6
Transfer Corotron Wire	600K15950	20,000	PL 7.3
Transfer/Detack Corotron Assembly	19N415	120,000	REP 9.2
Heat Roll	22E20870	120,000	REP 10.2
Pressure Roll	22N924	120,000	REP 10.3
Heat Rod	122N115 (120V) 122N133 (230V)	120,000	REP 10.8
Pressure Roll Stripper Fingers	33N169	120,000	PL 6.2
Stripper Finger (3)	7N695	120,000	REP 10.11

Initial Actions/System Checks

Initial Actions

1. QUESTION THE OPERATOR.
2. VERIFY, CLASSIFY, AND REPAIR THE PROBLEM
3. REFER TO CUSTOMIZING YOUR COPIER IN THE USER GUIDE AND RECORD THE CUSTOMER PROGRAMMABLE SETTINGS.

Status Indicators

- STATUS CODES

  Go to the Status Codes/Other Faults Listing
- OTHER STATUS INDICATORS (refer to Figure 1 for the locations of LEDs)
  - TONER CARTRIDGE LED ON

    Go to the Toner Cartridge LED On RAP
  - DRUM CARTRIDGE LED ON

    Go to the Drum Cartridge LED On RAP
  - COPIER/PRINTER DOCUMENT JAM LED IS ON

    Go to the E2 Status Code RAP.
  - SDF JAM LED IS ON

    Go to the 5.1 SDF JAM LED RAP
  - SDF PRESENT LED WILL NOT COME ON

    Go to the 5.1 SDF JAM LED RAP
  - SELECTED PAPER TRAY LED IS FLASHING

    Go to the 8.1 Paper Tray Ready RAP

Copy Quality Problems

- Go to the CQ1 Copy Defect Entry RAP in Section 3

Other Faults

- COPY COUNT DISPLAY IS BLANK

  Go to the 1.1 Power On RAP.
- COPIER START PROBLEM

  Go to the 1.1 Power On RAP.
- DEAD MACHINE

  Go to the 1.1 Power On RAP.
- SELECTION/INDICATION PROBLEM

  Go to the 2.1 Selection/Indication RAP.
- MULTISHEET BYPASS TRAY PROBLEMS WITHOUT A FAULT CODE

  Go to the P Status Code RAP.
- NETWORKED PRINTER PROBLEMS

  Go to the EEA Adapter RAP
- XEROX PRINTER SERVICES POPUP INDICATES PRODUCT COMMUNICATION ERROR (WorkCentre Pro 16p and 215p)

  Go to the F9-[10] Status Code RAP
- ALL OTHER PROBLEMS
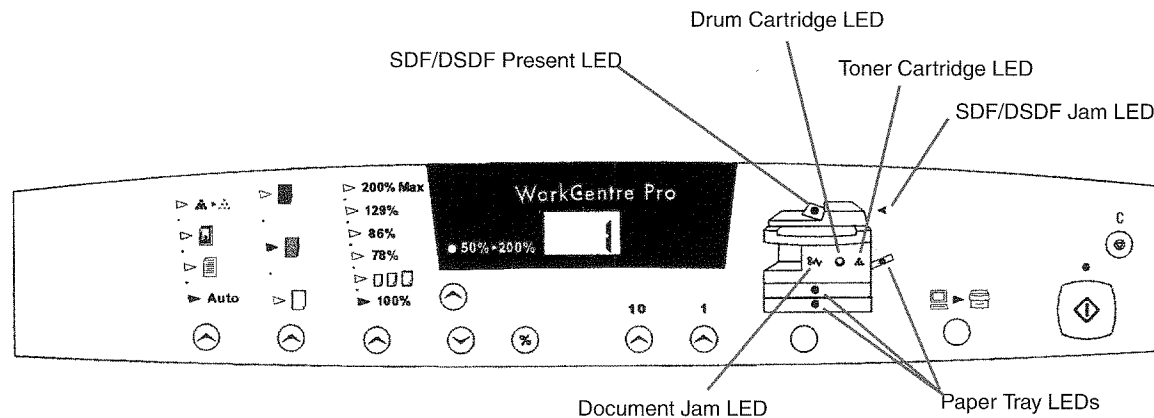
  Go to 2. STATUS INDICATOR RAPS

Figure 1 Control Panel Indicator LEDs

Status Codes/Other Faults Listing

*NOTE: Press the **Start** button to view the subcode when a status code is displayed on the Control Panel.*

Table 1 Status Codes Entry Chart

Status Code	Subcode	Description	Corrective Action
A1	-	SDF JAM PROBLEM The Main PWB sensed a jam in the SDF.	Go to A1/A2 Status Code RAP.
A2	-	SDF JAM PROBLEM The Main PWB sensed a jam in the SDF.	Go to A1/A2 Status Code RAP.
C1	-	FRONT OR SIDE DOOR OPEN The Main PWB sensed that either the Front or the Side Door was open.	Go to C1 Status Code RAP
CH	-	TONER CARTRIDGE PROBLEM The Main PWB sensed that the Toner Cartridge was not present.	Go to CH Status Code RAP
E2	-	PAPER JAM PROBLEM The Main PWB sensed that a paper jam exists within the paper path.	Go to E2 Status Code RAP
E7	01	MEMORY ERROR The Main PWB sensed that a problem exists with the GDI Memory PWB.	Go to E7-[01] Status Code RAP
E7	03	LASER PROBLEM The Main PWB sensed that a problem exists with the Laser Assembly or its circuitry, or with the laser drive circuit.	Go to E7-[03] Status Code RAP
E7	04	CCD WHITE LEVEL PROBLEM The Main PWB sensed that a problem exists with either the CCD drive circuit or the Exposure Lamp.	Go to E7-[04] Status Code RAP
E7	05	CCD BLACK LEVEL PROBLEM The Main PWB sensed that a problem exists with the CCD drive circuit.	Go to E7-[05] Status Code RAP
E7	12	SHADING CORRECTION PROBLEM The Main PWB sensed that the white value obtained when the calibration strip was scanned was incorrect.	Go to E7-[12] Status Code RAP
E7	14	IMAGE PROCESSING PROBLEM The Main PWB sensed a communication problem between the CPU and the image processing (ASIC) chip.	Go to E7-[14] Status Code RAP.
E7	15	EXPOSURE LAMP PROBLEM The Main PWB sensed that a problem exists with the Exposure Lamp or its circuitry, or with the exposure lamp driver.	Go to E7-[15] Status Code RAP

Table 1 Status Codes Entry Chart

Status Code	Subcode	Description	Corrective Action
F6	10	DATA RECEPTION ERROR A data reception error (Protocol) is detected between the Fax PWB and the Main PWB. The code indicates that a communications error exists between either the Main PWB and the Fax PWB or between the Fax PWB and the Fax panel.	Go to F6-[10] Status Code RAP
F6	80	DATA RECEPTION ERROR A data reception error (Protocol) is detected between the Fax PWB and the Main PWB. The code indicates that the message header of the message format is other than F.	Go to F6-[80] Status Code RAP
F6	81	DATA RECEPTION ERROR A data reception error (Protocol) is detected between the Fax PWB and the Main PWB. The code indicates that the odd number parity set with SMR (Serial Mode Register) differs from the reception data.	Go to F6-[81] Status Code RAP
F6	82	DATA RECEPTION ERROR A data reception error (Protocol) is detected between the Fax PWB and the Main PWB. The code occurs when the next data reception is completed with RDRF (Receive Data Register Full) flag or SS (Reserial status register) set to 1.	Go to F6-[82] Status Code RAP
F6	84	DATA RECEPTION ERROR A data reception error (Protocol) is detected between the Fax PWB and the Main PWB. The code indicates that the stop bit is 0.	Go to F6-[84] Status Code RAP
F6	88	DATA RECEPTION ERROR A data reception error (Protocol) is detected between the Fax PWB and the Main PWB. The code occurs when time out occurs without response in data communication between the Fax PWB and the Main PWB.	Go to F6-[88] Status Code RAP
F9	10	PRINTER PWB TROUBLE A communication problem is detected between the Main PWB and the PCL PWB.	Go to the F9-[10] Status Code RAP

Table 1 Status Codes Entry Chart

Status Code	Subcode	Description	Corrective Action
F9	80	PRINTER PWB COMMUNICATION TROUBLE (PROTOCOL) A communication problem (Protocol) is detected between the Main PWB and the PCL PWB.	Go to the F9-[80] Status Code RAP
F9	81	PRINTER PWB COMMUNICATION TROUBLE (PARITY) A communication problem (Parity) is detected between the Main PWB and the PCL PWB.	Go to the F9-[81] Status Code RAP
F9	82	PRINTER PWB COMMUNICATION TROUBLE (OVERRUN) A communication problem (Overrun) is detected between the Main PWB and the PCL PWB.	Go to the F9-[82] Status Code RAP
F9	84	PRINTER PWB COMMUNICATION TROUBLE (FRAMING) A communication problem (Framing) is detected between the Main PWB and the PCL PWB.	Go to the F9-[84] Status Code RAP
F9	88	PRINTER PWB COMMUNICATION TROUBLE (TIME-OUT) A communication problem (Time-out) is detected between the Main PWB and the PCL PWB.	Go to the F9-[88] Status Code RAP
H2	-	THERMISTOR PROBLEM The Main PWB sensed that the Thermistor RT1 was open.	Go to H2/H3 Status Code RAP
H3	-	FUSER OVERHEAT PROBLEM The Main PWB sensed a Fuser overheat condition.	Go to H2/H3 Status Code RAP
H4	-	FUSER WARM-UP PROBLEM The Main PWB sensed that the Fuser did not reach 185° C within 27 seconds after power on or that the Fuser does not rise above 140° C for 6 seconds during the copy cycle.	Go to H4 Status Code RAP
J1	-	TONER CARTRIDGE PROBLEM The Main PWB sensed that the Toner Cartridge is empty.	Go to J1 Status Code RAP
J2	-	DRUM CARTRIDGE PROBLEM The Main PWB sensed that the Drum Cartridge has reached the end of its life.	Go to J2 Status Code RAP.
J3	-	INVALID TONER CARTRIDGE	Go to J3 Status Code RAP

Table 1 Status Codes Entry Chart

Status Code	Subcode	Description	Corrective Action
L1	-	SCAN PROBLEM The Main PWB sensed that the Exposure Lamp Carriage did not leave the home position after power up or after the **Start** button was pressed.	Go to L1/L3 Status Code RAP
L3	-	SCAN RETURN PROBLEM The Main PWB sensed that the Exposure Lamp Carriage did not return home after power up or after the copy cycle.	Go to L1/L3 Status Code RAP
L4	-	MAIN MOTOR PROBLEM The Main PWB sensed a Main Drive Motor MOT1 problem.	Go to L4 Status Code RAP
L6	-	LASER PROBLEM The Main PWB sensed that the Laser Assembly polygon motor failed to achieve the correct operating speed after power up or after the **Start** button is pressed.	Go to L6 Status Code RAP
P	-	PAPER FEED PROBLEMThe Main PWB sensed that the selected paper tray is out of paper or that a misfeed has occurred.	Go to P Status Code RAP
U2	01	MEMORY FAILURE The Main PWB sensed a memory failure.	Go to U2-[01] / U2-[04] Status Code RAP.
U2	04	MEMORY FAILURE The Main PWB sensed an access error.	Go to U2-[01] / U2-[04] Status Code RAP.

Fax Communication RAP

This procedure is used to troubleshoot fax communication failures.

Initial Actions

Check that the telephone line and cables are properly connected and that call can be sent and received on the line to the machine.

If **NO RESPONSE** is displayed on the LCD for an incoming fax, ensure that the receive mode is set to **AUTO**.

Procedure

With machine power on, press the **On/Off Hook** button. **A dial tone can be heard on the machine speaker.**
Y   N
    Switch off the power and perform the following;
    •   Check the telephone line connection to the "Line" jack in the machine.
    •   Check the connection between the Fax PWB and the Main PWB.
    •   Check the harness connections between the Fax PWB and the Fax Panel.
    Switch on the power. Press the **On/Off Hook** button. **A dial tone can now be heard.**
    Y   N
        Replace the Fax PWB, PL 7.1. If the problem still exists, replace the Fax Control Panel, PL 9.2A.

    Dial the number of a remote fax machine from the key pad. **Dialing is heard in the speaker.**
    Y   N
        Replace the Fax Control Panel, PL 9.2A.
        If the problem continues, replace the Fax PWB, PL 7.1.

    A ready tone is heard from the remote machine in the speaker.
    Y   N
        Try another machine. If the problem continues, replace the Fax PWB PL 7.1.

    If a fax still can not be sent or received, replace the Fax PWB, PL 7.1.

Dial the number of a remote fax machine from the key pad. **Dialing is heard in the speaker.**
Y   N
    Replace the Fax Control Panel, PL 9.2A.
    If the problem continues, replace the Fax PWB, PL 7.1.

A ready tone is heard from the remote machine in the speaker.
Y   N
    Tray another machine. If the problem continues, replace the Fax PWB, PL 7.1.

If a fax still can not be sent or received, replace the Fax PWB, PL 7.1.

System Checkout/Final Action

Procedure

Make several copies of the 82P524 Test Pattern side A. (Include 78%, 86%, 129%, and 200%.)
Use the alternate tray where applicable.

Copies are delivered to the output tray.
Y   N
   Refer to Initial Actions/System Checks to begin your repair.

Evaluate the copies using CQ1 Copy Defect Entry RAP.

Image quality is acceptable.
Y   N
   Go to the copy quality RAP identified by the CQ1 Copy Defect Entry RAP.

Clean the exterior of the machine and provide copy samples of the customers originals.

Notes:

A1/A2 Status Code RAP

A1, indicates the Main PWB sensed an SDF jam. (The last document should be fed again.)

A2, indicates the Main PWB sensed an SDF jam. (The last 2 documents should be fed again,)

Procedure

Clear the document jam. Open and close the SDF Feed Assembly. Press the **C** button. **The jam can be cleared.**
Y   N
> **The SDF Jam LED is flashing.**
> Y   N
> > Enter the diagnostic code **[2-2]**. Open and then close the SDF Feed Assembly. **The SDF Misfeed Indicator comes on and goes off.**
> > Y   N
> > > Go to Flag 1 and check the wires for an open or short circuit. If the wires are good replace the SDF Sensor PWB, PL 9.2A, PL 9.2B .
> >
> > Go to Flag 1 and check the wires for an intermittent condition. If the problem still exists replace the Main PWB, PL 7.1.
>
> Go to Flag 2 and check the wires for an open or short circuit. If the wires are good, replace the SDF Document Path Sensor Q3, PL 9.3, PL 9.4.

Place a document in the SDF tray. Press the **Start** button. **The document is fed into the document path.**
Y   N
> Enter the diagnostic code **[2-3]**. **The SDF Drive Motor comes on.**
> Y   N
> > Go to Flag 3 and check the wires for an open circuit. If the wires are good, replace the SDF Drive Motor, PL 9.3, PL 9.4.
>
> Enter the diagnostic code **[2-4]**. **The SDF Feed Solenoid SOL1 SDF Feed Solenoid cycles on and off.**
> Y   N
> > Go to Flag 4 and check the wires for an open or short circuit. If the wires are good, replace the SDF Feed Solenoid SOL1, PL 9.2A .
>
> Switch off the power. Remove the SDF Rear Cover and check the SDF Drive Motor and drive components for wear and or damage. **The Motor and drive components are good.**
> Y   N
> > Replace the defective components PL 9.3, PL 9.4.
>
> Check the following for wear and or damage.
> - Feed solenoid linkage PL 9.2A, PL 9.2B
> - Feed and Retard rolls PL 9.2A, PL 9.2B
> - Feed Clutch and drive PL 9.2A, PL 9.2B

The document stops before the Exit roller.

Y   N
> Clean and check the document path for obstructions.

Enter the diagnostic code **[2-2]**. Using a strip of paper, actuate the SDF Document Path Sensor Q3. **The machine Jam indicator lamp comes on.**
Y   N
> Go to Flag 2 check the wires for an open circuit. If the wires are good, replace the SDF Document Path Sensor Q3, PL 9.3, PL 9.4.

The machine is equipped with a Duplex SDF.
Y   N
> Clean and or check for the following:
> 1. Obstructions in the paper path
> 2. Exit Drive Belt, PL 9.3
> 3. Transport Roller, PL 9.3
> 4. Exit roller, PL 9.3

Enter the diagnostic code **[2-5]**. **The DSDF Transport Roll Clutch CL1, can be heard engaging and disengaging.**
Y   N
> Perform the following.
> 1. Go to Flag 5 and check the wires for and open or short circuit.
> 2. Check the mechanical components on the output of the Transport Roll Clutch, PL 9.4.
> 3. If the problem still exists, replace the DSDF Transport Roll Clutch CL1, PL 9.4.

Enter the diagnostic code **[2-6]**. **The DSDF Exit Pinch Rolls pulse up and down.**
Y   N
> Perform the following.
> 1. Go to Flag 6 and check the wires for and open or short circuit.
> 2. Check the mechanical linkage on the output of the DSDF Exit Roll Solenoid, PL 9.4.
> 3. If the problem still exists, replace the DSDF Exit Roll Solenoid SOL 2, PL 9.4.

Enter the diagnostic code **[2-7]**. **The DSDF Deflection Gate Solenoid SOL3 moves up and down.**
Y   N
> Perform the following.
> 1. Go to Flag 7 and check the wires for and open or short circuit.
> 2. Check the mechanical linkage on the output of the DSDF Deflection Gate Solenoid SOL3, PL 9.1B.
> 3. If the problem still exists, replace the DSDF Deflection Gate Solenoid SOL3, PL 9.1B.

Clean and or check for the following:
1. Obstructions in the paper path
2. Exit Drive Belt, PL 9.4
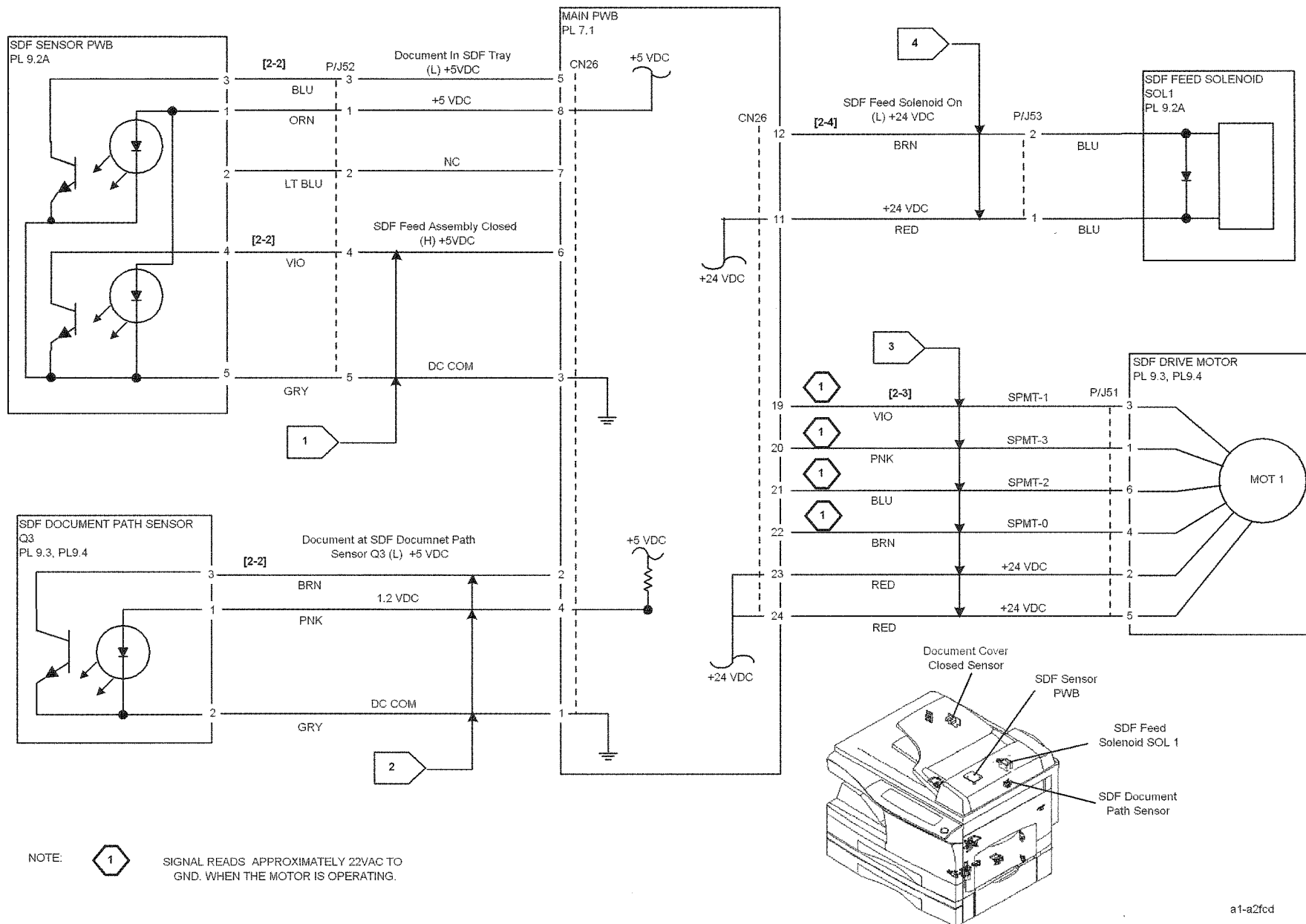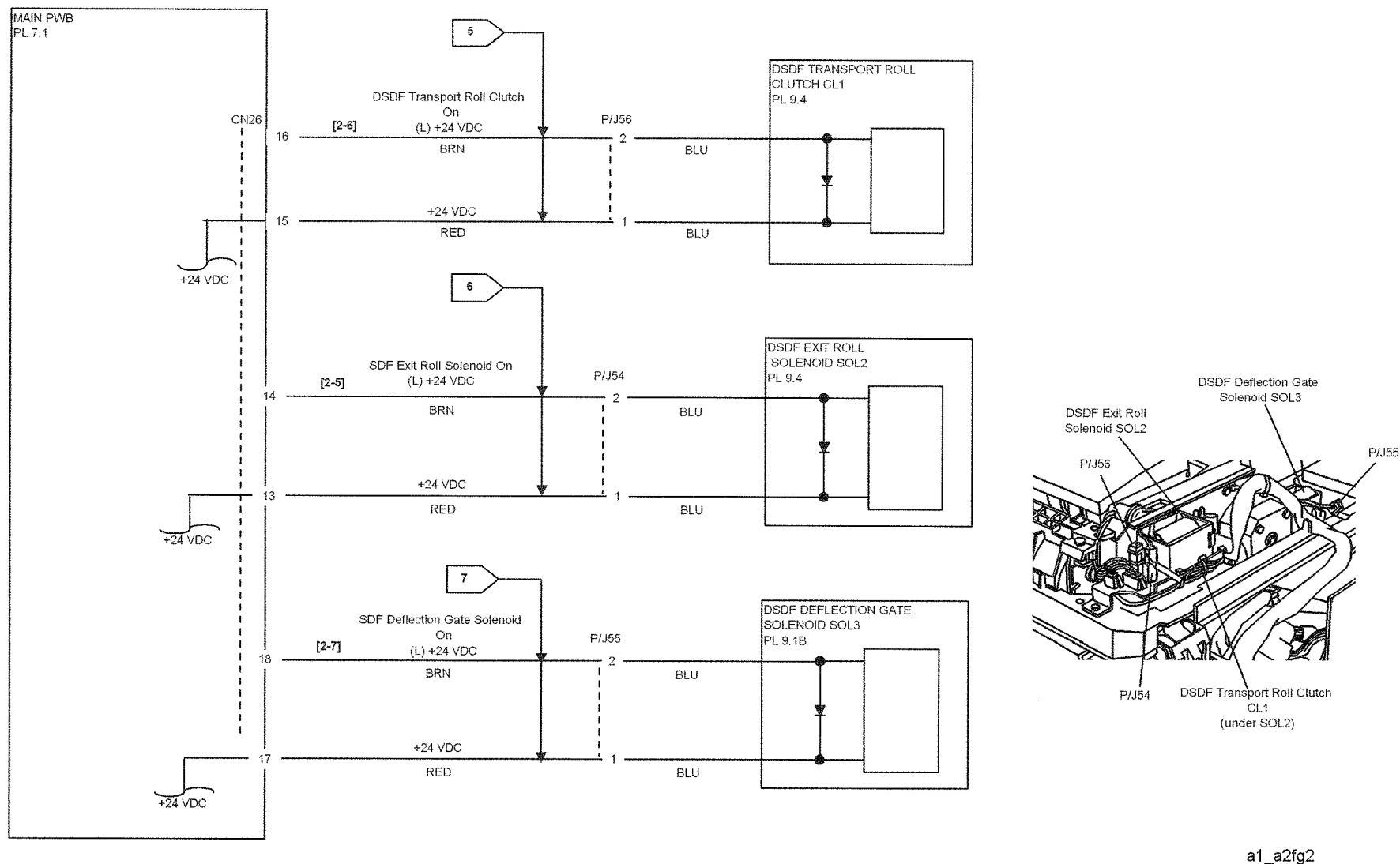3. Transport Roller, PL 9.4
4. Exit roller, PL 9.4

Figure 1 A1/A2 Status Code

SDF SENSOR PWB
PL 9.2A

MAIN PWB
PL 7.1

Document In SDF Tray
(L) +5VDC

[2-2] P/J52

CN26 +5 VDC

BLU

+5 VDC

ORN

NC

LT BLU

SDF Feed Assembly Closed
(H) +5VDC

[2-2]

VIO

DC COM

GRY

+24 VDC

SDF DOCUMENT PATH SENSOR
Q3
PL 9.3, PL9.4

Document at SDF Documnet Path
Sensor Q3 (L) +5 VDC

+5 VDC

[2-2]

BRN

1.2 VDC

PNK

DC COM

GRY

+24 VDC

SDF Feed Solenoid On
(L) +24 VDC

CN26 [2-4] P/J53

SDF FEED SOLENOID
SOL1
PL 9.2A

BRN

BLU

+24 VDC

RED

BLU

SDF DRIVE MOTOR
PL 9.3, PL9.4

[2-3] SPMT-1 P/J51

VIO

SPMT-3

PNK

SPMT-2

BLU

SPMT-0

BRN

+24 VDC

RED

+24 VDC

RED

MOT 1

Document Cover
Closed Sensor

SDF Sensor
PWB

SDF Feed
Solenoid SOL 1

SDF Document
Path Sensor

NOTE: 1 SIGNAL READS APPROXIMATELY 22VAC TO
GND. WHEN THE MOTOR IS OPERATING.

a1-a2fcd

(MACHINES WITH DUPLEX SDF ONLY)

MAIN PWB
PL 7.1

CN26

DSDF Transport Roll Clutch
On
[2-6]   (L) +24 VDC   P/J56
16   2
           BRN   BLU

           +24 VDC
15   1
           RED   BLU

+24 VDC

5

DSDF TRANSPORT ROLL
CLUTCH CL1
PL 9.4

6

SDF Exit Roll Solenoid On
[2-5]   (L) +24 VDC   P/J54
14   2
           BRN   BLU

           +24 VDC
13   1
           RED   BLU

+24 VDC

DSDF EXIT ROLL
SOLENOID SOL2
PL 9.4

7

SDF Deflection Gate Solenoid
On
[2-7]   (L) +24 VDC   P/J55
18   2
           BRN   BLU

           +24 VDC
17   1
           RED   BLU

+24 VDC

DSDF DEFLECTION GATE
SOLENOID SOL3
PL 9.1B

DSDF Deflection Gate
Solenoid SOL3

DSDF Exit Roll
Solenoid SOL2

P/J56

P/J55

P/J54   DSDF Transport Roll Clutch
             CL1
             (under SOL2)

a1_a2fg2

CH Status Code RAP

The Main PWB sensed that the Toner Cartridge is not present or fully seated.

Initial Actions

Ensure that the 2 locating pins on the rear of the toner cartridge are not broken.

Remove and reinstall the Toner Cartridge. If problem still exists, go to Flag 1 and check for an open or short circuit. If problem still exists, replace the Main PWB PL 7.1.
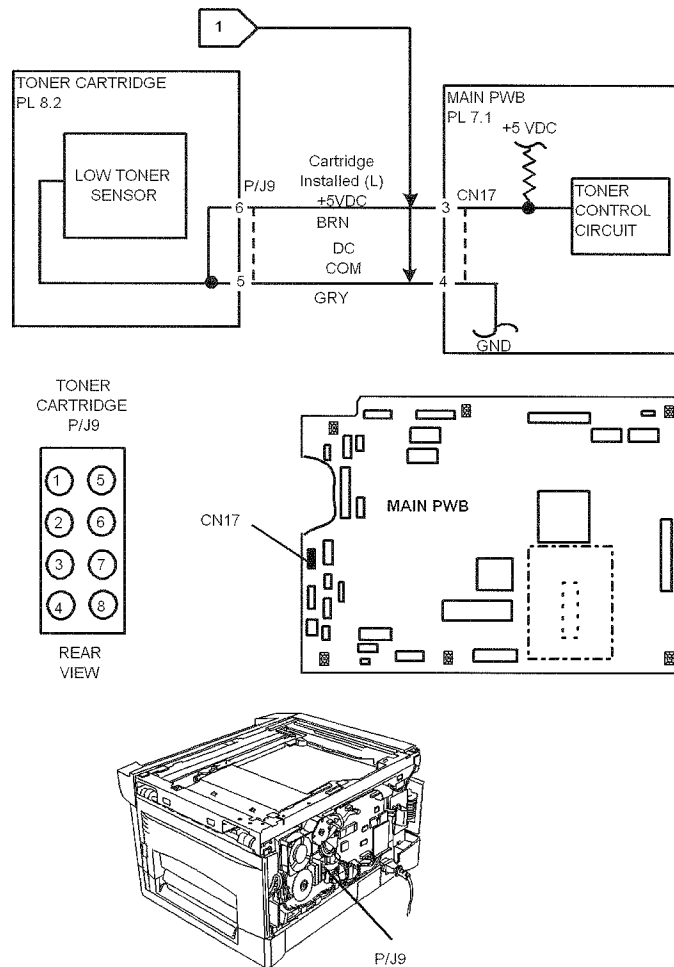

Figure 1 Toner Cartridge Installed

C1 Status Code RAP

The Main PWB sensed that the Side Door is open.

Procedure

Ensure that the Side Door is closed securely. **There is +24 VDC measured at CN4-2 on the Main PWB to GND.**
Y   N
> **There is +24 VDC measured at CN4-1 to GND.**
> **Y   N**
> > Replace the Main PWB PL 7.1.
>
> Go to Flag 1 and check the wires for an open circuit. If the check is good replace the Side Door Detector Switch Assembly PL 5.4 .

Replace the Main PWB PL 7.1.
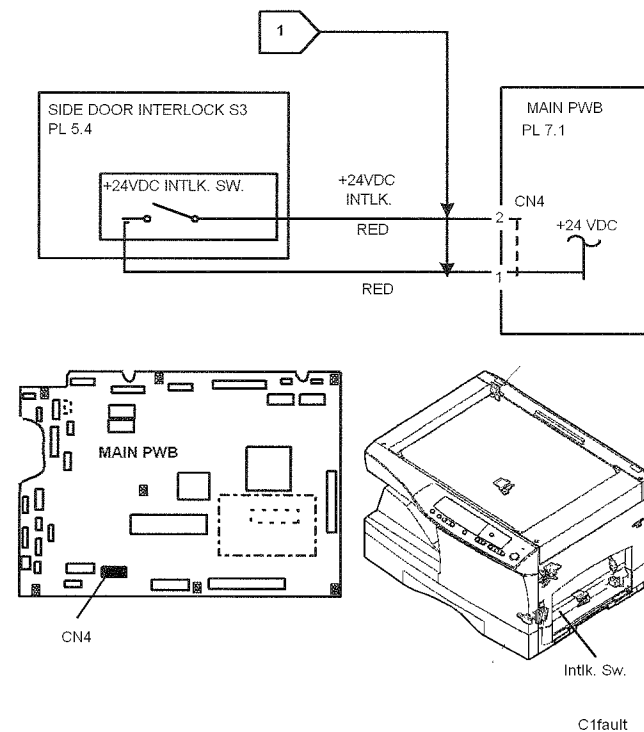
Figure 1 +24 VDC Interlock Ckt.

E2 Status Code RAP

The Main PWB sensed a tray misfeed or a paper jam in the paper path.

Initial Actions

- Switch off the power and clear any document jam.
- Check for any obstructions in the paper path.

Procedure

Switch on the power. Enter diagnostic code **[30-1]**.
Open then close the Fuser Gate to actuate and deactuate theFuser Jam Sensor Q3   while observing the Paper Jam lamp. **The Paper Jam lamp comes on and goes off.**
Y   N
> Go to Flag 4 and check the wires for an open or short circuit. If the wires are good, replace the Fuser Jam Sensor Q3 PL 6.1.

Manually actuate and deactuate the Paper Feed Sensor Q1, while observing the Toner Cartridge lamp. **The Toner Cartridge lamp comes on and goes off.**
Y   N
> Go to Flag 1 and check for an open circuit. If the wires are good, replace the Paper Feed Sensor Q1 PL 5.1.

For machines with a Tray 2. Open the Lower Side Door and manually actuate the Tray 2 Feed Sensor Q7. **The Tray 2 LED goes off and comes on.**
Y   N
> Go to Flag 2 and check the wires for an open or a short circuit. If the wires are good, replace the Tray 2 Feed Sensor Q7, PL 5.8.

Place a piece of paper above the Fuser Gate and use the Manual Exit Knob to move the paper across the Exit Sensor Q4 while observing the Drum Cartridge Lamp.
 The Drum Cartridge lamp turns on and off.
Y   N
> Go to Flag 5 and check for an open or short circuit.If the wires are good, replace the Exit Sensor Q4 PL 6.3.

Press the Clear button. Enter diagnostic code **[6-2]**. Press the Start button. **The   Registration Roll Solenoid can be heard engaging and disengaging.**
Y   N
> Press the Clear button. **There is +24 VDC measured between CN11-1 and GND on the Main PWB.**
> **Y   N**
> > Replace the Main PWB PL 7.1.
>
> Go to Flag 6 and check the wires for an open or short circuit. If the wires are good, replace the Registration Roll Solenoid SOL3, PL 2.2.

Press the **Stop** button. **Paper jams in the fuser.**
Y   N
> Check the following:
> - Ensure that the paper tray guide is set to the correct width of the copy paper.
> - Inspect the paper path from this tray and the paper registration area for an obstruction such as a burr.

A

- Inspect the Registration Roll, PL 5.1 and the Pinch Roll, PL 1.4 for contamination and wear. Clean (with Film Remover only) or replace as required.
- Check the condition of the Registration Pinch Roll Springs, PL 1.4 to ensure that they are applying even tension.

The machine has a duplex SDF.
Y   N
> Check the following:
> - A deformed Pressure Roller, PL 6.2.
> - An obstruction in the Fuser.
> - A binding Registration Roll Solenoid, PL 2.2.
> - A broken Fuser Drive Gear PL 6.1 and PL 2.2.
> - A defective Exit Drive Belt PL 2.1
> - A broken Exit Roller or Lower Transport Roller PL 2.1.
> - A loose or broken Lower Side Door, Arm PL 5.7

Enter the diagnostic code **[25-1]**. Press the **Start** button. **Both the Main Drive Motor and the Exit Drive Motor come on.**
Y   N
> Press the **Stop** button. Go to Flag 7 and check the wires for an open circuit. If the wires are good, replace the Exit Drive Motor MOT5 PL 2.1.

Check the following:
- A deformed Pressure Roller, PL 6.2.
- An obstruction in the Fuser.
- A binding Registration Roll Solenoid, PL 2.2.
- A broken Fuser Drive Gear PL 6.1 and PL 2.2.
- A broken Exit Roller or Lower Transport Roller PL 2.1.
- A defective Exit Drive Belt PL 2.1.
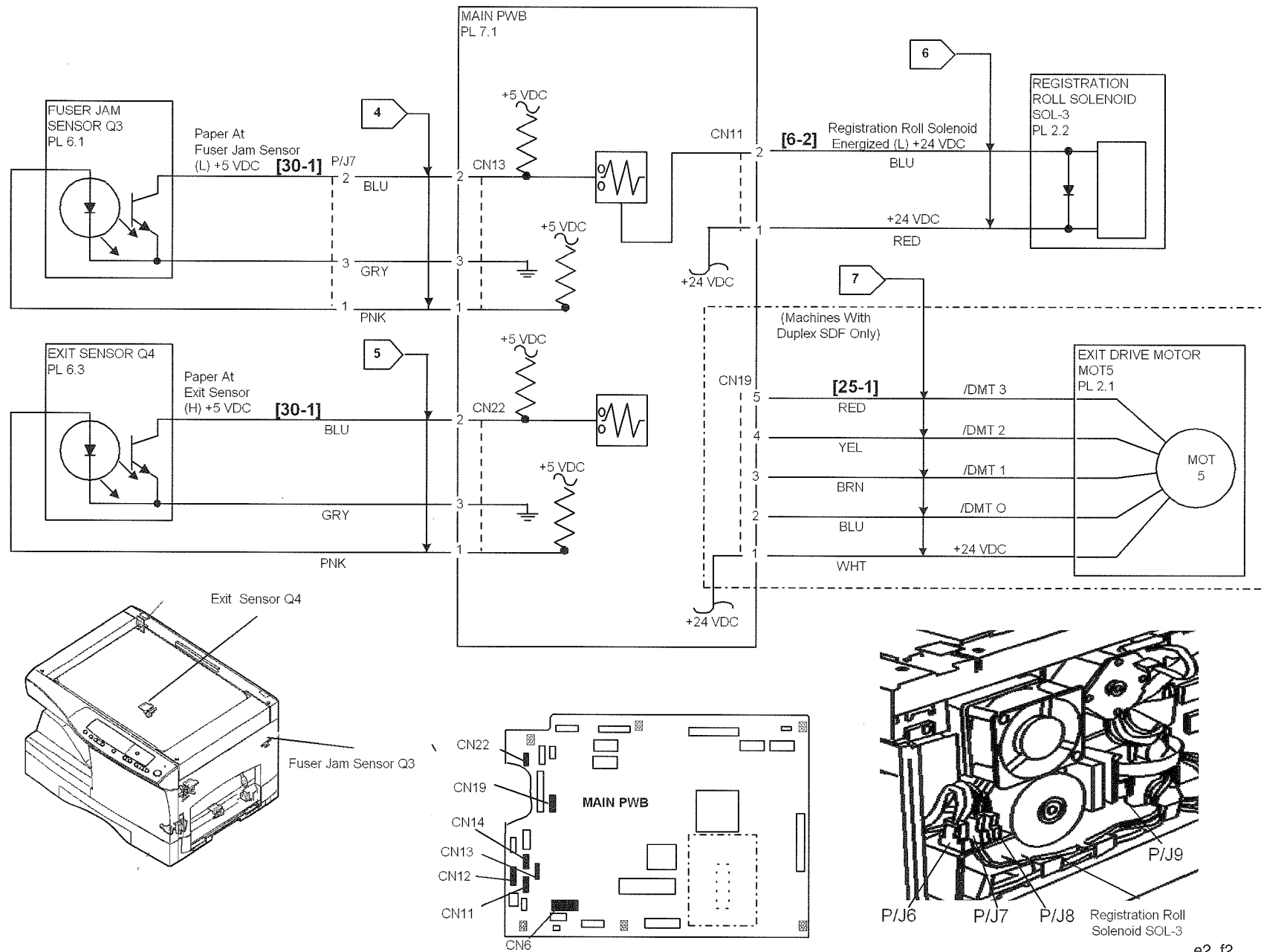- A loose or broken Lower Side Door, Arm PL 5.7

Figure 1 E2 Status Code

Figure 2 E2 Fuser and Exit jams

E7-[01] Status Code RAP

The Main PWB sensed a GDI Memory PWB error.

Procedure

Switch off the power. Switch on the power. **The E7-[01] Status Code still exists.**
Y N
    Run several copies to ensure the problem does not reoccur.

Switch off the power. Disconnect the power cord. Check for a loose or intermittent connection on the GDI Memory PWB to CN16 on the Main PWB. Reconnect the power cord and switch on the power. **The E7-[01] Status Code still exists.**
Y N
    Run several copies to ensure the problem does not reoccur.

Replace the GDI Memory PWB PL 7.1. If the problem still exists, replace the Main PWB PL 7.1.
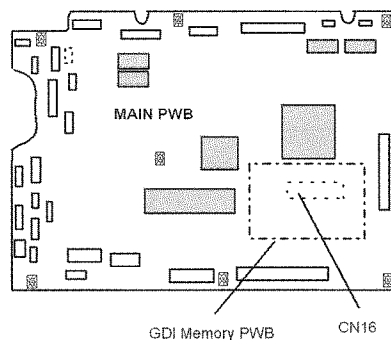
Figure 1 GDI Memory PWB

E7-[03] Status Code RAP

The Main PWB sensed a Laser Output error.

Procedure

Switch off the power. Ensure that the Side Door is closed securely. Switch on the power. **The E7-[03] Status Code still exists.**
Y N
    Run several copies to ensure the problem does not reoccur.

There is +5 VDC measured from CN4-3 to GND.
Y N
    There is +5 VDC measured from CN4-4 to GND.
    Y N
        Replace the Main PWB, PL 7.1.

    Go to Flag 1. Check the The wires for an open circuit. If the wires are good, replace the Side Door Interlock Switch S4, PL 5.4 .

Perform the following:
- Check the connector CN23 on the Main PWB and the Laser Harness PL 3.3 to the Laser Module for an open or intermittent condition.
- If the connections and wires are good replace the Laser Module, PL 3.3.
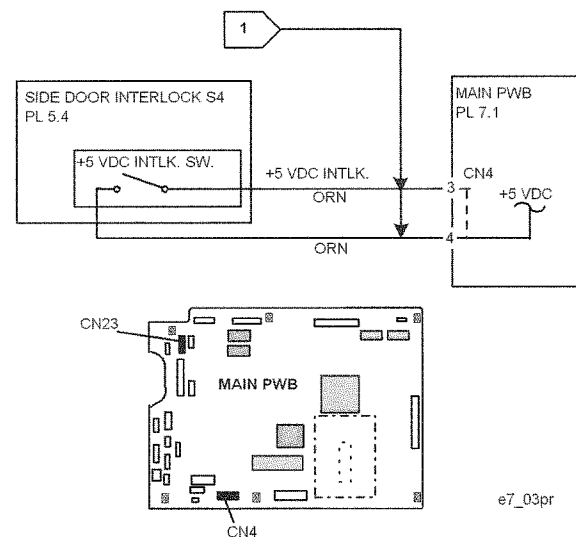- If the problem still exists, replace the Main PWB, PL 7.1.

Figure 1 Side Door Interlock SW.
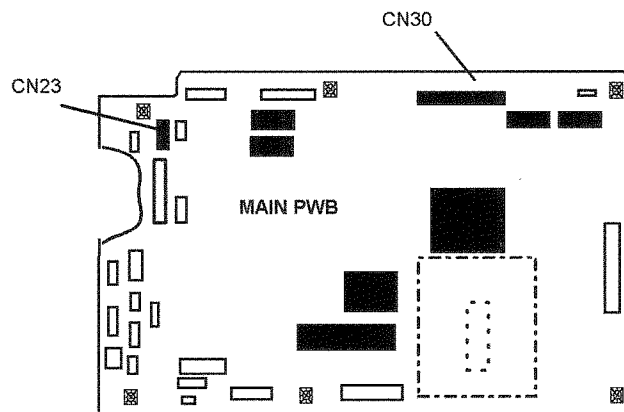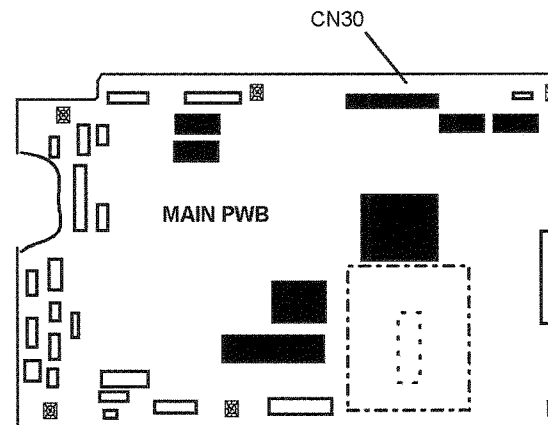
E7-[04] Status Code RAP

The Main PWB senses a CCD white level error.

Procedure

Switch off the power. Switch on the power. **The E7-[04] Status Code still exists.**
Y   N
    Run several copies to ensure the problem does not reoccur.

Check the connector CN30 on the Main PWB and the ribbon cable going to the CCD PWB for an open or intermittent condition.
If the connections are good replace the Lens/CCD Module PL 3.2.
If the problem still exists, replace the Exposure Lamp Carriage PL 3.1.
If the problem still exists, replace the Main PWB PL 7.1.

Figure 1 Main PWB

E7-[05] Status Code RAP

The Main PWB sensed a CCD black level error.

Procedure

Switch off the power. Switch on the power. **The E7-[05] Status Code still exists.**
Y   N
    Run several copies to ensure the problem does not reoccur.

Check the connector CN30 on the Main PWB and the ribbon cable going to the CCD PWB for an open or intermittent condition.
If the connections are good replace the Lens/CCD Module PL 3.2.
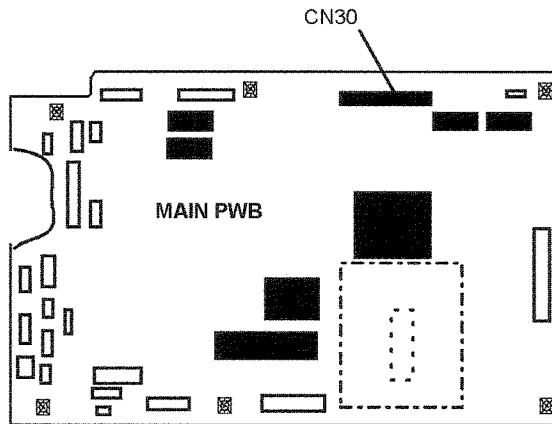If the problem still exists, replace the Main PWB PL 7.1.

Figure 1

E7-[12] Status Code RAP

The Main PWB sensed a CCD shading level error.

Procedure

Switch off the power. Switch on the power. **The E7-[12] Status Code still exists.**
Y   N
  Run several copies to ensure the problem does not reoccur.

Check the connector CN30 on the Main PWB and the ribbon cable going to the CCD PWB for an open or intermittent condition.
If the connections are good replace the Lens/CCD Module PL 3.2.
If the problem still exists, replace the Main PWB PL 7.1.

Figure 1 Main PWB

E7-[14] Status Code RAP

The Main PWB sensed an ASIC communication error.

Procedure

Switch off the power. Switch on the power. **The E7-[14] Status Code still exists.**
Y   N
  Run several copies to ensure the problem does not reoccur.

Replace the Main PWB PL 7.1.

E7-[15] Status Code RAP

The Main PWB sensed a Copy Lamp problem.

Procedure

Enter the diagnostic code **[1-1].** Press the **Start** button. When the Exposure Carriage is approximately half way through the scan, press the "**C**" button. Check that the mirrors on the Exposure Lamp Carriage and the Half Rate Carriage are not broken or out of position. **The mirrors are good.**
Y   N
| Replace the defective Component, PL 3.1.
|
Switch off the power. Switch on the power. **The E7-[15] Status Code still exists.**
Y   N
| Run several copies to ensure the problem does not reoccur.
|
Check the connector CN25 on the Main PWB and the ribbon cable going to the Exposure Lamp Carriage PL 3.1, for an open or intermittent condition.
If the cable is good, replace the Main PWB PL 7.1.
If the problem still exists, replace the Exposure Lamp Carriage PL 3.1.
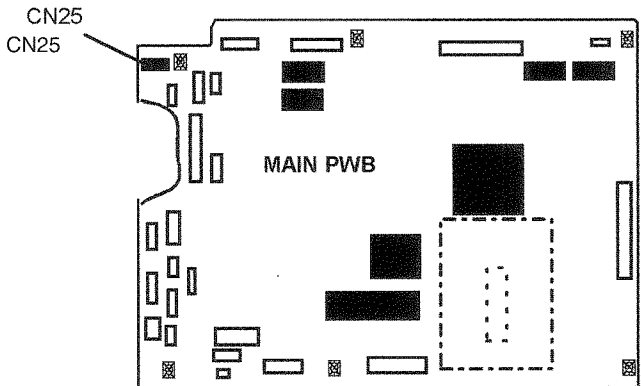
Figure 1 Main PWB

EEA Adapter RAP

There is a problem with either the network connected printer functions or a printer connected directly to a PC.

Procedure

CAUTION

Failure of the EEA may result from overlooking the following. The EEA Network Connector should be disconnected or reconnected only while the EEA power Cord is connected. Disconnect or reconnect the EEA Power Cord only after the Network Connector is disconnected. Switch off the copier/printer before disconnecting or reconnecting the EEA.

Check the position of the Operating Mode Switch (2) Up Position is toward LED?s   D1 and D2 . Refer to Figure 1. **The   Operating Mode Switch (2) Up Position is toward LED?s s are in the   Operating Mode Switch (2) Up Position is toward LED?s .**
Y   N
| Perform the following:
| •   Disconnect the   EEA Power Cord from the EEA.
| •   Switch the   Operating Mode Switch (2) Up Position is toward LED?s   D1 and   D2 to
| the   Operating Mode Switch (2) Up Position is toward LED?s as required.
| •   Reconnect the   EEA Power Cord to the EEA.
|
Perform the following:
•   Disconnect the   Network Connector from the EEA.
•   Disconnect and then reconnect the   EEA Power Cord while observing the power up sequence of the LED indicators shown in Table 3.

For example, when the   EEA Power Cord is plugged in, the   Power Condition LED (green) indicator should immediately illuminate. In the 2nd stage of the power up sequence, the   Parallel Activity LED (yellow) indicator should illuminate briefly. In the 3rd stage, four   LED Indicators should illuminate. In the 4th stage, the appropriate   LED Indicators will illuminate, and the same for the 5th stage.

Table 1 EEA Power Up Self Test Sequence (network disconnected)

EEA Indicator	Initial Power On	2nd Stage	3rd Stage	4th Stage	5th Stage	Power Up Self Test Complete
Link Condition						
Parallel Activity		On	On			
Network Activity			On		On	
System Condition			On		Off	On Blinking
Power Condition	On	On	On	On	On	On

The Power Up Self Test sequence occurs as shown in Table 3.
Y   N
| Check the voltage at the   EEA Power Cord . Disconnect the   EEA Power Cord from the
| EEA and measure the voltage between the contacts on the   EEA Power Cord connector.
| There should be 5 VDC. **There is 5 VDC between the contacts.**
|
A

A

Y   N
| Replace the AC/DC Power Cord.
|
| Verify that the position of the LED Indicators in Figure 1 is the same as the EEA labels. If
| the LED Indicators are in different positions, the sequence will appear different than the
| Table 3 shows. If the LED Indicators are in the same position as in Figure 1, there is a
| problem with the EEA. Replace the EEA.

Connect the Network Connector to the EEA and observe the Network Activity LED (yellow)
indicator on the EEA. The Network Activity LED (yellow) indicator should be blinking rapidly in
an erratic manner. **The Network Activity LED (yellow) indicator is blinking rapidly in an
erratic manner.**
Y   N
| There is a problem with the Network Connector or Cable. Inform the customer the Net-
| work Cable requires service.

Check that the LED Indicators on the EEA are illuminated as shown in Table 3.

Table 2 Printer in Standby Indicators

EEA Indicator	Network Connected
Link Condition	On
Parallel Activity	Off
Network Activity	Intermittent Rapid blinking
System Condition	Continuous 1 Blink/Second with IP address set Continuous 5 Blink/Second with IP address not set (some networks do not require an IP address)
Power Condition	On

The LED Indicators are illuminated as described in Table 3.
Y   N
| There is a problem with the network. Inform the customer service is required on the net-
| work.

Perform the following to make a Printer/Network Test Print that contains information such as
the IP address of the printer (if an IP is used). This information may be useful to the customer
to service the network if a network problem exists.
•   Disconnect the EEA Power Cord from the EEA.
•   Switch the Operating Mode Switch (2) Up Position is toward LED?s   D1 to the down
     position.
•   Reconnect the EEA Power Cord to the EEA.
A test print is made.
Y   N
| There is a problem with the EEA. Replace the EEA (PL 6.1).

The EEA is functional.

Disconnect the   EEA Power Cord from the EEA, switch the   Operating Mode Switch (2) Up
Position is toward LED?s   D1 to the Operating Mode Switch (2) Up Position is toward LED?s
, and reconnect the   EEA Power Cord to the EEA. Connect the   Network Connector to the
EEA
Ask the customer to send a print job to the printer while observing the Parallel Activity LED
(yellow) indicator. When the print job is received by the printer, the indicator will illuminate yel-
low for approximately 1/2 second for a small 1 page print file to several seconds for a large
print file. **The   Parallel Activity LED (yellow) indicator illuminates for approximately 1/2
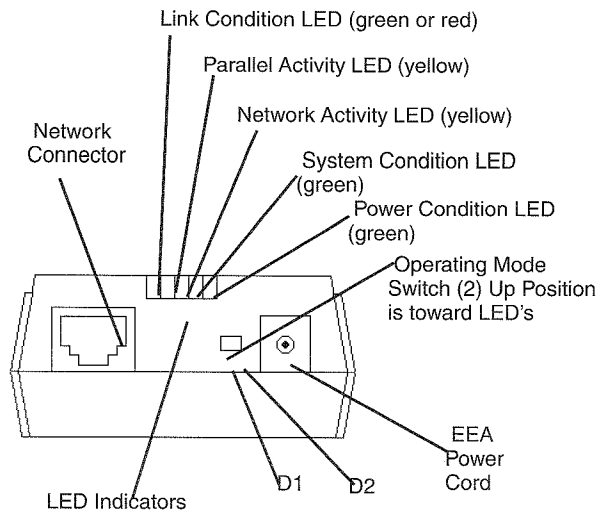second to several seconds.**
Y   N
| There is a problem with the network. Inform the customer that service is required on the
| network.

The EEA indictors are normal. Verify that other network printers are functional.

Table 3 Operating Mode Switches

D1	D2	Mode	Description
Up	Up	Print	Default setting for printer operation. Network Activity LED (yellow) and System Con- dition LED (green) blink. Telnet connection not allowed.
Up	Down	Telnet Diagnostic	Telnet connection allowed to edit parameters. Printer operation enabled when Telnet monitor session is not open. Network Activity LED (yellow) and System Con- dition LED (green) blink.
Down	Down	Not used	Not used
Down	Up	Printer/Network Data Test Print	Produces a printout of Printer and Network speci- fications. Printer operation is disabled. Parallel Activity LED (yellow) and System Con- dition LED (green) blink.

Link Condition LED (green or red)

Parallel Activity LED (yellow)

Network Activity LED (yellow)

Network
Connector

System Condition LED
(green)

Power Condition LED
(green)

Operating Mode
Switch (2) Up Position
is toward LED's

EEA
Power
Cord

D1   D2

LED Indicators

Figure 1 EEA LED Indicators and Components

F6-[10] Status Code RAP

A data reception error (Protocol) has been detected between the Fax PWB and the Main PWB. (Occurs when there is a communication failure between the Main PWB and the Fax PWB or between the Fax PWB and the Fax Control Panel.)

Procedure

Switch off the power. Wait 5 seconds and switch on the power. If the problem continues perform the following:

- Switch off the power.
- Ensure that connector CN1 on the Fax PWB is seated properly to CN6 on the Main PWB.
- Switch on the Power. If the problem still exists, replace the Fax PWB PL 7.1 before replacing the Main PWB PL 7.1.

F6-[80] Status Code RAP

A data reception error (Protocol) has been detected between the Fax PWB and the Main PWB. (Occurs when the message header of the message format is other than F.)

Procedure

Switch off the power. Wait 5 seconds and switch on the power. If the problem continues perform the following:
*   Switch off the power.
*   Ensure that connector CN1 on the Fax PWB is seated properly to CN6 on the Main PWB.
*   Switch on the Power. If the problem still exists, replace the Fax PWB PL 7.1 before replacing the Main PWB PL 7.1.

F6-[81] Status Code RAP

A data reception error (Protocol) has been detected between the Fax PWB and the Main PWB. (Occurs when the odd number parity set with SMR (serial mode register) differs from the reception data.)

Procedure

Switch off the power. Wait 5 seconds and switch on the power. If the problem continues perform the following:
*   Switch off the power.
*   Ensure that connector CN1 on the Fax PWB is seated properly to CN6 on the Main PWB.
*   Switch on the Power. If the problem still exists, replace the Fax PWB PL 7.1 before replacing the Main PWB PL 7.1.

F6-[82] Status Code RAP

A data reception error (Protocol) has been detected between the Fax PWB and the Main PWB. (Occurs when the next data reception is completed with RDRF (Receive Data Register Full) flag of SS (Reserial status register) set to 1.)

Procedure

Switch off the power. Wait 5 seconds and switch on the power. If the problem continues perform the following:

*   Switch off the power.
*   Ensure that connector CN1 on the Fax PWB is seated properly to CN6 on the Main PWB.
*   Switch on the Power. If the problem still exists, replace the Fax PWB PL 7.1 before replacing the Main PWB PL 7.1.

F6-[84] Status Code RAP

A data reception error (Protocol) has been detected between the Fax PWB and the Main PWB. (Occurs when the stop bit is 0.)

Procedure

Switch off the power. Wait 5 seconds and switch on the power. If the problem continues perform the following:

*   Switch off the power.
*   Ensure that connector CN1 on the Fax PWB is seated properly to CN6 on the Main PWB.
*   Switch on the Power. If the problem still exists, replace the Fax PWB PL 7.1 before replacing the Main PWB PL 7.1.

F6-[88] Status Code RAP

A data reception error (Protocol) has been detected between the Fax PWB and the Main PWB. (Occurs when time is out without response in data communication between the Fax PWB and the Main PWB.)

Procedure

Switch off the power. Wait 5 seconds and switch on the power. If the problem continues perform the following:

- Switch off the power.
- Ensure that connector CN1 on the Fax PWB is seated properly to CN6 on the Main PWB.
- Switch on the Power. If the problem still exists, replace the Fax PWB PL 7.1 before replacing the Main PWB PL 7.1 .

F9-[10] Status Code RAP

A communication error exists between the PCL PWB and the Main PWB.

Procedure

Switch off the power. Check the Cables and connections at the PCL/USB Interface PWB and the PCL PWB. Check the connection from the PCL PWB to the Main PWB and the GDI Memory PWB. **All connections are good.**
Y   N
    Repair the connections and proceed to the next step.

Switch on the power. **The Problem still exists.**
Y   N
    Send several jobs to the printer and ensure the problem does not reoccur.

Replace the following components one at a time until the problem is resolved:
1. PCL PWB PL 7.1
2. PCL/USB Interface PWB PL 7.1
3. GDI Harness PL 7.1
4. GDI Memory PWB PL 7.1
5. Main PWB PL 7.1

F9-[80] Status Code RAP

A (protocol) communication error exists between the PCL PWB and the Main PWB.

Procedure

Switch of the power. Check the Cables and connections at the PCL/USB Interface PWB and the PCL PWB. Check the connection from the PCL PWB to the Main PWB and the GDI Memory PWB. **All connections are good.**
Y   N
| Repair the connections and proceed to the next step.
|
Switch on the power. **The Problem still exists.**
Y   N
| Send several jobs to the printer and ensure the problem does not reoccur.
|
Replace the following components one at a time until the problem is resolved:
1.   PCL PWB PL 7.1
2.   PCL/USB Interface PWB PL 7.1
3.   GDI Harness PL 7.1
4.   GDI Memory PWB PL 7.1
5.   Main PWB PL 7.1

F9-[81] Status Code RAP

A (parity) communication error exists between the PCL PWB and the Main PWB.

Procedure

Switch of the power. Check the Cables and connections at the PCL/USB Interface PWB and the PCL PWB. Check the connection from the PCL PWB to the Main PWB and the GDI Memory PWB. **All connections are good.**
Y   N
| Repair the connections and proceed to the next step.
|
Switch on the power. **The Problem still exists.**
Y   N
| Send several jobs to the printer and ensure the problem does not reoccur.
|
Replace the following components one at a time until the problem is resolved:
1.   PCL PWB PL 7.1
2.   PCL/USB Interface PWB PL 7.1
3.   GDI Harness PL 7.1
4.   GDI Memory PWB PL 7.1
5.   Main PWB PL 7.1

F9-[82] Status Code RAP

A (overrun) communication error exists between the PCL PWB and the Main PWB.

Procedure

Switch of the power. Check the Cables and connections at the PCL/USB Interface PWB and the PCL PWB. Check the connection from the PCL PWB to the Main PWB and the GDI Memory PWB. **All connections are good.**
Y   N
    Repair the connections and proceed to the next step.

Switch on the power. **The Problem still exists.**
Y   N
    Send several jobs to the printer and ensure the problem does not reoccur.

Replace the following components one at a time until the problem is resolved:
1. PCL PWB PL 7.1
2. PCL/USB Interface PWB PL 7.1
3. GDI Harness PL 7.1
4. GDI Memory PWB PL 7.1
5. Main PWB PL 7.1

F9-[84] Status Code RAP

A (framing) communication error exists between the PCL PWB and the Main PWB.

Procedure

Switch of the power. Check the Cables and connections at the PCL/USB Interface PWB and the PCL PWB. Check the connection from the PCL PWB to the Main PWB and the GDI Memory PWB. **All connections are good.**
Y   N
    Repair the connections and proceed to the next step.

Switch on the power. **The Problem still exists.**
Y   N
    Send several jobs to the printer and ensure the problem does not reoccur.

Replace the following components one at a time until the problem is resolved:
1. PCL PWB PL 7.1
2. PCL/USB Interface PWB PL 7.1
3. GDI Harness PL 7.1
4. GDI Memory PWB PL 7.1
5. Main PWB PL 7.1

F9-[88] Status Code RAP

A (time-out) communication error exists between the PCL PWB and the Main PWB.

Procedure

Switch of the power. Check the Cables and connections at the PCL/USB Interface PWB and the PCL PWB. Check the connection from the PCL PWB to the Main PWB and the GDI Memory PWB. **All connections are good.**
Y   N
   Repair the connections and proceed to the next step.

Switch on the power. **The Problem still exists.**
Y   N
   Send several jobs to the printer and ensure the problem does not reoccur.

Replace the following components one at a time until the problem is resolved:
1. PCL PWB PL 7.1
2. PCL/USB Interface PWB PL 7.1
3. GDI Harness PL 7.1
4. GDI Memory PWB PL 7.1
5. Main PWB PL 7.1

H2/H3 Status Code RAP

H2, indicates that The Main PWB sensed a fuser overheat condition (that the thermistor RT1 was open).

H3, indicates that the Main PWB sensed a fuser overheat condition.

Procedure

The Status Code is an, H3.
Y   N
> Go to Flag 1 and check for an open wire. If the wires are good replace the Thermistor RT1, PL 6.1. If the problem still exists, replace the Main PWB, PL 7.1. If the problem continues, replace the Power Supply PWB, PL 7.1.

Connect the meter between CN3-17 (+) on the Main PWB and GND (refer to Flag 4).
There is 1.2 VDC present while an H3 status code is displayed.
Y   N
> *NOTE: An H3/H4 status code must be cleared in diagnostics before the copier becomes operational again.*
>
> Enter Diagnostic Code **14** to clear the H3 status code.
> Switch off the power. Switch on the power.
> **The H3 status code appears within 5 seconds after power on.**
> **Y   N**
> > **The Ventilation Fan Motor MOT3 is running.**
> > **Y   N**
> > > Go to the 4.1 Ventilation Fan Motor RAP.
> >
> > Check the Thermistor RT1, PL 6.1 for contamination. If OK, replace the Power Supply PWB PS1, PL 7.1.
>
> Go to Flag 1 and check the Thermistor circuit for a short circuit to ground. If OK, replace the Main PWB, PL 7.1.

Replace the Main PWB, PL 7.1. If problem still exists, replace the Power Supply PWB PS1, PL 7.1.

Figure 1 Fuser heat

MAIN PWB
PL 7.1

+5 VDC   +5 VDC

H2
H3
H4

CN13   CN3

4   17

VIO

[5-2]
Fuser On
(H) +1.27VDC
VIO

POWER SUPPLY PWB PS1
PL 7.1

CN3

CN1   4

11

FUSER
TRIAC
GATE
CONTROL

FUSER TRIAC

ACN

RELAY RY1

+24 VDC

ACH

1

WHT

BLK

P/J6

2

1

FUSER ASSEMBLY
PL 6.1

HEAT ROD HTR1
PL 6.1

THERMOSTAT
PL 6.1

CN3   Fuser Power On
(L) +24VDC   CN1

16   12

BLU

THERMISTOR RT1
PL 6.1

CN13   P/J8

5   2

GRY   BLK

GND

VIO   BLK

1

T

1

NOTES:

1 H2 = THERMISTOR IS OPEN.
   H3 = FUSER OVERHEATS.
   H4 = FUSER DOES NOT WARM UP
   WITHIN 27 SECONDS.

2 WHEN AN H OR L STATUS CODE IS
   PRESENT, THE POWER RELAY SIGNAL
   GOES HIGH REMOVING POWER TO
   THE FUSER.

3 ACH = 115 VAC (60HZ)
      = 220/240 VAC (50HZ)

MAIN PWB

CN13

CN3

P/J6

P/J7

P/J8

H234-SF

H4 Status Code RAP

The Main PWB sensed that the fuser did not reach 185° C within 27 seconds after power on or that the fuser dropped below 140° C for 6 seconds during the copy cycle.

NOTE: An H3/H4 status code must be cleared in diagnostic code 14, before the copier becomes operational again.

Procedure

Switch off the Power. Disconnect the connector, P/J6 from the Fuser assembly. Connect the meter on the machine side P/J6 between pins 1 and 2 (refer to Flag 3). Set the multi meter to measure AC. Enter diagnostic code **[5-2]. When the Start button is pressed the machine input line voltage is measured for approximately 5 seconds.**
Y   N

> Reconnect connector P/J6. Press the **Stop** button. Connect the DC Meter between CN3-16 and GND on the Main PWB. Press the **Start** button. **The meter switches from +24 VDC to O VDC for 5 seconds.**
> Y   N
>
> > Go to Flag 2 and check the wire for an open or short circuit. **The wire is good.**
> > Y   N
> >
> > > Repair the wire or replace the DC harness, PL 7.1.
> >
> > Replace the Power Supply PWB PS1, PL 7.1.
>
> Replace the Power Supply PWB PS1, PL 7.1.

Connect the meter between CN3-17 (+) on the Main PWB and GND (refer to Flag 4). Enter diagnostic code **[14]. There is approximately 1.2 VDC present.**
Y   N

> Replace the Main PWB, PL 7.1. If problem still exists, replace the Power Supply PWB PS1, PL 7.1.

Switch off the power. Set the multimeter to the 200 ohm range. Measure the Fuser side of the connector P/J6 between pins 1 and 2. **There is 1.7 ohms + or - 0.5 ohms measured between pins 1 and 2 of P/J6.**
Y   N

> Remove the Fuser Assembly. Check the continuity of the Thermostat and the Heat Rod HTR1. **The checks are good.**
> Y   N
>
> > Replace the defective component, PL 6.1.
>
> Reinstall the Fuser Assembly. If the problem still exists, replace the Fuser Assembly, PL 6.1.

Reconnect P/J6. Switch on the power. If the problem still exists, replace the Power Supply PWB PS1, PL 7.1.

Figure 1 Fuser Heat

NOTES:

1 H2 = THERMISTOR IS OPEN.
   H3 = FUSER OVERHEATS.
   H4 = FUSER DOES NOT WARM UP
   WITHIN 27 SECONDS.

2 WHEN AN H OR L STATUS CODE IS
   PRESENT, THE POWER RELAY SIGNAL
   GOES HIGH REMOVING POWER TO
   THE FUSER.

3 ACH = 115 VAC (60HZ)
       = 220/240 VAC (50HZ)

MAIN PWB
PL 7.1

POWER SUPPLY PWB PS1
PL 7.1

FUSER ASSEMBLY
PL 6.1

HEAT ROD HTR1
PL 6.1

THERMOSTAT
PL 6.1

FUSER TRIAC GATE CONTROL

FUSER TRIAC

RELAY RY1

THERMISTOR RT1
PL 6.1

[5-2]
Fuser On
(H) +1.27VDC

Fuser Power On
(L) +24VDC

H234-SF
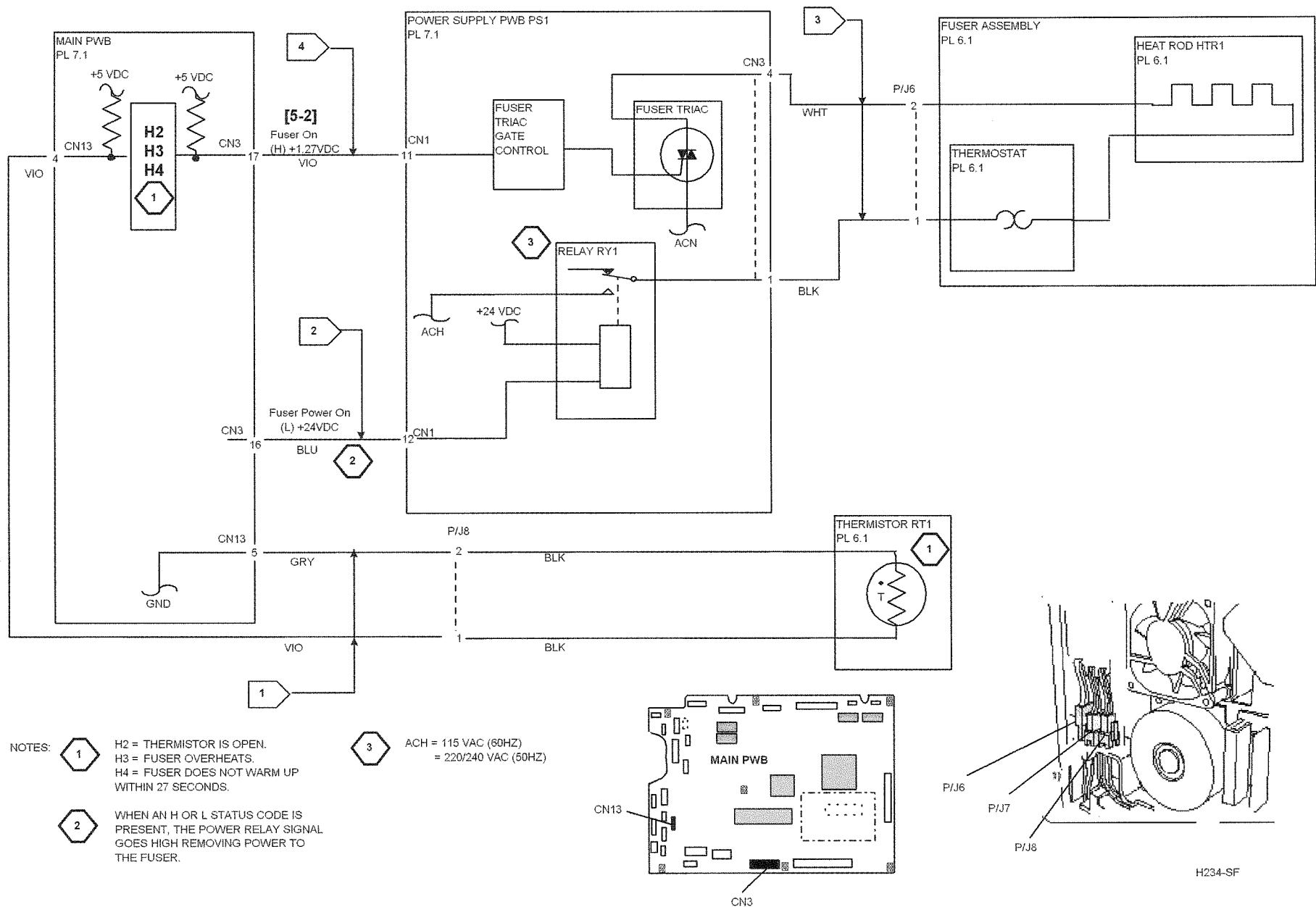
J1 Status Code RAP

J 1, Indicates that the Toner Cartridge is empty.

Initial Actions

Replace the Toner Cartridge. If a problem still exists, continue with the procedure.

NOTE: If the customer complains that the toner cartridge reached its end of life too soon, then instruct the customer that making copies with the document cover open or making copies with high image area coverage, such as photographs, will reduce the life of the toner cartridge.

Procedure

Enter diagnostic code [10].
 The toner motor comes on.
Y   N
| Press Clear.
| Set the meter to measure VAC.
| Connect the meter between CN9-1 (+) and CN9-2 (-) on the Main PWB.
| Press Start.
| **There is approximately +22 VAC present.**
| Y   N
| | Replace the Main PWB, PL 7.1.
| |
| Go to Flag 1 and check for an open. If the wires are good, replace the Toner Motor MOT4,
| PL 2.1.
|
Switch off the power. Connect the meter between, CN17-2 on the Main PWB (+) and chassis
(-). Switch the power on.
 There is a steady +5 VDC present.
Y   N
| Replace the Main PWB, PL 7.1.
|
Perform the following:
*   Go to Flag 2 and check the wires for an open circuit.
*   Check for a mechanical drive problem to the Toner Cartridge.
*   Replace the Toner Cartridge, PL 8.2.

Figure 1 J1 Status Code

TONER CARTRIDGE
PL 8.2

LOW TONER
SENSOR

MAIN PWB
PL 7.1

P/J9

Low Toner
(H) +5 VDC

VIO

Cartridge
Installed (L)

BRN

DC COM

GRY

+24 VDC

RED

+5 VDC

CN17

TONER
CONTROL
CIRCUIT

+5 VDC

GND   +24 VDC

CN9

[10]   Toner Dispense
Clock

Toner Dispense
Clock

TONER MOTOR
MOT4
PL 2.1

MOT
4

MAIN PWB

CN17

CN9

TONER
CARTRIDGE
P/J9

① ⑤
② ⑥
③ ⑦
④ ⑧

REAR
VIEW

Toner
Motor
MOT2

P/J9

NOTES: 1   THE TONER MOTOR IS ACTUATED WHEN LOW TONER
CONCENTRATION IS SENSED BY THE LOW TONER SENSOR. IF THE
MOTOR RUNS FOR 120 SECONDS AND THE LOW TONER SIGNAL IS
STILL HIGH, THE TONER CARTRIDGE LAMP WILL FLASH.

J2 Status Code RAP

J2, indicates the Drum Cartridge has reached the end of its life.

Initial Actions

Replace the Drum Cartridge with a new, not used, Drum Cartridge. If a problem still exists, continue with the procedure.

Procedure

There is less than 0.5 VDC measured between CN20-2 and GND on the Main PWB.
Y   N

    Go to Flag 1 and check the wires for an open circuit. If the wires are good, replace the Drum Cartridge Reset Switch, PL 5.1.

Actuate the Drum Cartridge Reset Switch. **There is +5 VDC measured between CN20-2 and GND.**
Y   N

    Go to Flag 1 and check the wires for a short circuit. If the wires are good, replace the Drum Cartridge Reset Switch, PL 5.1.

If the problem still exists, replace the Main PWB, PL 7.1

Drum Cartridge Reset Switch
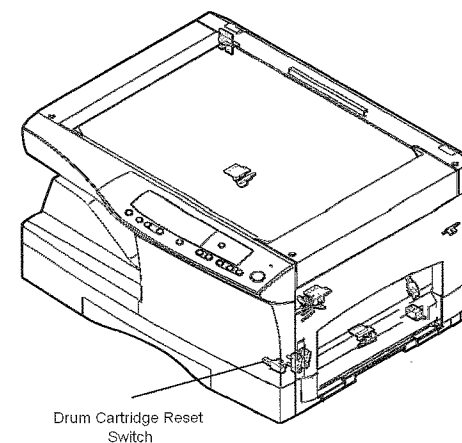
Figure 2 Drum Cartridge Reset Switch
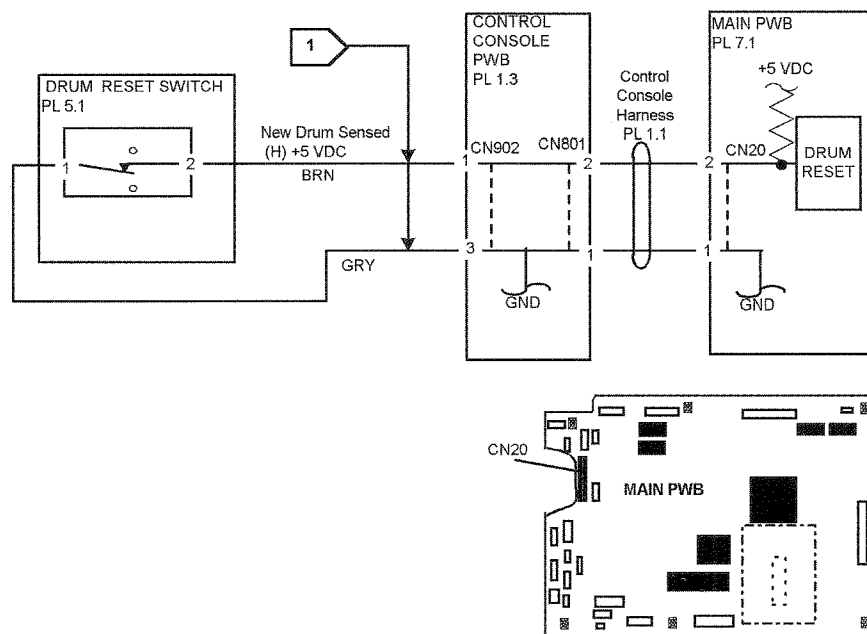
Figure 1 Drum Cartridge

J3 Status Code RAP

This code indicates that an invalid Toner Cartridge has been installed.

Procedure

Replace the Toner Cartridge, PL 8.2 .

L1/L3 Status Code RAP

L1, indicates that the Main PWB sensed that the carriage did not leave home after power up or after start is pressed.

L3, indicates that the Main PWB sensed that the carriage did not return home after power up or after the copy cycle.

NOTE: Ensure that the shipping screw was removed at install.

Procedure

Switch off the power. Switch on the power. **The lamp carriage is in or moves to the home position.**
Y   N
| Remove the right cover to gain access to the scan shaft. Manually rotate the scan shaft to
| position the carriage in the home position. Connect the meter to, CN27-2 on the Main
| PWB and GND. **There is +5 VDC measured.**
| Y   N
| | Go to Flag 1 and check the wires for an open circuit. If the wires are good, replace
| | the Scan Home Sensor Q5, PL 3.2.
|
| Move the carriage off the home position. **The meter reads LOW.**
| Y   N
| | Replace the Scan Home Sensor Q5, PL 3.2.
|
| Go to the next step.

There is +5 VDC measured between, CN27-2 on the Main PWB and GND.
Y   N
| Go to Flag 2 and check the wires for a short circuit. If the wires are good, replace the
| Scan Home Sensor Q5, PL 3.2.

Enter diagnostic code **[1-1]**. Press the Start button twice. **The carriage moved.**
Y   N
| Connect the meter between, CN28-1 (+) on the Main PWB and GND (-).
| **There is +24 VDC measured.**
| Y   N
| | Replace the Main PWB, PL 7.1.
|
| Check the following for wear or damage, PL 3.1:
| •   Scan Drive Gear/Pulley
| •   Scan Drive Belt
| •   Scan cables
| **The components are good.**
| Y   N
| | Replace the defective components, PL 3.1.
|
| Go to Flag 1 and check the connection on CN28 on the Main PWB. If the connection is
| good replace the Scan Drive Motor MOT2, PL 3.1.

Press the Clear button. Remove the right cover to gain access to the Scan Cable Drive Shaft, PL 3.1.
Manually rotate the Scan Cable Drive Shaft to position the carriage off the home position. Enter diagnostic code **[1-1]**. **The Drum Cartridge lamp is off.**
Y   N
| Go to Flag 2 and check for an open circuit. If the wires are good, replace the Scan Home
| Sensor Q5, PL 3.2.
| If the problem continues, replace the Main PWB, PL 7.1.

Check the following for wear or damage PL 3.1:
•   Ribbon Cable connection to CN28 on the Main PWB
•   Scan Drive Gear/Pulley
•   Scan Drive Belt
•   Scan cables
The Components are good.
Y   N
| Repair and or replace the defective components PL 3.1, PL 3.2.

If the problem still exists, replacing the Main PWB, PL 7.1.
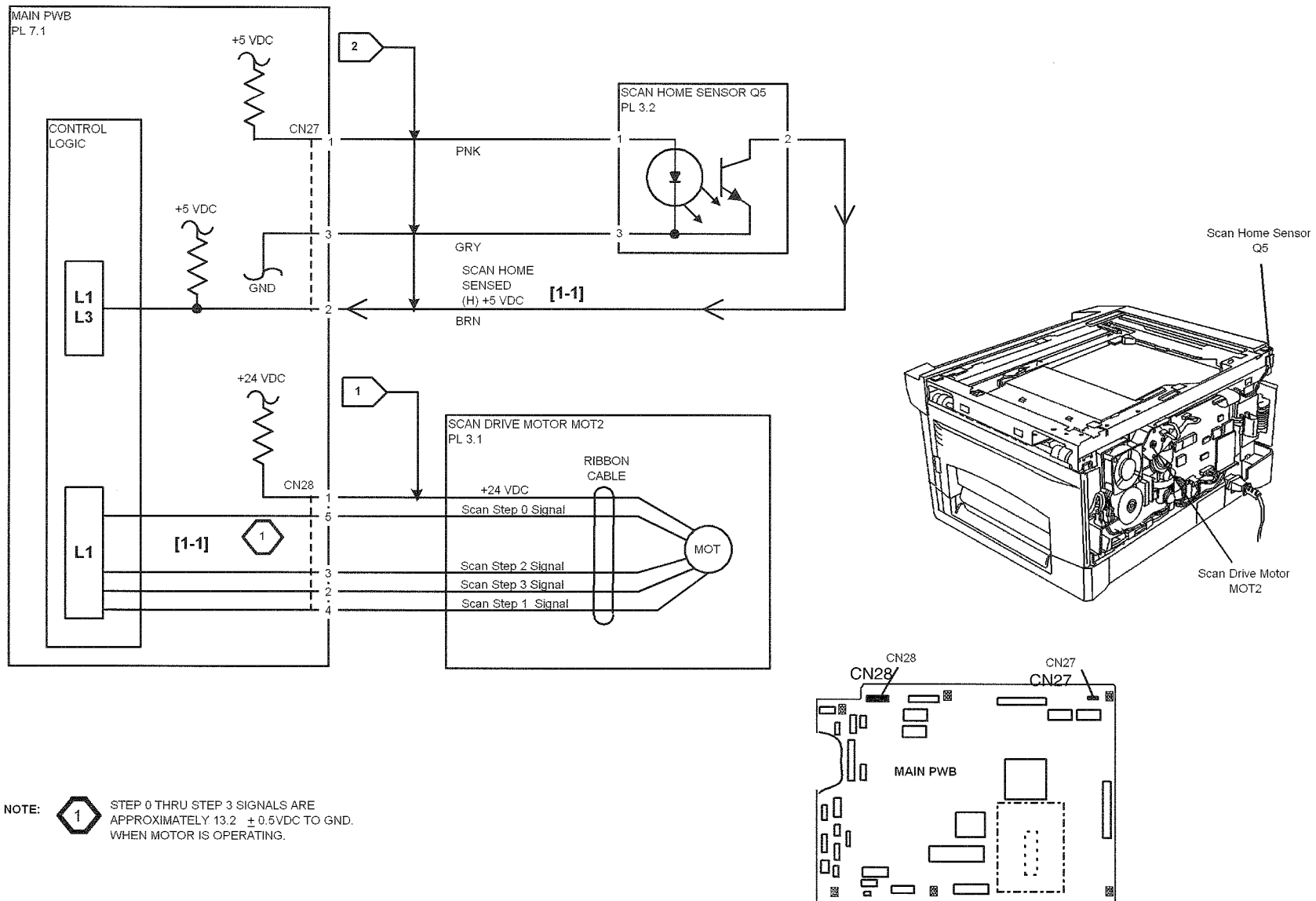
Figure 1 L1/L3 Status Code

MAIN PWB
PL 7.1

CONTROL
LOGIC

+5 VDC

CN27

+5 VDC

GND

L1
L3

2

SCAN HOME SENSOR Q5
PL 3.2

PNK

GRY

SCAN HOME
SENSED
(H) +5 VDC **[1-1]**

BRN

Scan Home Sensor
Q5

+24 VDC

1

SCAN DRIVE MOTOR MOT2
PL 3.1

RIBBON
CABLE

CN28

+24 VDC

Scan Step 0 Signal

Scan Step 2 Signal

Scan Step 3 Signal

Scan Step 1 Signal

MOT

L1

[1-1] 1

Scan Drive Motor
MOT2

NOTE: 1 STEP 0 THRU STEP 3 SIGNALS ARE
APPROXIMATELY 13.2 $\pm$ 0.5VDC TO GND.
WHEN MOTOR IS OPERATING.

CN28

CN28

CN27

CN27

MAIN PWB

L4 Status Code RAP

The Main PWB sensed a Main Drive Motor MOT1 problem.

Initial Actions

Clear any jams in the paper path and ensure that the Side Door is closed.

Procedure

Enter diagnostic code [25-1]. **The main motor comes on.**
Y   N
| Press the Clear button. Check the Ribbon Cable connection to CN18 on the Main PWB.
| **The connection and the Ribbon Cable from the Main Drive Motor MOT1 are good.**
| Y   N
| | Repair or replace the Main Motor Harness, PL 2.2.
|
| Switch off the power. **The housing of the Main Drive Motor can be turned by hand.**
| Y   N
| | Check for a mechanical problem such as binding or broken gears or a binding drum
| | cartridge. Repair and or replace as necessary PL 2.2.
|
| Switch on the power. Connect the meter from CN18 pin 1 and GND and pin 2 and GND
| on the Main PWB. **There is +24 VDC present.**
| Y   N
| | Replace the Main PWB, PL 7.1.
|
| Connect the meter to CN1 pin 1 and GND and pin 2 and GND on the Main Drive Motor.
| **There is +24 VDC present.**
| Y   N
| | Replace the Main Motor Harness, PL 2.2.
|
| Press Start.
| **The voltage decreases to approximately 10 to 14 VDC.**
| Y   N
| | Replace the Main PWB, PL 7.1.
|
| If the problem still exists, replace the Main Drive Motor MOT1, PL 2.2.
| If the problem continues, replace the Main PWB, PL 7.1.
|
Check for a mechanical problem such as binding or broken gears or a binding drum cartridge.
Repair/replace as necessary, PL 2.2.
If the problem still exists, replace the Main Drive Motor MOT1, PL 2.2.

CN18   MAIN PWB

Figure 1 Main PWB

Main Drive Motor
MOT1
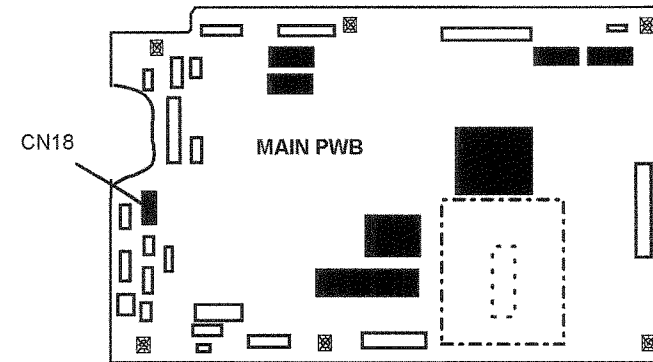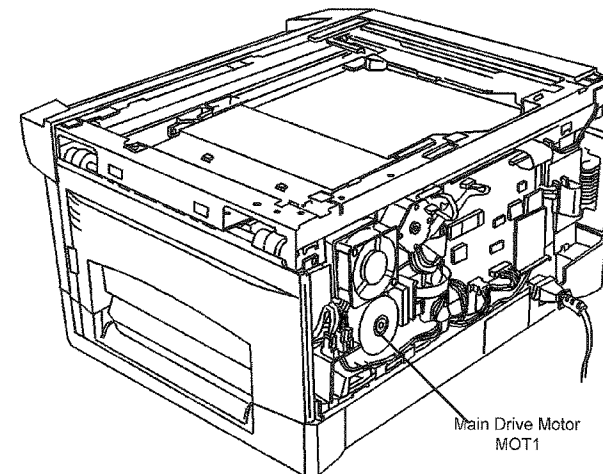
L6 Status Code RAP

The Main PWB sensed a Polygon motor lock signal error.

Procedure

Enter diagnostic code [25-10]. **The Polygon Motor comes on for 30 seconds.**
Y   N
    Check the connector CN23 on the Main PWB and the wires and connectors on the Laser
    Module. **The connections and wires are good.**
    Y   N
        Replace the Laser Harness, PL 3.3.

    If the problem still exists, replace the Laser Module, PL 3.3.
    If the problem continues, replace the Main PWB, PL 7.1.

Switch the power off. Switch the power on. If the problem still exists, replace the Laser Module,
PL 3.3.
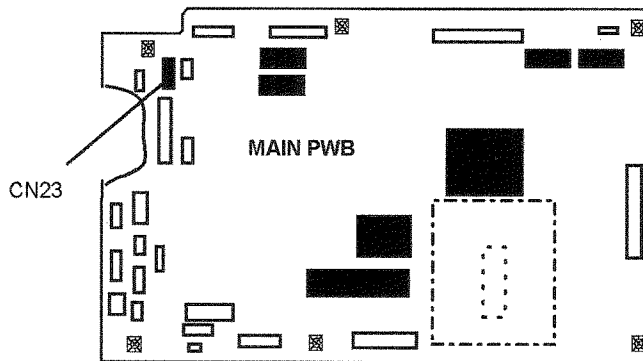
Figure 1 Main PWB

P Status Code RAP

The Main PWB sensed that the selected Paper Tray is out of paper or a misfeed has occurred.

Initial Actions

Ensure pressure plate lock is removed from the paper tray.

Ensure the side and rear paper guides are installed and that they are not too tight against the paper.

Procedure

Enter the diagnostic code **[30-1]**.
Manually actuate and deactuate the Paper Feed Sensor Q1 while observing the Toner Cartridge lamp. **The Toner Cartridge LED comes on and goes off.**
Y   N
        Perform the following:
        • Check the sensor actuator for proper operation PL 5.1.
        • Go to Flag 1 and check the wires for an open circuit.
        If the checks are good, replace the Paper Feed Sensor Q1, PL 5.1.

Manually actuate and deactuate the Tray 2 Feed Sensor Q7 while observing the Toner Cartridge lamp. **The Toner cartridge LED comes on and goes off.**
Y   N
        Perform the following:
        • Check the sensor actuator for proper operation, PL 5.8.
        • Go to Flag 2 and check the wires for an open circuit.
        • If the checks are good, replace the Tray 2 Paper Feed Sensor Q7, PL 5.8.

The P status code occurs when using the Main Tray.
Y   N
        The P status code occurs when using Tray 2.
        Y   N
                The P status code occurs when using the Mulitsheet bypass Tray.
                Y   N
                        Check for a mechanical problem preventing the paper from feeding.

                        Enter the diagnostic Code **[6-1]** and select Multi Bypass Tray. Press the **Start** button. **The Multi Bypass Feed Solenoid SOL4, engages and disengages several times.**
                        Y   N
                                Check for a mechanical problem preventing the paper from feeding. If the problem still exists, go to Flag 5 and check the wires for an open or short circuit. If the wires are good, replace the Multi Bypass Solenoid SOL 4, PL 5.5.

                        Check for a mechanical problem preventing the paper from feeding, PL 5.5.

                Enter the diagnostic Code **[6-1]** and select Tray 2. Press the **Start** button. **The Tray 2 Feed Solenoid SOL2, engages and disengages several times.**

Y   N
        Go to Flag 4 and check the wires for an open circuit. If the wires are good, replace the Tray 2 Solenoid SOL 2, PL 5.8.

        Check for a mechanical problem preventing the paper from feeding, PL 5.8.

Enter the diagnostic Code **[6-1]** and select the Main Tray. Press the **Start** button. **The Paper Feed Solenoid SOL1, engages and disengages several times.**
Y   N
        Check for a mechanical problem preventing the paper from feeding. If the problem still exists, go to Flag 3 and check the wires for an open circuit. If the wires are good, replace the Paper Feed Solenoid SOL 1, PL 2.2.

Check for a mechanical problem preventing the paper from feeding, PL 2.2.

Figure 1 Main PWB

Figure 2 P Code

NOTES:

⟨1⟩ A PAPER JAM WILL OCCUR (PAPER JAM LAMP FLASHING) IF:
A. THE PAPER FEED SENSOR IS ACTUATED AT POWER ON
B. THE PAPER FEED SENSOR DOES NOT DEACTUATE IN TIME.

⟨2⟩ A FLASHING "P" STATUS CODE WILL BE DISPLAYED IF THE PAPER FEED SENSOR Q1 IS NOT ACTUATED IN TIME AFTER START IS PRESSED.

U2-[01] / U2-[04] Status Code RAP

U2-[02] indicates that the Main PWB sensed a memory failure.

U2-[04] indicates a that the Main PWB sensed an access error.

Procedure

Perform the U2 Status Code Clear Procedure:
- Enter the diagnostic code **[16]**.
- Press the Start button.

If the problem still exists, replace the Main PWB, PL 7.1.

Drum Cartridge LED On RAP

The Drum Cartridge Lamp on steady indicates that the Drum Cartridge is near end of life.

Procedure

If the Drum Cartridge LED is still on or flashing after changing the Cartridge, go to the, J2 Status Code RAP.

Toner Cartridge LED On RAP

Indicates that a low toner condition exists.

Initial Actions

NOTE: If the customer complains that the toner cartridge reached its end of life too soon, then instruct the customer that making copies with the document cover open or making copies with high image area coverage, such as photographs, will reduce the life of the toner cartridge.

Procedure

Replace the Toner Cartridge, PL 8.2. If the problem still exists, go to the, J1 Status Code RAP.

1.1 Power On RAP

Initial Actions

Ensure that input power is measured at the machine power cord.

Procedure

Switch off the power. While observing the Exposure Lamp Assembly, switch on the power.
The Exposure Lamp Assembly moves.
Y   N

> **The Control Console is blank.**
> Y   N
>
> > Go to the 2.1 Selection/Indication RAP.
>
> **There is +5 VDC measured from CN3 pin 21 and pin 22 to GND on the Main PWB.**
> Y   N
>
> > **ACH is measured between CN2 and CN5 on the Power Supply PWB.**
> > Y   N
> >
> > > Go to Flag 1 and check for an open circuit.
> >
> > Switch off the power. Disconnect the power. Check Fuses F1 and F3 on the Power
> > Supply PWB for an open circuit. **The Fuses are good.**
> > Y   N
> >
> > > Replace the defective Fuse, PL 7.1. Switch on the power. **The   problem   is
> > > resolved.**
> > > Y   N
> > >
> > > > Replace the Power Supply PWB, PL 7.1.
> > >
> > > Make several copies to ensure the problem is resolved.
> >
> > Replace the Power Supply PWB, PL 7.1.
>
> **There is +24 VDC measured from CN3 pins 7 and pin 8 to GND, on the Main PWB.**
> Y   N
>
> > Go to the 1.2 DC Power RAP.
>
> Go to the 2.2 Selection RAP.

Go to the 1.2 DC Power RAP.
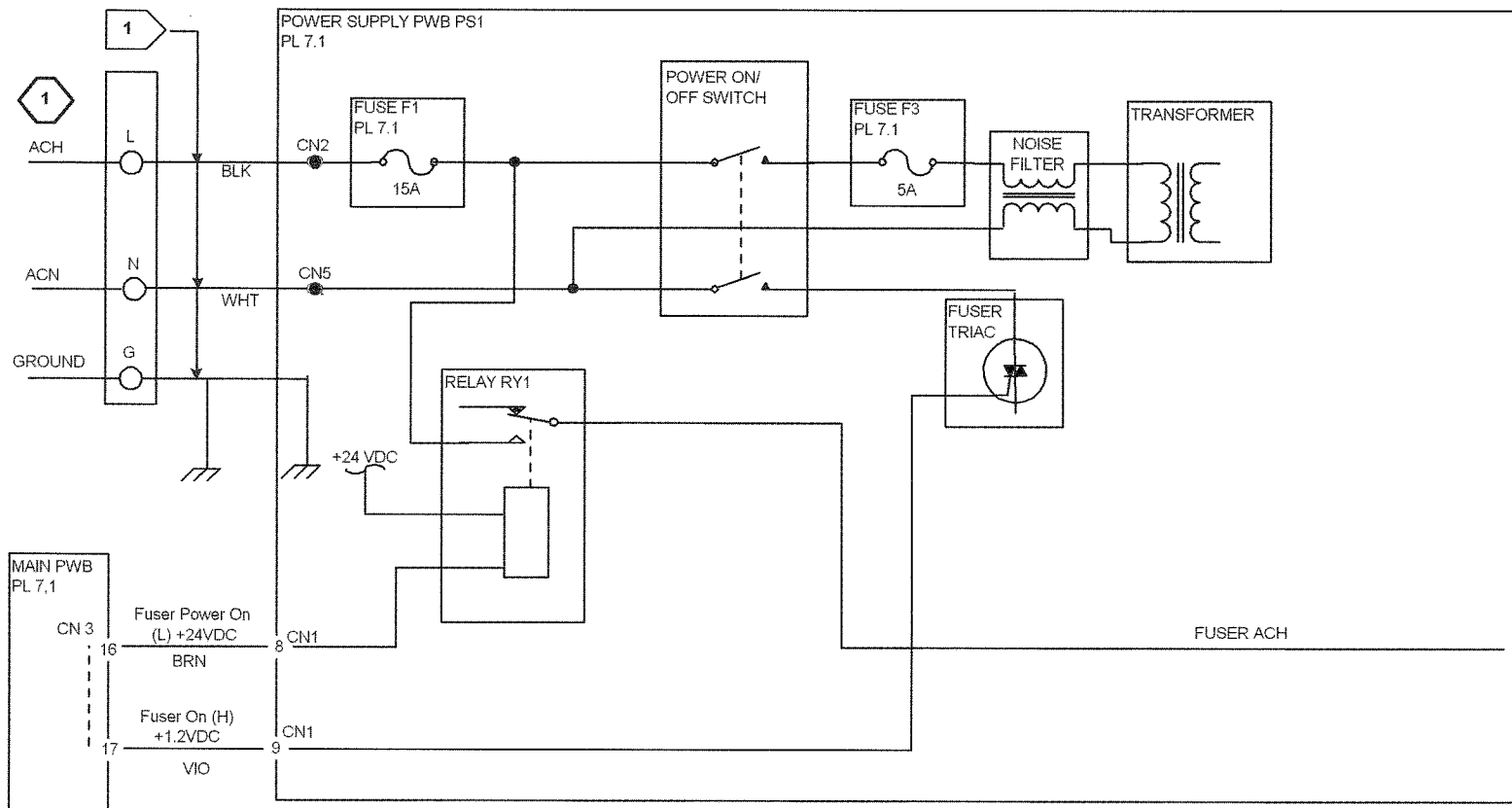
Figure 1 1.1 Power On

Notes: ⬡1 ACH = 115 VAC (60HZ)
= 220/240 VAC (50HZ)
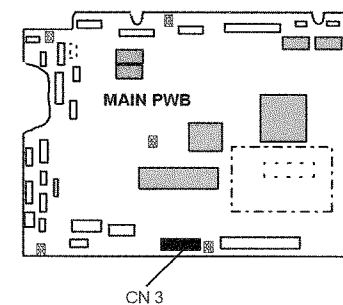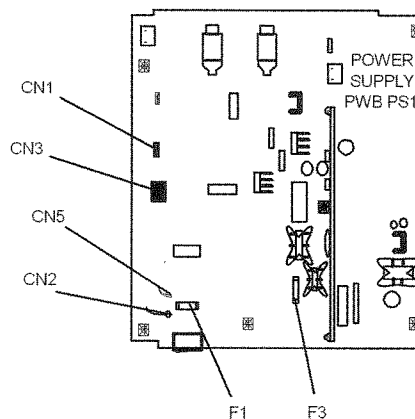
SF-1.1CD

1.2 DC Power RAP

NOTE: Enter this RAP from the 1.1 Power On RAP only.

Procedure

There is +24 VDC measured between CN3 -7 and GND.

Y   N

> Go to Flag 1. Check the wires for an open circuit.

There is +12 VDC measured between CN3-19 and GND.

Y   N

> Go to Flag 2. Check the wires for an open circuit.

There is +3.3 VDC measured between CN3-20 and GND.

Y   N

> Go to Flag 3. Check the wire for an open circuit. If the wire is good, replace the Power Supply PWB PS1, PL 7.1.

There is +5 VDC measured between CN3-21 and GND.

Y   N

> Go to Flag 4. Check the wires for an open circuit.

If the problem still exists, refer to BSD, **1.2 Power Generation and Distribution** (Section 7) for further DC power distribution checks. Check for an intermittent or loose connection. If the problem continues, replace the Main PWB, PL 7.1.

Figure 1 1.2 DC Power

POWER SUPPLY PWB PS1
PL 7.1

DC POWER
GENERATION
CKT.

MAIN PWB
PL 7.1

CN 4   +24VDC INTLK.

Notes: +24 VDC ± 1 VDC
          +5.0 VDC ± .2 VDC

1_2cd_sf
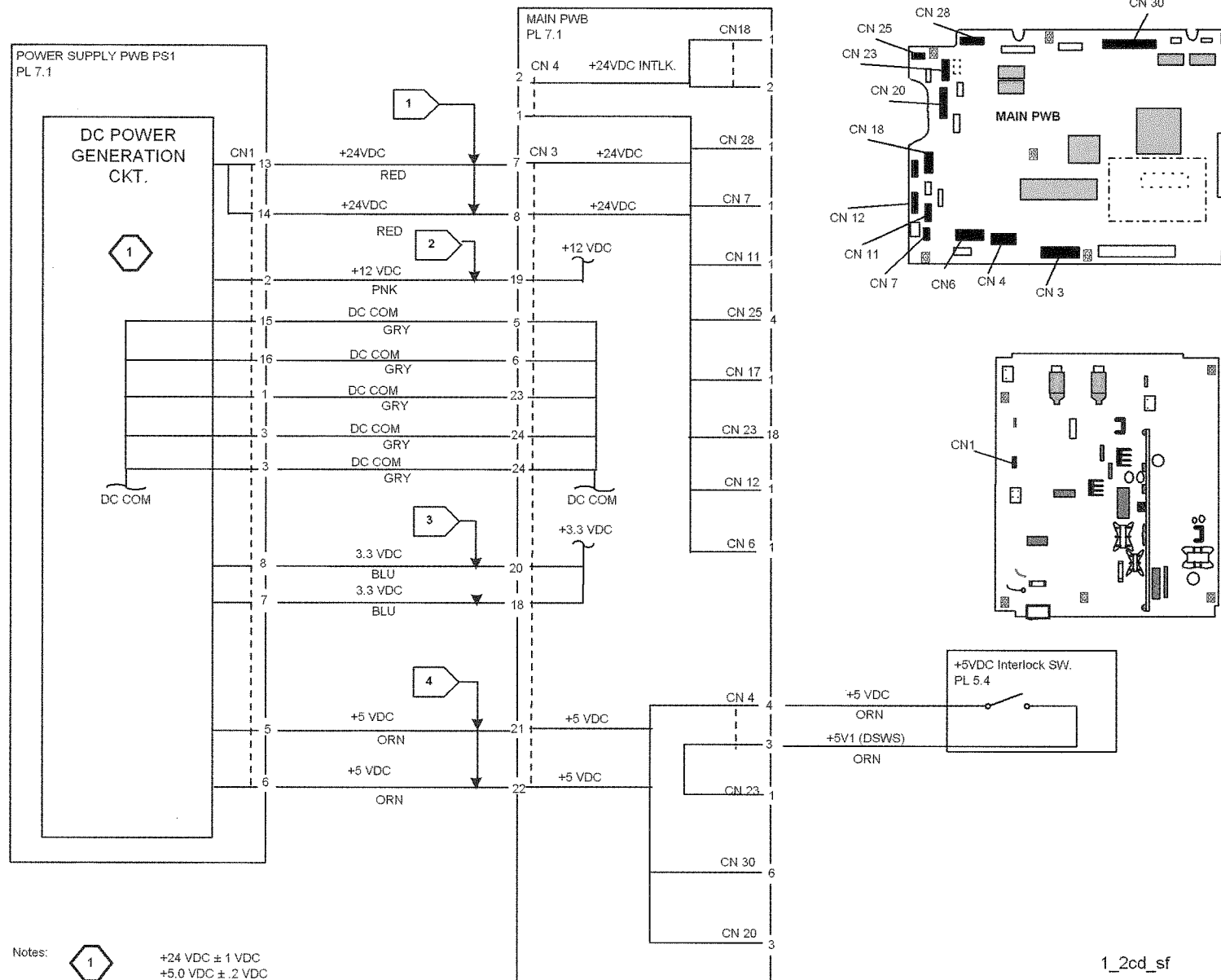
2.1 Selection/Indication RAP

Procedure

Enter diagnostic code [**5-1**] to test the control console lamps.
 Diagnostic code [5-1] can be entered.
Y   N
  Go to 2.2 Selection RAP.

Press Start several times to test the control console display and lamps. **All the LEDs come on for 5 seconds each time the Start button is pressed.**
Y   N
  The Ready lamp lights.

  Y   N
    Go to the 2.2 Selection RAP.

  Go to Flag 1. Check CN801 on the Control Console PWB and CN20 on the Main PWB for being properly connected to the Control Console Ribbon Cable. If defective, replace the Control Console Ribbon Cable, PL 6.3. If good, replace the Control Console PWB, PL 1.3.
  If the problem still exists, replace the Main PWB, PL 7.1.

For all selection problems, go to the 2.2 Selection RAP.
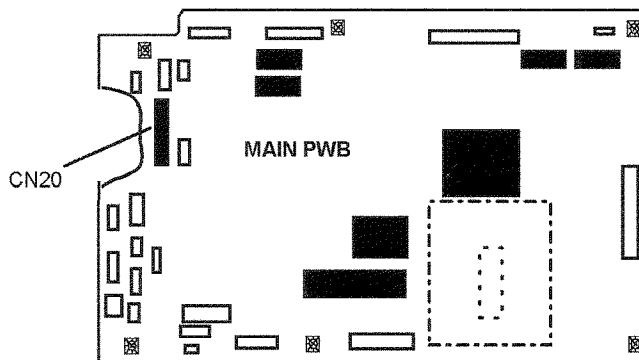
Figure 1 Main PWB
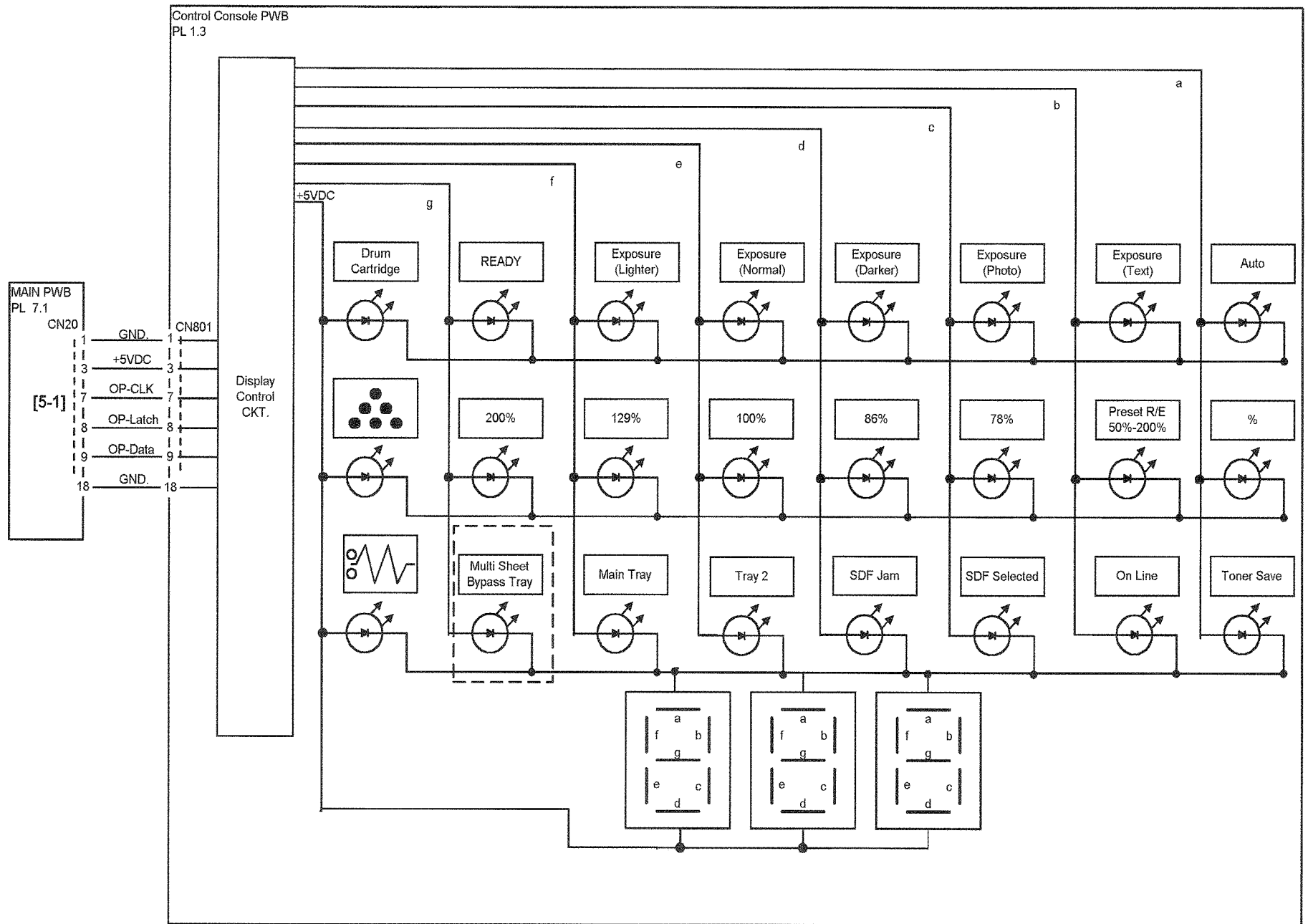
Figure 2 2.1 Selection/Indication

2.2 Selection RAP

Procedure

Switch power off, then on.
The Ready lamp comes on or is flashing.
Y   N
    Go to Flag 1. Check connectors and the Ribbon Cable for an open circuit. Replace the
    Control Console Ribbon Cable, PL 6.3 if required.

Press Start button. **The print cycle starts.**
Y   N
    Replace the Control Console PWB, PL 1.3.

If a problem still exists, replace the Control Console PWB, PL 1.3.
If the problem continues, replace the Main PWB, PL 7.1.

Figure 1 Main PWB

Figure 2 2.2 Selection
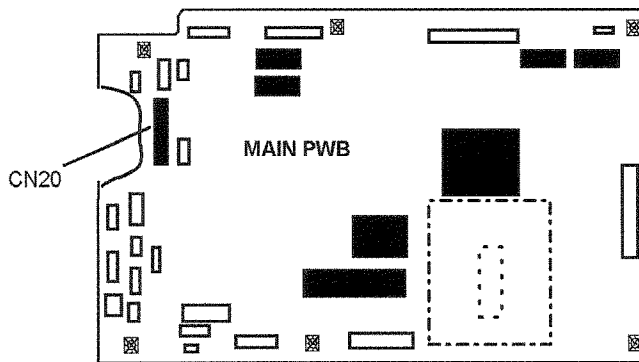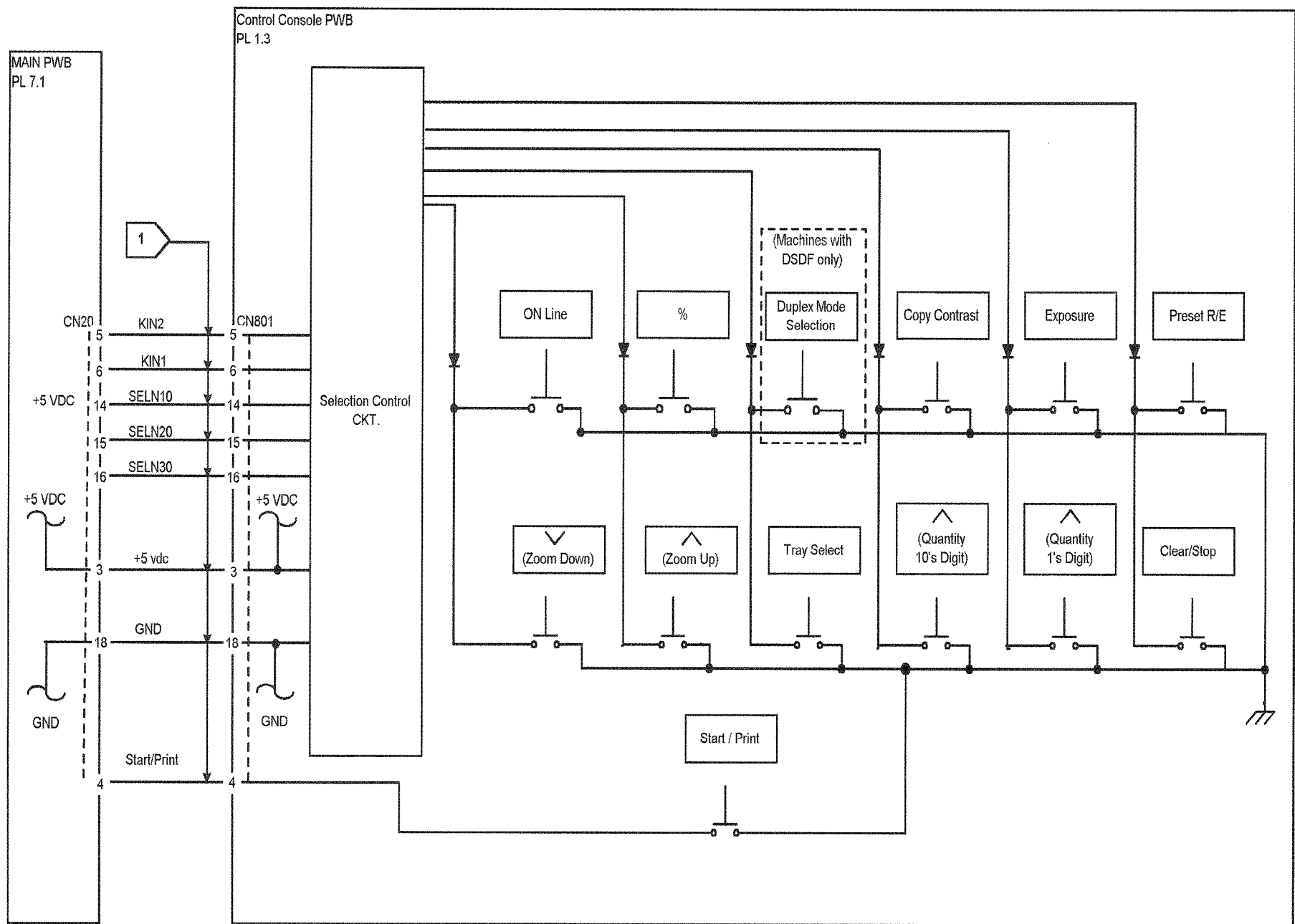
4.1 Ventilation Fan Motor RAP

Procedure

Switch off the power. Switch on the power. **There is +24 VDC measured between CN21-1 on the Main PWB and GND.**
Y   N
    Replace the Main PWB, PL 7.1.

The Ventilation Fan is operating at full speed.
Y   N
    Replace the Ventilation Fan MOT3, PL 2.1.

Allow the machine to go into **Power Saver Mode. The fan is operating at low speed.**
Y   N
    There is approximately +23 VDC measured between CN21-2 on the Main PWB and GND.
    Y   N
        Replace the Main PWB, PL 7.1.

    Replace the Ventilation Fan MOT3, PL 2.1.

The Ventilation Fan will switch off once the machine enters the **Auto Shut-off Mode**. If the fan continues to operate, replace the Ventilation Fan MOT3, PL 2.1.
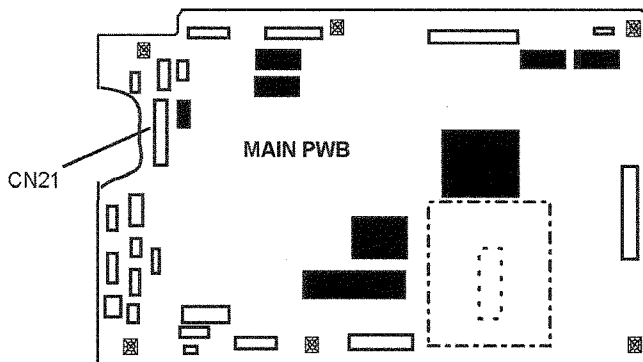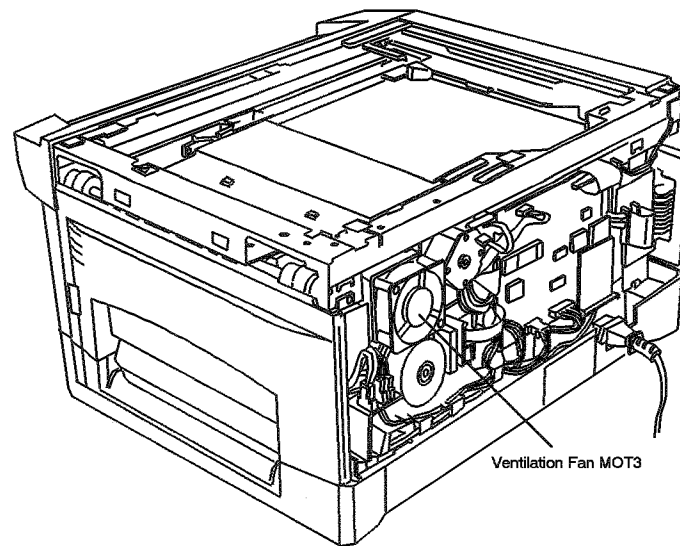
Figure 2 Ventilation Fan MOT3

Figure 1 Main PWB

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5.1 SDF JAM LED RAP

Initial Actions

If the Auto Start SDF mode is desired, refer to the" Programmable Settings" procedure in (Section 6).

Switch off the Power and clear any document jams. Remove any documents form the SDF.

Procedure

Switch on the power. Enter the diagnostic code **[2-2].** Place a sheet of paper in the SDF Document Tray. **The Toner Cartridge LED comes on.**
Y　N
|　　Go to Flag 1 and check the wires for an open circuit. If the wires are good, check the Set
|　　Detect Actuator, PL 9.2B for wear or damage.
|　　If the problem still exists, replace the SDF Sensor PWB, PL 9.2B.

Open and then close the SDF Feed Assembly. **The SDF Jam LED comes on and goes off.**
Y　N
|　　Go to Flag 2 and check the wires for an open circuit. If the wires are good, replace the
|　　SDF Sensor PWB, PL 9.2B.

Exit the Diagnostic Mode. Remove paper from the SDF Document Tray. With the machine in the Ready condition insert a sheet of paper into the SDF Document Tray. **The SDF Selected LED comes on.**
Y　N
|　　**The SDF Jam LED comes on or is flashing.**
|　　Y　N
|　　|　　Check the Set Detector Actuator, for wear or damage PL 9.2B.
|
|　　**The SDF Jam LED is flashing.**
|　　Y　N
|　　|　　Go to Flag 3 and check the wires for an open or short circuit.
|　　|　　 If the wires are good, check that the Document Cover Closed Sensor Q9 is posi-
|　　|　　tioned correctly.
|　　|　　If the problem still exists, replace the SDF Sensor PWB PL 9.2B.
|
|　　Perform the following:
|　　•　　Check the SDF Document Path Sensor Q3 for damage and ensure that it is mounted
|　　　　correctly, PL 9.3, PL 9.4.
|　　•　　Go to Flag 4 and check the wires for an short circuit. If the problem continues,
|　　　　replace the SDF Document Path Sensor Q3, PL 9.3, PL 9.4.

If the problem still exists, go to the A1/A2 Status Code RAP.
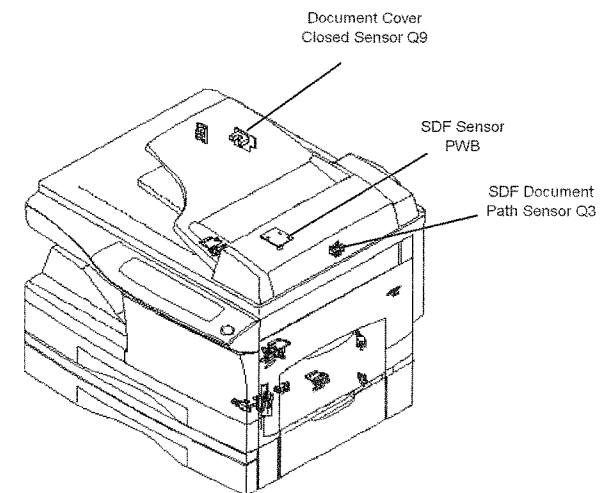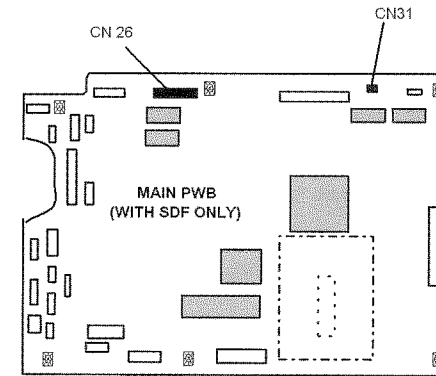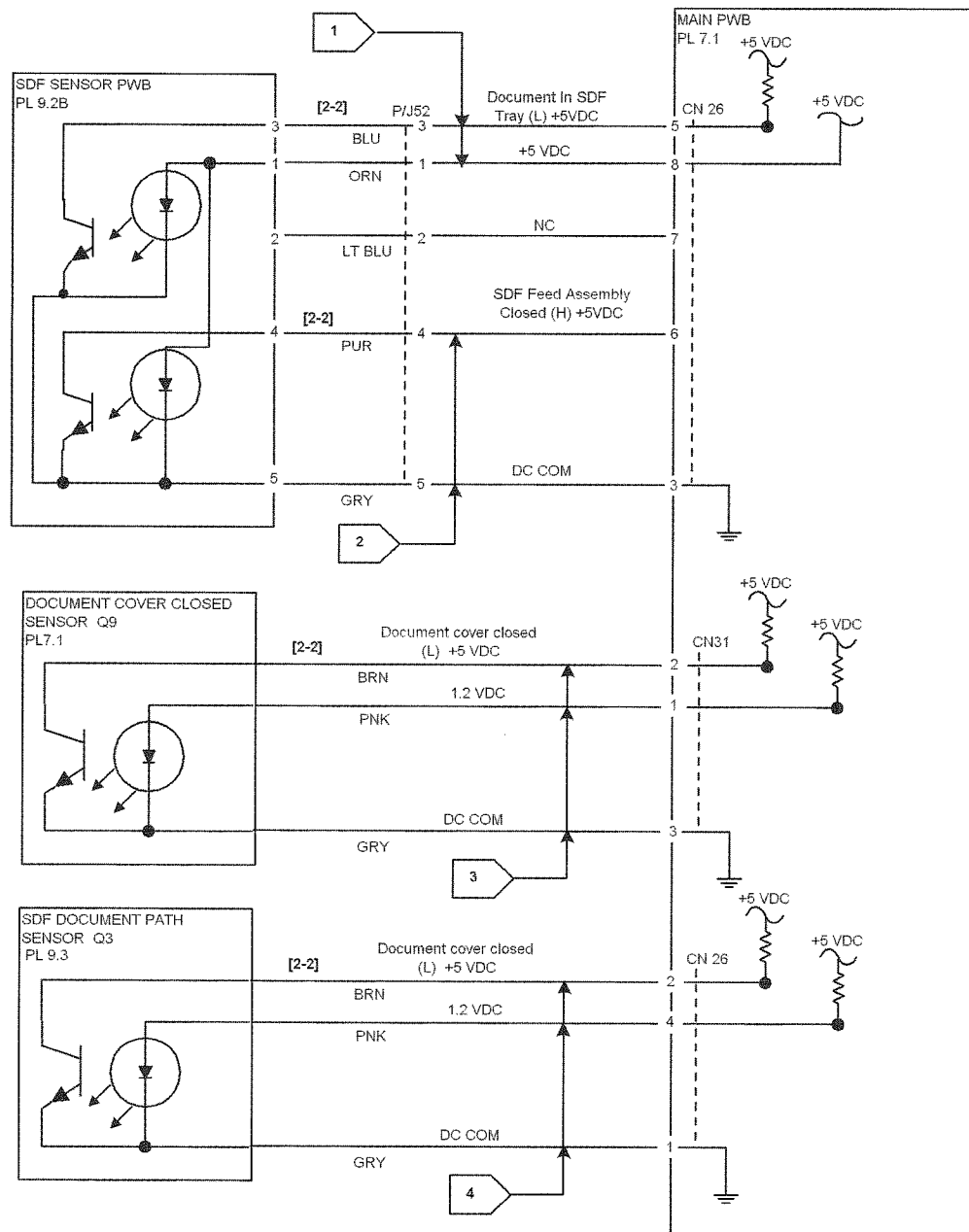
Figure 1 5.1 SDF Start Circuit

SF-5.1 JAM

8.1 Paper Tray Ready RAP

Initial Actions

Ensure that the Main Paper Tray and Paper Tray 2 are closed.

Procedure

With the machine in a ready state, select the Main Paper Tray. **The Main Tray LED is on and not flashing.**
Y   N
| Go to Flag 1 and check the wires for a short circuit. If the wires are good, replace the Tray
| Detect Switch S2, PL 5.1.

Open the Main Tray. **The Main Tray LED is flashing.**
Y   N
| Go the Flag 1 and check the wires for an open circuit. It the wires are good, replace the
| Tray Detect Switch S2, PL 5.1.

Select Tray 2. **The Tray 2 LED is on and not flashing.**
Y   N
| Go to Flag 2 and check the wires for a short circuit. If the wires are good, replace the Tray
| 2 Detect Switch S5, PL 5.8.

Open Tray 2. **The Tray 2 LED is flashing.**
Y   N
| Go the Flag 2 and check the wires for an open circuit. It the wires are good, replace the
| Tray 2 Detect Switch S5, PL 5.8.

If the problem still exists, replace the Main PWB, PL 7.1.
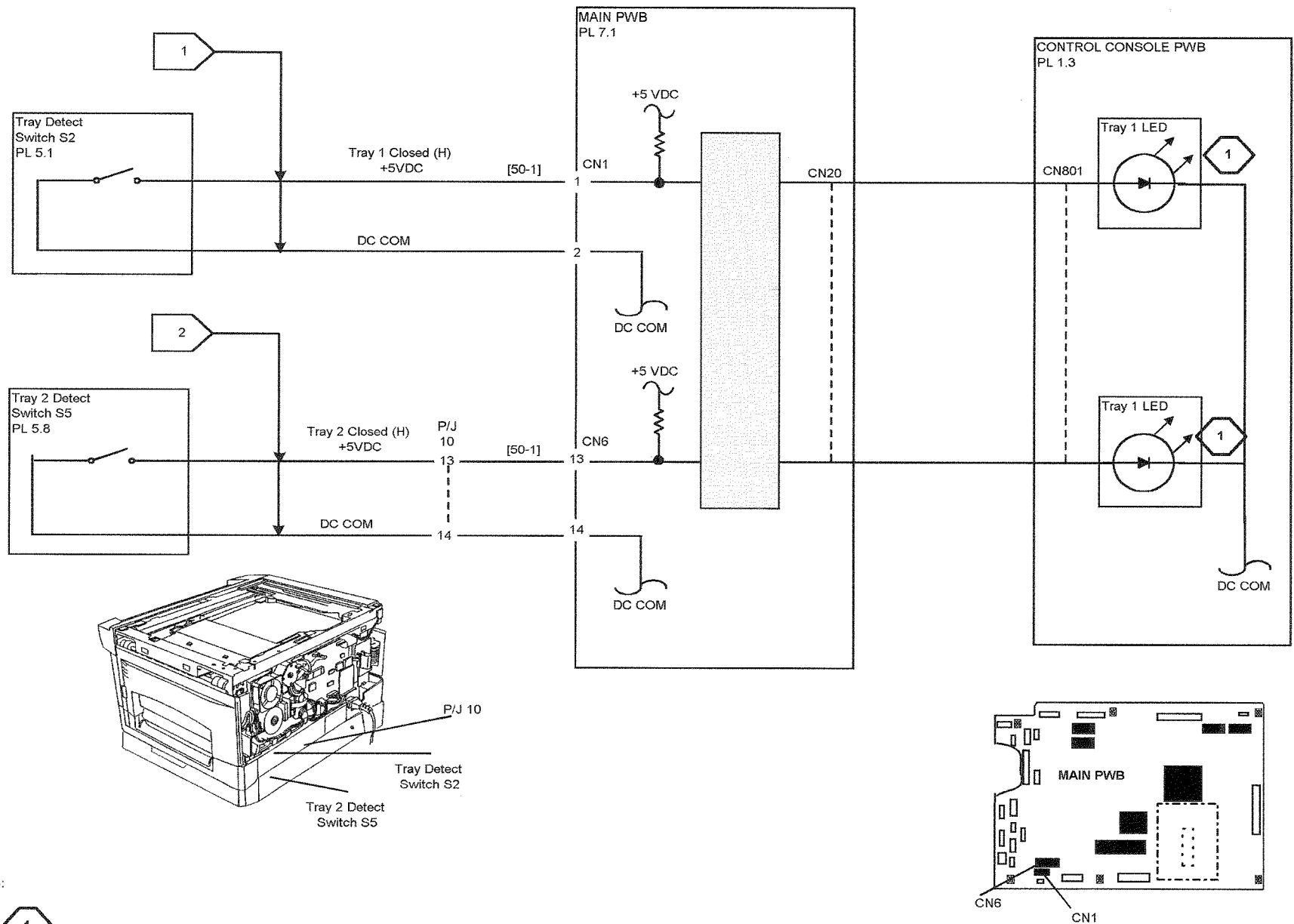
Figure 1 Paper Tray Ready

NOTES:

⬡1 TRAY LEDs WILL FLASH WHEN THE TRAY IS SELCETED AND OPEN.

8.2 Paper Size Error RAP

If the machine receives a fax greater than A4 and the tray paper guides are set for less than A4 paper, the error message, PAPER SIZE ERROR SET XXX SIZE PAPER, is displayed on the fax control panel LCD.

Procedure

Check the position of the paper tray width guides. **The Guides are adjusted for either A4 or (8.5 X 11) paper.**
Y   N
   Adjust the width paper to the correct size.

Enter diagnostic code **[30-1]. The Copy Darker LED is off.**
Y   N
   Remove Tray 1 and perform the following:
   •   Check that the Width Actuator Lever (PL 5.1) is not damaged or broken.
   •   Go to Flag 1 and check the wires for a short circuit. If the wires are good, replace the Tray 1 Paper Size Switch S11, PL 5.1.

The Copy lighter LED is off.
Y   N
   Remove Tray 2 and perform the following:
   •   Check that the Width Actuator Lever (PL 5.8) is not damaged or broken.
   •   Go to Flag 2 and check the wires for a short circuit. If the wires are good, replace the Tray 1 Paper Size Switch S11, PL 5.8.

Open Tray 1. **The Copy Darker LED is on.**
Y   N
   Go to Flag 1 and check the wires for an open circuit. If the wires are good, replace the Tray 1 Paper Size Switch S11, PL 5.1.

Open Tray 2. **The Copy Lighter LED is on.**
Y   N
   Go to Flag 2 and check the wires for an open circuit. If the wires are good, replace the Tray 1 Paper Size Switch S11, PL 5.8.

If the problem still exists, replace the Fax PWB PL 7.1.
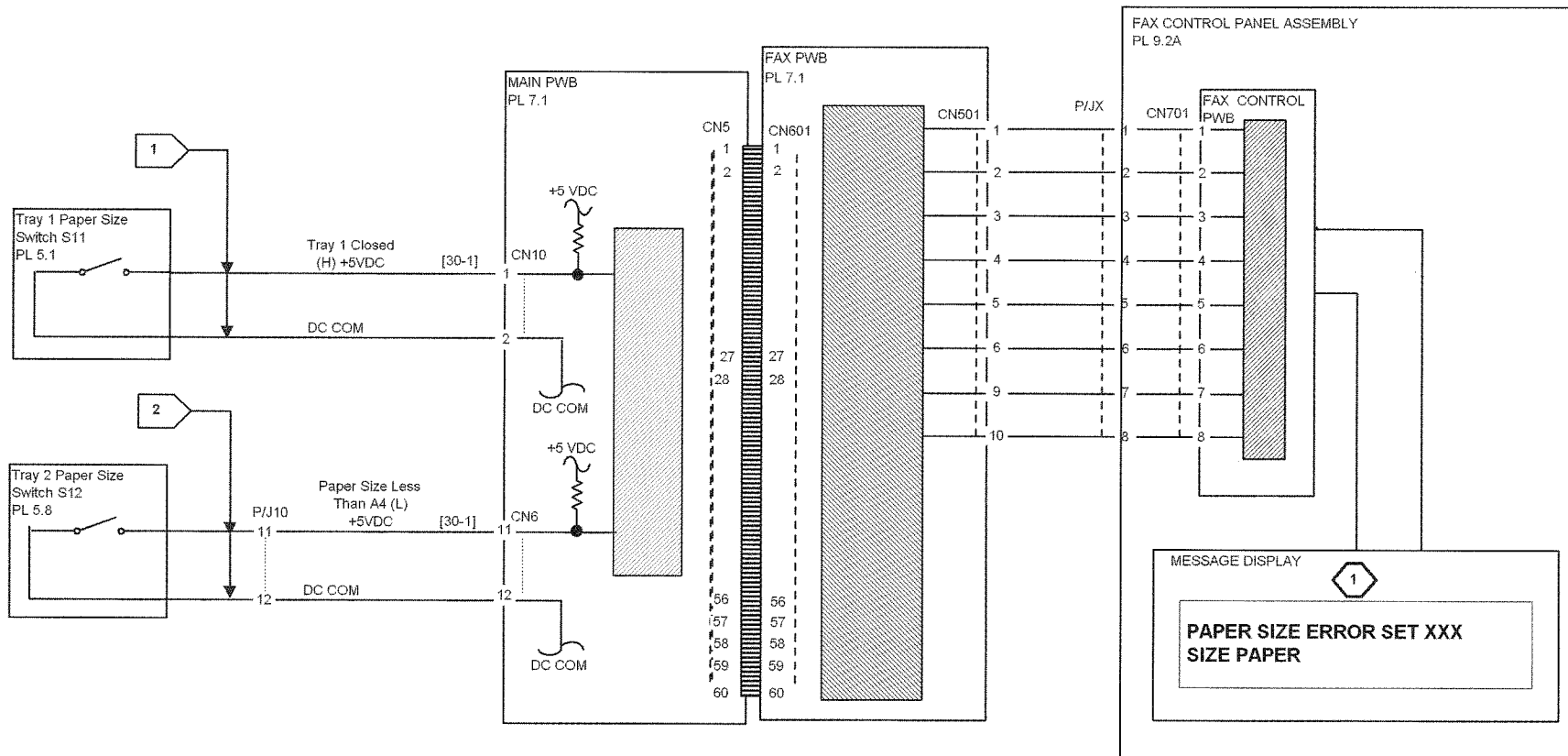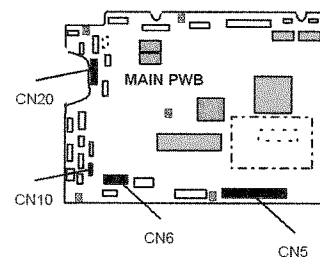
Figure 1 8.2 Paper Size Error

NOTES:

⟨1⟩ This error message is displayed when an incoming Fax is too large to fit on the paper in selected tray if the paper is smaller than A4.

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3 Image Quality

CQ1 Copy Defect Entry RAP

Copy quality refers to the entire copy. Defects can occur anywhere on the copy. These defects may be damaged paper or image quality defects.

Always eliminate problems which cause the damaged paper before attempting to fix the image quality problems. The damaged paper could cause the image quality problems.

Procedure

Compare the image defect to the Definitions. After you determine which definition best describes the defect, go to the corresponding RAP. The chart which is provided with each RAP lists the Possible Causes and Corrective Actions.

The Possible Causes are arranged in order from the most to the least likely cause or the ease of the check. Corrective Action(s) are given for each cause. Read all of the possible causes before taking any corrective action.

1. Start with the first possible cause and continue through the list until you come to the cause that best applies to the image defect.
2. Perform the corrective action.
3. When he defect is corrected, go to the Copier Maintenance procedures in the Service Call Procedures in Section 1. If the defect is still present, continue with the other Possible Causes.

Definitions

The following terms are commonly used to describe copy quality problems.

Background

(CQ 2 Background (Bands) RAP or CQ 3 Background (Uniform) RAP) Background occurs as darkness or dirtiness on the non-image areas of the copy.

Banding

(CQ 4 Banding RAP) Banding is a condition marked by narrow, alternating dark and light bands that run across the copy, that is, in the main scanning direction.

Black Copy

(CQ5 Black Copy RAP (Simplex Mode) or CQ6 Black Copy RAP (Duplex Mode) A copy that is totally black with no image.

Blank copy

(CQ 7 Blank Copy RAP) A copy entirely without an image.

Deletions

(CQ 9 Deletions (LE to TE) RAP) An area of the image where information has been lost. The deletions could be localized or bands from top to bottom or side to side.

Density

(CQ 10 Light Copy RAP) or (CQ 17 Uneven Density RAP) The relative blackness between the image and non-image areas.

Fuser Fix

(CQ 18 Unfused Copy RAP) A measure of how well the toner particles adhere to the paper as a result of the fusing process.

Image Displacement

(CQ 22 Image Displacement RAP)   Part of the image information is placed elsewhere on the copy or it is completely missing. The area of the missing information is sharply defined. This is unlike deletions where the image is not sharply defined or clear.

Image Distortion

(CQ 20 Distortion RAP) Distortion of the image from one side of the copy to the other. The image from side to side or lead edge to trail edge is not parallel to the edges of the copy. This defect may result from a problem with the alignment of the optics components.

Light Image

(CQ 10 Light Copy RAP) Copies where the density is lighter than the specified density of the copier.

Line Darkness

Darkness and uniformity of a line.

Magnification

(CQ 21 Magnification RAP)

Misregistration

(CQ 12 Misregistration RAP) The distance from the lead edge of the image to the lead edge of the paper is not within specification.

Offsetting

Transfer of toner from the copy to the Fuser Assembly Heat Roll. Sometimes the toner is transferred back to the copy or consecutive copies.

Paper Damage

Any physical distortion to the copy paper, including folds, nicks, wrinkles, etc.

Paper Handling

The process of transporting the paper from the supply area through the xerographic and fusing subsystems.

Resolution

(CQ 8 Blurred Image RAP) The uniformity or clarity of fine line detail.

Residual Image

(CQ 13 Residual Image RAP) An image that is repeated onto the same copy or consecutive copies. The image can be either a ghosting or the original image or a toner image. This problem can be caused by poor cleaning of the photoreceptor, a photoreceptor that is worn, a developer roll that is worn, poor cleaning of the fuser.

Skew

(CQ 14 Skew RAP) The image is skewed on the paper. The image from side to side or lead edge to trail edge is not parallel to the edges of the copy. This defect may result from misadjusted, contaminated, or worn paper transportation system components.

Smear

(CQ 15 Skips/Smears) Any image defect that occurs in the direction that is perpendicular to paper feed.

Spots

(CQ 16 Spots RAP) Defects that are 0.2 inches (5 mm) or smaller in diameter.

Streaks

(CQ 11 Lines and Streaks RAP) Any image defect that occurs in the direction of paper feed.

Uneven Density

(CQ 17 Uneven Density RAP) The image darkness varies across the copy.

Unfused copy

(CQ 18 Unfused Copy RAP) A copy on which the image can be easily wiped off the paper. The image has not adhered to the paper.

Wrinkle

(CQ 19 Wrinkle RAP) The paper has very thin creases.

Image Quality Diagnostics

It is important to understand the orientation of copies in order to troubleshoot image quality problems. Refer to Figure 1. The following terms will be used when referring to copies made on the machine.
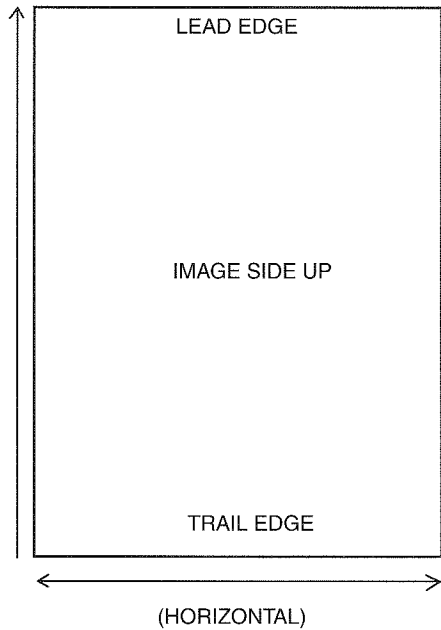
```
        ↑  ┌─────────────────────────────┐
           │         LEAD EDGE            │
           │                             │
           │                             │
           │                             │
           │                             │
           │         IMAGE SIDE UP       │
           │                             │
           │                             │
           │                             │
           │                             │
           │         TRAIL EDGE          │
           │                             │
           └─────────────────────────────┘
        ←─────────────────────────────────→
                   (HORIZONTAL)
```

Figure 1 Copy Orientation Terms

Determining the distance between defects may help isolate problems to a specific component. Defects that are 3.1 inches (79 mm) apart (lead edge of the defect to lead the edge of the next defect) in the paper feed direction could be caused by the photoreceptor. The circumference of the photoreceptor is 3.1 inches (79 mm).

Defects that are 3.7 inches (94 mm) apart (lead edge of defect to lead edge of next defect) in the paper feed direction could be caused by the Fuser Heat Roll. The circumference of the fuser heat roll is 3.7 inches (94 mm).

Defects that are 2.5 inches (64 mm) apart (lead edge of defect to lead edge of next defect) in the paper feed direction could be caused by the Magnetic Roll. The circumference of the Magnetic Roll is 2.5 inches (64 mm).

Image Quality Specification

Test Patterns 82P524 (NASG and XCL) and 82P523 (XE)

The primary test pattern used on this product is the 82P524 (NASG and XCL) or the 82P523 (XE). This test pattern is the Multinational Standard Test Pattern used for the evaluation of the image quality. Side A and Side B are used to evaluate the image quality against different image quality specifications.

- Make four copies of each side of this test pattern in Text mode.
- Evaluate the Side A copies against the specifications provided in Table 1.
- Evaluate the Side B copies against the specifications provided in Table 2.

Test Pattern 82E12130

Use Test Pattern 82E12130 to evaluate Set Document Feeder copy quality problems (skew, misregistration). If the test pattern is not available, position Test Pattern 82P524 (NASG) or 82P523 (XE) on the Document Glass and make an 8-1/2" x 14" (216 x 356 mm) copy. Ensure that the two outside 10 mm reference targets are the identical distance from the edge of the sheet. Use the copy to evaluate SDF copy quality.
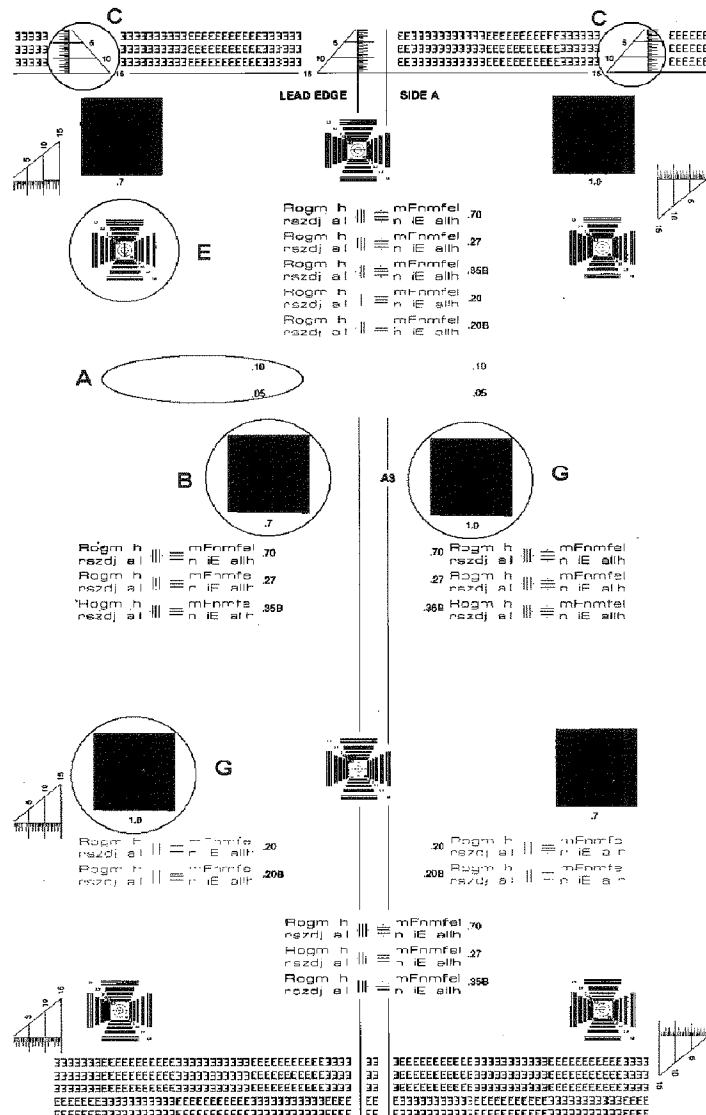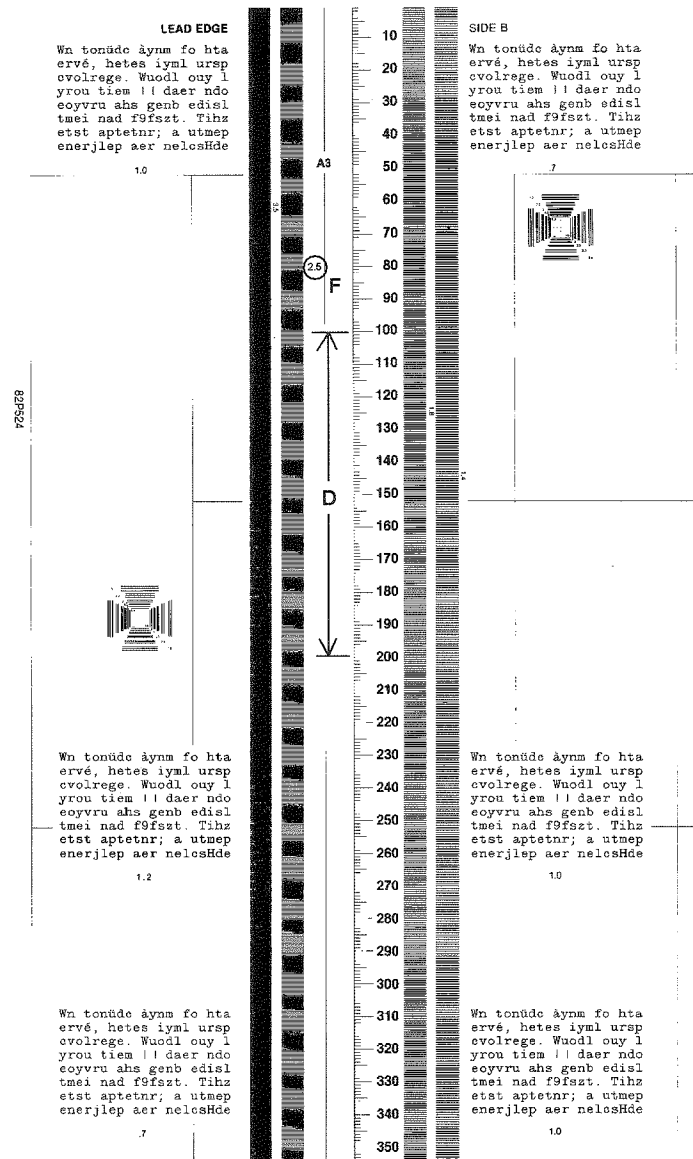
Figure 1 Test Pattern 82P524 (Side A)

Figure 2 Test Pattern 82P524 (Side B)

Image Quality Specifications

Using the Side A copies (Test Pattern 82P524)

Table 1

DEFECT	DEFINITION OR SPECIFICATION	REFERENCE
Light Copy	The .7 solid area density block nearest the center of the copy is equal to or greater than the .7 solid area density block on the test pattern. With the dark setting selected, the .10 line pair on the test pattern is partially or completely copied. (This is a guideline only, not a specification.)	Go to CQ 10 Light Copy RAP.
Misregistration (lead edge)	The center 10 mm reference line on the copy should be 10 mm +/-2 mm from the lead edge of a 100% copy.	Go to CQ 12 Misregistration RAP.
Misregistration (side edge)	The 10 mm reference line on the two outside reference targets should be 10 mm +/- 2 mm from the front edge of a 100% copy.	Go to CQ 12 Misregistration RAP.
Skew (Paper Tray 1)	Refer to the two outside reference targets on the copy to ensure that they are within 2 mm with respect to each other. (This is a guideline only, not a specification.)	Go to CQ 14 Skew RAP.
Skew (Paper Tray 2)	Refer to the two outside reference targets on the copy to ensure that they are within 2.5 mm with respect to each other. (This is a guideline only, not a specification.)	Go to CQ 14 Skew RAP.
Skew (Bypass/Alternate Tray)	Refer to the two outside reference targets on the copy to ensure that they are within 2.5 mm with respect to each other. (3.5 mm when using the SDF with the bypass or the alternate tray.) (This is a guideline only, not a specification.)	Go to CQ 14 Skew RAP.
Skew (SDF) Use Test Pattern 82E12130	Refer to the two outside reference targets on the copy to ensure that they are within 3 mm with respect to each other. (3.5 mm when using the SDF with the bypass or the alternate tray.) (This is a guideline only, not a specification.)	Go to CQ 14 Skew RAP.
Unfused Copy	Gently rub the .7 patch four times with a paper towel (twice top-to-bottom and twice side-to-side) to determine if unfused toner is present.	Go to CQ 18 Unfused Copy RAP.
Resolution	The 4.3 LP/mm lines of all the resolution targets in both the top-to-bottom direction and the side-to-side direction should be resolved completely. (This is a guideline only, not a specification.)	Go to CQ 8 Blurred Image RAP

Using the Side B copies (Test Pattern 82P524)

Table 2

DEFECT	DEFINITION OR SPECIFICATION	REFERENCE
Skips/smears	The 2.5 LP/mm array for a 100% copy should be completely resolved. (This is a guideline only, not a specification.)	Go to CQ 15 Skips/Smears.
Smudge	After image transfer, the toner image that is not yet fused is rubbed by any part of the machine or foreign material.	Inspect the copy transport area between the Transfer Corotron and the Fuser for the cause of this problem
Magnification	The size of the image on the copy is not equal to the magnification/reduction selected within 1%.	Go to CQ 21 Magnification RAP

Using the customer's original

Table 3

DEFECT	DEFINITION OR SPECIFICATION	REFERENCE
Background	The background area is darker than the corresponding area of a black-and-white original. (Classify the background defect as occurring over the entire copy, as bands in the lead edge to the trail edge direction, or as bands in the front edge to rear edge direction.)	Go to CQ 2 Background (Bands) RAP. Go to CQ 3 Background (Uniform) RAP.

Table 3

DEFECT	DEFINITION OR SPECIFICATION	REFERENCE
Black Bands (Lead Edge To Trail Edge)	Black bands are present from lead edge to trail edge on the copy.	Go to CQ 2 Background (Bands) RAP
Banding (in the main scanning direction)	Narrow, repetitive, tightly packed dark and light bands appear across the copy (in the main scanning direction).	Go to CQ 4 Banding RAP
Black copy	The copy is black; there is no image or only a very faint image on the copy.	Go to CQ5 Black Copy RAP (Simplex Mode).
Blank / nearly blank copies	The copy is white; there is no image or only a very faint image on the copy.	Go to CQ 7 Blank Copy RAP.
Lines and streaks	One or more dark, light, or white lines appear on the copy.	Go to CQ 11 Lines and Streaks RAP.
Residual image	An electrostatic or toner image is transferred to subsequent copies.	Go to CQ 13 Residual Image RAP.
Spots	Dark toner spots adhere to non-image areas of the copy.	Go to CQ 16 Spots RAP.
Uneven density	Image darkness varies across the width of the copy.	Go to CQ 17 Uneven Density RAP.
Deletions	There is an area of the copy which carries no toner image or a very faint one. The deleted areas may be any shape or randomly distributed over the copy. **NOTE:** *There is an intentional 2-5 mm deletion (maximum) along the lead edge of all the copies. There is an intentional 3-4 mm deletion (maximum) along the trail edge of all the copies.* (Classify the deletion defect as random or repetitive spots, as deletions in the lead edge to the trail edge direction, or as deletions in the front edge to rear edge direction.)	Go to CQ 9 Deletions (LE to TE) RAP.

CQ 2 Background (Bands) RAP

Background Bands are randomly distributed toner deposits of varying density that appear as bands in the non-image areas of the copy.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Contaminated Document Glass	Clean the Document Glass with Lens and Mirror Cleaner and a lint-free cloth.
Contaminated Charge Corotron	Replace the Drum Cartridge (PL 8.2).
Defective Cleaning Blade	Replace the Drum Cartridge (PL 8.2).
Contaminated or defective photoreceptor	Replace the Drum Cartridge (PL 8.2).
Developer/Dry Ink life exceeded.	Replace the Toner Cartridge (PL 8.2).

Figure 1 Background Bands

CQ 3 Background (Uniform) RAP

Randomly distributed toner deposits of varying density that evenly cover the non-image areas of the entire copy

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Developer/Dry Ink life exceeded	Replace the Toner Cartridge (PL 8.2).
Defective Charge Corotron	Replace the Drum Cartridge (PL 8.2).
Defective Cleaning Blade	Replace the Drum Cartridge (PL 8.2).
Contaminated or defective photoreceptor	Replace the Drum Cartridge (PL 8.2).
Incorrect developer bias	Check the developer bias voltage (ADJ 9.1). Adjust as required. If the problem still exists, check the developer bias contacts on the DVS Harness (PL 2.1) for damage. Repair or replace as necessary.

CQ 4 Banding RAP

Narrow, repetitive, tightly packed dark and light bands appear across the copy (in the main scanning direction).

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Worn photoreceptor drive	Replace the Drum Cartridge (PL 8.2).

CQ5 Black Copy RAP (Simplex Mode)

The copy is totally black with no image.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Defective Exposure Lamp or connections	Replace the Exposure Lamp Carriage (REP 6.2).
Defective Charge Corotron	Remove the Drum Cartridge and clean the electrical contacts. Also wipe the contact wires on the Power Supply PWB. Reinstall the Drum Cartridge. If the problem still exists, replace the Drum Cartridge (PL 8.2).
Defective Power Supply PWB or high voltage connections	Check the Power Supply PWB connections for contamination or damage. If the problem continues, replace the Power Supply PWB (PS1) (REP 1.2).

CQ6 Black Copy RAP (Duplex Mode)

Side one of a duplex copy is totally black with no image; side two copys correctly.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
GDI Memory PWB is not fully seated	Power off the machine and disconnect the power cord. Ensure that the GDI Memory PWB is fully seated. If the problem still exists, replace the GDI Memory PWB (PL 7.1).

CQ 7 Blank Copy RAP

This is a copy entirely without an image.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Open photoreceptor ground connection	Check the photoreceptor ground connection.
Open contact for the developer bias.	Check the contacts on the Drum Cartridge for damage or contamination.
Defective Transfer Corotron	Go to GP1. If the toner image appears on the photoreceptor, replace the Transfer/Detack Corotron Assembly (REP 9.2).
Main PWB unable to process image data.	Replace the Main PWB (REP 1.1).

CQ 8 Blurred Image RAP

Poor uniformity or clarity of fine line detail. Examine the resolution targets.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Incorrect positioning of mirrors	Check the alignment of the Half-Rate Carriage and the Exposure Lamp Carriage.
Paper feed drives	Check the drives for damage or binding.
Defective Fuser	Replace the Fuser Assembly (REP 10.1).
Defective Drum Cartridge	Remove the Drum Cartridge and clean the electrical contacts. Also wipe the contact wires on the Power Supply PWB. Reinstall the Drum Cartridge. If the problem still exists, replace the Drum Cartridge (PL 8.2).
Dirty electrical connections on the Drum Cartridge or Transfer/Detack Corotron Assembly	Clean the electrical connections with film remover and a lint free cloth.
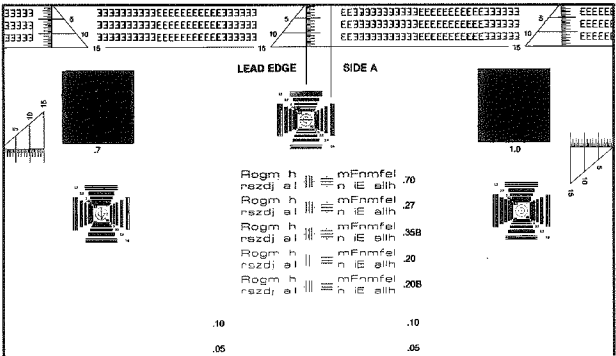
Figure 1 Blurred Image

CQ 9 Deletions (LE to TE) RAP

An area of the image on the copy that has no toner or a very faint image.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Damp paper or paper curled during duplex copying	Use fresh paper and ensure that the customer is storing the paper correctly.
Developer/Dry Ink life exceeded	Replace the Toner Cartridge (PL 8.2).
Contaminated document glass	Clean the Document Glass with Lens and Mirror Cleaner and a lint-free cloth.
Contaminated Transfer/ Detack Corotron Assembly	Clean the Transfer Corotron Wire with the Corotron Cleaner. Clean the Detack Corotron with a soft brush. If the problem still exists, replace the Transfer/Detack Corotron Assembly (REP 9.2).
Contaminated magnetic roll	Replace the Toner Cartridge (PL 8.2).
Contaminated photoreceptor	Replace the Drum Cartridge (PL 8.2).
Toner blockage in Toner Cartridge	Replace the Toner Cartridge (PL 8.2).
Damaged or contaminated fuser heat or pressure roll	Check or clean the rolls or replace the Fuser Assembly (REP 10.1).
Burrs or contamination in the paper transport path	Check and clean components in the paper transport path.
Contaminated Focus Correction Lens in the Laser Assembly	Clean the exposed, lower surface of the Focus Correction Lens
Obstruction in the optics light path	Remove the Document Glass Assembly (REP 6.1) and clean the mirrors 1 through 3 with Lens and Mirror Cleaner and a lint-free cloth.
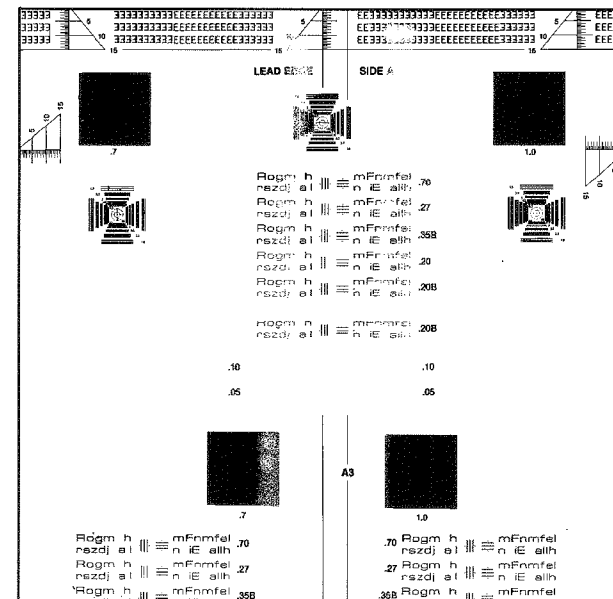
Figure 1 Deletions

CQ 10 Light Copy RAP

The image area of a copy has low density.

Procedure

Read all the Possible Causes. Then select a Corrective Action based on the Possible Cause after a check of the machine.

Table 1

Possible Cause	Corrective Action
Damp Paper	Use fresh paper and ensure that the customer is storing the paper correctly.
Defective Transfer Corotron	Clean the Transfer Corotron Wire with the Corotron Cleaner. If the problem still exists, replace the Transfer/Detack Corotron Assembly (REP 9.2).
Defective photoreceptor	Remove the Drum Cartridge and clean the electrical contacts. Also wipe the contact wires on the Power Supply PWB. Reinstall the Drum Cartridge. If the problem still exists, replace the Drum Cartridge (PL 8.2).
Developer/Dry Ink life exceeded	Replace the Toner Cartridge (PL 8.2).
Open high voltage return line	Check the photoreceptor ground connection. It should be less than 100 ohms.

CQ 11 Lines and Streaks RAP

Black or white lines which appear in the direction of paper feed.

Procedure

1. Clean the Document Glass with Lens and Mirror Cleaner and a lint-free cloth.

    NOTE: *Copies with lines or streaks which are caused by dirt or contamination on the Number 1 Mirror, the CCD Window, the Calibration Strip or the Laser Assembly Focus Correction Lens are more visible when the original contains halftones, photographs, or solid areas.* Figure 1

2. Position the customer's original on the Document Glass, select the **Auto** exposure setting, and make one copy at 100 percent magnification and one copy at 78 percent magnification.

3. Evaluate the copies for the presence of lines or streaks caused by contamination:

    a. If the position of the line(s) on the 100 percent and 78 percent copies changes relative to the edges of the copy paper, the contamination is in the optics area, that is, before image processing. Perform the corrective actions listed in Table 1.

    b. If the position of the line(s) on the 100 percent and 78 percent copies does not change relative to the edges of the copy paper, the contamination is on the Focus Correction Lens, that is, after image processing. Perform the corrective actions listed in Table 2.

    c. Run additional copies of the customer's original to determine if the problem is solved. If not, go to Table 3 and continue checking for the possible cause.

    d. If the recipient of a fax complains of lines/streaks on the sent fax, go to Table 4.

Table 1 Contamination Before Image Processing

Possible Cause	Corrective Action
Contamination on Mirror Number 1	Remove the Document Cover Assembly and the Document Glass Assembly (REP 6.1). Gently clean the mirror using a dry cotton swab. Be careful that fibers from the swab are not left on the mirror. For stubborn contamination, clean the mirror with Lens and Mirror Cleaner and a lint-free cloth. Clean and replace the Document Glass and the Document Cover Assembly.

Table 1 Contamination Before Image Processing

Possible Cause	Corrective Action
Contamination on the CCD Window	Remove the Document Cover Assembly and the Document Glass Assembly (REP 6.1), then remove the Lens Cover and the CCD Dust Cover. **CAUTION:** Use only Film Remover to clean the plastic CCD Window; other solvents may damage it. Moisten a swab with Film Remover and gently rub it across the CCD Window to remove contamination. Replace the CCD Dust Cover, the Lens Cover, the Document Glass, and the Document Cover Assembly.
Contamination on the Calibration Strip	Remove the Document Cover Assembly and the Document Glass (REP 6.1). Clean the Calibration Strip with Film Remover and a lint free cloth. Replace the Document Glass and the Document Cover Assembly.
Contaminated SDF Window	Clean the SDF Window (PL 1.1) with Lens and Mirror Cleaner and a lint-free cloth.
Contaminated Reflector on the Document Guide	Clean the Reflector (PL 9.4) with a damp lint-free cloth.

Table 2 Contamination After Image Processing

Possible Cause	Corrective Action
Contamination on Focus Correction Lens	Remove the Drum Cartridge and the Toner Cartridge (PL 8.2). Remove dust or toner deposits from the exposed surface of the lens with a dry cotton swab. Replace the Toner Cartridge and the Drum Cartridge.

Table 3 Other Possible Causes/Corrective Actions

Possible Cause	Corrective Action
Contaminated Transfer Corotron Wire	Clean the Transfer Corotron Wire with the Corotron Cleaner.
The photoreceptor surface is damaged or contaminated	Determine the cause of the damage. Replace the Drum Cartridge (PL 8.2).

Table 3 Other Possible Causes/Corrective Actions

Possible Cause	Corrective Action
Poor cleaning of the photoreceptor	Replace the Drum Cartridge (PL 8.2).
The surface of the Fuser Heat Roll is damaged	Determine the cause of the damage. Replace the Heat Roll (REP 10.2).
Contaminated Charge Corotron	Replace the Drum Cartridge (PL 8.2).
Defective photoreceptor ground	Check the photoreceptor ground connection. It should be less than 100 ohms.

Table 4 Causes of Lines/Streaks on Sent Faxes

Possible Cause	Corrective Action
Contaminated SDF Window or Reflector on the Document Guide	If the recipient of a fax indicates that lines or streaks are present, but none are evident when a print job is run, the SDF Window or the Reflector may be contaminated. The lines/streaks are likely to be present on copies when originals are fed through the SDF or the DSDF, but will not show up when a job is run from the Document Glass. To correct the problem, clean the SDF Window (PL 1.1) with Lens and Mirror Cleaner and a lint-free cloth. Clean the Reflector (PL 9.4) with a damp, lint-free cloth.

Focus Correction Lens Contamination:

Solid white line(s)

CCD Window Contamination:

Solid black line(s)

NOTE: The appearance of these defects is exaggerated

Mirror 1 Contamination:

Black line(s); may be interspersed with white line(s)

Calibration Strip Contamination:

Black line(s) only, or black line(s) accompanied by white line(s)

Focus Correction Lens Nonuniformity:

Dark band pattern on both sides

Figure 1 Line Defects: Optics Contamination and Nonuniform Focus Correction Lens (Simulates Appearance Using .45 Contrast Density Test Pattern 186.904)

CQ 12 Misregistration RAP

Paper Tray 1 and 2 Lead Edge: The center 10 mm reference line on the copy should be 10 mm +/- 1.0 mm from the lead edge of a 100% copy.

Paper Tray 1 and 2 Side Edge: The 10 mm line on the two outside reference targets should be 10 mm +/- 2.0 mm from the front edge of a 100% copy.

Bypass/Alternate Tray Lead Edge: The 10 mm line on the lead edge graduated mm scale is a maximum of 10 mm +/- 3.2 mm from the lead edge of the copy.

Bypass/Alternate Tray Side Edge: The 10 mm line on the side edge graduated mm scale is a maximum of 10 mm +/- 3.2 mm from the side edge of the copy.

SDF/DSDF Side Edge: The 10 mm reference line on the two outside reference targets should be 10 mm +/- 3.4 mm from the front edge of a 100% copy.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1 Lead Edge Misregistration

Possible Cause	Corrective Action
Incorrectly loaded paper	Show the customer how to load paper.
Damaged or worn paper feeding components.	Clean the feed and the registration rolls with Film Remover and a lint-free cloth. Check the components for wear or damage.
Defective Registration Roll Solenoid (SOL3)	Enter Output Code 6-[2] to test the operation of the solenoid. Replace the solenoid if it binds, fails to actuate, or operates intermittently (REP 8.2).
Incorrect value in [50-1] for the Lead Edge Deletion, Lead Edge Registration or the Lead Edge Timing	The default lead edge deletion is 2.5 mm. Perform the Lead Edge Deletion, Lead Edge Registration and Lead Edge Timing adjustments in the Section 6 Table 1.

Table 2 Side Edge Misregistration

Possible Cause	Corrective Action
The side guide in the paper tray is not positioned correctly	Position the side guide correctly.
Incorrect value in 50-10 for center offset	Perform the Center Offset Adjustment procedure in the Section 6 Table 1.
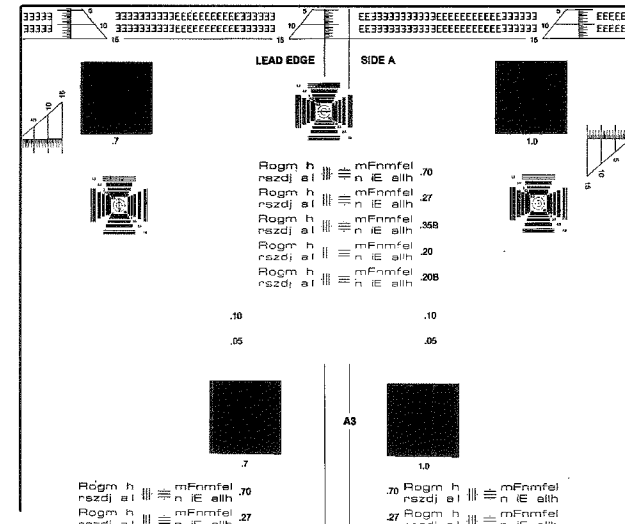
Figure 1 Lead Edge Misregistration

CQ 13 Residual Image RAP

This is an image that is repeated on the same copy or consecutive copies.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Image repeated every 3.1 inches (79 mm) on copy	Replace the Drum Cartridge (PL 8.2).
Image repeated every 3.7 inches (94 mm) on copy	Replace the Heat Roll (REP 10.2).
Poor cleaning of the photoreceptor	Replace the Drum Cartridge (PL 8.2).
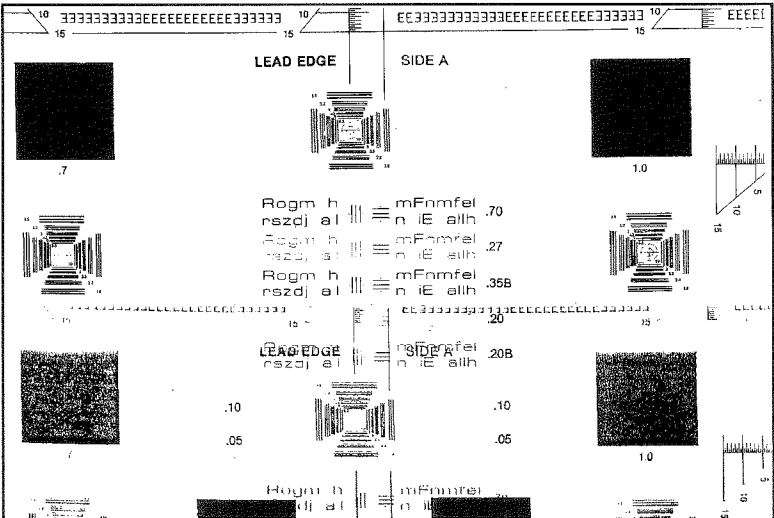
Figure 1 Residual Image

CQ 14 Skew RAP

The image is skewed because the paper is skewed or the optics components are misadjusted and distort the image.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Paper Tray problem	Check the condition of the front and rear paper tray snubbers. Repair as required (PL 4.1). Ensure the paper tray guides are correctly set. Repair as required (PL 4.1).
The paper is not loaded correctly.	Show the customer how to load paper.
Damaged or contaminated paper feed rollers, registration roller, or transport rollers	Clean the paper feed and the registration rollers, and the Single Bypass Transport Rollers with Film Remover and a lint-free cloth. Check the components for wear or damage. Replace as required. The Paper Feed Roller (REP 8.6) and the Lower Registration Roller (REP 8.13) The Exit Roller (REP 8.9) and the Lower Transport Roller (REP 8.11)
Incorrect setting in 51-[2]	Perform the Registration Buckle adjustment in the Section 6 Table 1.
Optics problem	Go to CQ 20 Distortion RAP.
Obstruction in the SDF/DSDF document path	Open the SDF/DSDF Feed Assembly and check for obstructions. Remove any obstructions which are present.
SDF/DSDF Front and Rear Guides are incorrectly positioned	Show the customer how to load originals in the SDF/DSDF.
SDF Assembly or DSDF Assembly is misaligned	If a skew of 1 to 2mm is present only when the document is fed through the SDF Assembly or the DSDF Assembly, perform the SDF/DSDF Skew Adjustment (ADJ 5.1).
Contaminated or worn SDF Retard Roller, Feed Roller, or Transport Roller	Clean the rollers with Film Remover and a lint-free cloth. Check the components for wear or damage. Replace as required.
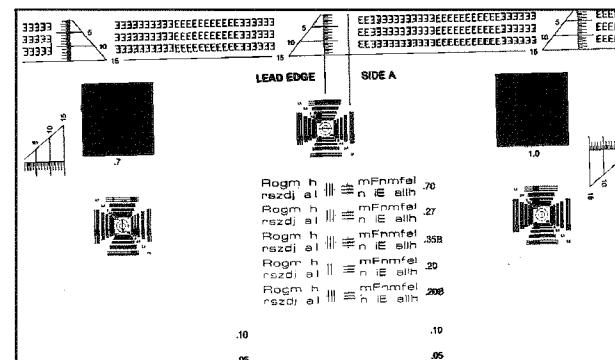
Figure 1 Skew

CQ 15 Skips/Smears RAP

Areas of the image on the copy are blurred. This occurs at the image transfer area.

The 2.5 LP/mm ladder lines are not completely clearly visible.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Defective Transfer/Detack Corotron Assembly	Replace the Transfer/Detack Corotron Assembly (REP 9.2).
Worn or damaged paper feed components.	Clean the paper feed and registration rollers, and Single Bypass Transport Roller with Film Remover and a lint-free cloth. Check the components for wear or damage. Replace as required: The Paper Feed Roller (REP 8.6) and the Lower Registration Roller (REP 8.13) The Exit Roller (REP 8.9) and the Lower Transport Roller (REP 8.11)
Contaminated or damaged scan rails	Remove the Document Cover Assembly and the Document Glass Assembly (REP 6.1). Do not remove any other components in the optics area. Clean the carriage rails with a lint free towel. Replace the half rate carriage scan rails if they are damaged (PL 3.1).
Damp or curled paper	Use fresh paper and ensure that the customer is storing the paper correctly.
Dirty electrical connections on the Drum Cartridge or the Transfer/Detack Corotron Assembly	Clean the connections with film remover and a lint free cloth as required.
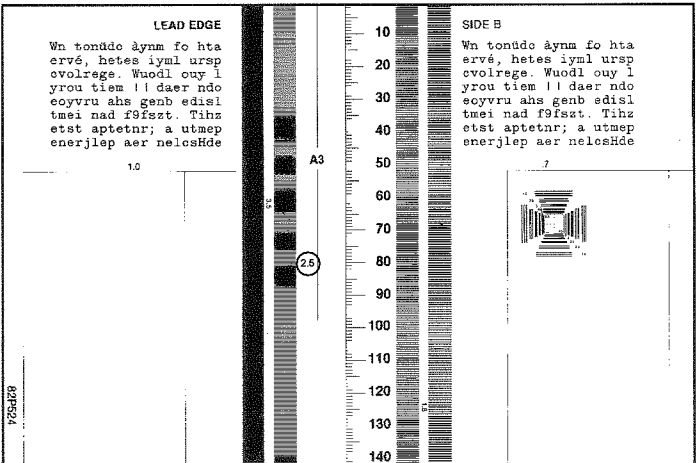
Figure 1 Skips and Smears

CQ 16 Spots RAP

Circular black spots or irregular shaped black images on the copy.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Contaminated document glass	Clean the Document Glass with Lens and Mirror Cleaner and a lint-free cloth.
Damp or wrinkled paper	Use fresh paper and ensure that the customer is storing the paper correctly.
Defective, damaged or contaminated photorecep-tor	Replace the Drum Cartridge (PL 8.2).
Contaminated fuser heat roll	Replace the Heat Roll (REP 10.2).
Worn magnetic roll	Replace the Toner Cartridge (PL 8.2).
Contaminated Registra-tion Roll	Clean the Registration Roll.

SIZE OF BACK-GROUND SPOT	MAXIMUM ALLOWABLE SPOTS	
	ANY 2 INCH DIAMETER CIRCLE	8 1/2 X 11 COPY AREA
0.021" TO 0.030"	1	2
0.016" TO 0.020"	1	7
0.011" TO 0.015"	6	25
0.006" TO 0.010"	12	NOT SPECI-FIED

Figure 1 Spots

CQ 17 Uneven Density RAP

The density and line thickness vary across the copy.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Defective or contaminated photoreceptor	Replace the Drum Cartridge (PL 8.2).
Contaminated Transfer Corotron	Clean the Transfer Corotron Wire with the Corotron Cleaner (PL 5.4). If the problem still exists, replace the Transfer/Detack Corotron Assembly (REP 9.2).
Developer/Dry Ink life exceeded	Replace the Toner Cartridge (PL 8.2).
Low toner	Replace the Toner Cartridge (PL 8.2).
Dirty Mirrors	Remove the Document Cover Assembly and the Document Glass Assembly (REP 6.1) and clean the mirrors 1 through 3 with Lens and Mirror Cleaner and a lint-free cloth.

CQ 18 Unfused Copy RAP

The characters or image are easily wiped off a copy.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Damp Paper	Use fresh paper and ensure that the customer is storing the paper correctly.
Incorrect Fuser temperature	Ensure that the Fuser temperature is set correctly for the customer paper that is used most often. Heavy weight paper may require a higher temperature. Light weight paper may require a lower temperature. Refer to the appropriate parameter adjustment table in Section 6: - Adjustment Codes - Table 1 Programmable Features Settings - Table 1 Configuration Codes
Defective Fuser Heat or Pressure Roll	Replace the Fuser Assembly (REP 10.1).

CQ 19 Wrinkle RAP

This is damage that is probably caused by the Fuser. This is a severe case of creases that run in the direction of paper travel.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

NOTE: Wrinkles may occur when envelopes are run. Refer to the User Guide for information on running envelopes.

Table 1

Possible Cause	Corrective Action
Damp paper	Use fresh paper and ensure that the customer is storing the paper correctly.
Damaged or contaminated paper feed rollers, registration roller, or transport rollers	Clean all of the paper feed and transport rollers with Film Remover and a lint-free cloth. Check the components for wear or damage.
Damaged or contaminated Fuser Heat Roll or Pressure Roll	Replace as required either the Heat Roll (PL 6.1) (REP 10.2), the Pressure Roll (PL 6.2)(REP 10.3), or both.

CQ 20 Distortion RAP

Two types of image distortion can be attributed to misadjustment of the optics components - horizontal image distortion (Figure 1) and vertical image distortion (Figure 2).

NOTE: Perform the checks in CQ 14 Skew RAP before checking the optics components.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Half Rate Carriage or Exposure Lamp Carriage misadjusted	Go to ADJ 6.7.
The Left or the Right Half Rate Carriage Scan Rail is misadjusted	Go to ADJ 6.7.
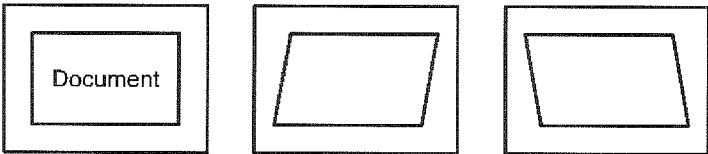
Figure 1 Horizontal Image Distortion Examples
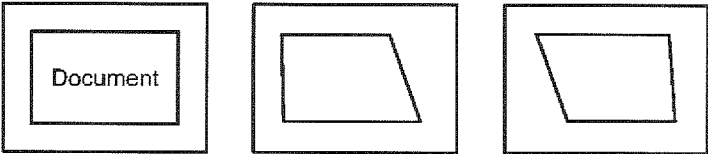
Figure 2 Vertical Image Distortion Examples

CQ 21 Magnification RAP

The image on the copy is not within specification for the selected magnification.

Initial Actions

Replace the copy paper with a new supply.

Ensure that the optics are clean.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Incorrect value in 48- [1]	If the Lens/CCD Module was removed, reinstall it to the reference position (ADJ 6.2). Perform ADJ 6.7. Perform ADJ 6.8.
Image Processing Problem	Replace the Main PWB (REP 1.1).

CQ 22 Image Displacement RAP

Part of the image information is placed elsewhere on the copy or is completely missing. The area of the missing information is sharply defined, as in Figure 1 , where the right side of the image is displaced to the left side. Image displacement is unlike deletions, where the image is not sharply defined or clear.

Procedure

Read all the Possible Causes. Then check the machine for the possible cause and perform the Corrective Action.

Table 1

Possible Cause	Corrective Action
Defective Main PWB is providing inaccurate information to the Laser Module	Replace the Main PWB (REP 1.1).
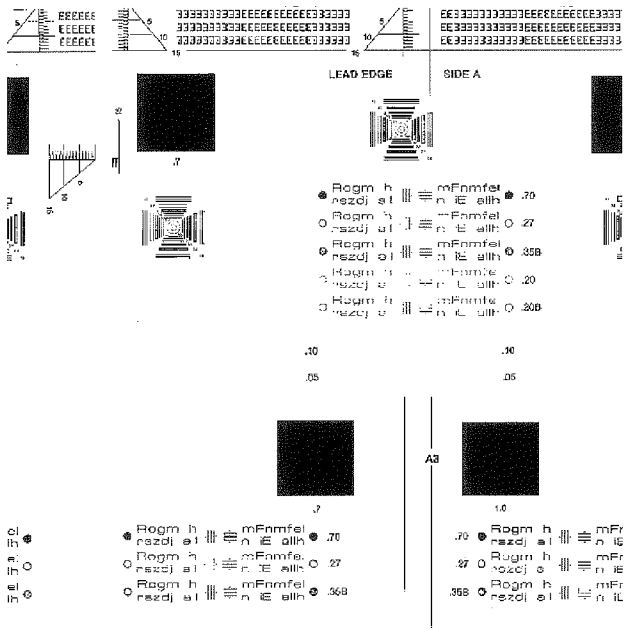
Figure 1 Image displacement example

REP 1.1 Main PWB

Parts List on PL 7.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION

Record all Configuration Codes before removing the Main PWB (refer to Section 6, Configuration Codes)

1. Remove the Rear Cover.

2. As appropriate, remove either the Fax PWB (Pro 16fx) or the PCL PWB (Pro 16p) (REP 1.4). .

3. Remove the six screws and the PWB Cover (PL 7.1).

4. Disconnect all the Ribbon Cables and Harnesses from the Main PWB.

5. Remove the seven mounting screws and the Main PWB.

Replacement

1. (Pro 16fx only) Remove the GDI Memory PWB and install it on the new PWB.

2. Reassemble the copier.

3. Enter diagnostics and reset any Configuration Codes that were different than the factory defaults.

4. If the Main PWB is replaced, perform the following adjustments:

   a. Copy Density (ADJ 6.1)

   b. Image Magnification (ADJ 6.8)

   c. Lead Edge Registration (ADJ 8.4)

   d. SDF/DSDF Lead Edge Registration (ADJ 8.5)

   e. Center Offset Adjustments (refer to Section 6, Adjustment Codes)

REP 1.2 Power Supply PWB (PS1)

Parts List on PL 7.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the Rear Cover.

2. Remove the Top Left Cover.

3. Remove the Output Tray (REP 14.7).

4. Move the Power Receptacle (REP 1.4).

5. (Figure 1): Remove the Power Supply PWB.

2
Disconnect the connectors

3
Remove the PWB

1
Remove the screws

SKY064N

Figure 1 Removing the Power Supply PWB

REP 1.3 Control Console PWB

Parts List on PL 1.3

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the Control Console (REP 14.5).
2. (Figure 1): Remove the Control Console PWB.

1
Remove the screws (6)
and the Control Console
Cover

3
Remove the PWB from
the pawls (13 places)

2
Remove the
screws (5)

SKY007N
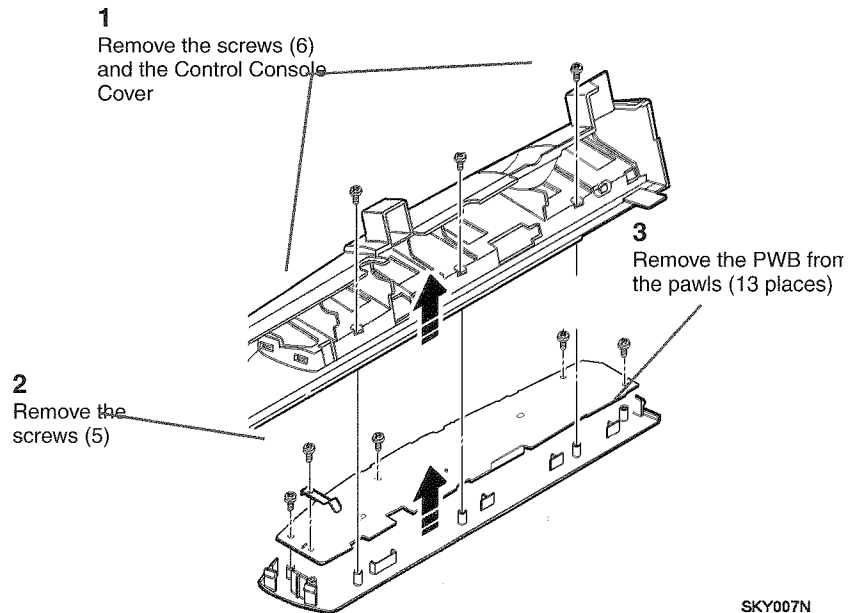
Figure 1 Removing the Control Console PWB

REP 1.4 Power Receptacle

Parts List on PL 7.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the Rear Cover.
2. Remove the Top Left Cover.
3. Remove the Output Tray (REP 14.7).

NOTE: *The Power Receptacle is wired to the Power Supply PWB. This procedure shows how to detach it from the Base Assembly.*

4. (Figure 1): Move the Power Receptacle from its position on the Base Assembly.

2
Remove the
screw

3
Push the wires and the
receptacle through the
hole

1
Remove the
screws

SKY065T

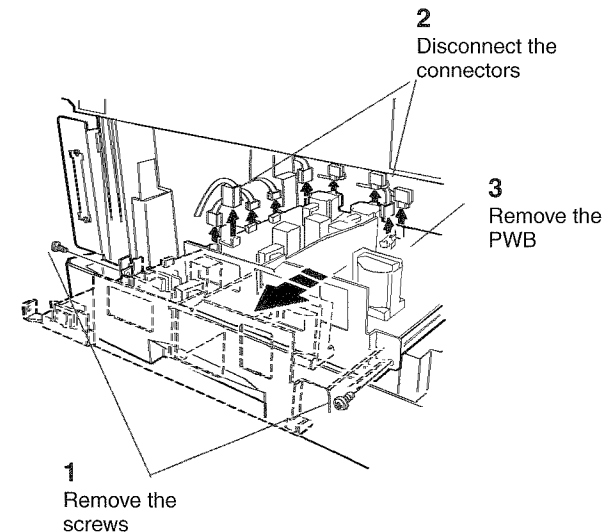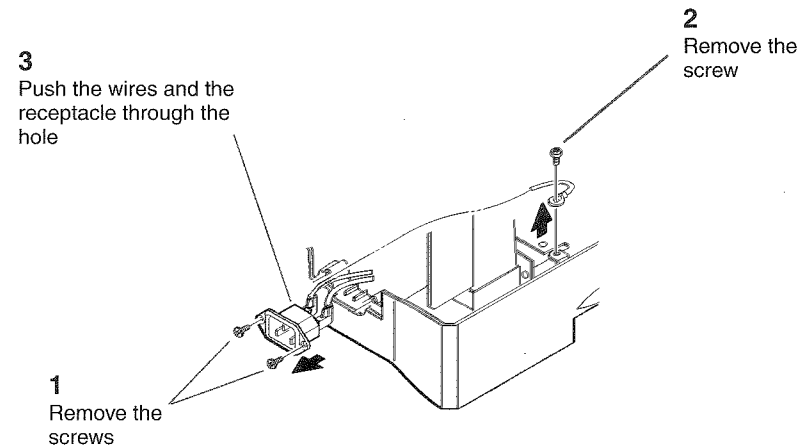**Figure 1 Moving the Power Receptacle**

REP 1.5 Fax PWB / PCL PWB

Parts List on PL 7.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the Rear Cover.
2. (Figure 1): As appropriate, remove the Fax PWB Cover or the PCL PWB Cover.

2
Remove the PWB
Cover

1
Remove the screws
(5)
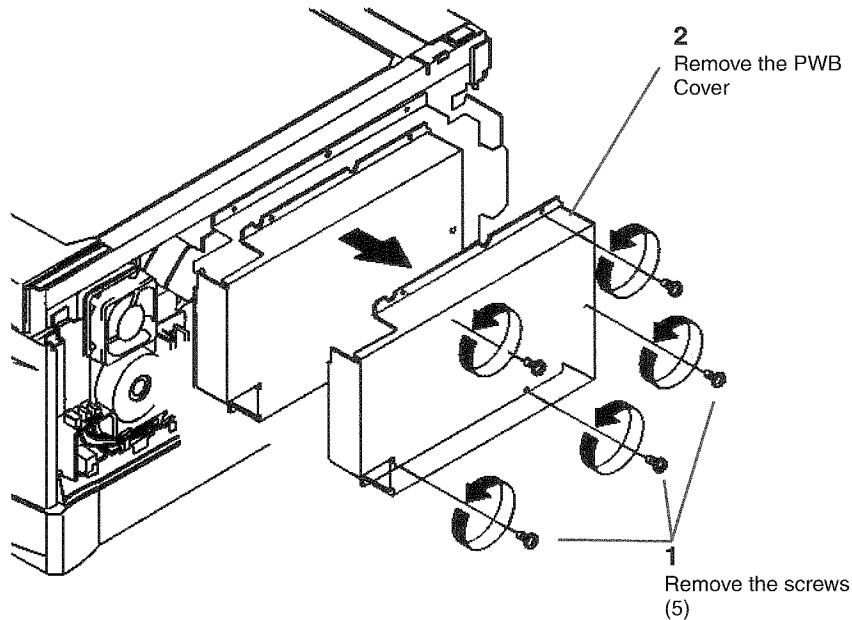
Figure 1 Removing the PWB Cover

CAUTION

Remove the PWB carefully. A connector at the lower right side of the PWB plugs into the Main PWB.

3. (Figure 2) :Remove the PWB.

3
Remove the PWB

1
Pro 16p only:
Disconnect the PCL
Interface Harness
from the PCL PWB

1
Pro 16fx only:
Disconnect the harness coming
from the SDF Assembly

2
Remove the screws (7)
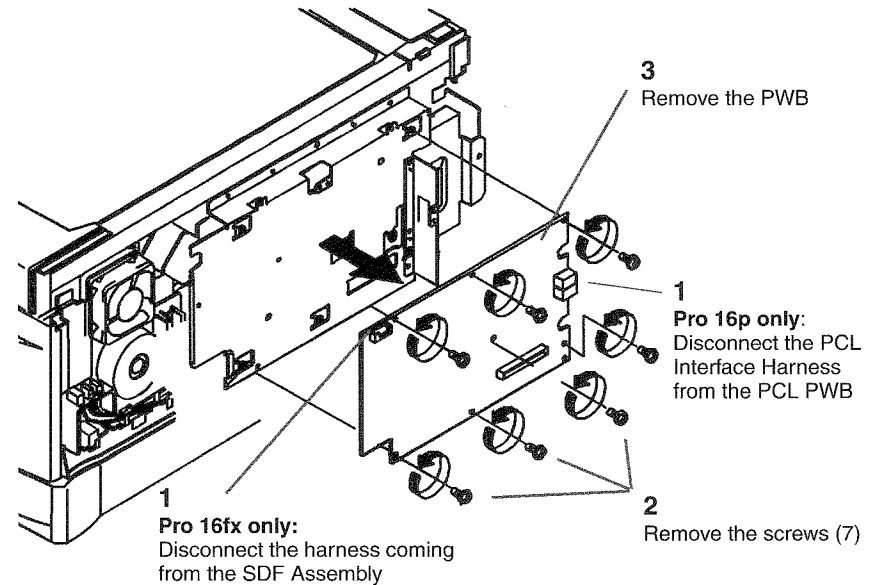
Figure 2 Removing the PWB

REP 4.1 Main Drive Motor (MOT1)

Parts List on PL 2.2

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. (Figure 1): Remove the Main Drive Motor.

1
Disconnect the
Ribbon Cable

3
Remove the
motor

2
Remove the
screws

SKY062N

Figure 1 Removing the Main Drive Motor

REP 5.1 SDF Assembly

Parts List on PL 9.1A

Removal

WARNING
Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the Rear Cover.
2. Remove the Fax PWB (**REP 1.5**).
3. Remove the six screws and the Main PWB Cover (PL 7.1).

   NOTE: Cut cable ties or release cable clamps as necessary.

4. Disconnect the cable coming from the SDF Assembly.
5. Lift the SDF Assembly up slowly off the Document Glass. While tilting the hinges in the rear direction, lift the hinges out of the hinge guides.

REP 5.2 SDF Sensor PWB

Parts List on PL 9.2A

Removal

WARNING
Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION
Remove the Rear Cover carefully to prevent damage to the Speaker wires and connector.

1. (Figure 1): Remove the Front Cover and the Rear Cover.

Speaker wires and connector

3 Remove the Rear Cover

2 Remove the Front Cover

1 Release the locking tabs from underneath the SDF Assembly

Figure 1 Removing the Covers

2. (Figure 2) Prepare to remove the SDF Feed Assembly.

1
Disconnect the connector

2
Remove the screws and
the metal brackets

Figure 2 Preparing to remove the SDF Feed Assembly

3. (Figure 3) Remove the SDF Feed Assembly.

3
Remove the SDF
Feed Assembly

2
Slide off the belt

1
Remove the connectors
and the ground wire

Figure 3 Removing the SDF Feed Assembly

CAUTION

Handle the SDF Feed Assembly carefully to prevent damage to the sensor actuators.

4. (Figure 4) Remove the Fax Control Panel.

2
Lift off the Fax Control
Panel

1
Remove the
screws (2)

2
Remove the SDF
Sensor PWB

3
Disconnect the
connector

1
Remove the screws
(5)

Figure 4 Removing the Fax Control Panel

Figure 5 Removing the SDF Sensor PWB

CAUTION

To simplify reassembly and prevent damage to the PWB or actuators, note the locations of the sensor actuator flags before removing the SDF Sensor PWB.

5.   (Figure 5) Remove the SDF Sensor PWB.
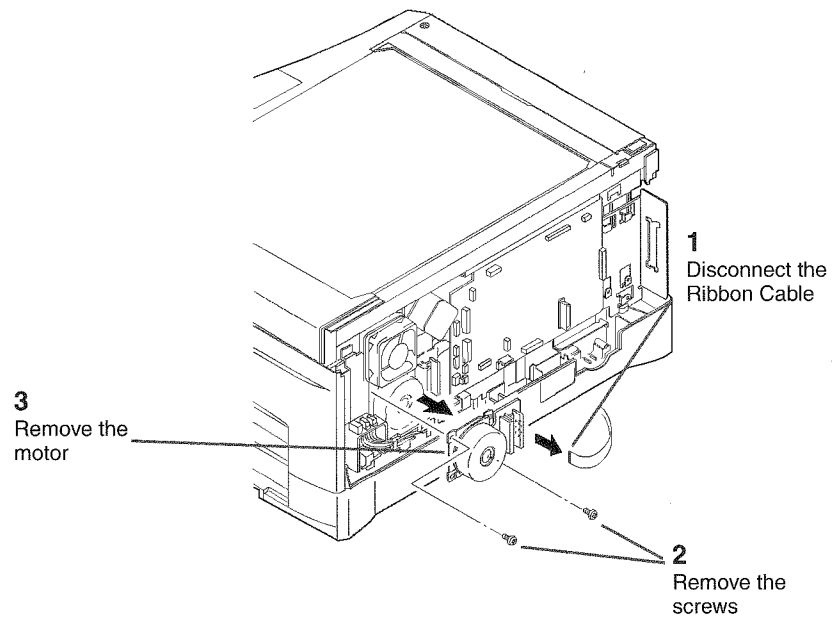
REP 5.3 SDF Feed Solenoid (SOL1)

Parts List on PL 9.2A

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION

Remove the Rear Cover carefully to prevent damage to the Speaker wires and connector.

1. (Figure 1): Remove the Front Cover and the Rear Cover.

Speaker wires and connector

3
Remove the
Rear Cover

2
Remove the
Front Cover

1
Release the locking tabs from
underneath the SDF Assembly

Figure 1 Removing the Covers

2. (Figure 2): Prepare to remove the SDF Feed Assembly.

1
Disconnect the connector

2
Remove the screws and
the metal brackets

Figure 2 Preparing to remove the SDF Feed Assembly

3. (Figure 3): Remove the SDF Feed Assembly.

3
Remove the SDF
Feed Assembly

2
Slide off the belt

1
Remove the connectors
and the ground wire

Figure 3 Removing the SDF Feed Assembly

4.   (Figure 4): Remove the Fax Control Panel.

2
Lift off the Fax Control
Panel

1
Remove the screws
(5)

Figure 4 Removing the Fax Control Panel

5.   (Figure 5): Remove the Feed Solenoid (SOL1).

Figure 5 Removing the Feed Solenoid SOL1

2
Disconnect the plunger and remove the solenoid

1
Remove the screws

Replacement

If the position of the SDF Feed Solenoid (SOL1) is adjusted too far to the left, the travel of the plunger will be restricted and it will be unable to fully actuate the Paper Gate and the Feed Roller.

If necessary, adjust the position of the SDF Feed Solenoid (SOL1) slightly to ensure that the Feed Clutch Pawl clears the Clutch when the SDF Feed Solenoid (SOL1) plunger is held in the energized position.

REP 5.4 Clutch

Parts List on PL 9.2A

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION

Remove the Rear Cover carefully to prevent damage to the Speaker wires and connector.

1.   (Figure 1): Remove the Front Cover and the Rear Cover.

Speaker wires and connector

3
Remove the Rear Cover

2
Remove the Front Cover

1
Release the locking tabs from underneath the SDF Assembly

Figure 1 Removing the Covers

2.   (Figure 2): Prepare to remove the SDF Feed Assembly.

1
Disconnect the connector

3
Remove the SDF
Feed Assembly

2
Slide off the belt

2
Remove the screws and
the metal brackets

1
Remove the connectors
and the ground wire

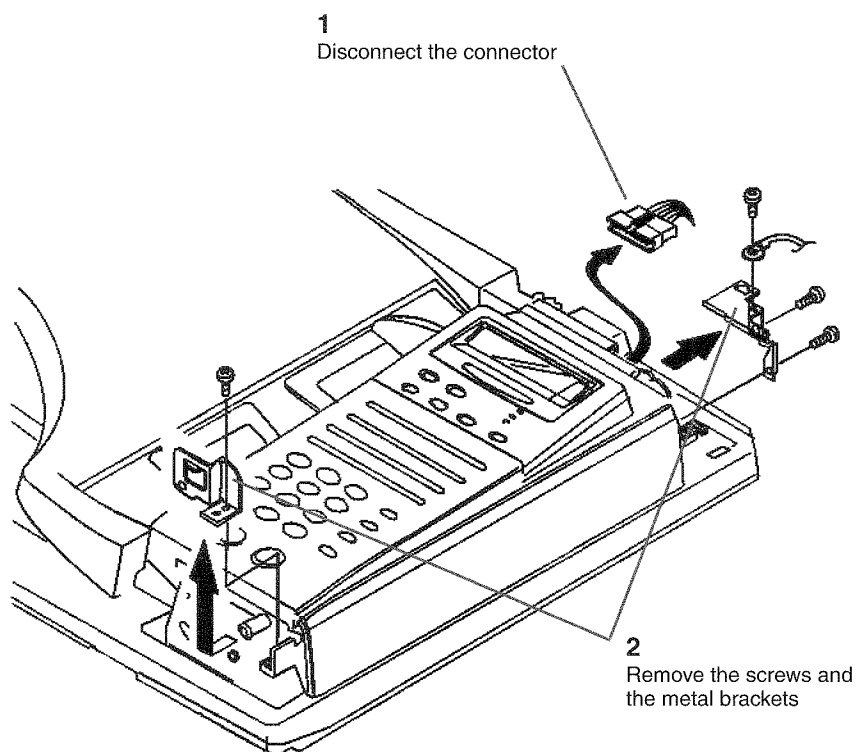**Figure 2 Preparing to remove the SDF Feed Assembly**

Figure 3 Removing the SDF Feed Assembly

3.   (Figure 3): Remove the SDF Feed Assembly.

4.   (Figure 4): Remove the Fax Control Panel.

2
Lift off the Fax Control
Panel

1
Remove the screws
(5)

Figure 4 Removing the Fax Control Panel

5. (Figure 5): Prepare to remove the clutch.

2
Remove the pulley and
the bearing

1
Remove the E-ring

3
Move the bushing
out of the frame

4
Lift the pawl and
remove the shaft

Figure 5 Preparing to Remove the Clutch

6. (Figure 6): Remove the clutch.

1
Remove the E-ring

2
Remove the clutch
components

Figure 6 Removing the Clutch

Replacement

CAUTION

If the position of the SDF Feed Solenoid (SOL1) is adjusted too far to the left, the travel of the plunger will be restricted and it will be unable to fully actuate the Paper Gate and the Feed Roller.

If necessary, adjust the position of the SDF Feed Solenoid (SOL1) slightly to ensure that the Feed Clutch Pawl clears the Clutch when the SDF Feed Solenoid (SOL1) plunger is held in the energized position.

REP 5.5 Feed Roller / Input Roller

Parts List on PL 9.2A

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION

Remove the Rear Cover carefully to prevent damage to the Speaker wires and connector.

1.   (Figure 1): Remove the Front Cover and the Rear Cover.

Speaker wires and
connector

3
Remove the
Rear Cover

2
Remove the
Front Cover

1
Release the locking tabs from
underneath the SDF Assembly

Figure 1 Removing the Covers

2.   (Figure 2): Prepare to remove the SDF Feed Assembly.

WorkCentre Pro16 Series   04/00
                                                       4-17

Repairs and Adjustments
REP 5.4, REP 5.5

1
Disconnect the connector

2
Remove the screws and
the metal brackets

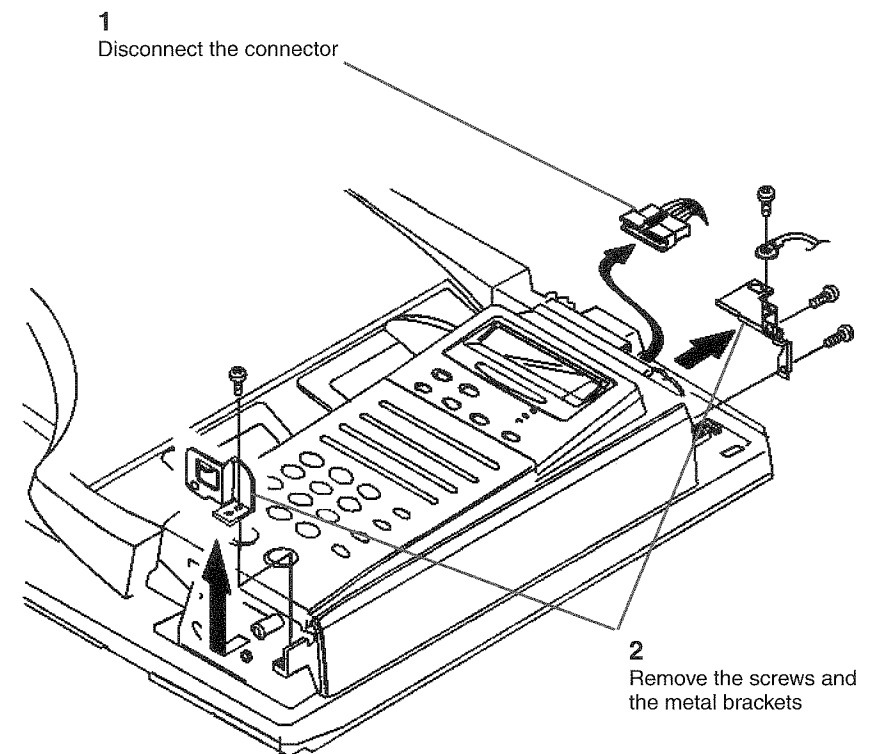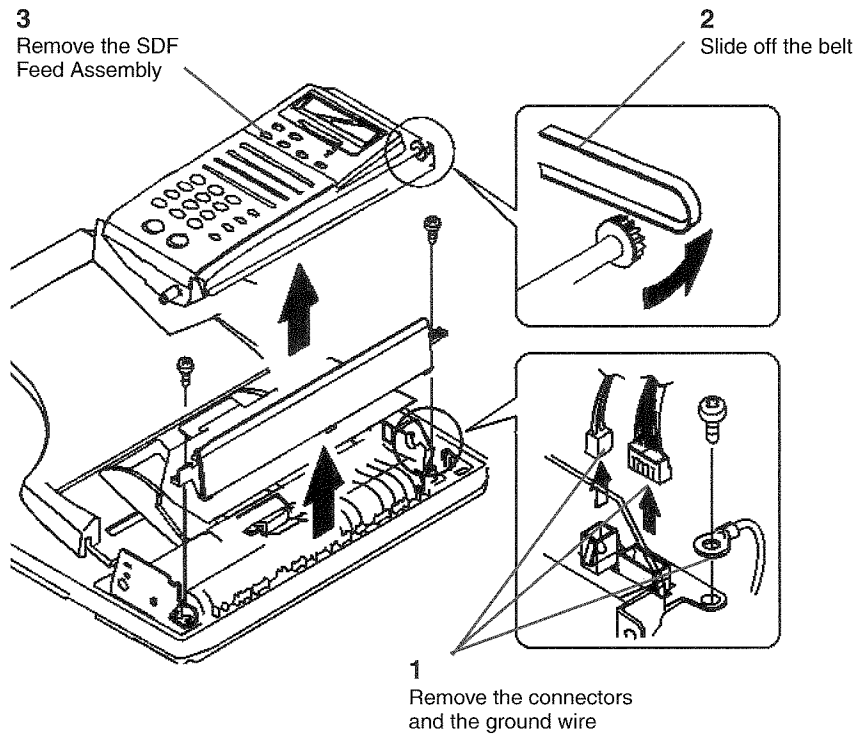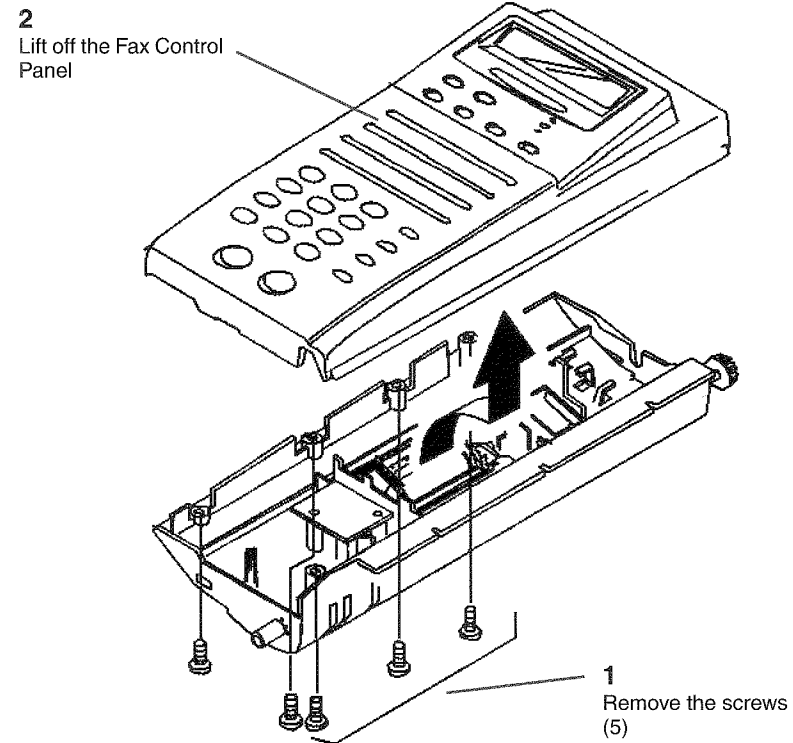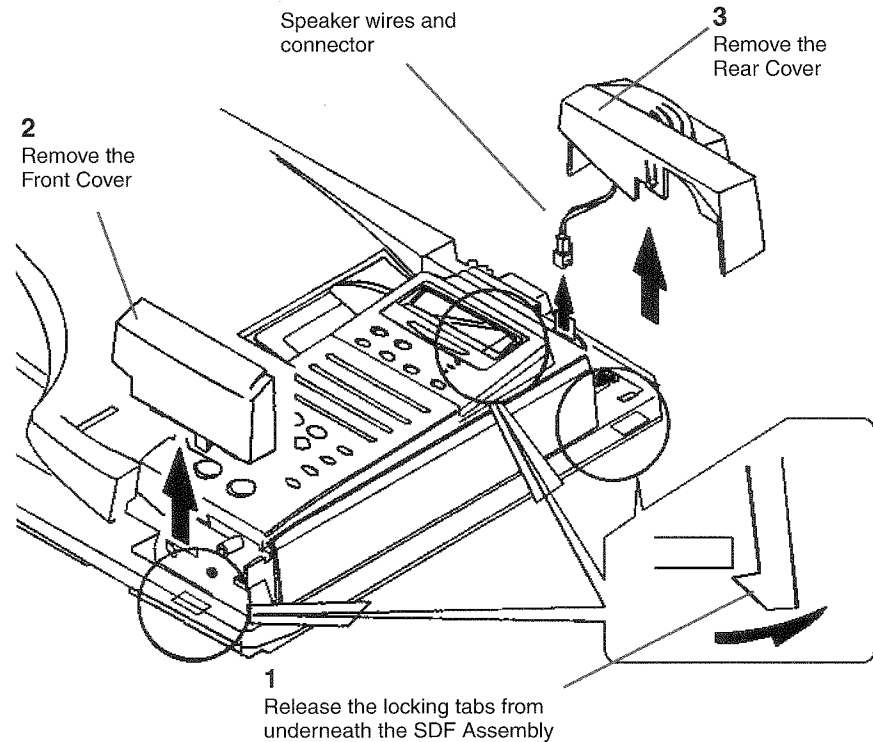**Figure 2 Preparing to remove the SDF Feed Assembly**

3.   (Figure 3): Remove the SDF Feed Assembly.

3
Remove the SDF
Feed Assembly

2
Slide off the belt

1
Remove the connectors
and the ground wire

Figure 3 Removing the SDF Feed Assembly

4.   (Figure 4): Remove the Fax Control Panel.

2
Lift off the Fax Control Panel

1
Remove the screws (5)

Figure 4 Removing the Fax Control Panel

5. (Figure 5): Remove the Feed Roller Assembly.

1
Remove the pressure spring from the Paper Gate and move the gate out of the way

Tension spring

3
Remove the Feed Roller Assembly

2
Move the Feed Roller Assembly against the tension spring and move the bearing out of the frame

0500008A-SKY

Figure 5 Removing the Feed Roller Assembly

6. (Figure 6): Remove the Input Roller.

1
Pull the gear end of
the roller out of the
frame

NOTE: *Be careful not to lose
the Feed Shaft bearings*

Feed Shaft

2
Move the E-ring
and the Feed Shaft
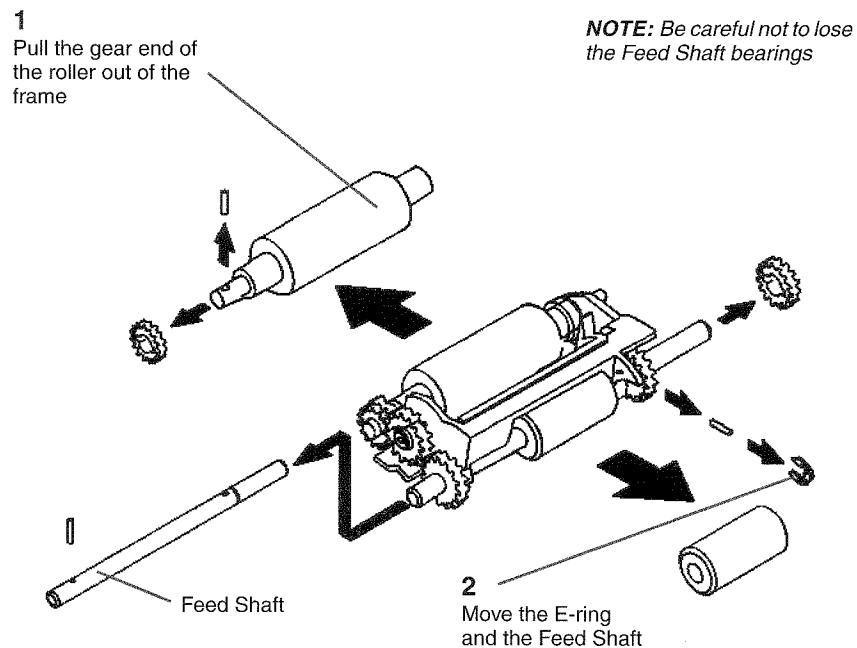
Figure 6 Removing the Input Roller

REP 5.6 SDF Exit Drive Belt

Parts List on PL 9.3

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION

Remove the Rear Cover carefully to prevent damage to the Speaker wires and connector.

1.   (Figure 1): Remove the Front Cover and the Rear Cover.

Speaker wires and
connector

3
Remove the
Rear Cover

2
Remove the
Front Cover

1
Release the locking tabs from
underneath the SDF Assembly

Figure 1 Removing the Covers

2.   (Figure 2): Disconnect the harness connector and remove the metal brackets at the front
and rear of the SDF Feed Assembly.

1
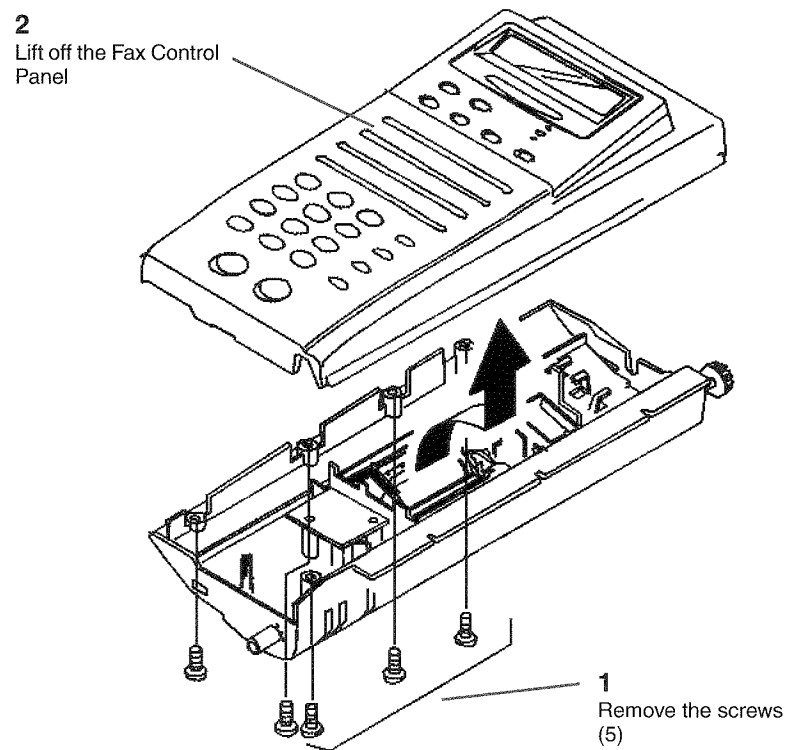Disconnect the connector

2
Remove the screws and
the metal brackets

Figure 2 Preparing to remove the SDF Feed Assembly

3.   (Figure 3): Remove the SDF Feed Assembly.

3
Remove the SDF
Feed Assembly

2
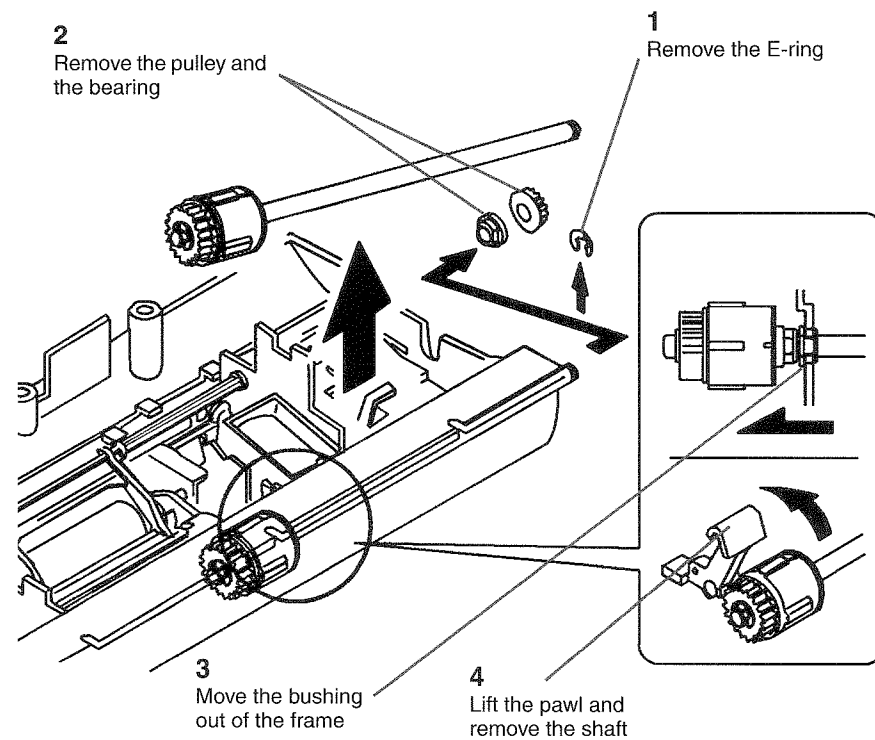Slide off the belt

1
Remove the connectors
and the ground wire

Figure 3 Removing the SDF Feed Assembly

4.   (Figure 4): Remove the Fax Control Panel.

2
Lift off the Fax Control
Panel

1
Remove the screws
(5)

Figure 4 Removing the Fax Control Panel

5. Remove the SDF Document Tray (REP 5.11).
6. (Figure 5): Remove the Exit Drive Belt.

Exit Drive Belt

1
Remove the belt from
the pulley

0500011A-SKY

Figure 5 Removing the Exit Drive Belt

REP 5.7 SDF Drive Motor (MOT1)

Parts List on PL 9.3

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION

Remove the Rear Cover carefully to prevent damage to the Speaker wires and connector.

1. (Figure 1): Remove the Front Cover and the Rear Cover.

Speaker wires and connector

3
Remove the Rear Cover

2
Remove the Front Cover

1
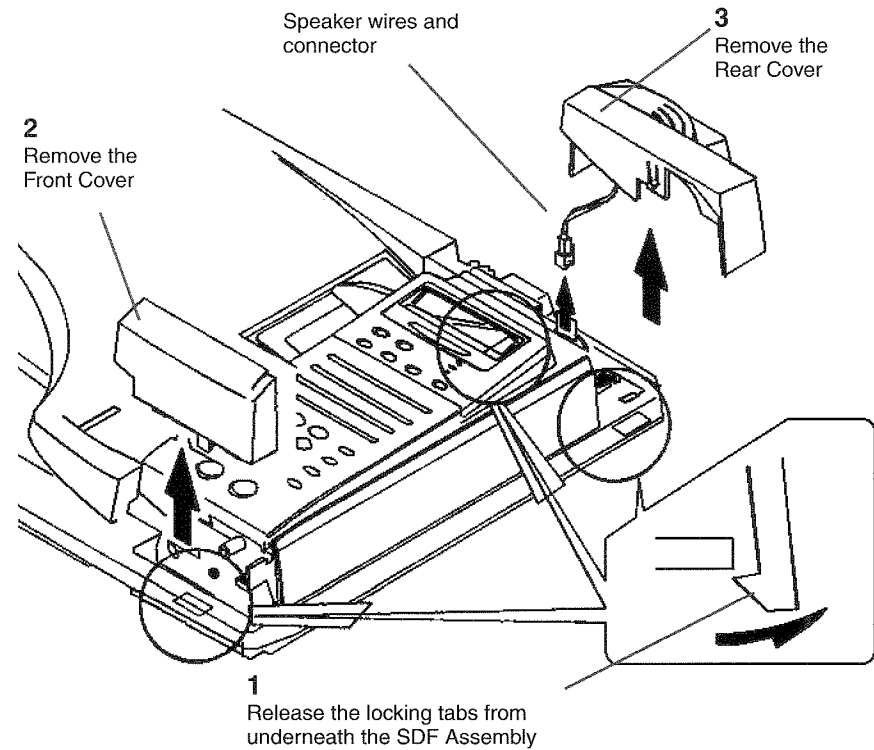Release the locking tabs from underneath the SDF Assembly

Figure 1 Removing the Covers
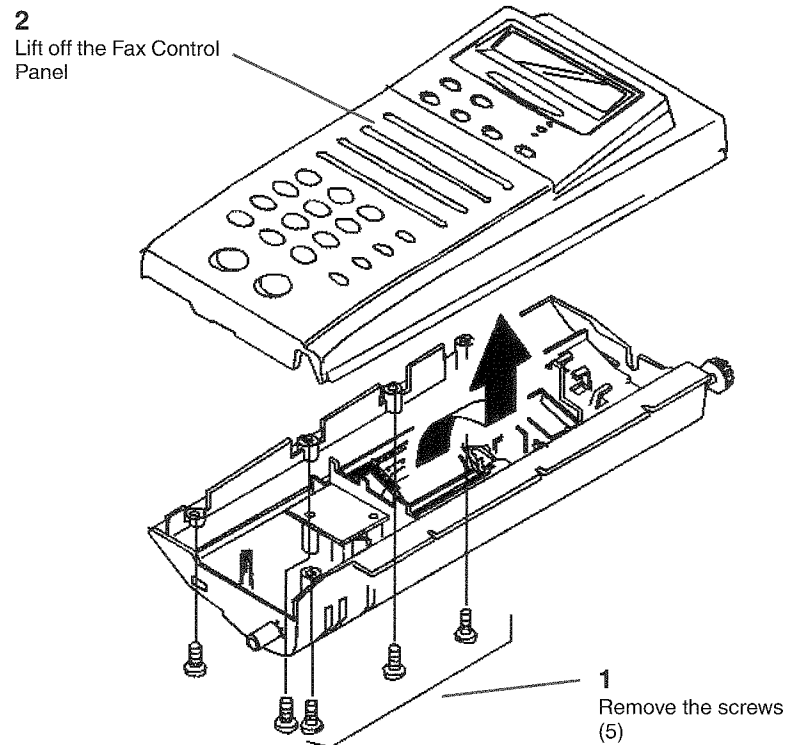
2. (Figure 2): Prepare to remove the SDF Feed Assembly.

1
Disconnect the connector

2
Remove the screws and the metal brackets

Figure 2 Preparing to remove the SDF Feed Assembly

3. (Figure 3): Remove the SDF Feed Assembly.

3
Remove the SDF
Feed Assembly

2
Slide off the belt

2
Lift off the Fax Control
Panel

1
Remove the connectors
and the ground wire

1
Remove the screws
(5)
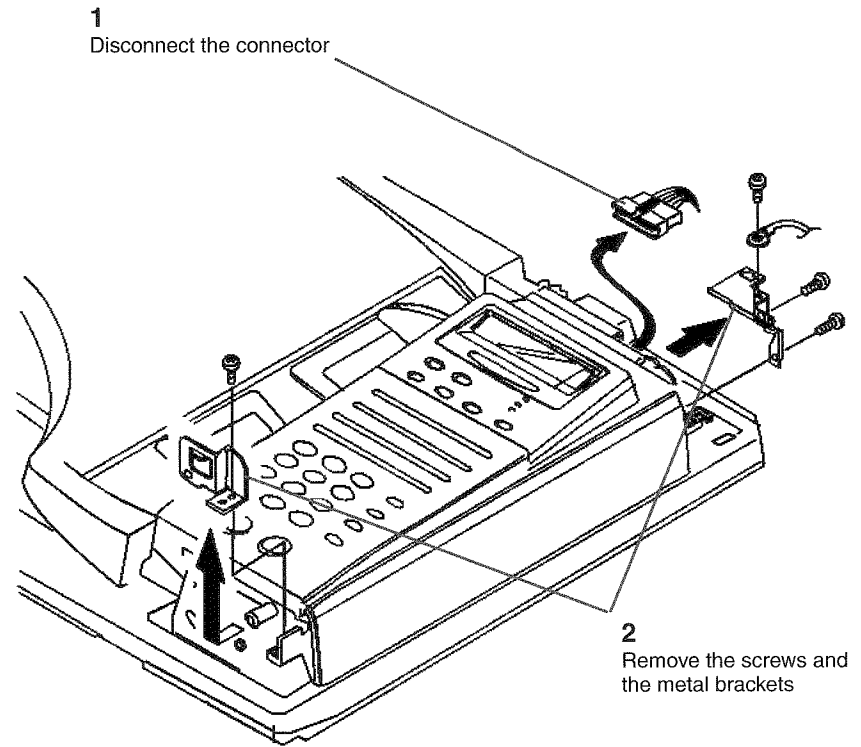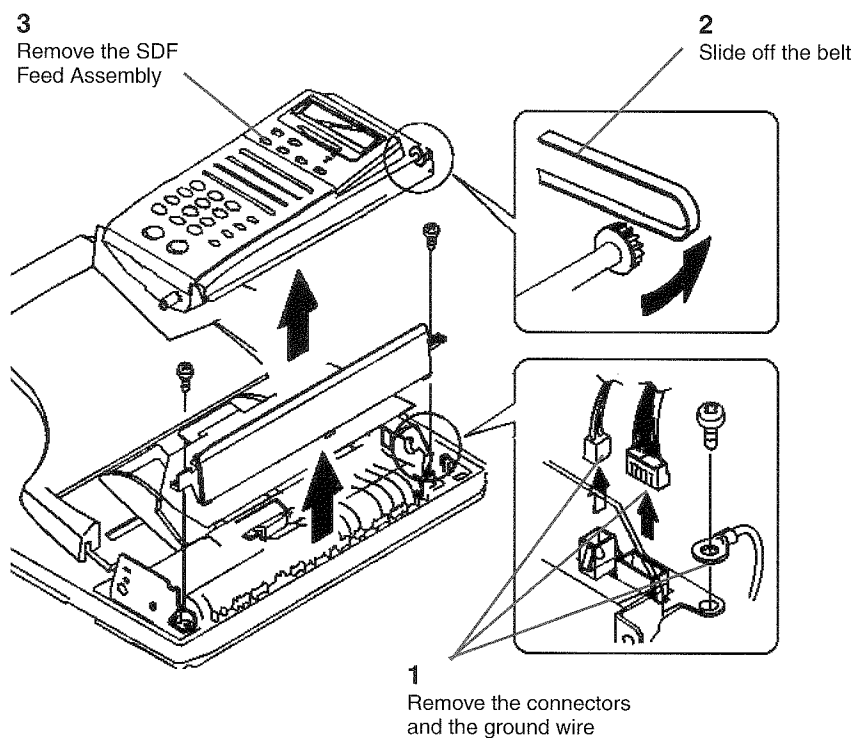
Figure 3 Removing the SDF Feed Assembly
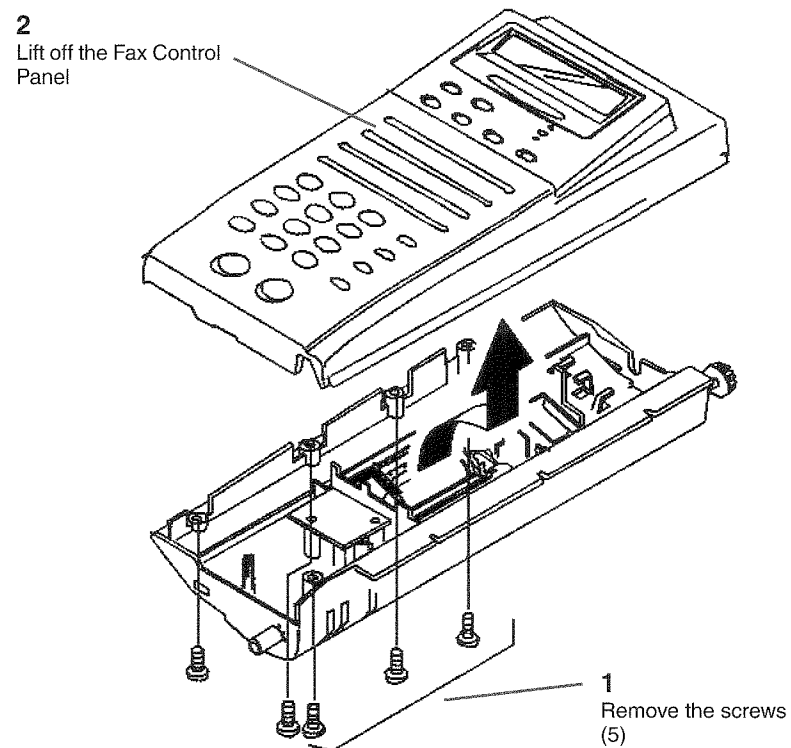
Figure 4 Removing the Fax Control Panel

4. (Figure 4): Remove the Fax Control Panel.

5. Remove the SDF Document Tray (REP 5.11).

6. (Figure 5): Remove the Exit Drive Belt.

3
Remove the screw and
the post that holds the
Motor Mounting Plate

2
Remove the four
screws

1
Disconnect
the connector

Drive Frame

NOTE: *Make sure
the Drive Belt is posi-
tioned this way dur-
ing reassembly*

1
Remove the belt from
the pulley

Exit Drive Belt

0500011A-SKY

Figure 5 Removing the Exit Drive Belt
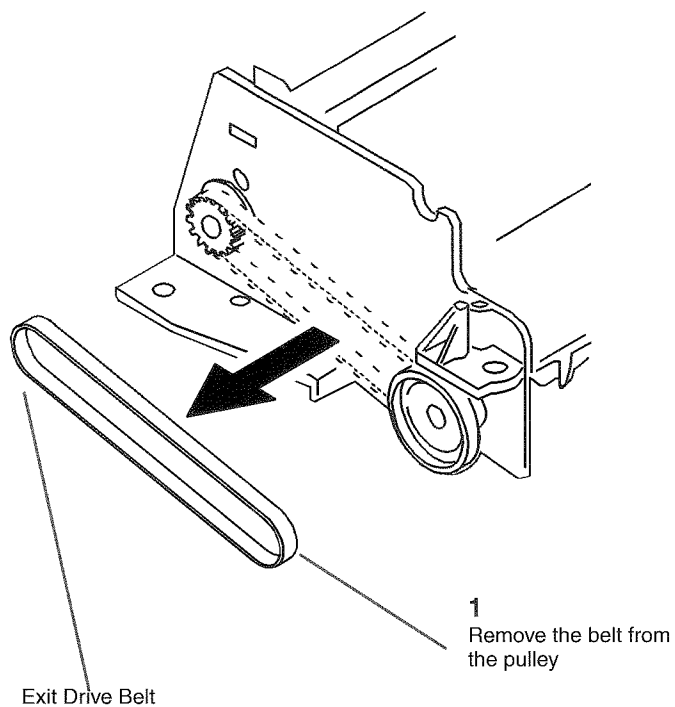
7.   (Figure 6): Remove the SDF Drive Motor.
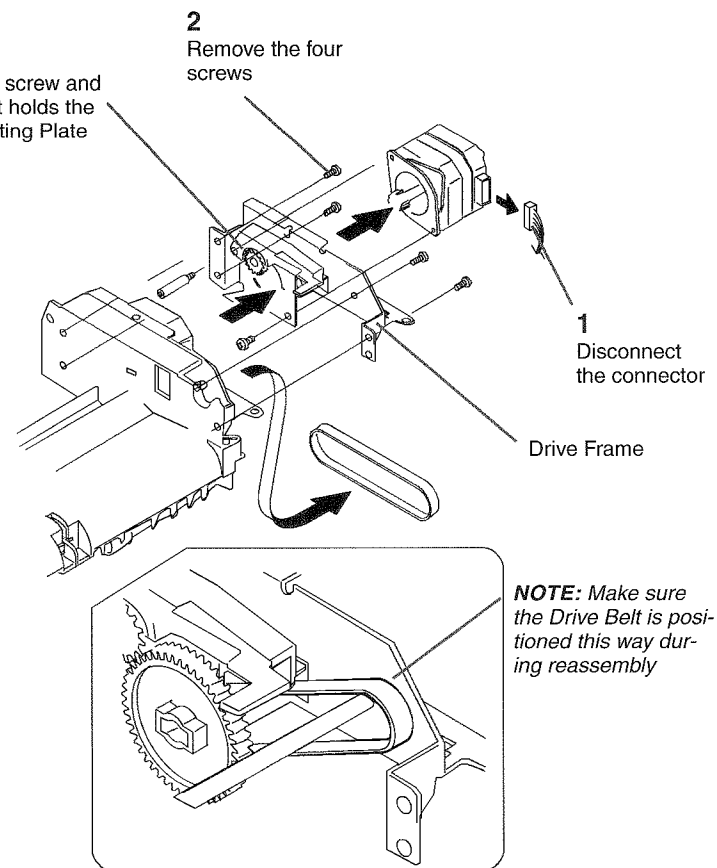
Figure 6 Removing the SDF Drive Motor

REP 5.8 SDF Document Path Sensor (Q3)

Parts List on PL 9.3

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION

Remove the Rear Cover carefully to prevent damage to the Speaker wires and connector.

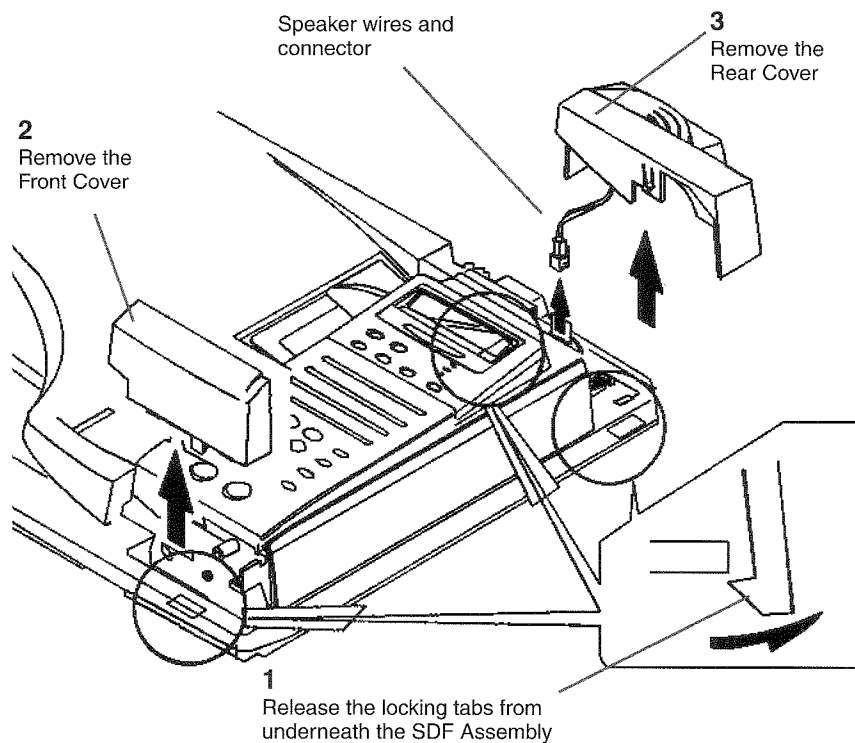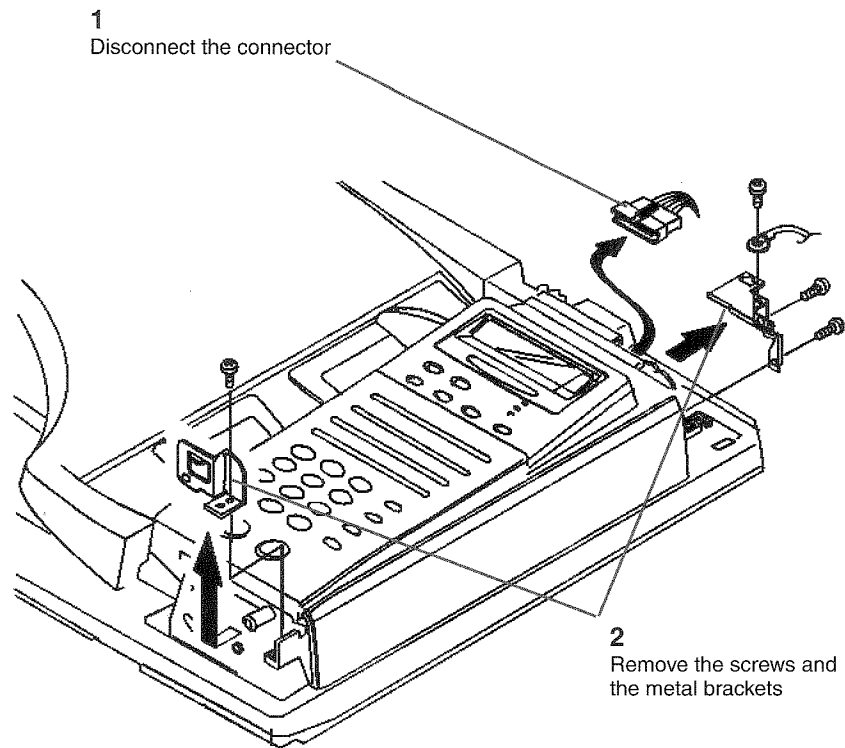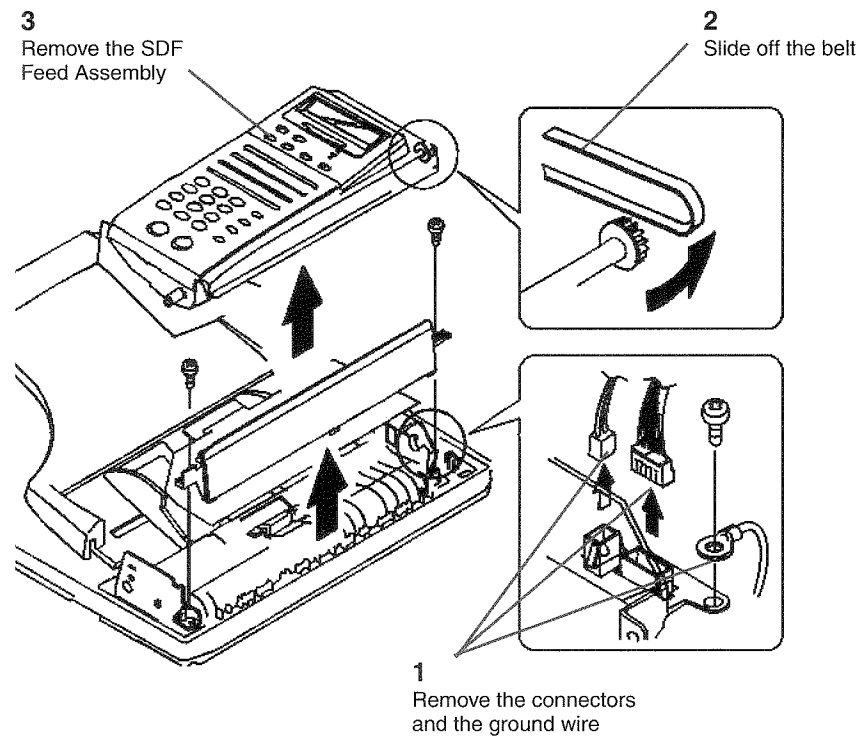1. (Figure 1): Remove the Front Cover and the Rear Cover.

1
Disconnect the connector

3
Remove the
Rear Cover

Speaker wires and
connector

2
Remove the
Front Cover

2
Remove the screws and
the metal brackets

Figure 2 Preparing to remove the SDF Feed Assembly

3. (Figure 3): Remove the SDF Feed Assembly.

1
Release the locking tabs
from underneath the SDF
Assembly

Figure 1 Removing the Covers

2. (Figure 2): Preparing to remove the SDF Feed Assembly.

3
Remove the SDF
Feed Assembly

2
Slide off the belt

1
Remove the connectors
and the ground wire

Figure 3 Removing the SDF Feed Assembly

4. Remove the SDF Document Tray (REP 5.11).
5. (Figure 4): Remove the Exit Drive Belt.

1
Remove the belt from
the pulley

Exit Drive Belt
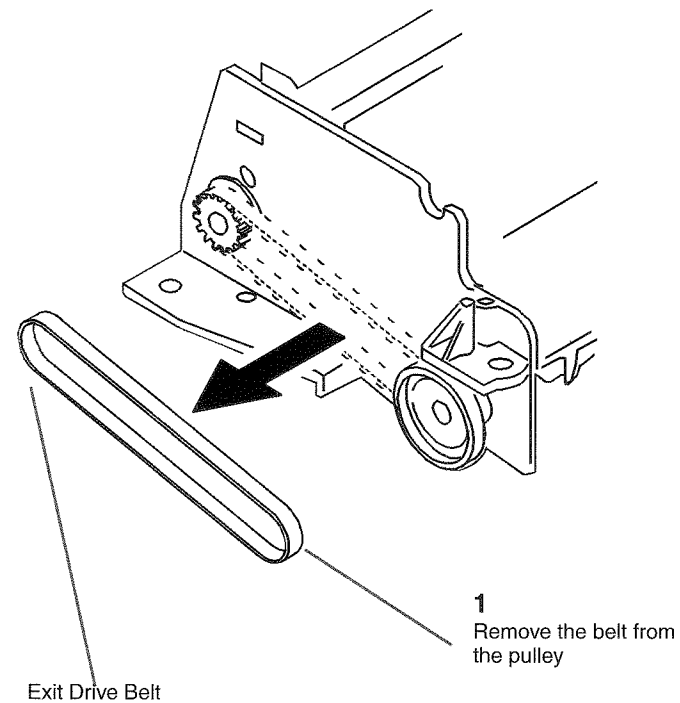
0500011A-SKY

Figure 4 Removing the Exit Drive Belt

6. (Figure 5): Remove the Document Path Sensor.

2
Release the
sensor mount-
ing tabs and
remove the
sensor

3
Disconnect the
connector

1
Loosen the
screw until the
Document Exit
Guide swings
down and out of
the way

Document Exit
Guide
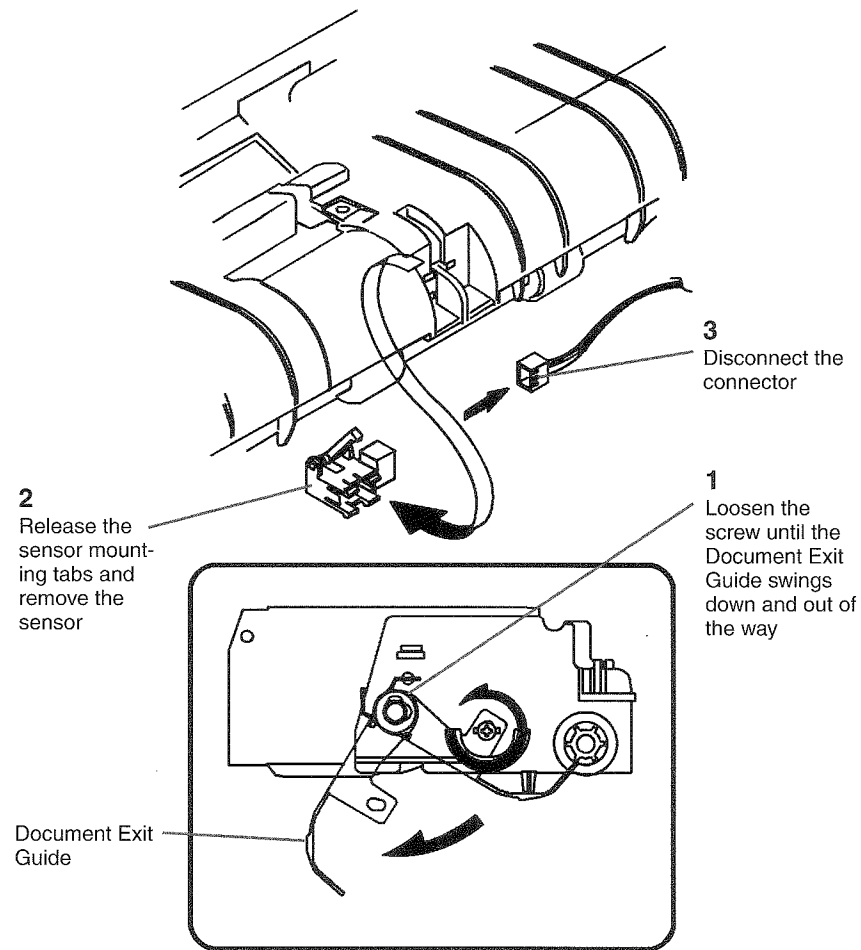
Figure 5 Removing the Document Path Sensor

REP 5.9 SDF Transport Roller

Parts List on PL 9.3

Removal

<div align="center">

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION
</div>

Remove the Rear Cover carefully to prevent damage to the Speaker wires and connector.

1. (Figure 1): Remove the Front Cover and the Rear Cover.

Speaker wires and
connector

3
Remove the
Rear Cover

2
Remove the
Front Cover

1
Release the locking tabs
from underneath the SDF
Assembly

Figure 1 Removing the Covers

2. (Figure 2): Disconnect the harness connector and remove the metal brackets at the front and rear of the SDF Feed Assembly.

1
Disconnect the connector

2
Remove the screws and
the metal brackets

Figure 2 Removing the Front and Rear Metal Brackets

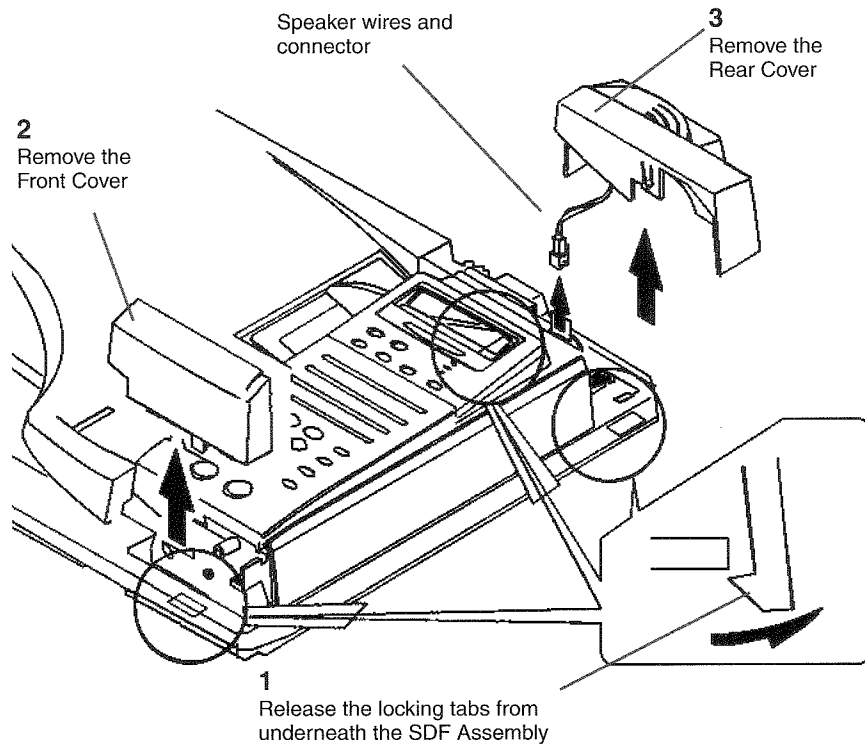3.   (Figure 3): Remove the SDF Feed Assembly.

3
Remove the SDF
Feed Assembly

2
Slide off the belt

1
Remove the connectors
and the ground wire

Figure 3 Removing the SDF Feed Assembly

4.   Remove the SDF Document Tray (REP 5.11).

5.   (Figure 4): Remove the Exit Drive Belt.

1
Remove the belt from
the pulley

Exit Drive Belt

2
Remove the E-rings
and bearings and
remove the Transport
Roller

1
Loosen the screw until
the Document Exit
Guide swings down
and out of the way

Document
Exit Guide

0500011A-SKY

Figure 4 Removing the Exit Drive Belt
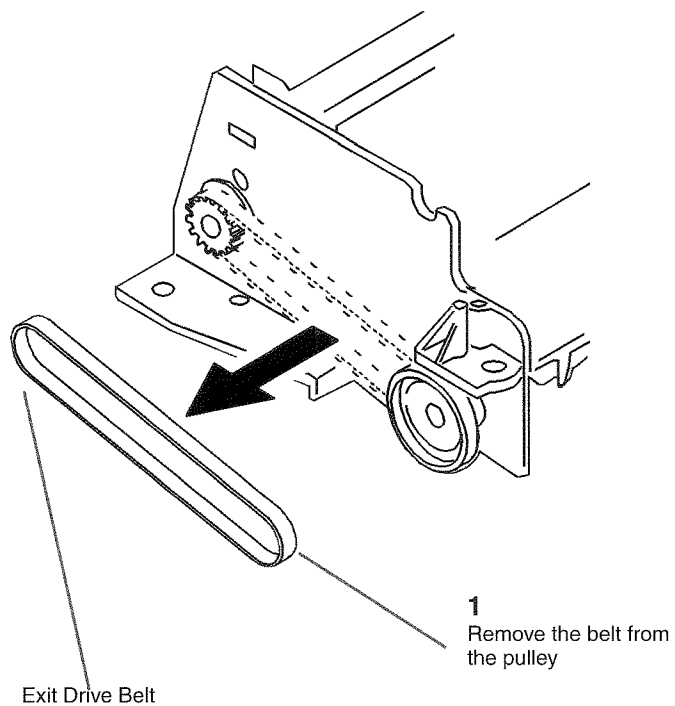
6.   (Figure 5): Remove the Transport Roller.
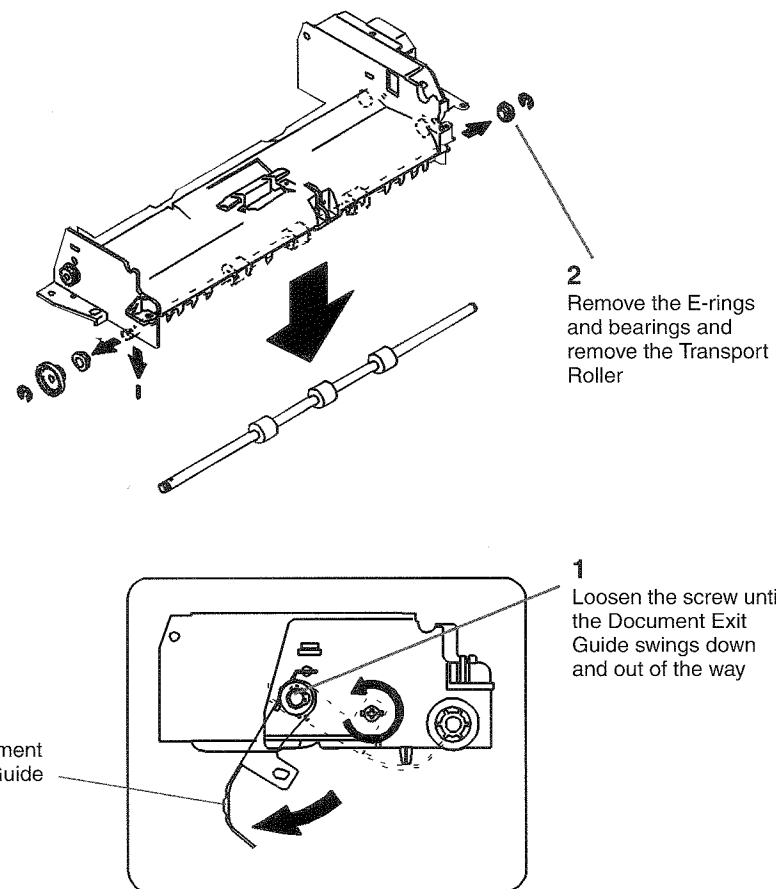
0500014A-SKY

Figure 5 Removing the Transport Roller

REP 5.10 SDF Exit Roller

Parts List on PL 9.3

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION

Remove the Rear Cover carefully to prevent damage to the Speaker wires and connector.

1. (Figure 1): Remove the Front Cover and the Rear Cover.

Speaker wires and connector

3
Remove the Rear Cover

2
Remove the Front Cover

1
Release the locking tabs from underneath the SDF Assembly

Figure 1 Removing the Covers

2. (Figure 2): Prepare to remove the SDF Feed Assembly.

1
Disconnect the connector

2
Remove the screws and the metal brackets

Figure 2 Preparing to remove the SDF Feed Assembly

3. (Figure 3): Remove the SDF Feed Assembly.

3
Remove the SDF
Feed Assembly

2
Slide off the belt

1
Remove the connectors
and the ground wire

Figure 3 Removing the SDF Feed Assembly

4. Remove the SDF Document Tray (REP 5.11).
5. (Figure 4): Remove the Exit Drive Belt.

Exit Drive Belt

1
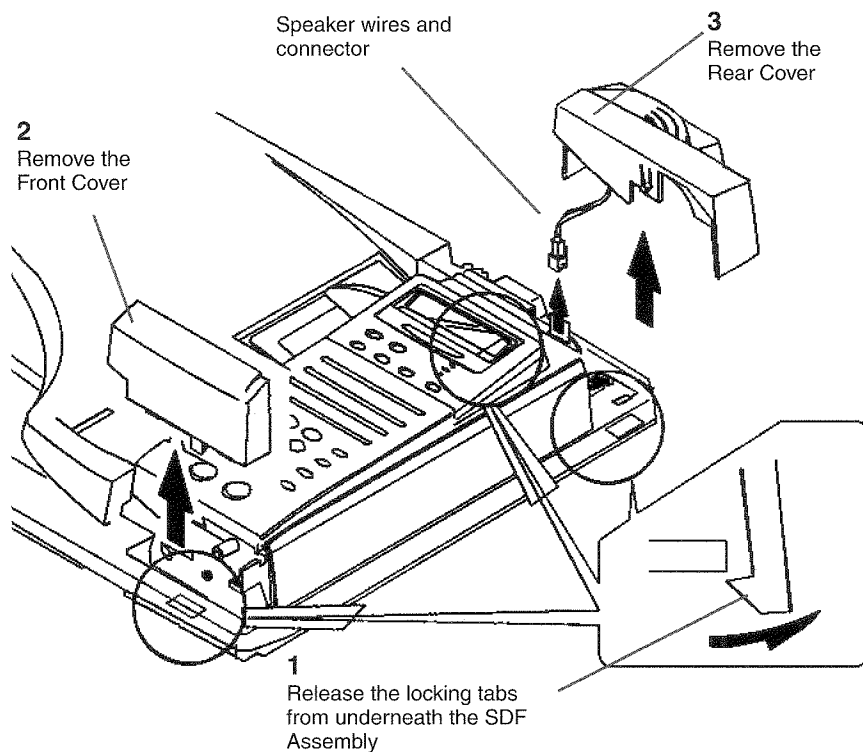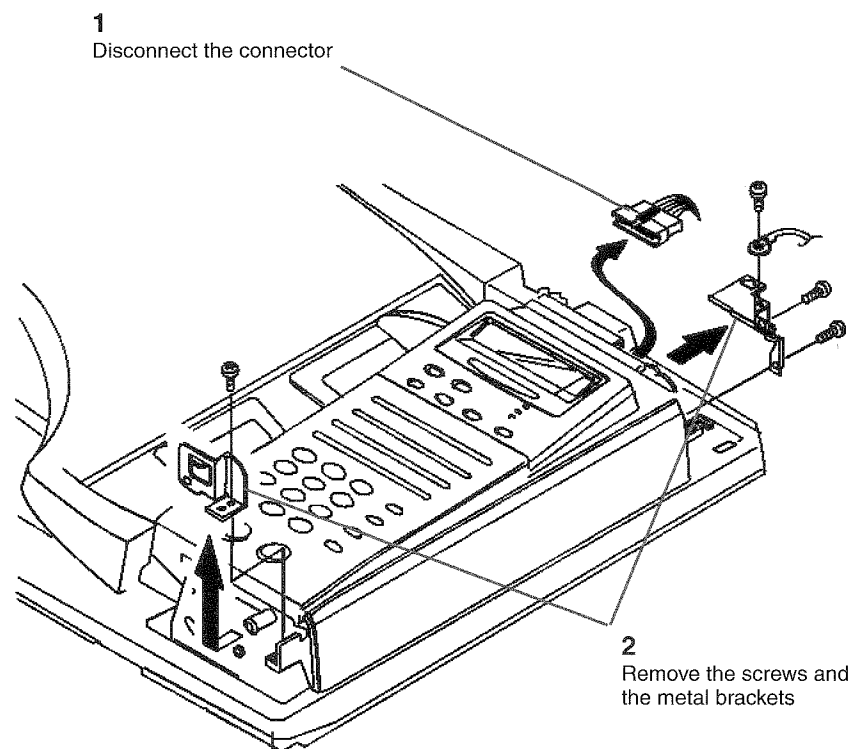Remove the belt from
the pulley
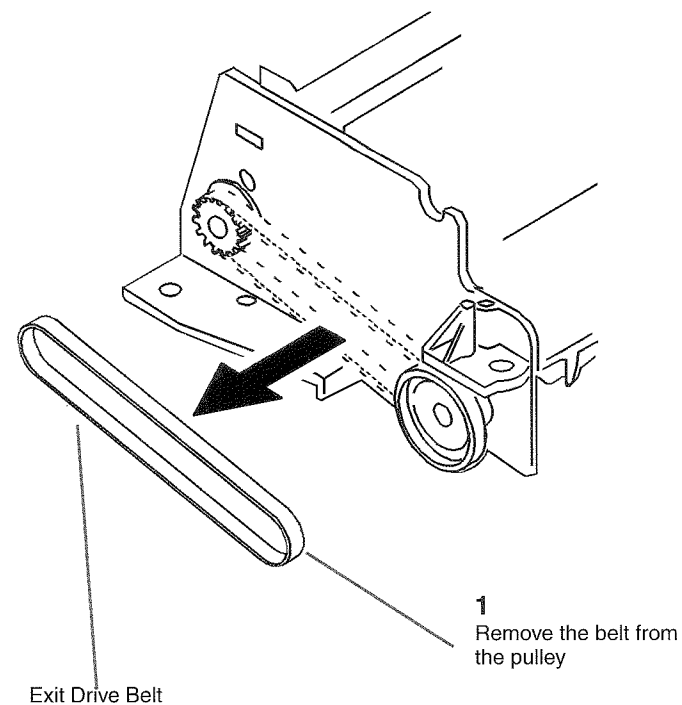
0500011A-SKY

Figure 4 Removing the Exit Drive Belt

6. (Figure 5): Remove the Exit Roller.

2
Remove the E-rings
and bearings and
remove the Exit Roller
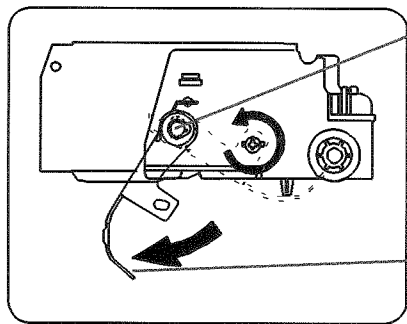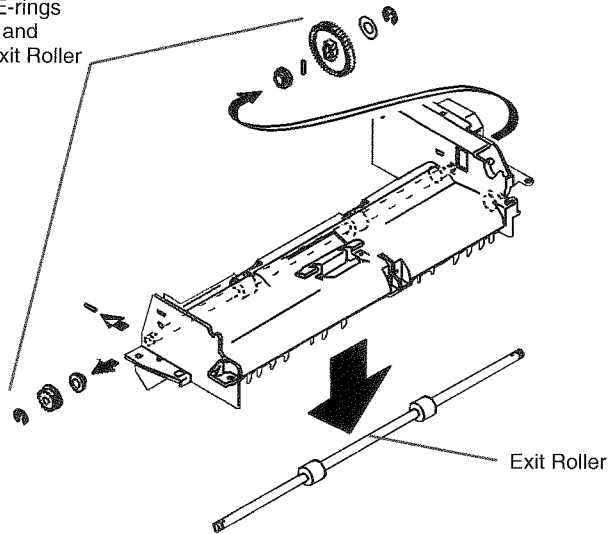
Exit Roller

1
Loosen the screw until
the Document Exit
Guide swings out of the
way

Document Exit Guide

0500015A-SKY

Figure 5 Removing the Exit Roller

REP 5.11 SDF Document Tray

Parts List on PL 9.1A

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION

Remove the Rear Cover carefully to prevent damage to the Speaker wires or connector.

1. (Figure 1): Remove the Front Cover and the Rear Cover.

Speaker wires and
connector

3
Remove the
Rear Cover

2
Remove the
Front Cover

1
Release the locking tabs
from underneath the SDF
Assembly
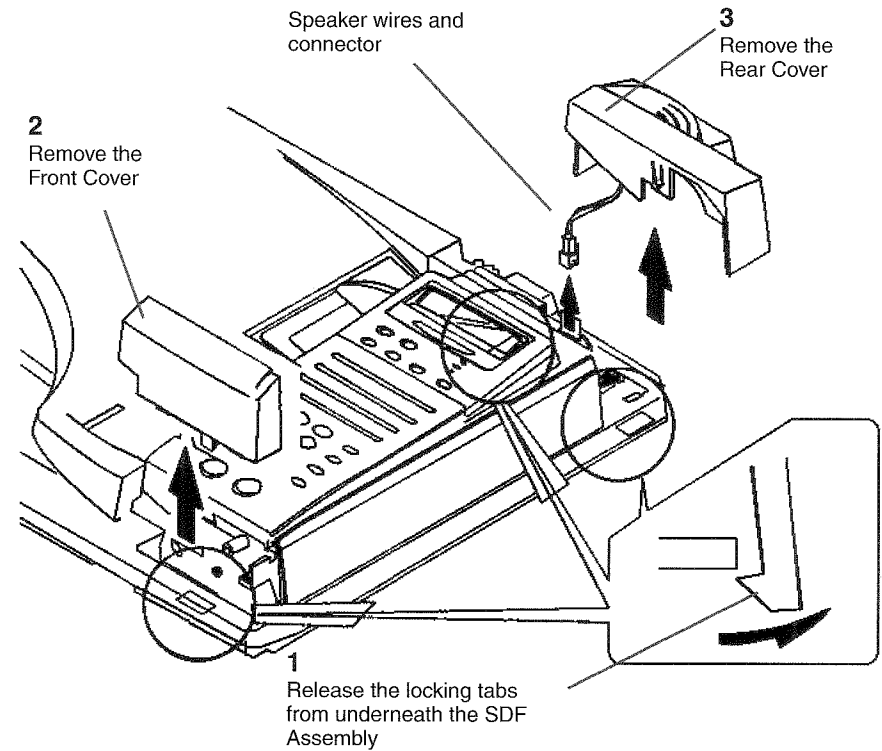
Figure 1 Removing the Front Cover and the Rear Cover

2. (Figure 2): Remove the screws that attach the SDF Document Tray to the SDF Document Transport at the front and rear.

Remove the two screws.

SDF Document Tray

SDF Document Transport

Figure 2 Removing the SDF Document Tray Screws

3. Lift the SDF Assembly and remove the two screws that secure the Document Cover Cushion to the Document Cover.

4. To remove the SDF Document Tray, move the Document Cover Cushion out of the way and release the locking tabs that secure the tray to the Document Cover at the front and rear.

REP 5.12 B4 Detect Actuator
Parts List on PL 9.2A
Removal

WARNING
Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION
Remove the Rear Cover carefully to prevent damage to the Speaker wires or connector.

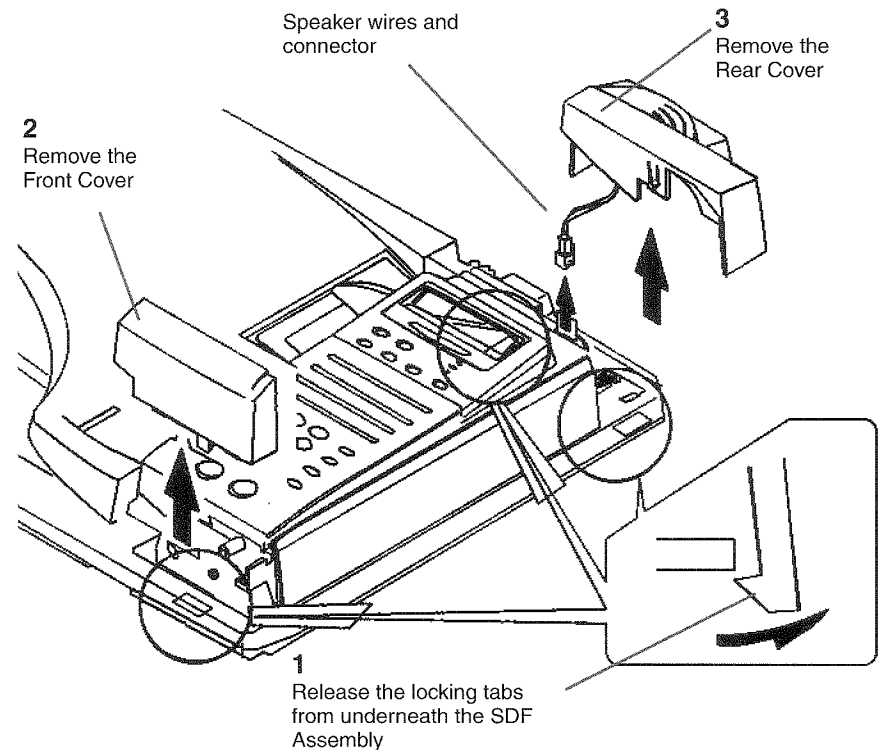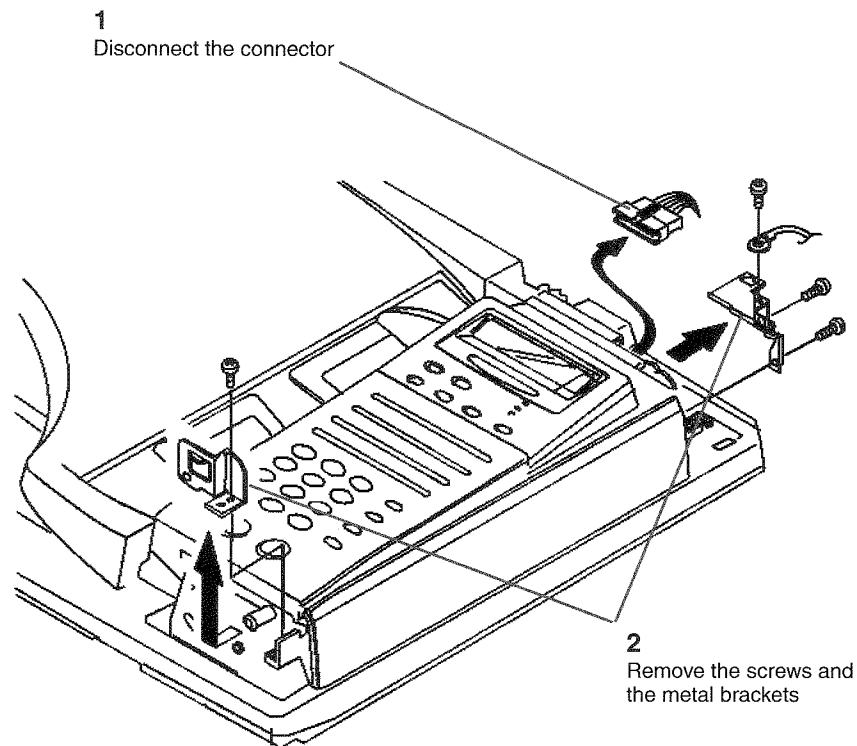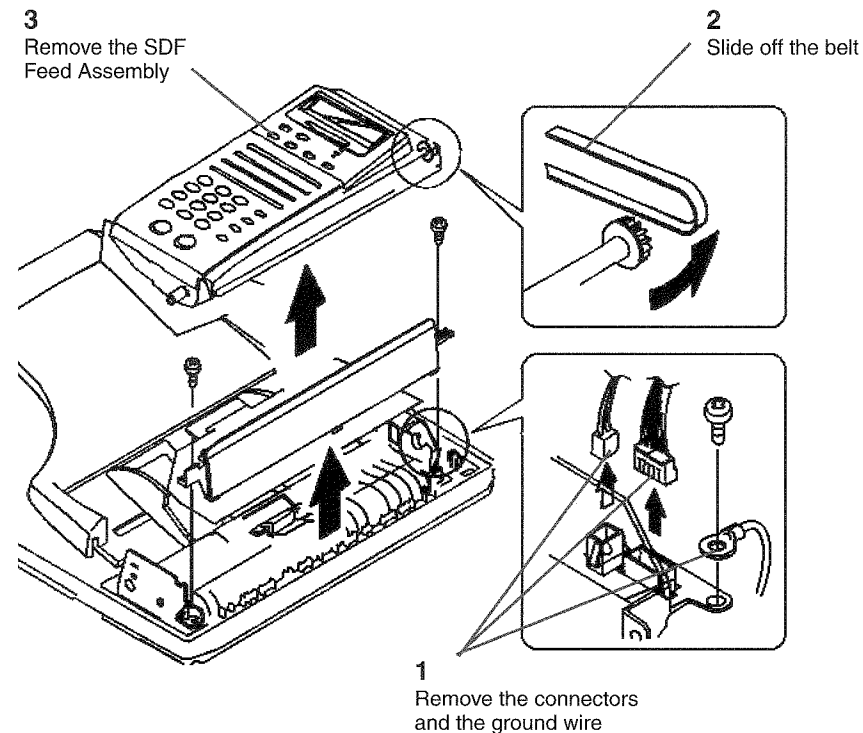1. (Figure 1): Remove the Front Cover and the Rear Cover.

Speaker wires and connector

3
Remove the Rear Cover

2
Remove the Front Cover

1
Release the locking tabs from underneath the SDF Assembly

Figure 1 Removing the Front Cover and the Rear Cover

2. (Figure 2): Prepare to remove the SDF Feed Assembly.

1
Disconnect the connector

2
Remove the screws and
the metal brackets

Figure 2 Preparing to remove the SDF Feed Assembly

3.   (Figure 3): Remove the SDF Feed Assembly.

3
Remove the SDF
Feed Assembly

2
Slide off the belt

1
Remove the connectors
and the ground wire

Figure 3 Removing the SDF Feed Assembly

CAUTION

Handle the SDF Feed Assembly carefully to prevent damage to the sensor actuators.

4.   (Figure 4): Remove the five screws and remove the Fax Control Panel.
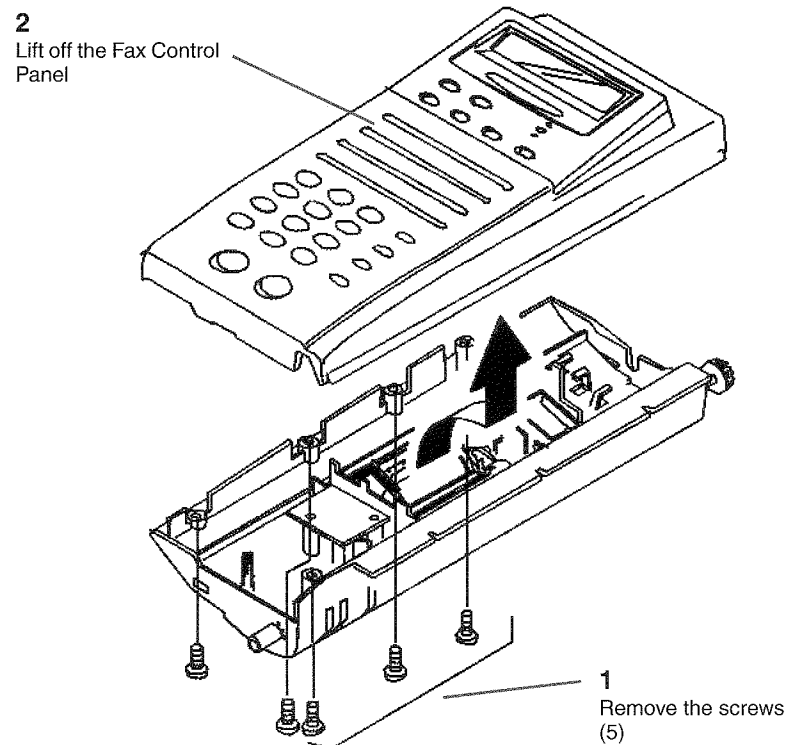
2
Lift off the Fax Control Panel

1
Remove the screws

SDF Sensor PWB

3
Remove the B4 Detect Actuator

2
Disconnect the connector

1
Remove the screws (5)

Figure 4 Removing the Fax Control Panel

Figure 5 Removing the SDF Sensor PWB and the B4 Detect Actuator

CAUTION

To simplify reassembly and prevent damage to the PWB or actuators, note the locations of the sensor actuator flags before removing the SDF Sensor PWB.
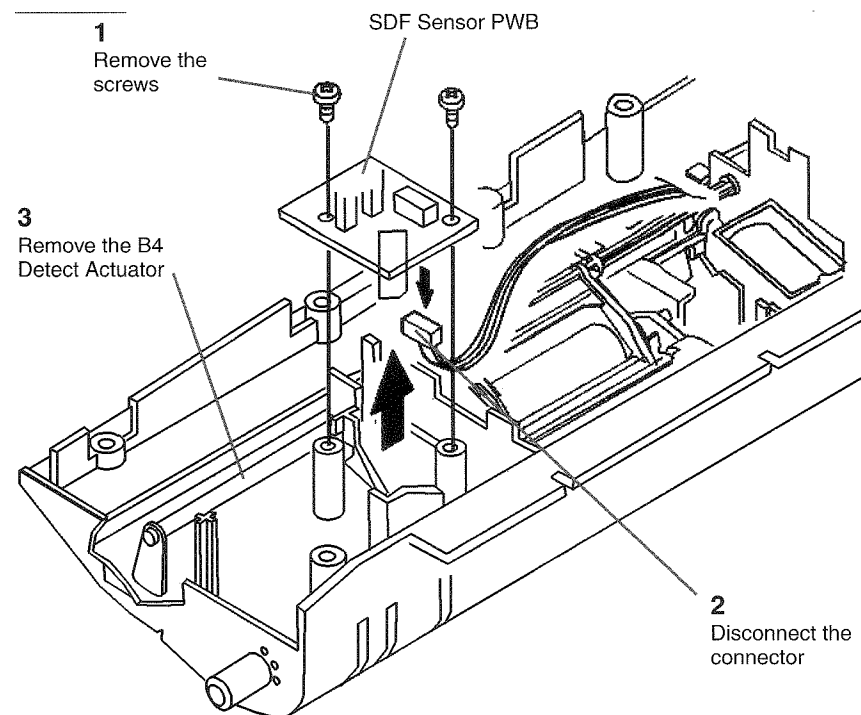
5.   (Figure 5): Remove the SDF Sensor PWB and the B4 Detect Actuator.

REP 5.15 DSDF Assembly

Parts List on PL 9.1B

Removal

1. Remove the Document Cover/Document Feeder Assembly from the hinges and place it on top of the machine.

2. (Figure 1): Remove the Rear Cover and the Access Cover.
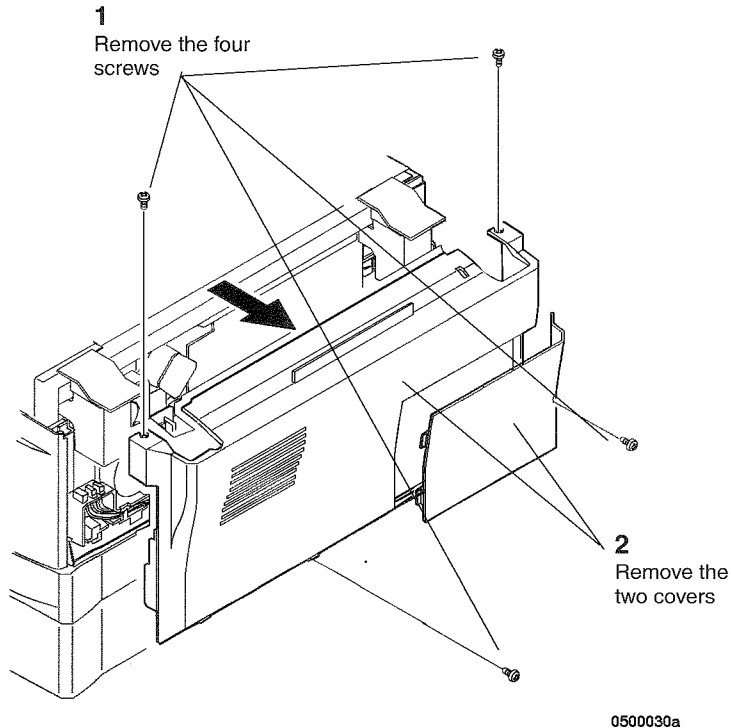
1
Remove the four screws

2
Remove the two covers

0500030a

Figure 1 Removing the Covers

3. (Figure 2): Remove the PWB Cover.

Document Cover Closed Sensor (Q9)

Ground wire

1
Remove the six screws and remove the cover

0500031a
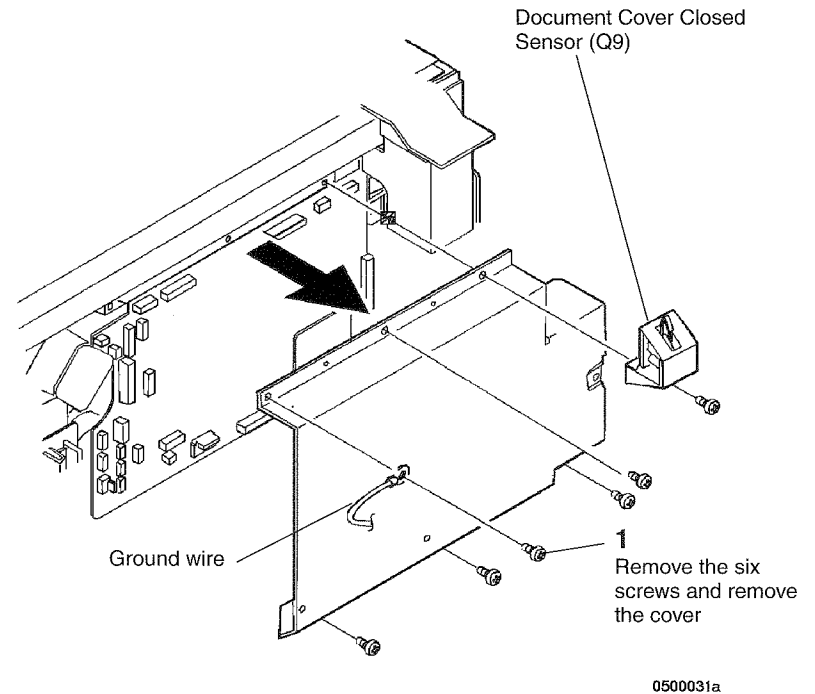
Figure 2 Removing the PWB Cover

4. (Figure 3): Remove the Document Feeder Assembly.

REP 5.16 DSDF Sensor PWB

Parts List on PL 9.2B

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the DSDF Feed Assembly (REP 5.22).
2. (Figure 1): Remove the Feed Assembly Top Cover.

Feed Assembly Top Cover

1
Remove the two screws and remove the Feed Assembly Top Cover

0500042a

Figure 1 Removing the Top Cover

3. (Figure 2): Remove the DSDF Sensor PWB.

CN123

1
Disconnect CN123

2
Release the cable from the clamps (2)

0500038a

Figure 3 Removing the Document Feeder Assembly
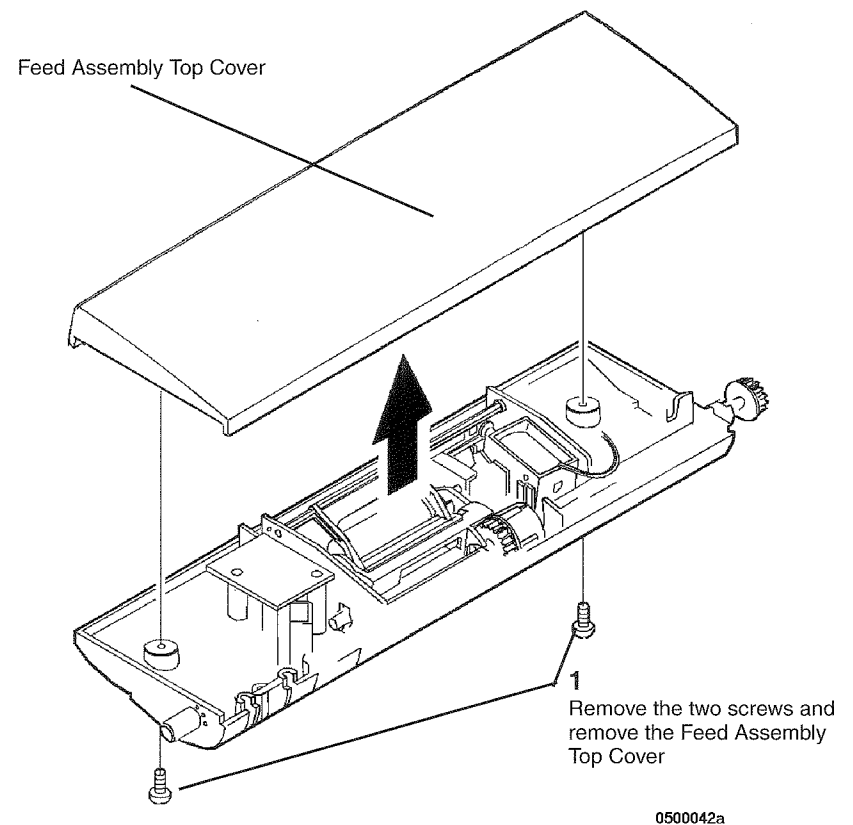
REP 5.17 DSDF Feed Solenoid (SOL1)

Parts List on PL 9.2B

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the DSDF Feed Assembly (REP 5.22).
2. (Figure 1): Remove the Feed Assembly Top Cover.

1
Remove the two screws

2
Remove the DSDF Sensor PWB and disconnect the connector

0500043a
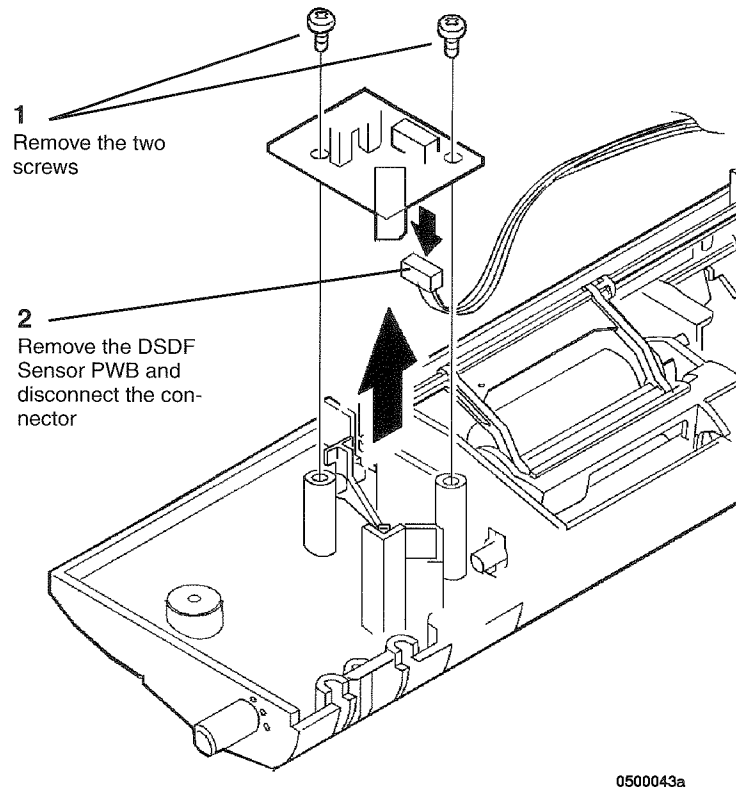
Figure 2 Removing the DSDF Sensor PWB

Feed Assembly Top Cover

1
Remove the two screws and remove the Feed Assembly Top Cover

0500042a

Figure 1 Removing the Top Cover

3. (Figure 2): Remove the DSDF Feed Solenoid (SOL1).

2
Remove the DSDF
Feed Solenoid and
disconnect the con-
nector

1
Remove the
two screws

NOTE: *During reassembly,
place the iron core onto the
solenoid arm*

0500044a

Figure 2 Removing the DSDF Feed Solenoid (SOL1)

Replacement

CAUTION

*If the position of the DSDF Feed Solenoid (SOL1) is adjusted too far to the left, the travel of the
plunger will be restricted and it will be unable to fully actuate the Paper Gate and the Feed
Roller.*

If necessary, adjust the position of the DSDF Feed Solenoid (SOL1) slightly to ensure that the
Feed Clutch Pawl clears the Clutch when the DSDF Feed Solenoid (SOL1) plunger is held in
the energized position.

REP 5.18 DSDF Feed Clutch

Parts List on PL 9.2B

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the DSDF Feed Assembly (REP 5.22).
2. (Figure 1): Remove the Feed Assembly Top Cover.

Feed Assembly Top Cover

1
Remove the two screws and
remove the Feed Assembly
Top Cover

0500042a

Figure 1 Removing the Top Cover

3. (Figure 2): Remove the DSDF Feed Clutch Assembly.

2

Lift the clutch pawl and remove the DSDF Feed Clutch Assembly

1

Remove the E-Ring and the pulley and bushing

NOTE: During reassembly, place the iron core onto the solenoid arm

Bushing moved out

0500045a

Figure 2 Removing the DSDF Feed Clutch Assembly

4. (Figure 3): Remove the DSDF Feed Clutch.

1

Remove the E-Ring and remove the feed clutch

Feed Clutch

0500046a
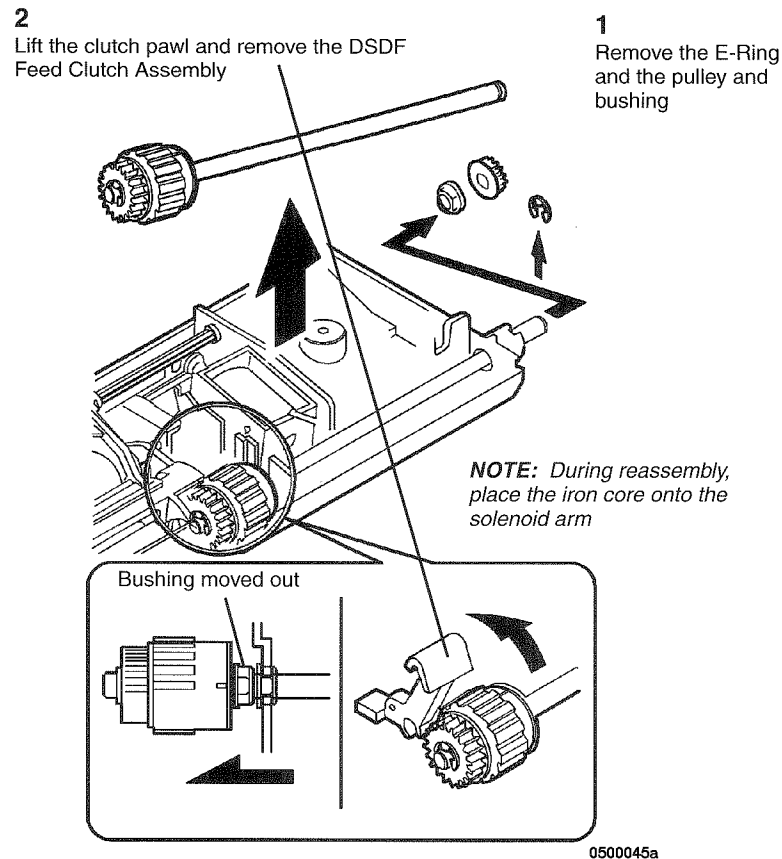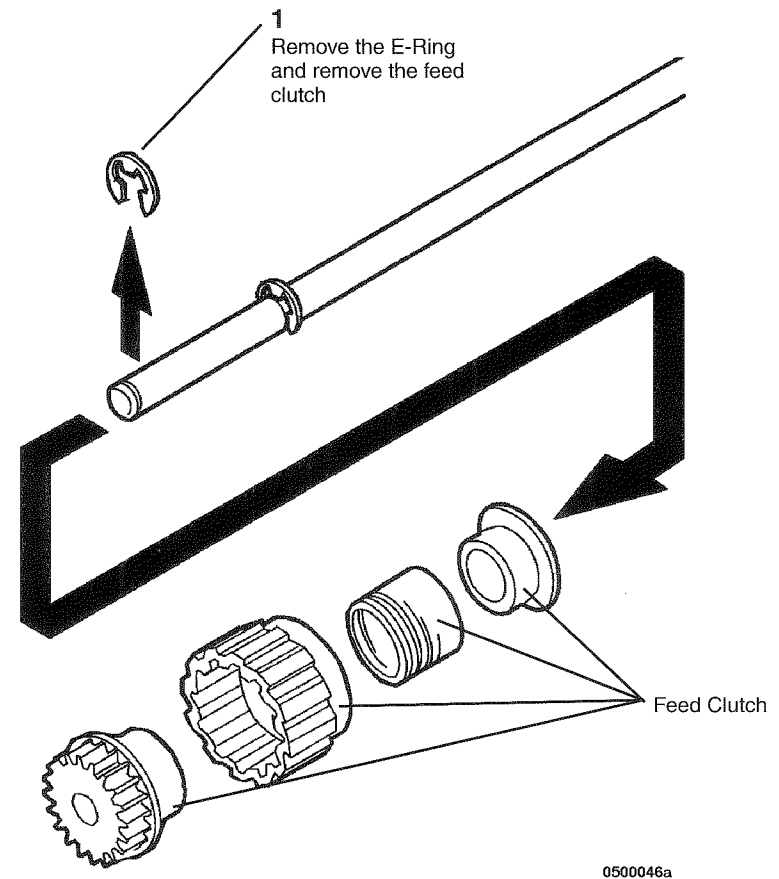
Figure 3 Removing the DSDF Feed Clutch

Replacement

CAUTION

If the position of the DSDF Feed Solenoid (SOL1) is adjusted too far to the left, the travel of the plunger will be restricted and it will be unable to fully actuate the Paper Gate and the Feed Roller.

If necessary, adjust the position of the DSDF Feed Solenoid (SOL1) slightly to ensure that the Feed Clutch Pawl clears the Clutch when the DSDF Feed Solenoid (SOL1) plunger is held in the energized position.

REP 5.19 DSDF Feed Roller/Retard Roller

Parts List on PL 9.2B

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the DSDF Feed Assembly (REP 5.22).
2. (Figure 1): Remove the Feed Assembly Top Cover.

Feed Assembly Top Cover

1
Remove the two screws and remove the Feed Assembly Top Cover

0500042a

Figure 1 Removing the Top Cover

3. (Figure 2): Remove the DSDF Feed Roller/Retard Roller Assembly.

NOTE: *During reassembly, place the Feed Assembly onto the solenoid arm*

1
Remove the Paper Gate Spring from the Paper Gate and move the gate out of the way

Paper Gate

Paper Gate Spring

Tension Spring

3
Remove the Feed Roller/Retard Roller Assembly

2
Move the Feed Roller/Retard Roller Assembly against the tension spring and move the bearing out of the frame
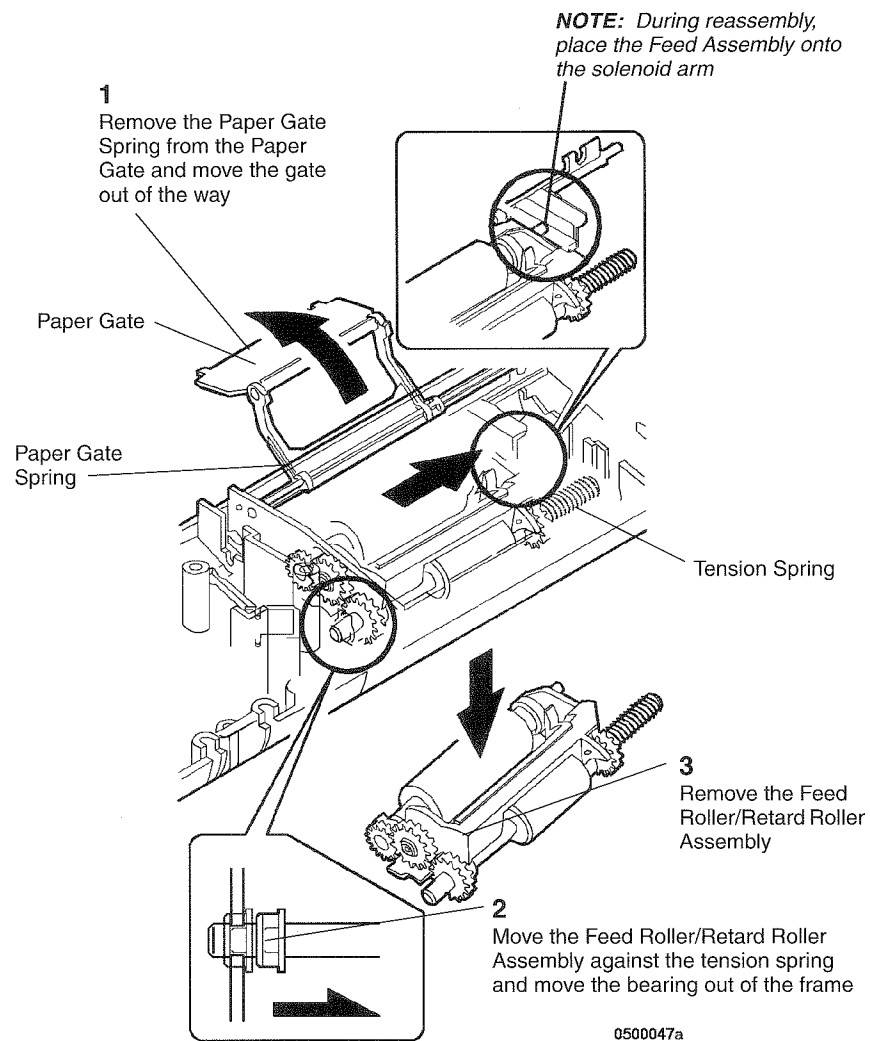
0500047a

Figure 2 Removing the Feed Assembly

4. (Figure 3): Remove the DSDF Feed Roller or Retard Roller.

2

Remove the pin and gear and remove the Retard Roller

Retard Roller

Gear

NOTE: Be careful not to lose the Feed Shaft gears or bushings

Feed Roller

Feed Shaft

1

Remove the E-Ring, gear and feed shaft and remove the Feed Roller
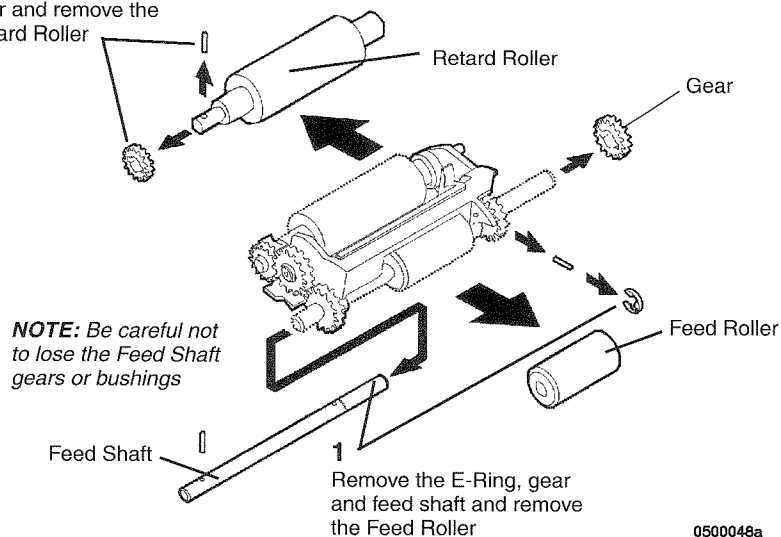
0500048a

Figure 3 Removing the DSDF Feed Roller or Retard Roller

REP 5.20 DSDF Drive Motor (MOT1)

Parts List on PL 9.4

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the DSDF Feed Assembly (REP 5.22).
2. Remove the DSDF Transport Assembly (REP 5.23).
3. (Figure 1): Remove the DSDF Drive Motor (MOT1).

DSDF Drive Motor (MOT1)

2

Remove the two screws and remove Drive Motor (MOT1)

1

Disconnect the connector

0500052a

Figure 1 Removing the Drive Motor (MOT1)

REP 5.21 DSDF Document Path Sensor (Q3)

Parts List on PL 9.4

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the DSDF Feed Assembly (REP 5.22).
2. Remove the DSDF Transport Assembly (REP 5.23).
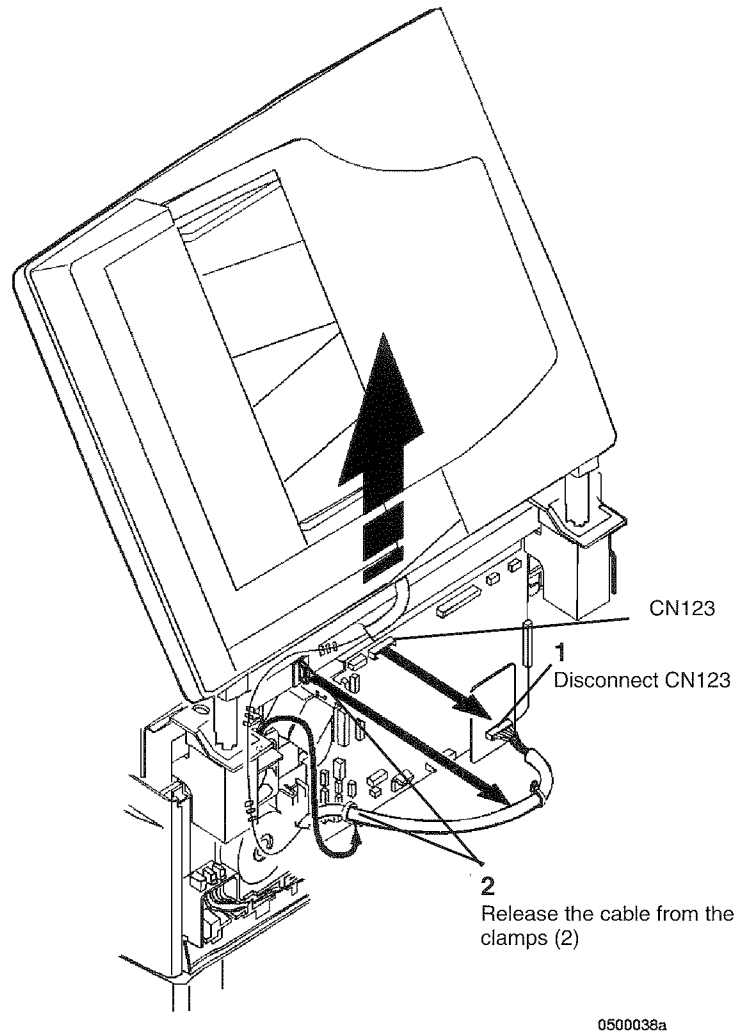3. (Figure 1): Remove the Document Guide.

1
Remove the two
screws and remove
the Document Guide

Document Guide

0500055a

Figure 1 Removing the Document Guide

4. (Figure 2): Remove the DSDF Transport Roller

1
Loosen the screw
and move the Docu-
ment Guide down

Document Guide

2
Remove the E-Rings
and bearings and
remove the Transport
Roller

DSDF Transport Roller

0500056a

Figure 2 Removing the Duplex Transport Roller

5. (Figure 3): Remove the SDF Document Path Sensor (Q3)

3
Disconnect the connector

2
Pinch the Tabs and push them through the frame to remove the sensor

Sensor Tabs

1
Loosen the screw until the Document Guide is released, and move it in the direction shown

Document Guide

0500057a

Figure 3 Removing the Document Path Sensor (Q3)

REP 5.22 DSDF Feed Assembly

Parts List on PL 9.2B

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. (Figure 1): Remove the Duplex Tray (PL 9.1B).

1
Remove the Duplex Tray
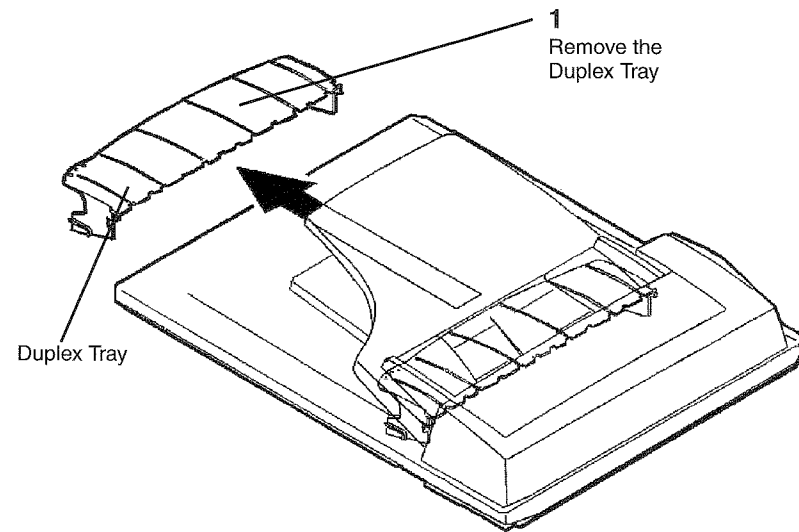
Duplex Tray

0500039a

Figure 1 Removing the Duplex Tray

2. (Figure 2): Remove the DSDF Cover (PL 9.1B).
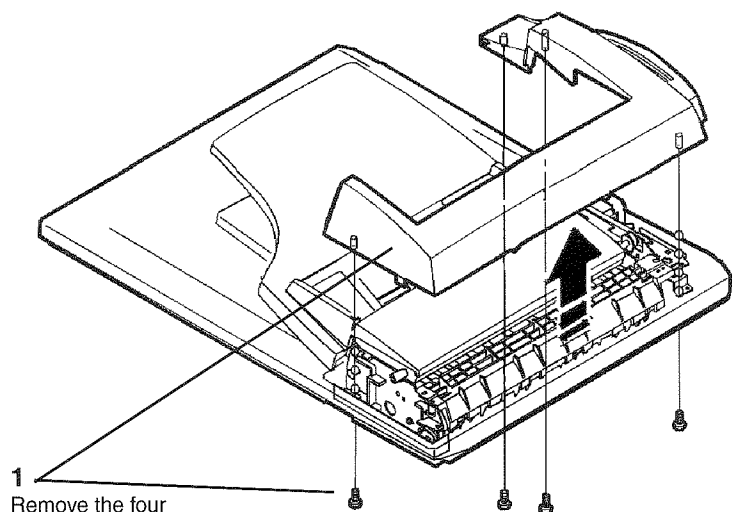
1
Remove the four
screws, and remove
the DSDF Cover

0500040a

Figure 2 Removing the DSDF Cover

3.   (Figure 3): Remove the DSDF Feed Assembly.

2
Remove the Tension Spring, the
Drive Belt, and remove the DSDF
Feed Assembly

NOTE:
Observe the
Two positions
of theTension
Spring

DSDF Feed
Assembly

1
Disconnect the
two connectors
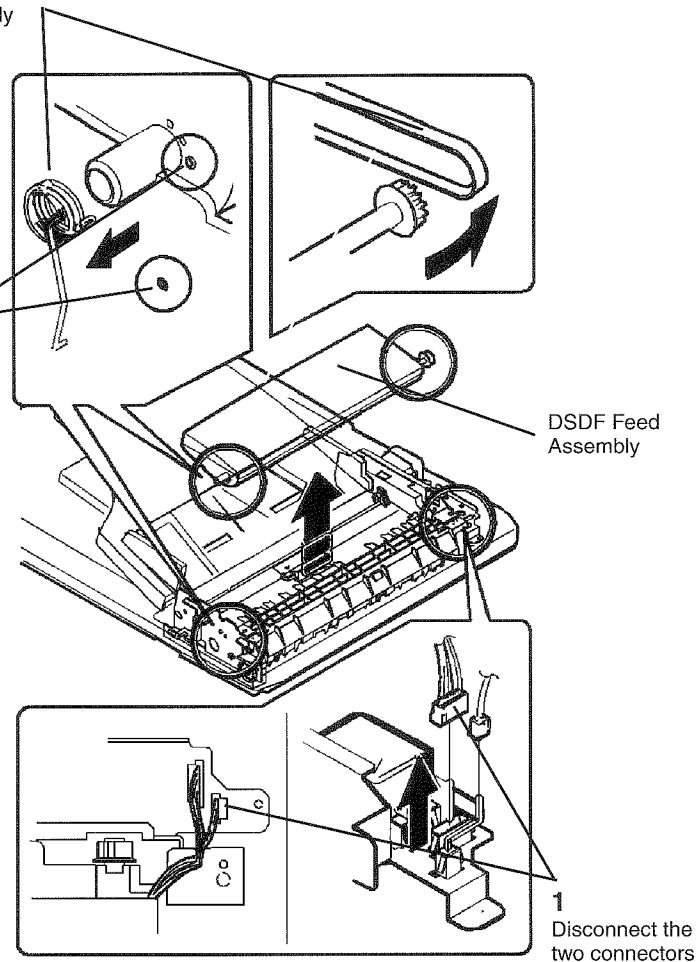
0500041a

Figure 3 Removing the DSDF Feed Assembly

REP 5.23 DSDF Transport Assembly

Parts List on PL 9.4

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the DSDF Feed Assembly (REP 5.22).
2. (Figure 1): Remove the Transport Assembly.

2
Disconnect the connector

Deflection Gate Solenoid

1
Remove the two screws and remove the Document Tray

NOTE: Observe the position of the pinch roll solenoid bracket

3
Remove the five screws and remove the Transport Assembly

Transport Assembly

0500049a

Figure 1 Removing the Transport Assembly

3. (Figure 2): Remove the DSDF Transport Drive Belt.

1
Slip the belt off the pulley and remove the belt

pulley

Exit Drive Belt   0500050a
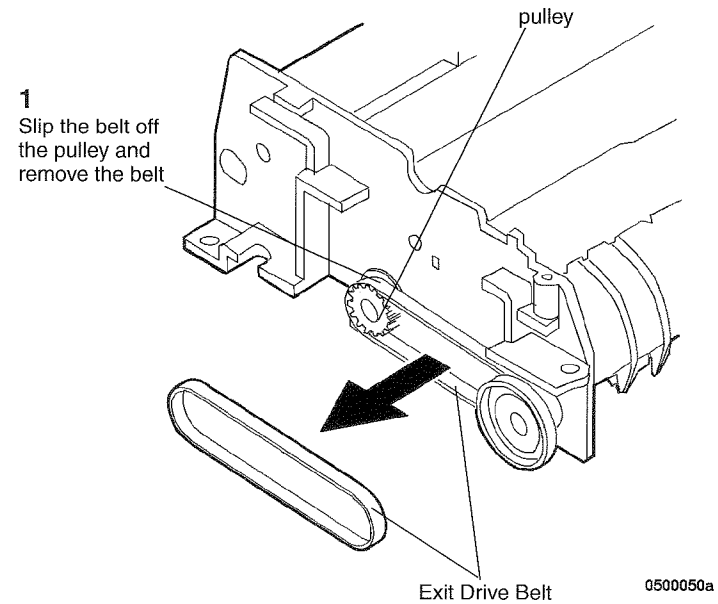
Figure 2 Removing the Transport Drive Belt

4. (Figure 3): Remove the DSDF Drive Belt

Drive Motor Bracket

1
Remove the three screws and remove the Drive Motor Bracket

Drive Belt

NOTE: *The Drive Motor Bracket will have wires connected to it that are not shown*

NOTE: *During reassembly place the Drive Belt as shown*
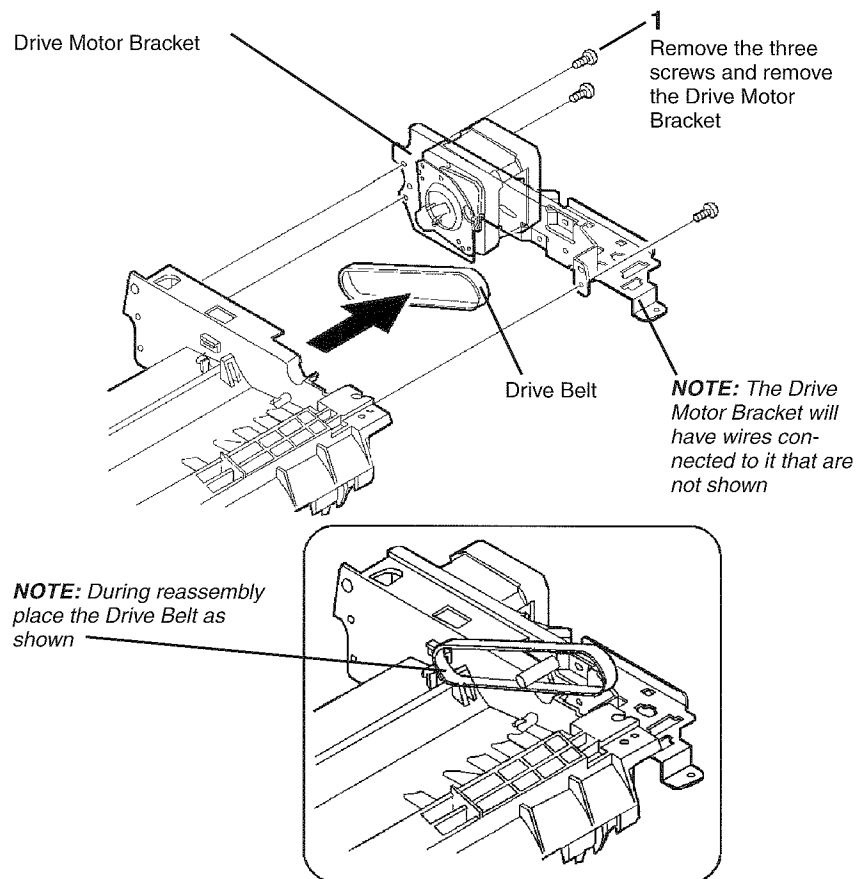
0500051a

Figure 3 Removing the DSDF Drive Belt

REP 5.24 DSDF Exit Roll Solenoid (SOL2)

Parts List on PL 9.4

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the DSDF Feed Assembly (REP 5.22).
2. Remove the DSDF Transport Assembly (REP 5.23).
3. (Figure 1): Remove the DSDF Exit Roll Solenoid (SOL2)

DSDF Exit Roll Solenoid (SOL2)

2
Remove the two screws and remove DSDF Exit Roll Solenoid (SOL2)

1
Disconnect the connector
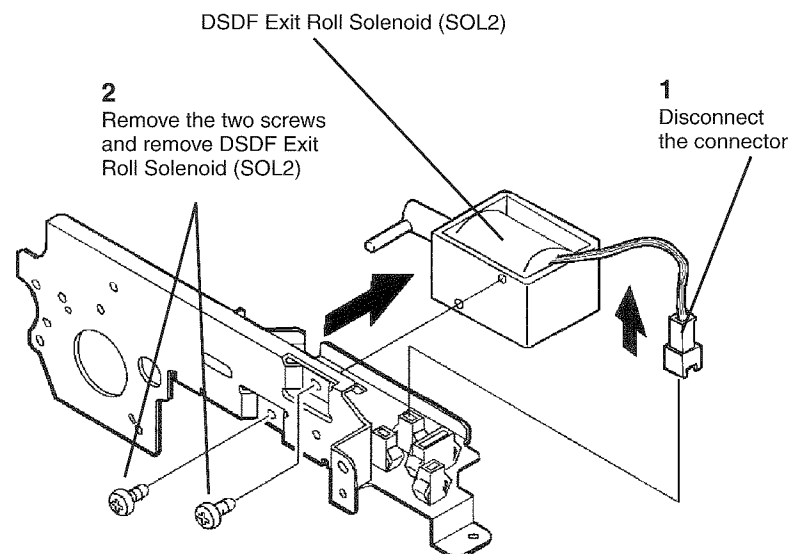
Figure 1 Removing the Exit Roll Solenoid (SOL2)

REP 5.25 DSDF Exit Roller

Parts List on PL 9.4

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

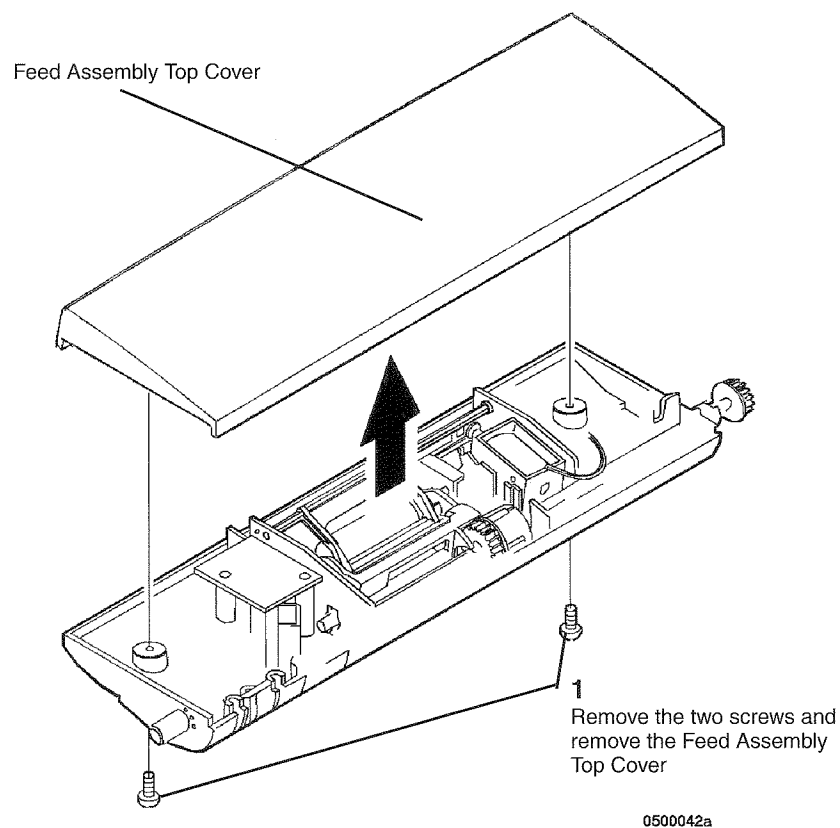1. Remove the DSDF Feed Assembly (REP 5.22).
2. Remove the DSDF Transport Assembly (REP 5.23).
3. Remove the DSDF Transport Roller (REP 5.26).
4. Remove the DSDF Duplex Transport Roller (REP 5.27).
5. (Figure 1): Remove the Lower Paper Guide.

Upper Paper Guide

Lower Paper Guide

1
Remove the two screws and remove the Lower Paper Guide

1
Remove the two screws and remove the Upper Paper Guide

0500062a
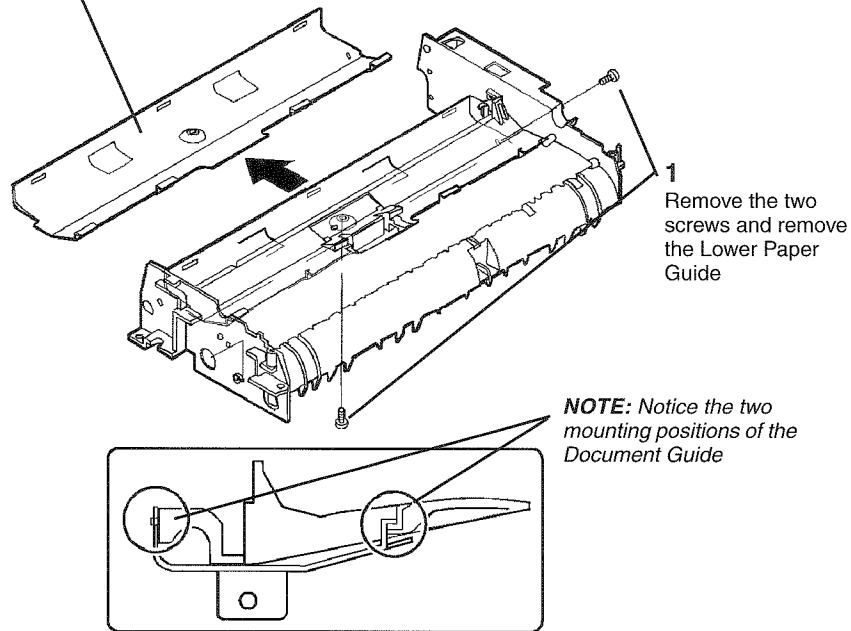
NOTE: Notice the two mounting positions of the Document Guide
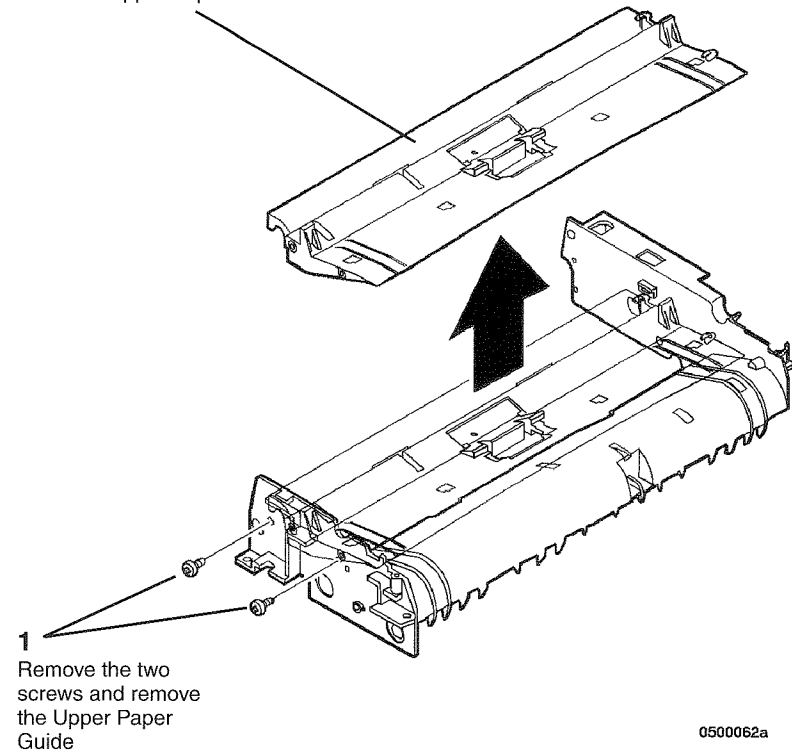
Figure 2 Removing the Upper Paper Guide

7. (Figure 3): Remove the DSDF Exit Roller

0500061a

Figure 1 Removing the Document Guide

6. (Figure 2): Remove the Upper Paper Guide

1

Remove the E-Rings and remove the Hardware shown

DSDF Exit Roller

2

Remove the DSDF Exit Roller

0500063a
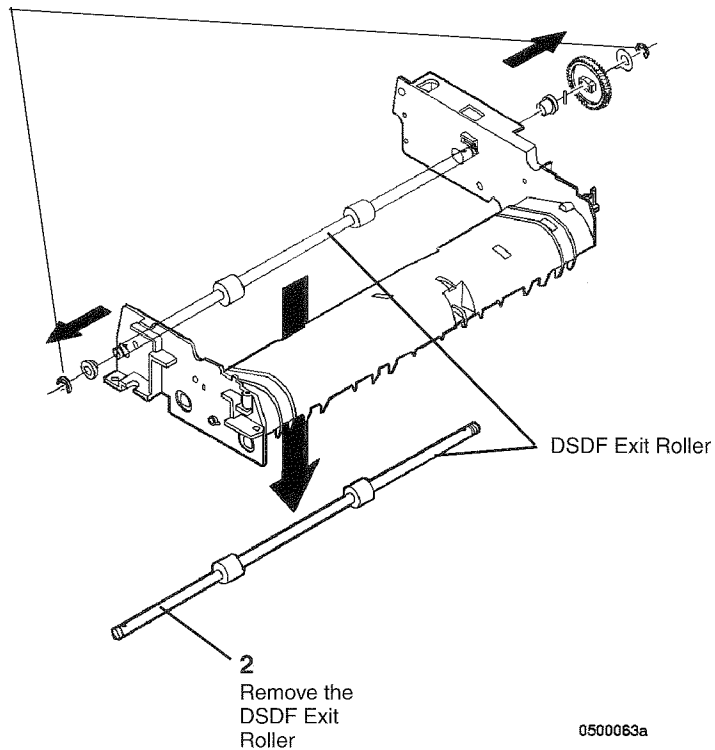
Figure 3 Removing the DSDF Exit Roller

REP 5.26 DSDF Transport Roller

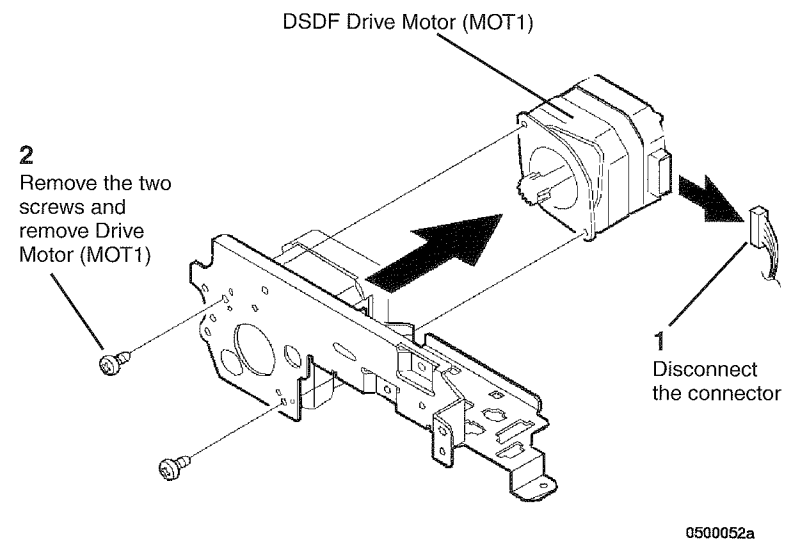Parts List on PL 9.4

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the DSDF Feed Assembly (REP 5.22).

2. Remove the DSDF Transport Assembly (REP 5.23).

3. (Figure 1): Remove the Document Guide.

1

Remove the two screws and remove the Document Guide

Document Guide

0500055a

Figure 1 Removing the Document Guide

4. (Figure 2): Remove the DSDF Duplex Transport Roller

1
Loosen the screw and move the Paper Guide down

Document Guide

2
Remove the E-Rings and bearings and remove the Duplex Transport Roller

Duplex Transport Roller

0500056a

Figure 2 Removing the Duplex Transport Roller

REP 5.27 DSDF Duplex Transport Roller

Parts List on PL 9.4

Removal

<div align="center">WARNING</div>

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the DSDF Feed Assembly (REP 5.22).
2. Remove the DSDF Transport Assembly (REP 5.23).
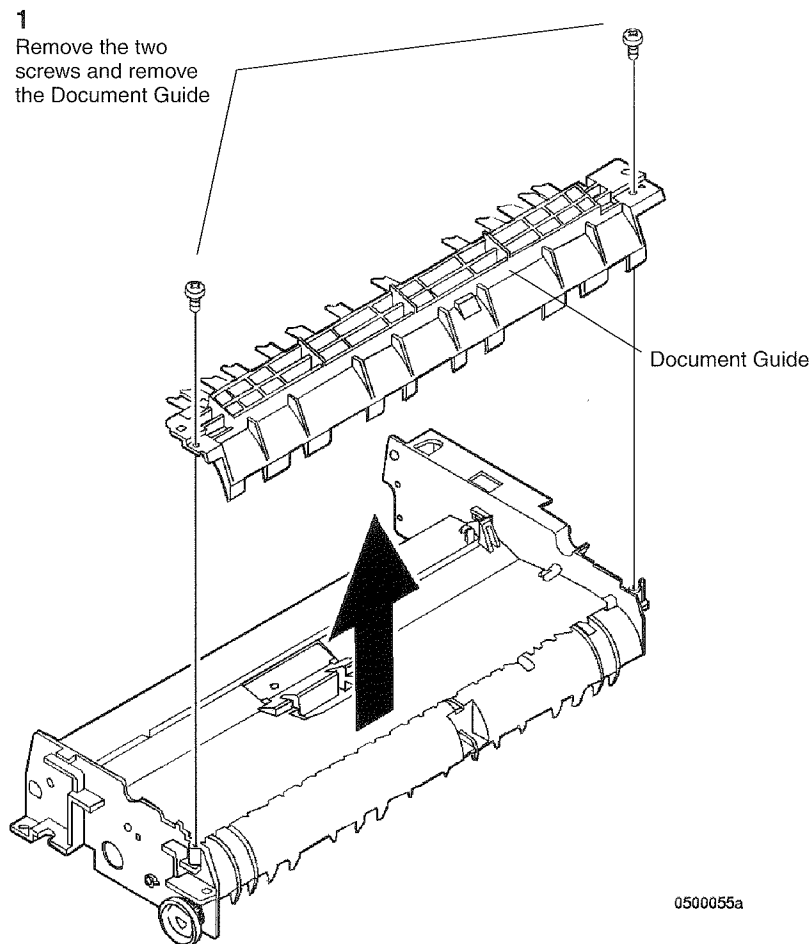3. (Figure 1): Remove the Document Guide.

1
Remove the two screws and remove the Document Guide
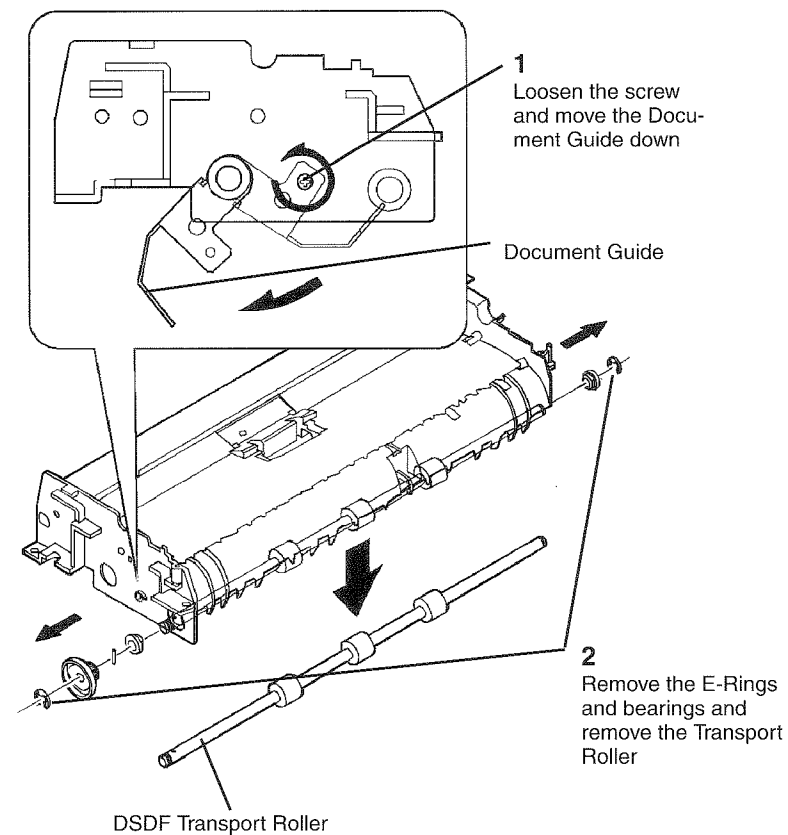

Document Guide

0500055a

Figure 1 Removing the Document Guide

4. (Figure 2): Remove the DSDF Transport Roll Clutch (CL1)

1
Remove the E-Rings
and bearings and
remove the DSDF
Transport Roll Clutch
(CL1)
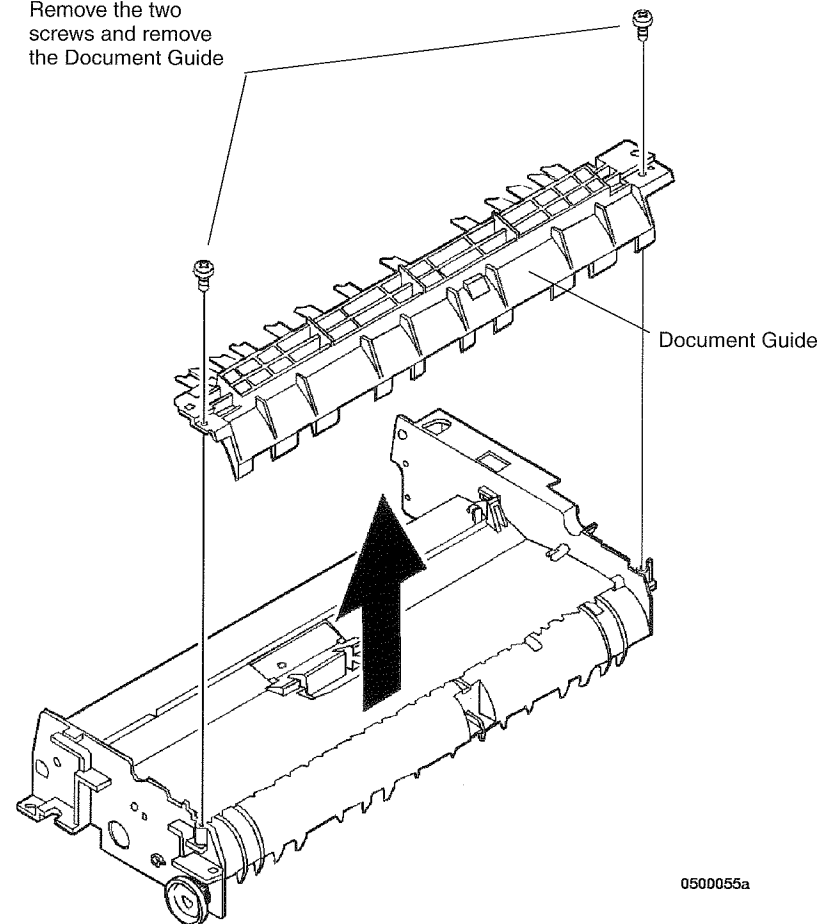
DSDF Transport Roll
Clutch (CL1)
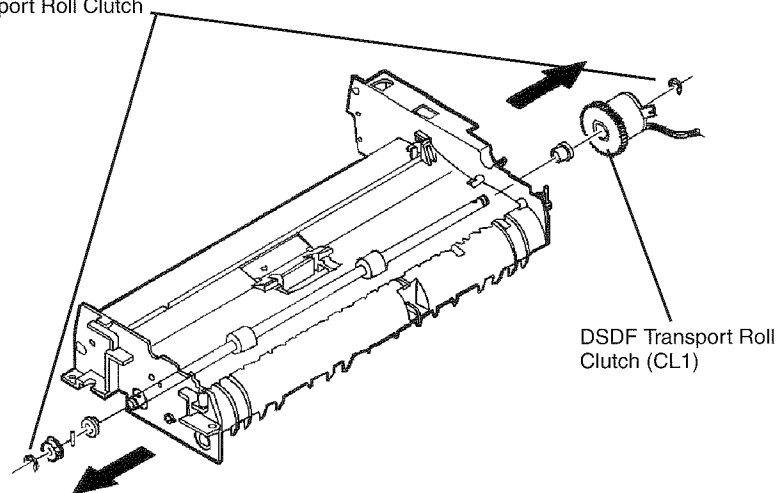
0500058a

Figure 2 Removing the Transport Roll Clutch (CL1)

5.   (Figure 3): Remove the DSDF Duplex Gate

2
Remove the Duplex
Gate (snaps off)

Duplex Gate

1
Loosen the screw and
move the Document
Guide down
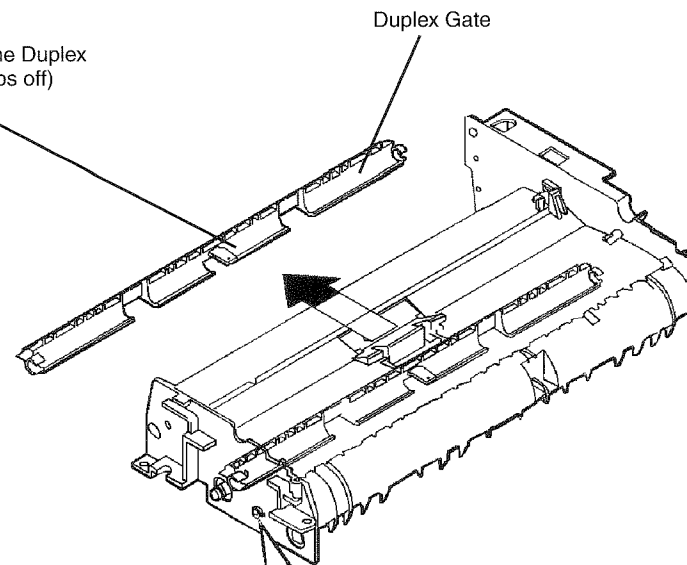
Document Guide
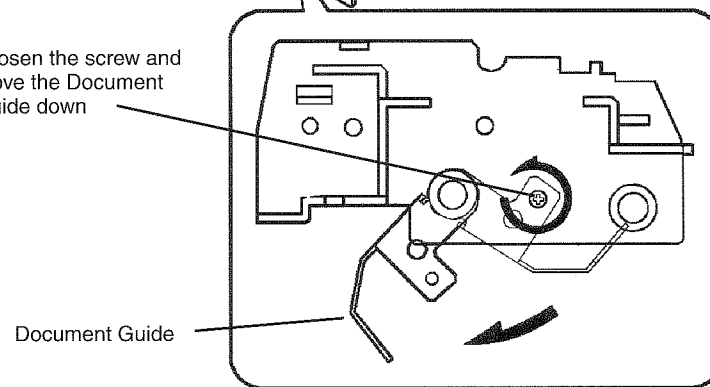
0500059a

Figure 3 Removing the Duplex Transport Roller

6.   (Figure 4): Remove the DSDF Duplex Transport Roller

Remove the Document Guide and the Duplex Transport Roller

Document Guide

Duplex Transport Roller

0500060a

Figure 4 Removing the Duplex Transport Roller

REP 5.28 DSDF Duplex Drive Roller

Parts List on PL 1.4

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Unlatch the Transfer/Detact Corotron at each end and remove it.
2. (Figure 1): Remove the Inner Paper Guide.

Side Door

1
Remove the spring and the Ground wire

2
Remove the four screws and remove the Inner Paper Guide

Inner Paper Guide
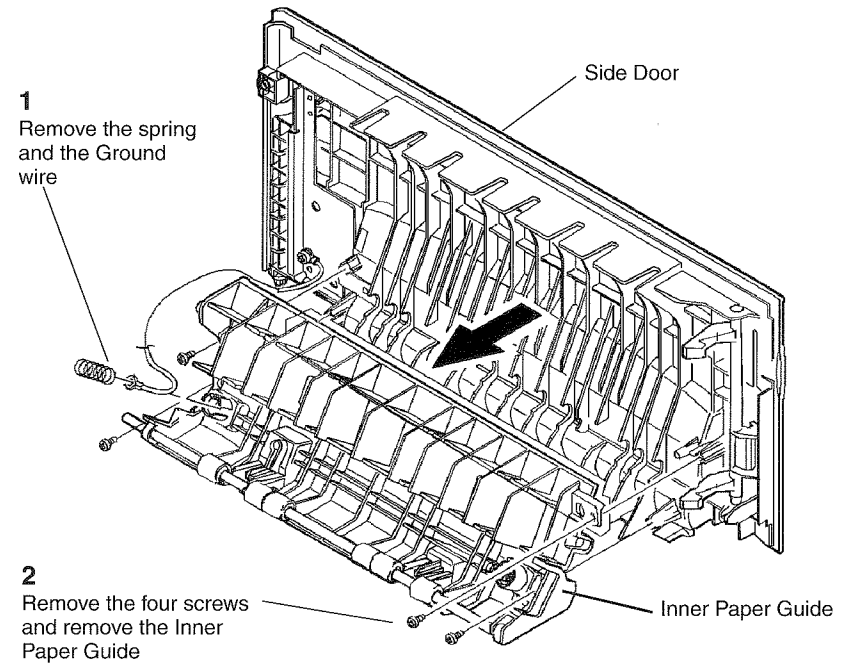
0500034a

Figure 1 Removing the Covers

3. (Figure 2): Remove the Duplex Drive Roller.

1
Bend the flexible Duplex Drive
Roller at the center and remove it

Duplex Drive Roller

0500035a

Figure 2 Removing the Duplex Drive Roller

REP 5.29 DSDF Deflection Gate Solenoid (SOL3)

Parts List on PL 9.1B

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1.   Remove the DSDF Feed Assembly (REP 5.22).
2.   Remove the DSDF Transport Assembly (REP 5.23).
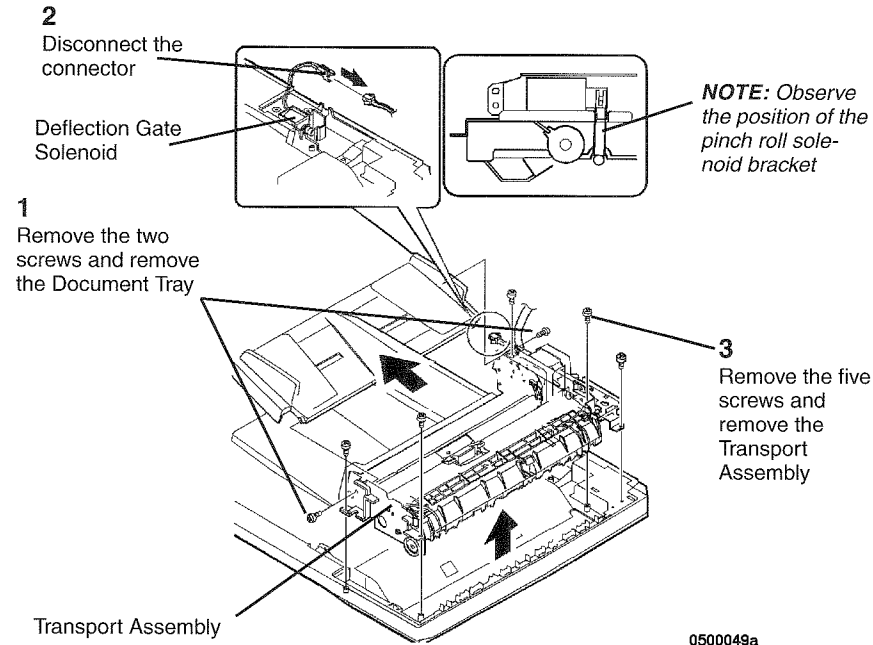3.   (Figure 1): Remove the Deflection Gate.

NOTE: Notice the position of the Gate Spring (next to the inside frame) before removing it

2
Lift the Deflection
Gate up and remove
it

1
Remove the retainer
clip and slip the bear-
ing out of the inside
frame

Deflection Gate

NOTE: Notice the position of the Deflection Gate mounting on the solenoid before removing it

0500064a

Figure 1 Removing the Document Guide

4.   (Figure 2): Remove the DSDF Deflection Gate Solenoid (SOL3)

Deflection Gate
Solenoid (SOL3)

1
Remove the screw
and remove the
Deflection Gate Sole-
noid (SOL3)

0500065a

Figure 2 Removing the Deflection Gate Solenoid (SOL3)

REP 5.30 Exit Drive Motor (MOT5)

Parts List on PL 2.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the Document Cover/Document Feeder Assembly.
2. (Figure 1): Remove the Rear Cover and the Access Cover.

1
Remove the four
screws

2
Remove the
two covers

0500030a

Figure 1 Removing the Covers

3. (Figure 2): Remove the PWB Cover.

Document Cover Closed
Sensor (Q9)

Main PWB Cover

Ground Wire

1
Remove the six
screws and remove
the cover

0500031a

Figure 2 Removing the PWB Cover

4.   (Figure 3): Remove the Main PWB.

Main PWB

1
Disconnect all
connectors to the
Main PWB

2
Remove the six
screws and
remove the Main
PWB

0500032a

Figure 3 Removing the Main PWB

5.   (Figure 4): Remove the Exit Drive MOtor (MOT5).

NOTE: Be sure to engage the
Exit Drive Motor Gear with the
belt

1
Remove the two screws, remove
the Exit Drive Motor Cover, and
Exit Drive Motor (MOT5)

0500033a
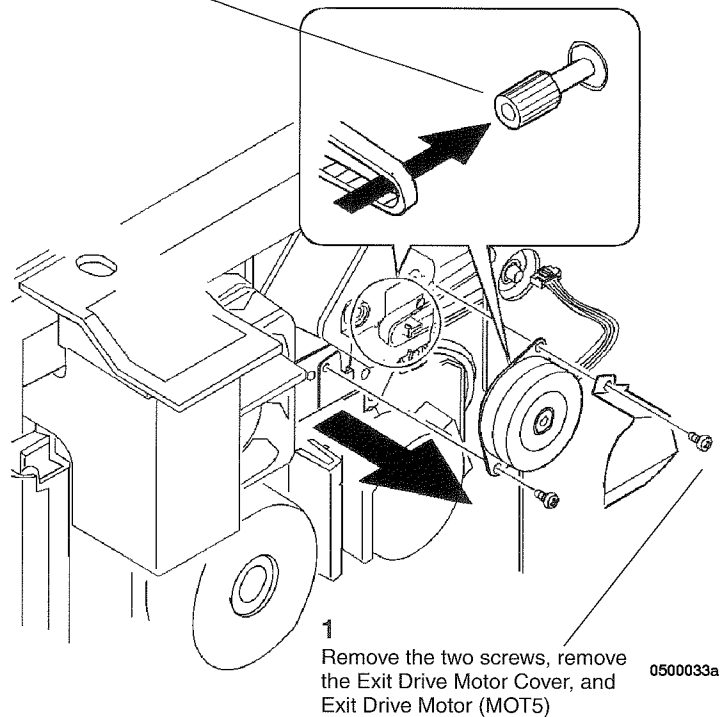
Figure 4 Removing the Exit Drive Motor (MOT5)

REP 5.31 DSDF Clutch (CL1)

Parts List on PL 9.4

Removal

<center>WARNING</center>

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the DSDF Feed Assembly (REP 5.22).
2. Remove the DSDF Transport Assembly (REP 5.23).
3. (Figure 1): Remove the Transport Assembly.

*NOTE: Observe the
position of the clutch
engagement*

2
Remove the E-Ring and
remove the clutch

Clutch (CL1)

1
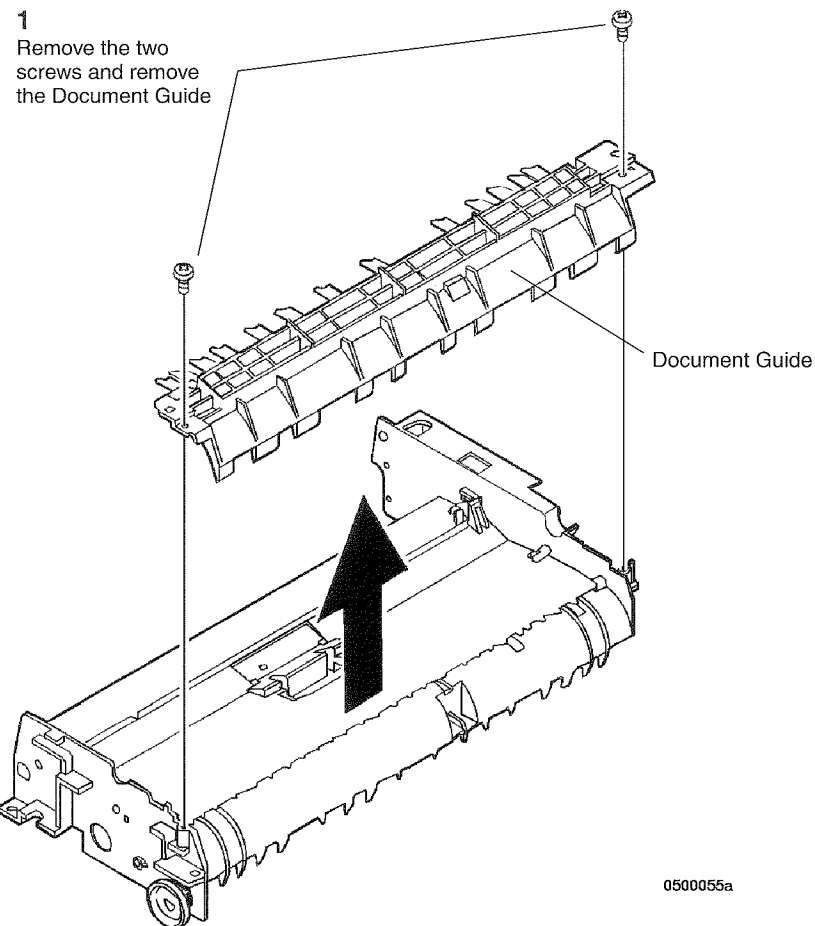Remove the two Tie wraps and
disconnect the connector

0500054a
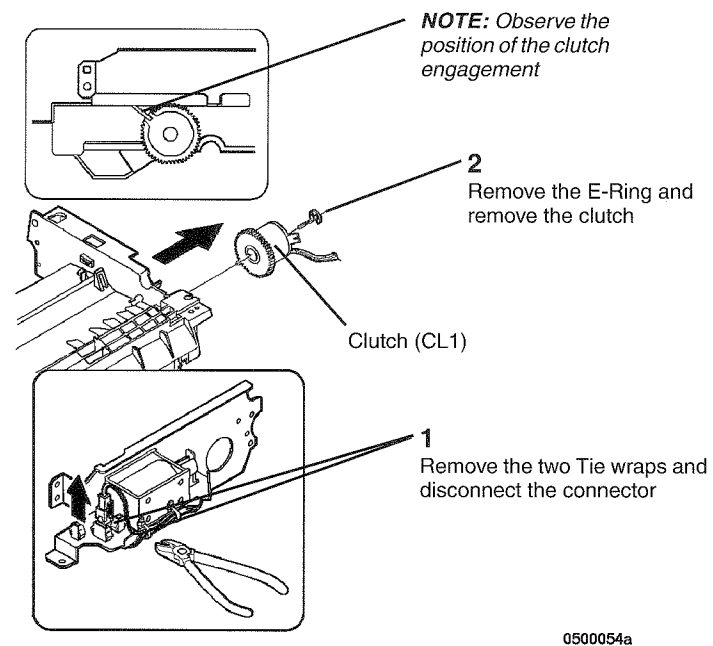
Figure 1 Removing the DSDF Clutch (CL1)

REP 6.1 Document Glass Assembly

Parts List on PL 1.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
2. (Figure 1): Remove the Document Glass Assembly.

3
Remove the
Document Glass
Assembly

2
Remove the Top
Left Cover

1
Remove the
screw

SKY009N

Figure 1 Removing the Document Glass Assembly

REP 6.2 Exposure Lamp Carriage

Parts List on PL 3.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
   d. Document Glass Assembly (REP 6.1)
2. (Figure 1): Prepare to remove the Exposure Lamp Carriage.

1
Remove the
screw and the
bracket (Front
and Rear)

2
Disconnect the
carriage from the
Scan Cable
(Front and Rear)

SKY010T

Figure 1 Preparing to Remove the Exposure Lamp Carriage

Be careful not to damage the ribbon cable.

3. (Figure 2): Remove the Exposure Lamp Carriage.

3
Remove the Exposure
Lamp Carriage

2
Disconnect the
Ribbon Cable

1
Move the carriage
to the frame cutout
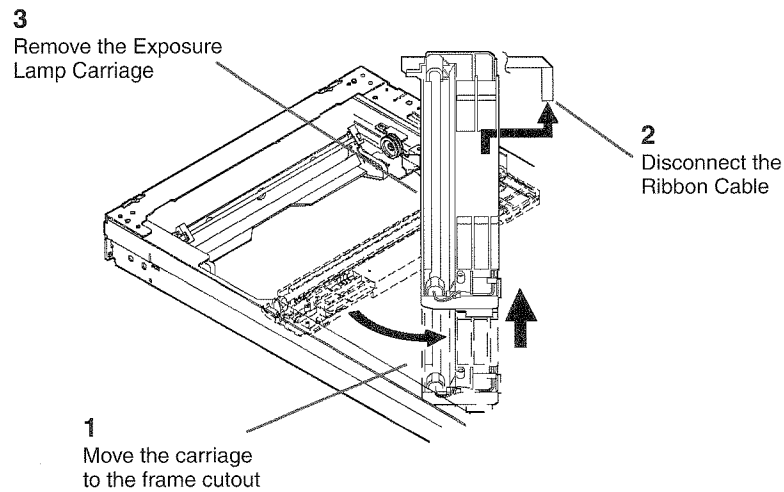
SKY011N

Figure 2 Removing the Exposure Lamp Carriage

Replacement

After reassembling the machine, perform the following adjustment:

•   Image Distortion (Horizontal and Vertical) ADJ 6.7.

REP 6.3 Scan Drive Motor (MOT2)

Parts List on PL 3.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the PWB Cover (PL 7.1).
4. (Figure 1): Remove the Scan Drive Motor.

1
Disconnect the
Ribbon Cable

2
Remove the
screws

3
Remove the
motor

SKY061N

Figure 1 Removing the Scan Drive Motor

REP 6.4 Laser Module

Parts List on PL 3.3

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
   d. Top Left Cover
   e. Side Door
   f. Document Glass Assembly (REP 6.1)
   g. Control Console (REP 14.5)
   h. Main PWB (REP 1.1)
   i. Optics Frame Assembly (REP 6.6)
   j. Exit Roller (REP 8.9)
   k. Manual Exit Drive Belt (REP 8.10)
2. (Figure 1): Remove the Laser Module.

1
Remove the
screws (6)

2
Remove the
Laser Module
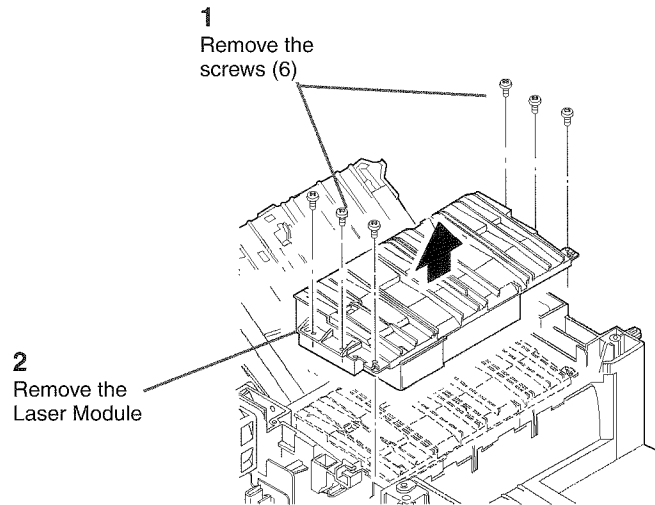
SKY039N

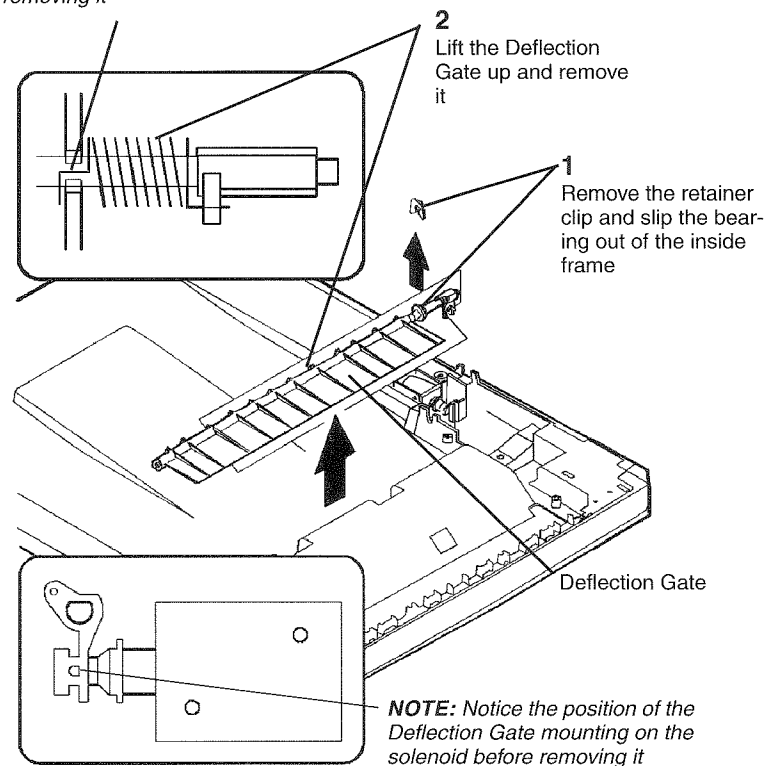**Figure 1 Removing the Laser Module**

REP 6.5 Lens/CCD Module

Parts List on PL 3.2

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
2. Remove the Document Glass Assembly (REP 6.1).
3. (Figure 1): Remove the Lens/CCD Module.

1
Remove the
screws (4) and
the Lens Cover

3
Remove the
screws (2)

2
Disconnect the
Ribbon Cable

4
Remove the
module

Screw Location
(Front)

Screw Location
(Rear)
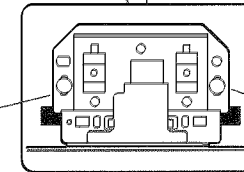
SKY012N

Figure 1 Removing the Lens/CCD Module

Replacement

1. If the Lens/CCD Module is being replaced, perform Lens/CCD Module (ADJ 6.2).

REP 6.6 Optics Frame Assembly

Parts List on PL 3.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
    a. Document Cover Assembly
    b. Rear Cover
    c. Top Right Cover
    d. Top Left Cover
    e. Document Glass Assembly (REP 6.1)
    f. Control Console (REP 14.5)
    g. Main PWB (REP 1.1)
2. Remove the three screws from the upper portion of the PWB Mounting Bracket (PL 7.1).
3. (Figure 1): Remove the Optics Frame Assembly.

1
Remove the five screws from inside the
Optics Frame Assembly

3
Remove the
Optics Frame
Assembly

2
Remove the two
screws from out-
side the Optics
Frame Assembly

SKY028N

Figure 1 Removing the Optics Frame Assembly

REP 8.1 Paper Feed Solenoid (SOL1)

Parts List on PL 2.2

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
   d. Top Left Cover
   e. Side Door
   f. Document Glass Assembly (REP 6.1)
   g. Control Console (REP 14.5)
   h. Main PWB (REP 1.1)
   i. Optics Frame Assembly (REP 6.6)
   j. Exit Roller (REP 8.9)
   k. Manual Exit Drive Belt (REP 8.10)
   l. Main Drive Assembly (REP 8.12)
2. (Figure 1): Remove the Paper Feed Solenoid.

1 Remove the screw

2 Remove the solenoid

SKY038Nb

Figure 1 Removing the Paper Feed Solenoid

REP 8.2 Registration Roll Solenoid (SOL3)

Parts List on PL 2.2

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
   d. Top Left Cover
   e. Side Door
   f. Document Glass Assembly (REP 6.1)
   g. Control Console (REP 14.5)
   h. Main PWB (REP 1.1)
   i. Optics Frame Assembly (REP 6.6)
   j. Exit Roller (REP 8.9)
   k. Manual Exit Drive Belt (REP 8.10)
   l. Main Drive Assembly (REP 8.12)
2. (Figure 1): Remove the Registration Roll Solenoid.

1 Remove the screw

2 Remove the solenoid

SKY038NA

Figure 1 Removing the Registration Roll Solenoid

REP 8.3 Tray 1 Paper Feed Sensor (Q1)

Parts List on PL 5.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
   d. Top Left Cover
   e. Side Door
   f. Document Glass Assembly (REP 6.1)
   g. Control Console (REP 14.5)
   h. Main PWB (REP 1.1)
   i. Optics Frame Assembly (REP 6.6)
   j. Laser Module (REP 6.4)
2. (Figure 1): Remove the Upper Front Paper Guide.

1
Remove the screws (3)

2
Remove the guide

SKY042N

Figure 1 Removing the Upper Front Paper Guide

3. (Figure 2): Remove the Paper Feed Sensor.

1
Remove the screw

2
Remove the sensor

SKY043N

Figure 2 Removing the Paper Feed Sensor
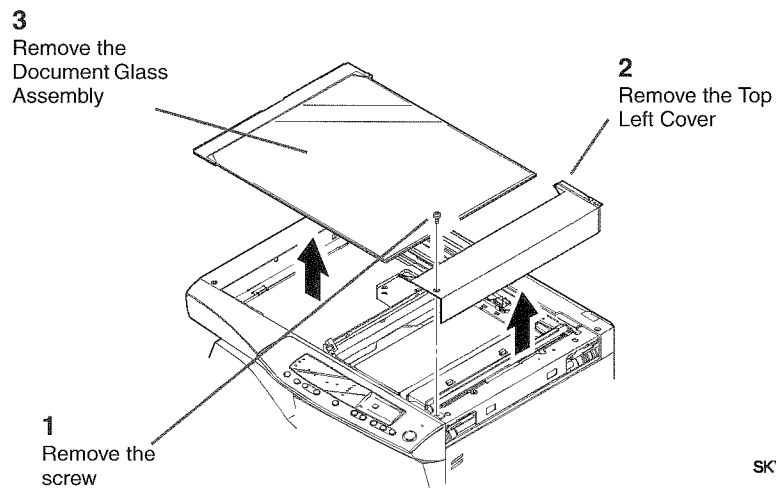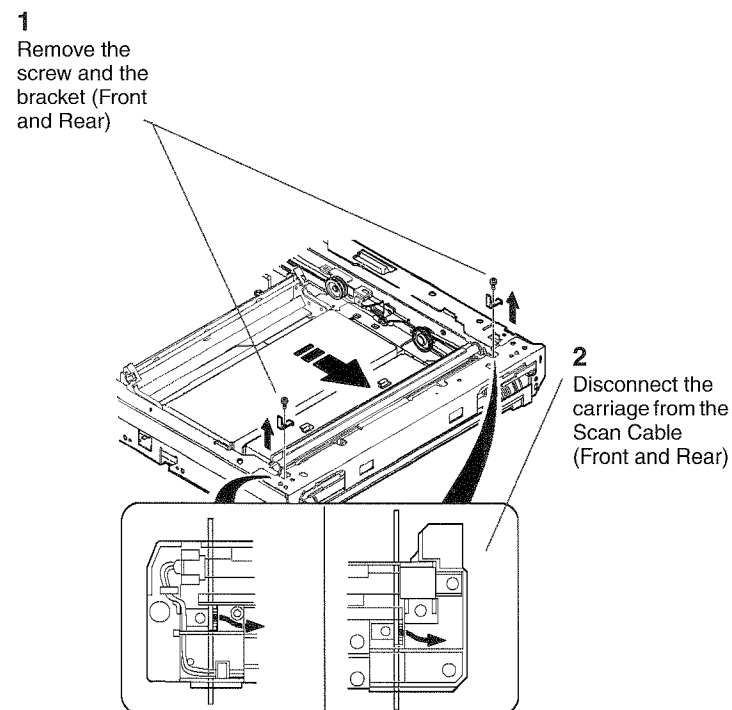
REP 8.5 Tray Detect Switch Harness

Parts List on PL 5.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
   d. Top Left Cover
   e. Side Door
   f. Document Glass Assembly (REP 6.1)
   g. Control Console (REP 14.5)
   h. Main PWB (REP 1.1)
   i. Optics Frame Assembly (REP 6.6)
   j. Laser Module (REP 6.4)
   k. Main Drive Assembly (REP 8.12)
2. (Figure 1): Remove the Intermediate Frame Assembly.

2
Remove the screws (5)

4
Remove the assembly

3
Disconnect the connectors and the ground wire

1
Remove the two screws and the Fuser Connector

SKY040N

Figure 1 Removing the Intermediate Frame Assembly

3. (Figure 2): Remove the Upper Front Paper Guide.

1
Remove the
screws (3)

2
Remove the
guide

SKY042N

Figure 2 Removing the Upper Front Paper Guide

4.   (Figure 3): Remove the Tray Detect Switch Harness.

3
Remove the
harness from
the switch

1
Release
the tabs

2
Remove the
switch from
the base

SKY050N

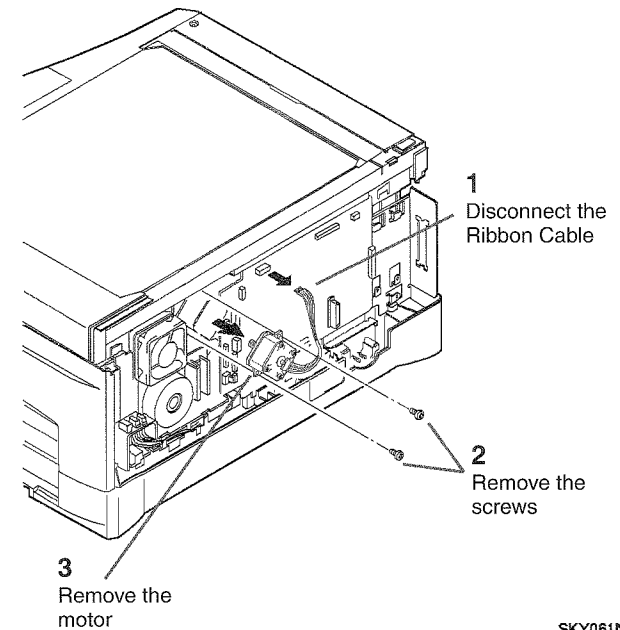**Figure 3 Removing the Tray Detect Switch Harness**

REP 8.6 Paper Feed Roller

Parts List on PL 5.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1.   Remove the Paper Tray.

2.   (Figure 1): Remove the Paper Feed Roller.

2
Remove the
E-rings and
the clutch

1
Raise the side of the
copier and remove
the E-ring and the
roller
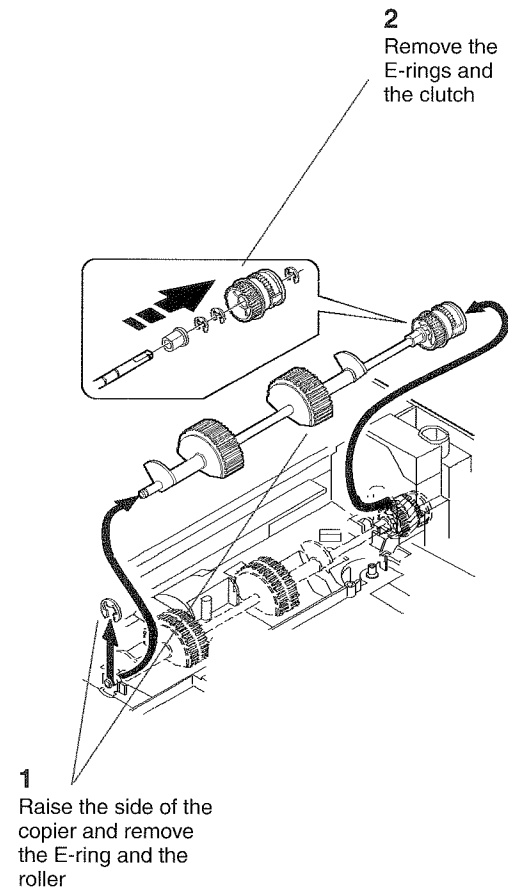
SKY044T

Figure 1 Removing the Paper Feed Roller

REP 8.8 Side Door Interlock Switch (S3/S4)

Parts List on PL 5.4

Removal

WARNING
Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Toner Cartridge
   b. Drum Cartridge
   c. Remove the Document Cover/Document Feeder Assembly from the hinge housings and place it on top of the machine.
   d. Rear Cover
   e. Top Right Cover
   f. Side Door
   g. Fuser Assembly

NOTE: Although the Upper Covers on the XD100 and the XD102 are not identical to the Upper Cover on the XD104, this procedure may be used to remove the similar components.

2. (Figure 1): Remove the bypass Upper Cover.

1
Remove the screw

4
Remove the cover

Hidden tab

3
Insert a small screwdriver here and gently pry to release the hidden tab.

2
Release the tab
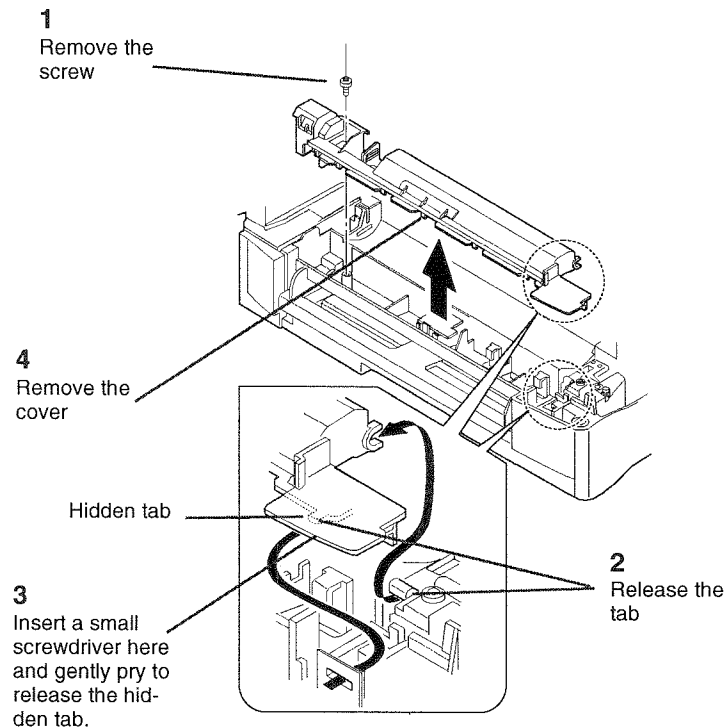
SKY045N

Figure 1 Removing the Upper Cover

3. (Figure 2): Remove the Side Door Interlock Switch.

2
Remove the
switch

1
Remove the
screw
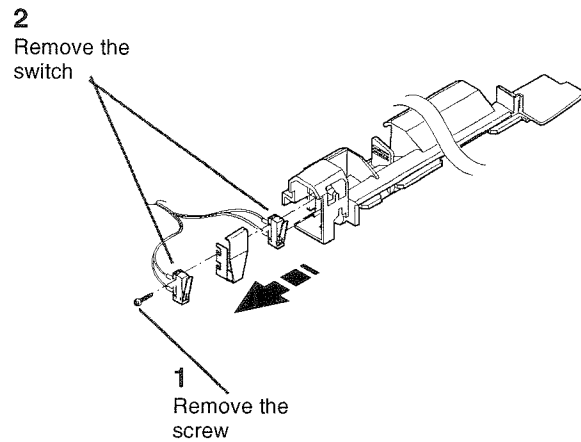
SKY046N

Figure 2 Removing the Side Door Interlock Switch

REP 8.9 Exit Roller

Parts List on PL 2.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
    a. Document Cover Assembly
    b. Rear Cover
    c. Top Right Cover
    d. Top Left Cover
    e. Document Glass Assembly (REP 6.1)
    f. Control Console (REP 14.5)
    g. Main PWB (REP 1.1)
    h. Optics Frame Assembly (REP 6.6)
2. (Figure 1): Open the Exit Guide.

2
Open the Exit
Guide

1
Disconnect the
springs

SKY031N

Figure 1 Opening the Exit Guide

3. (Figure 2): Remove the Exit Roller.

3
Align the flat
surfaces

1
Release the
tab and
remove the
pulley

4
Lift the Exit Roller
straight up, being care-
ful not to break the
mounting holders

2
Release the
tab and
remove the
pulley
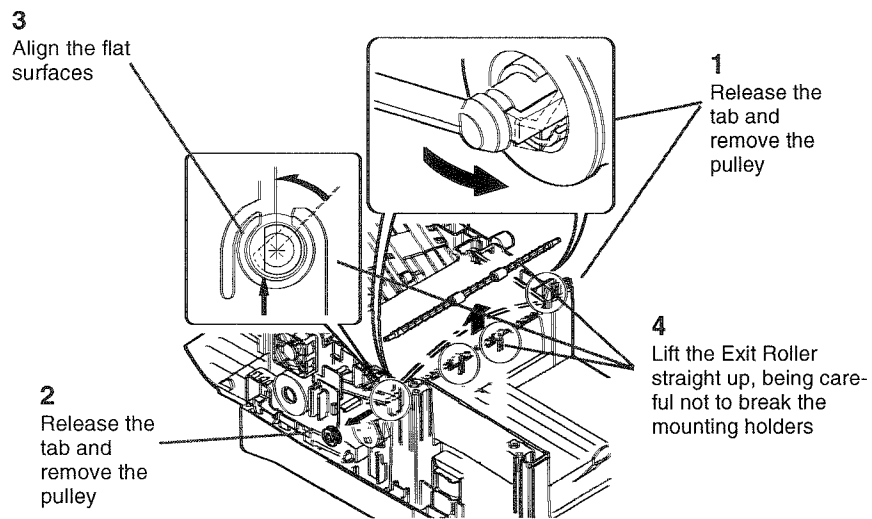
SKY032N

Figure 2 Removing the Exit Roller
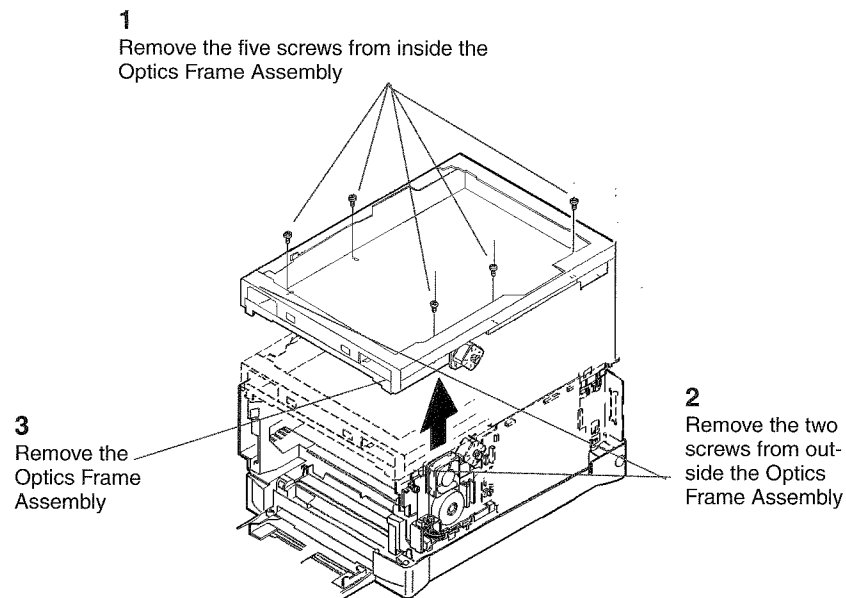
REP 8.10 Manual Exit Drive Belt

Parts List on PL 2.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
   d. Top Left Cover
   e. Document Glass Assembly (REP 6.1)
   f. Control Console (REP 14.5)
   g. Main PWB (REP 1.1)
   h. Optics Frame Assembly (REP 6.6)
   i. Exit Roller (REP 8.9)
2. (Figure 1): Remove the Manual Exit Drive Belt.

2
Remove the
belt

1
Lift the tab and
remove the
knob

SKY033N

Figure 1 Removing the Manual Exit Drive Belt

REP 8.11 Lower Transport Roller
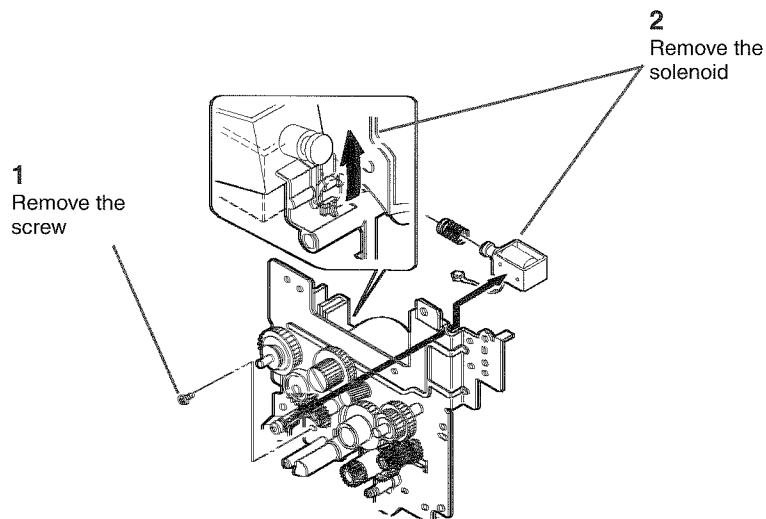
Parts List on PL 2.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
   d. Top Left Cover
   e. Document Glass Assembly (REP 6.1)
   f. Control Console (REP 14.5)
   g. Main PWB (REP 1.1)
   h. Optics Frame Assembly (REP 6.6)
   i. Exit Roller (REP 8.9)
   j. Manual Exit Drive Belt (REP 8.10)
2. (Figure 1): Prepare to remove the roller.

1 Remove the roller

SKY035N

Figure 2 Removing the Lower Transport Roller

2 Move the bearing

1 Lift the tab and move the pulley
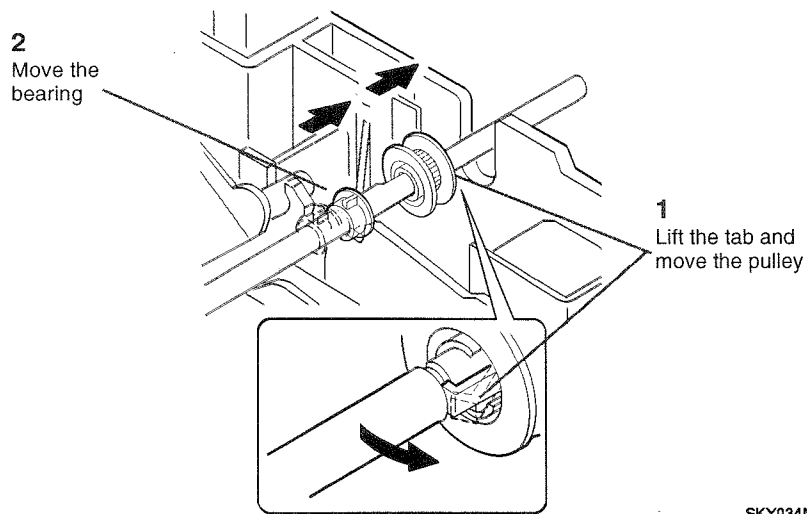
SKY034N

Figure 1 Preparing to Remove the Roller

3. (Figure 2): Remove the Lower Transport Roller.
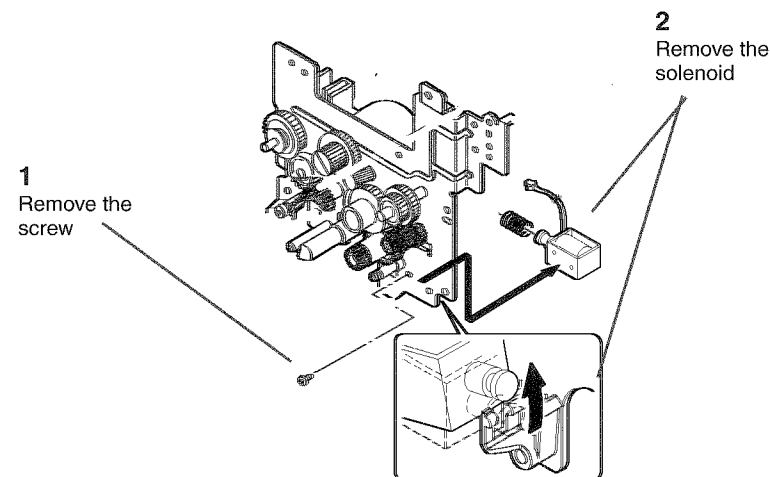
REP 8.12 Main Drives Assembly

Parts List on PL 2.2

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
    a. Document Cover Assembly
    b. Rear Cover
    c. Top Right Cover
    d. Top Left Cover
    e. Side Door
    f. Document Glass Assembly (REP 6.1)
    g. Control Console (REP 14.5)
    h. Main PWB (REP 1.1)
    i. Optics Frame Assembly (REP 6.6)
    j. Exit Roller (REP 8.9)
    k. Manual Exit Drive Belt (REP 8.10)
2. (Figure 1): Remove the Harness Guide.

1
Disconnect the
ground wires

2
Remove the
screws (5)

4
Remove the belt

3
Remove the assembly, being careful
to hold the gears in place

SKY037N

Figure 2 Removing the Main Drive Assembly

1
Pull the guide out
and rotate it
downward
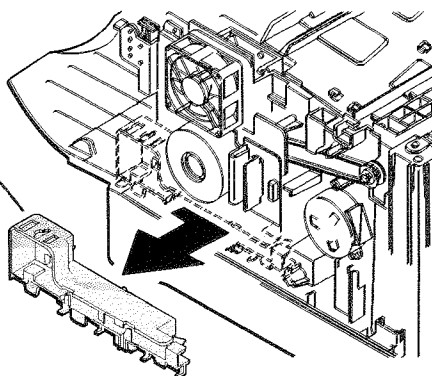
SKY036N

Figure 1 Removing the Harness Guide

3. (Figure 2): Remove the Main Drive Assembly and the Exit Drive Belt.

REP 8.13 Lower Registration Roller
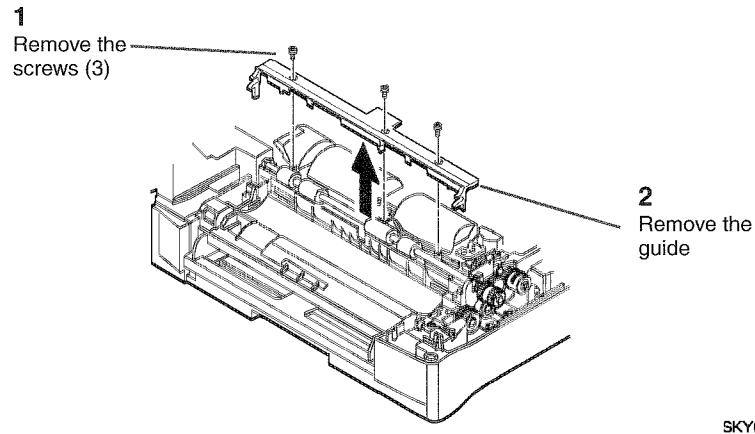
Parts List on PL 5.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.
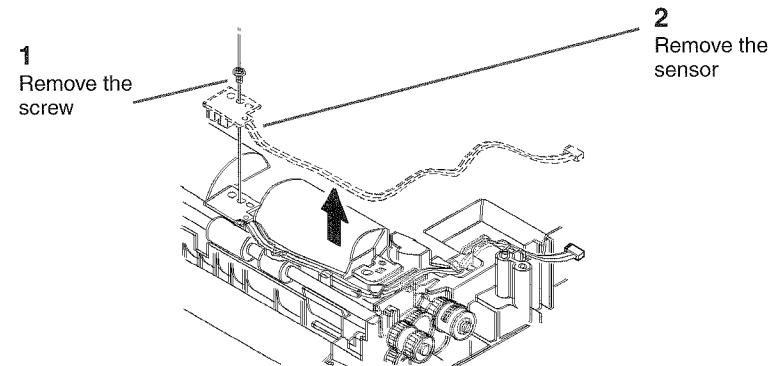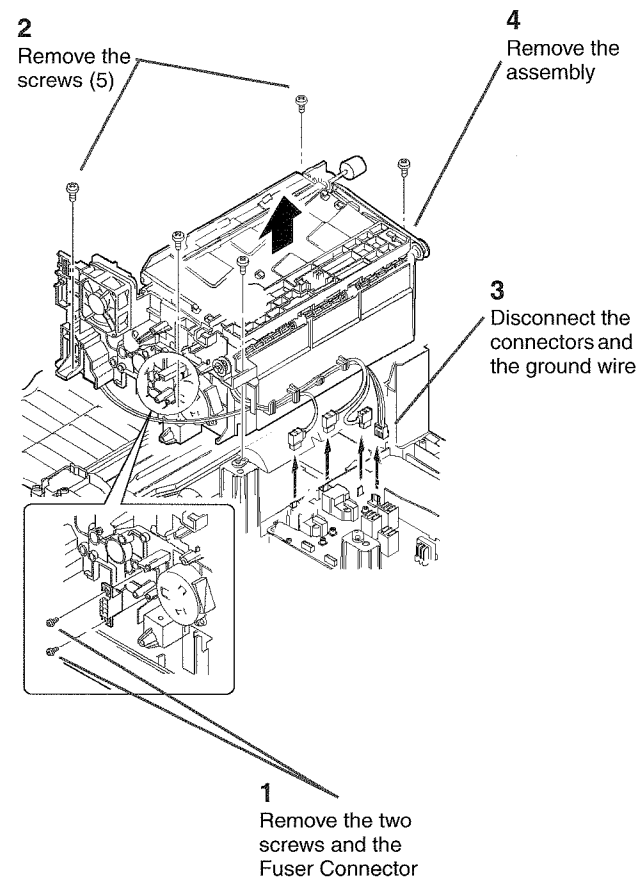
1. Remove the following:

    a.   Document Cover Assembly

    b.   Rear Cover

    c.   Top Right Cover

    d.   Top Left Cover

    e.   Side Door

    f.   Document Glass Assembly (REP 6.1)

    g.   Control Console (REP 14.5)

    h.   Main PWB (REP 1.1)

    i.   Optics Frame Assembly (REP 6.6)

    j.   Laser Module (REP 6.4)

    k.   Main Drive Assembly (REP 8.12)

2.   (Figure 1): Remove the Intermediate Frame Assembly.

2
Remove the screws (5)

4
Remove the assembly

3
Disconnect the connectors and the ground wire

1
Remove the two screws and the Fuser Connector

SKY040N

Figure 1 Removing the Intermediate Frame Assembly

3.   (Figure 2): Remove the Upper Front Paper Guide.

1
Remove the screws (3)

2
Remove the guide

SKY042N

Figure 2 Removing the Upper Front Paper Guide

4. (Figure 3): Remove the Lower Registration Roller.

3
Remove the roller
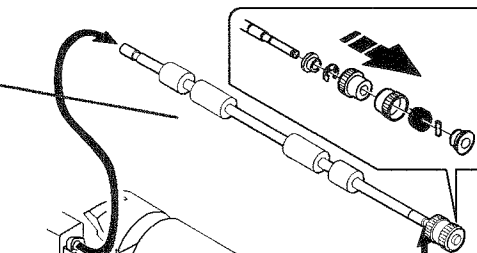
2
Move the bearing
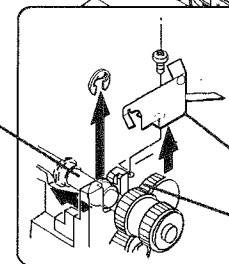
1
Remove the screw, ground plate, and E-ring

SKY041N

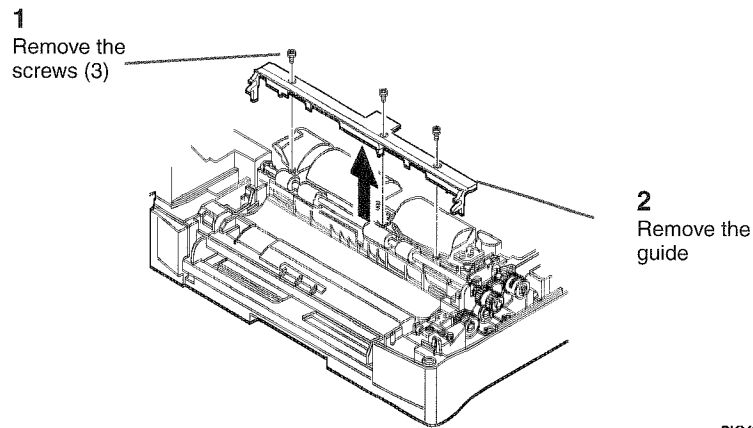**Figure 3 Removing the Lower Registration Roller**

REP 8.14 Tray Detect Switch (S2)

Parts List on PL 5.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
   d. Top Left Cover
   e. Side Door
   f. Document Glass Assembly (REP 6.1)
   g. Control Console (REP 14.5)
   h. Main PWB (REP 1.1)
   i. Optics Frame Assembly (REP 6.6)
   j. Laser Module (REP 6.4)
   k. Main Drive Assembly (REP 8.12)
2. (Figure 1): Remove the Intermediate Frame Assembly.

2
Remove the
screws (5)

4
Remove the
assembly

3
Disconnect the
connectors and
the ground wire

1
Remove the two
screws and the
Fuser Connector

SKY040N

Figure 1 Removing the Intermediate Frame Assembly

3. (Figure 2): Remove the Upper Front Paper Guide.

1
Remove the screws (3)

2
Remove the guide

SKY042N

Figure 2 Removing the Upper Front Paper Guide

4. (Figure 3): Remove the Tray Detect Switch.

3
Remove the harness from the switch

1
Release the tabs

2
Remove the switch from the base

SKY050N

Figure 3 Removing the Tray Detect Switch
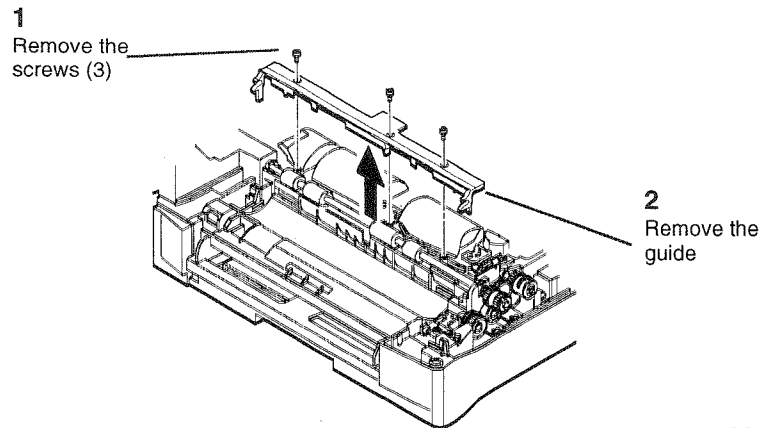
REP 8.15 Feed Roll
Parts List on PL 5.5
Removal

WARNING
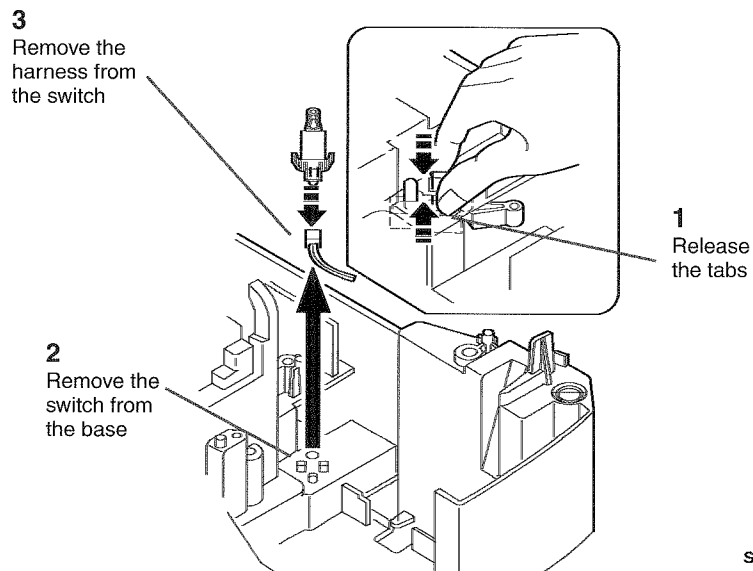**Switch off the Main Power Switch. Disconnect the Power Cord.**

1. Remove the following:
   a. Rear Cover
   b. Side Door
   c. Paper Feed Sensor (REP 8.3)
2. (Figure 1): Remove the Upper Cover.

1
Remove the screw

4
Remove the cover

Hidden tab

3
Insert a small screwdriver here and gently pry to release the hidden tab.

2
Release the tabs

SKY052N

3. (Figure 1): Remove the Bypass Frame.

1
Remove the
screws (3)

3
Remove the
frame

2
Disconnect the
ground wire

SKY054N
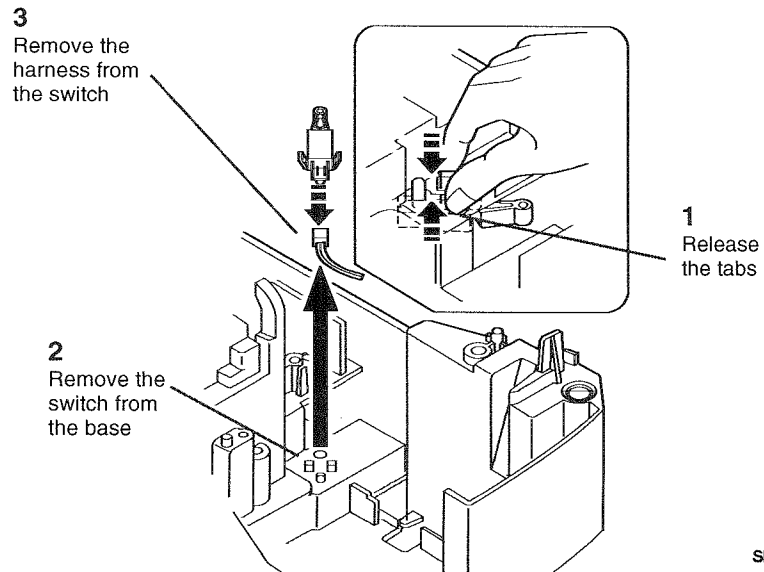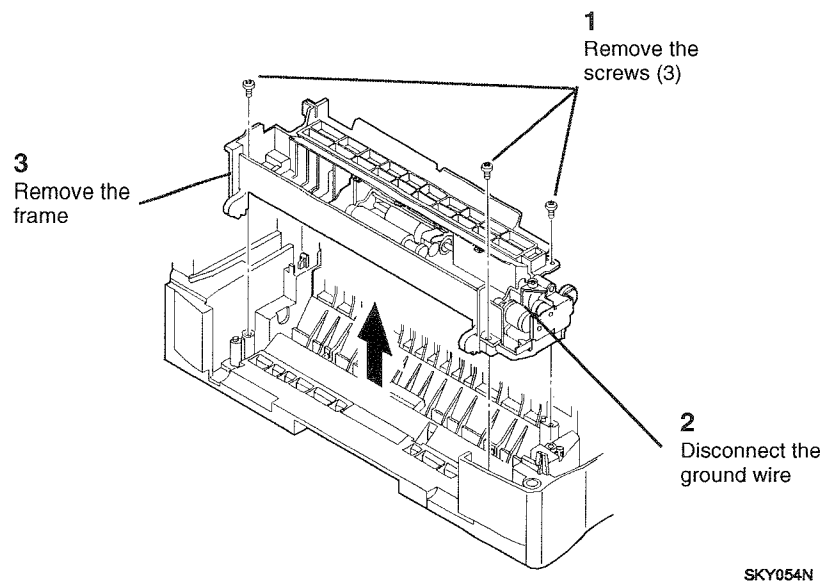
Figure 1 Removing the Bypass Frame

4. (Figure 2): Remove the Feed Roll and Shaft Assembly

3
Remove the
assembly

1
Remove the
screws (2)

2
Disengage
the shaft

SKY055N
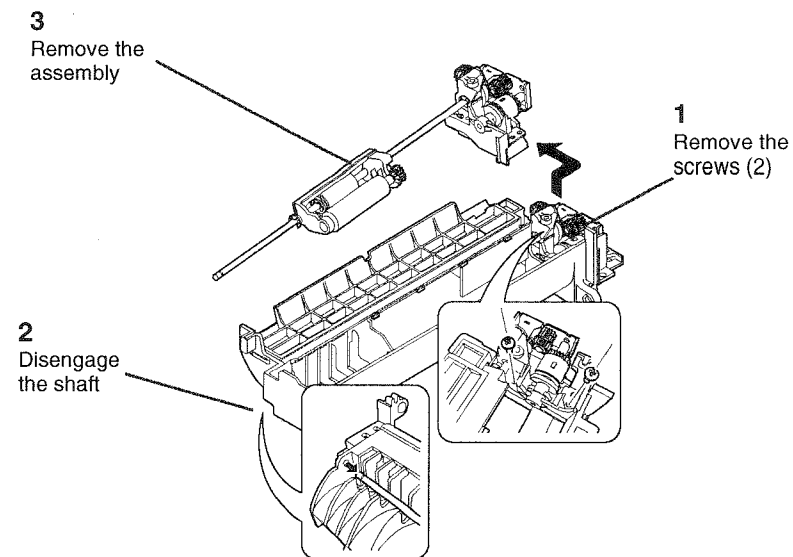
Figure 2 Removing the Feed Roll and Shaft Assembly

5. (Figure 3): Remove the Feed Roll.

1
Remove the
E-rings (3)

3
Remove the
Feed Roll

2
Remove the
shaft

Label

SKY056N

Figure 3 Removing the Feed Roll

Replacement

1. Reinstall the Feed Roller with the label oriented as shown in (Figure 3).
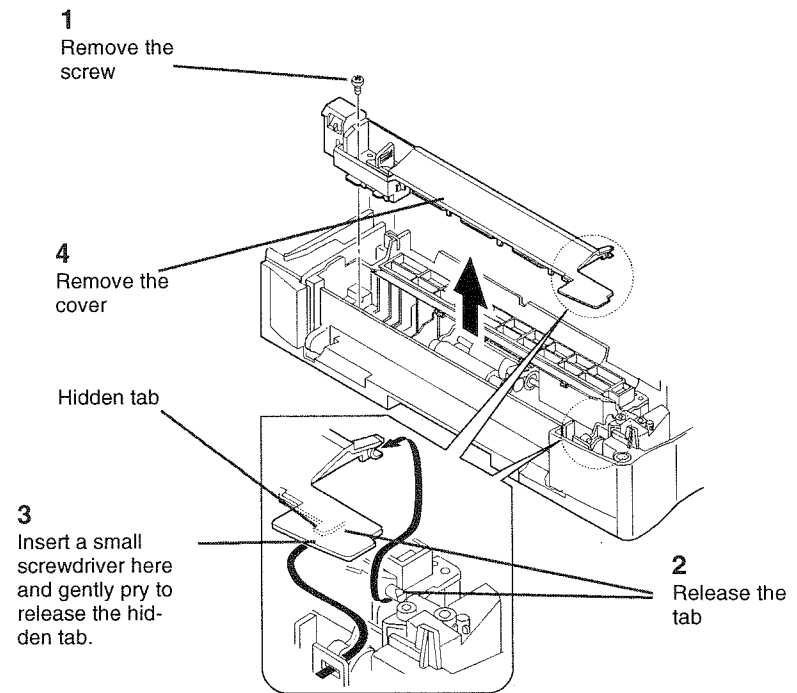
REP 8.16 Retard Roll
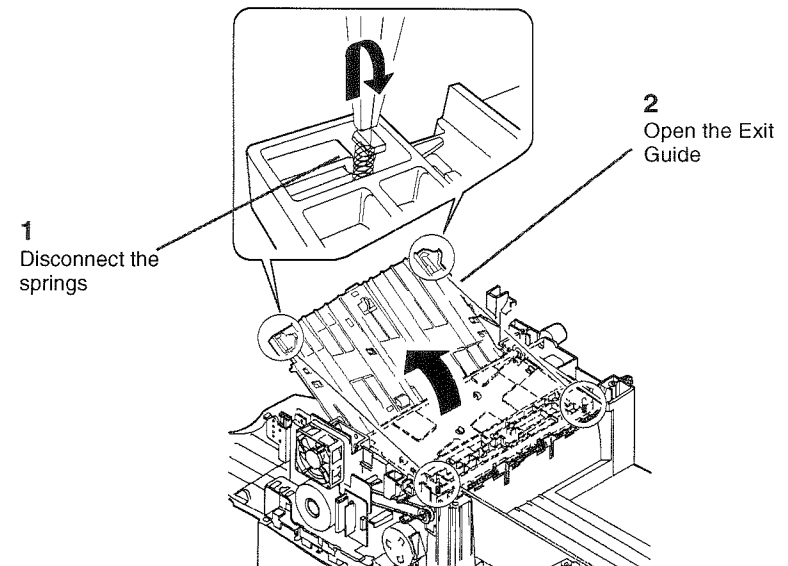## Parts List on PL 5.5
Removal

WARNING
Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Rear Cover
   b. Side Door
   c. Paper Feed Sensor (REP 8.3)
2. (Figure 1): Remove the Upper Cover.

1
Remove the
screw

4
Remove the
cover

Hidden tab

3
Insert a small
screwdriver here
and gently pry to
release the hid-
den tab.

2
Release the
tab

SKY052N

Figure 1 Removing the Upper Cover

3. (Figure 2): Remove the Bypass Frame.

1
Remove the
screws (3)

3
Remove the
frame

2
Disconnect the
ground wire

SKY054N

Figure 2 Removing the Bypass Frame

4. (Figure 3): Remove the Feed Roll and Shaft Assembly

3
Remove the
assembly

1
Remove the
screws (2)

2
Disengage
the shaft

SKY055N
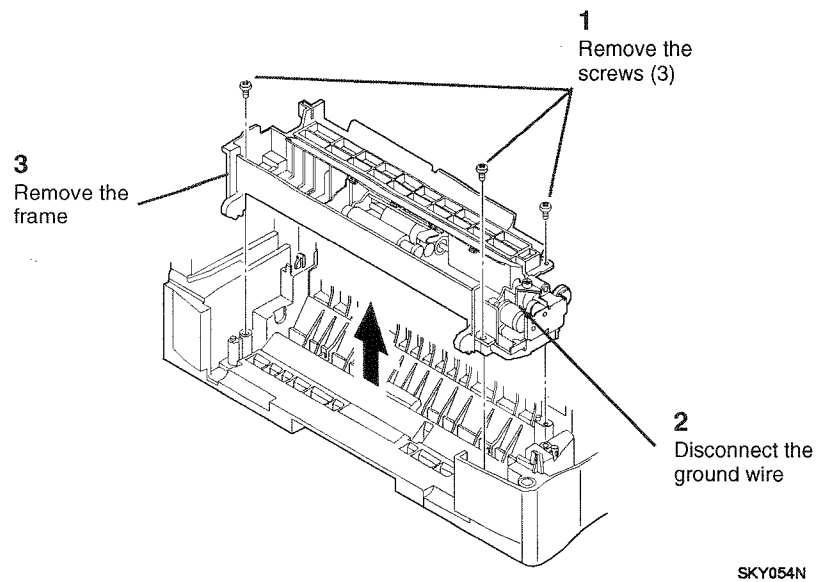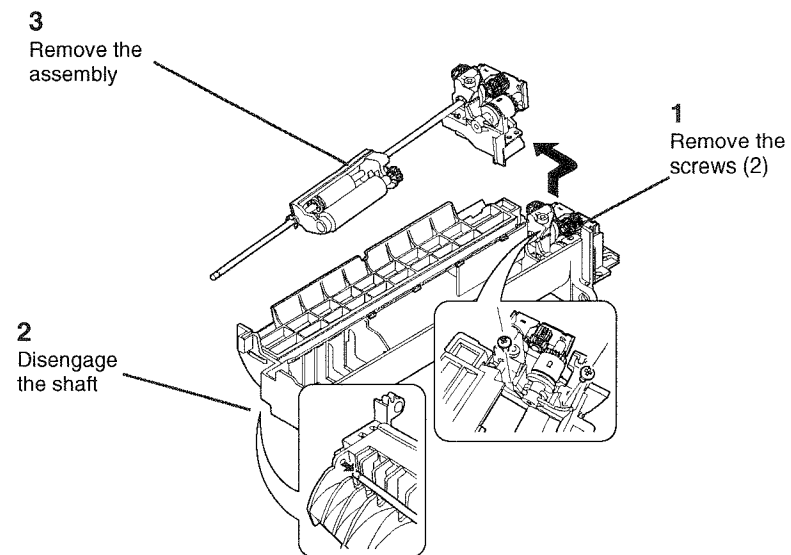
Figure 3 Removing the Feed Roll and Shaft Assembly

5. (Figure 4): Remove the Retard Roll.

1
Remove the
Retard Roll

SKY057N

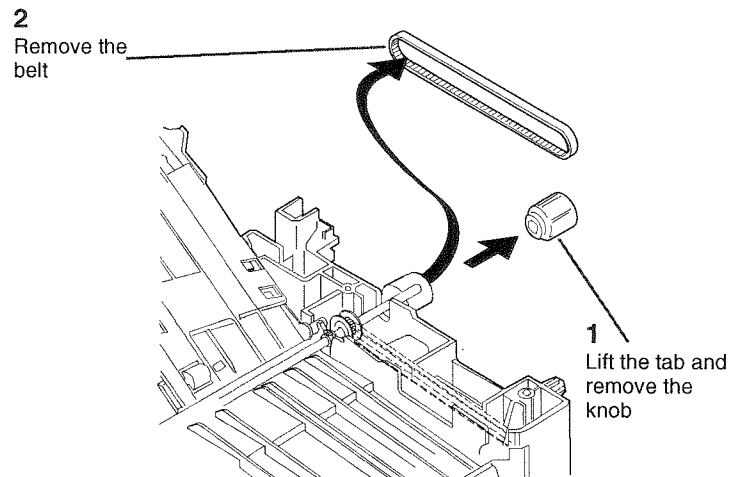**Figure 4 Removing the Retard Roll**

REP 8.17 Multi Bypass Solenoid (SOL4)

Parts List on PL 5.5

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Rear Cover
   b. Side Door
   c. Paper Feed Sensor (REP 8.3)
2. (Figure 1): Remove the Upper Cover.

1
Remove the
screw

4
Remove the
cover

Hidden tab

3
Insert a small
screwdriver here
and gently pry to
release the hid-
den tab.

2
Release the
tab

SKY052N

Figure 1 Removing the Upper Cover

3. (Figure 2): Remove the Bypass Frame.

1
Remove the
screws (3)

3
Remove the
frame

2
Disconnect the
ground wire

SKY054N

Figure 2 Removing the Bypass Frame

4. (Figure 3): Remove the Feed Roll and Shaft Assembly

3
Remove the
assembly

1
Remove the
screws (2)

2
Disengage
the shaft

SKY055N

Figure 3 Removing the Feed Roll and Shaft Assembly

5. (Figure 4): Remove the Feed Solenoid.

3
Remove the
solenoid

1
Cut the
cable tie

2
Remove the
screw

SKY058N

Figure 4 Removing the Feed Solenoid

REP 8.20 Tray 2 Paper Feed Sensor (Q7)

Parts List on   PL 5.8

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1.   (Figure 1): Remove the Rear Cover.

1
Remove the screw and
remove the Rear Cover

Rear Cover

*NOTE: Engage the Latch when
reinstalling the Rear Cover*

0500016A-SKY

Figure 1 Removing the Rear Cover

2.   (Figure 2): Remove the Tray 2 Drive Assembly.

NOTE: When reinstalling Tray 2
Drive Assembly, make sure it is
mounted on the locator posts

2
Disconnect the
connector

2
Remove the
screw and
disconnect
the ground
wire

1
Release the pawls
and remove the
sensor

1
Open the Lower
Side Door

3
Remove the
screws (2)

4
Lower the drive arm gear and
remove the Drive Assembly

0500017A-SKY

0500018A-SKY
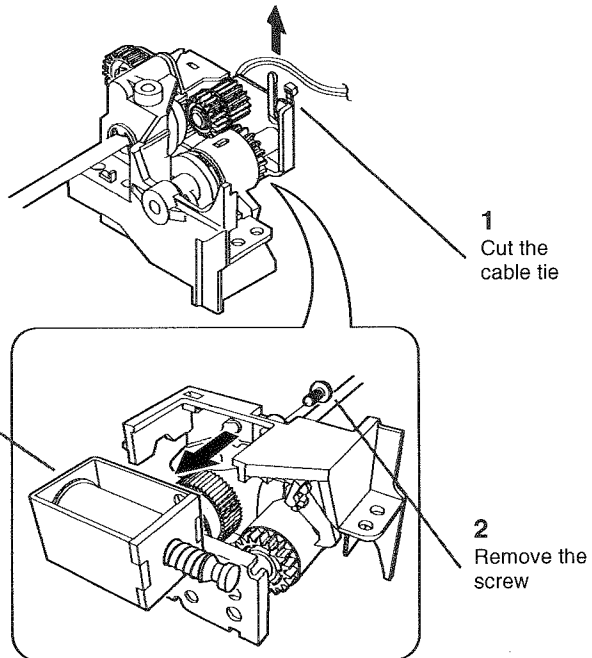
Figure 2 Removing the Drive Assembly
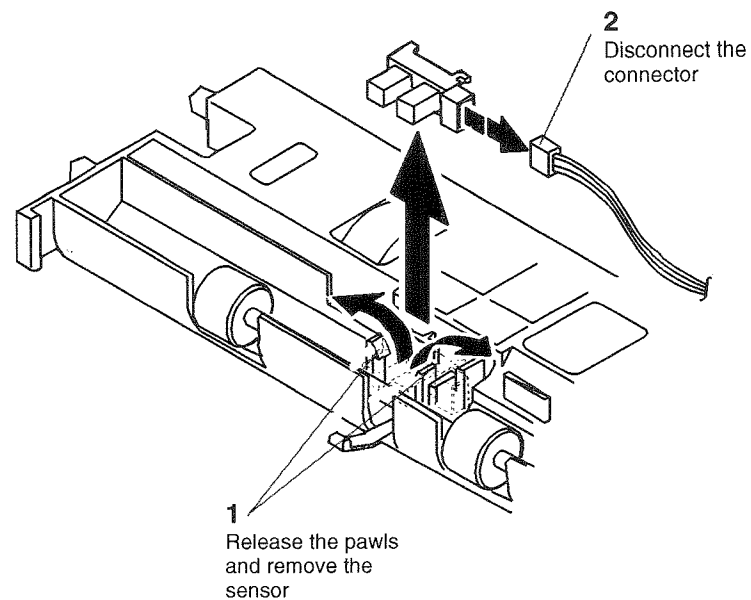
Figure 3 Removing the Paper Feed Sensor (Q7)

3.　(Figure 3): Remove the Tray 2 Paper Feed Sensor (Q7).

REP 8.21 Tray 2 Detect Switch (S5)

Parts List on PL 5.8

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. (Figure 1): Remove the Rear Cover.

1
Remove the screw and
remove the Rear Cover

Rear Cover

NOTE: *Engage the Latch when
reinstalling the Rear Cover*

0500016A-SKY

Figure 1 Removing the Rear Cover

2. (Figure 2): Remove the Tray 2 Drive Assembly.

NOTE: *When reinstalling Tray 2
Drive Assembly, make sure it is
mounted on the locator posts*

2
Remove the
screw and
disconnect
the ground
wire

1
Open the Lower
Side Door

3
Remove the
screws (2)

4
Lower the drive arm gear and
remove the Drive Assembly

0500017A-SKY

Figure 2 Removing the Drive Assembly

3. (Figure 3): Remove the Detect Switch (S5).

1
Release the tabs and
remove the Detect
Switch (S5)

2
Disconnect the
connector

0500019A-SKY

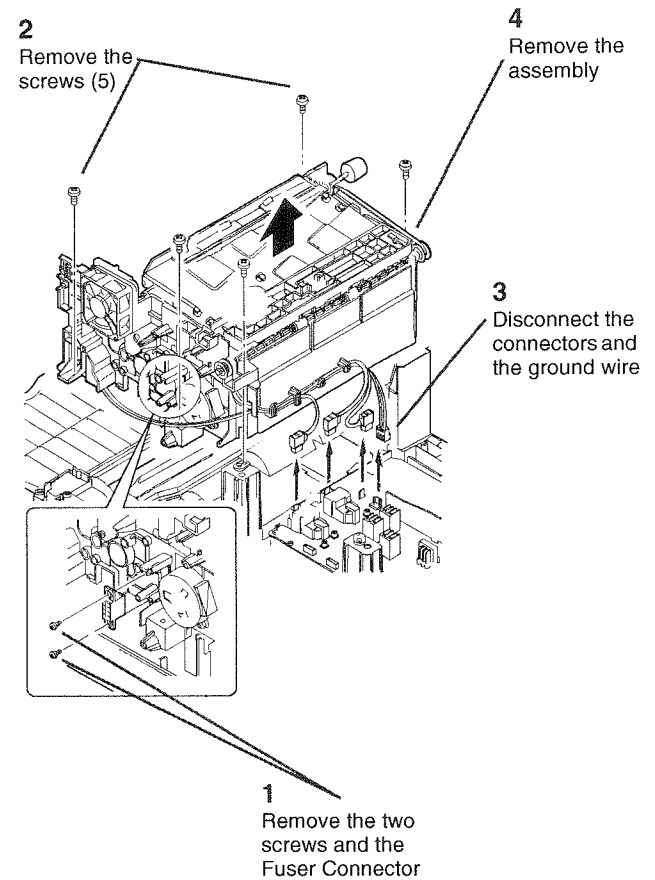**Figure 3 Removing the Detect Switch (S5)**

REP 8.22 Tray 2 Paper Feed Solenoid (SOL2)

Parts List on PL 5.8

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1.   (Figure 1): Remove the Rear Cover.

1
Remove the screw and
remove the Rear Cover

Rear Cover

*NOTE: Engage the Latch when
reinstalling the Rear Cover*

0500016A-SKY

Figure 1 Removing the Rear Cover

2.   (Figure 2): Remove the Tray 2 Drive Assembly.

NOTE: When reinstalling Tray 2
Drive Assembly, make sure it is
mounted on the locator posts

1
Disconnect the
connector

2
Remove the
screw and
disconnect
the ground
wire

2
Remove the screw
and remove the
Solenoid

1
Open the Lower
Side Door

3
Remove the
screws (2)

4
Lower the drive arm gear and
remove the Drive Assembly

0500017A-SKY

0500020A-SKY

Figure 2 Removing the Drive Assembly

Figure 3 Removing the Paper Feed Solenoid (SOL2)

3.   (Figure 3): Remove the Paper Feed Solenoid (SOL2).

REP 8.23 Tray 2 Transport Roller

Parts List on PL 5.8

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. (Figure 1): Remove the Rear Cover.

1
Remove the screw and
remove the Rear Cover

Rear Cover

NOTE: *Engage the Latch when
reinstalling the Rear Cover*

0500016A-SKY

Figure 1 Removing the Rear Cover

2. (Figure 2): Remove the Tray 2 Drive Assembly.

NOTE: *When reinstalling Tray 2
Drive Assembly, make sure it is
mounted on the locator posts*

2
Remove the
screw and
disconnect
the ground
wire

1
Open the Lower
Side Door

3
Remove the
screws (2)

4
Lower the drive arm gear and
remove the Drive Assembly
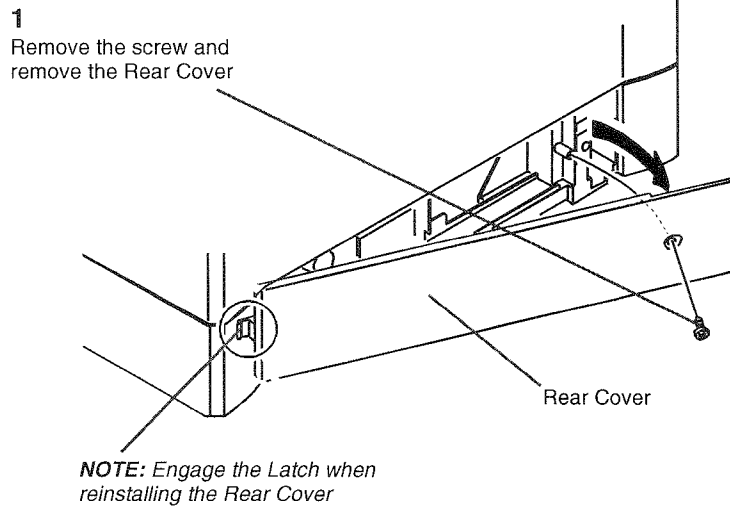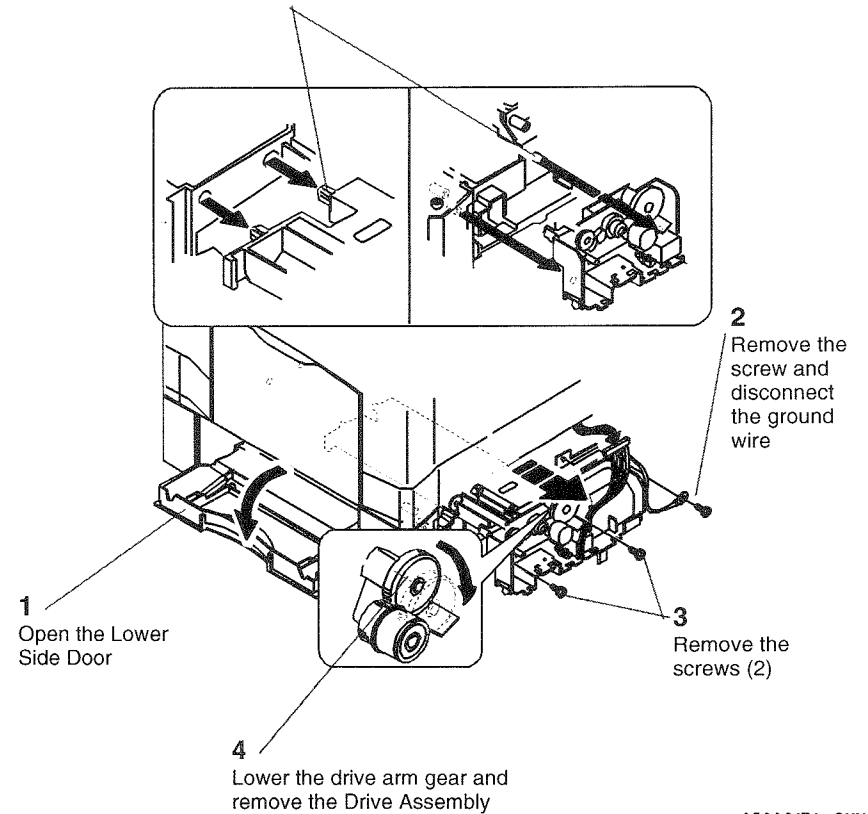
0500017A-SKY

Figure 2 Removing the Drive Assembly
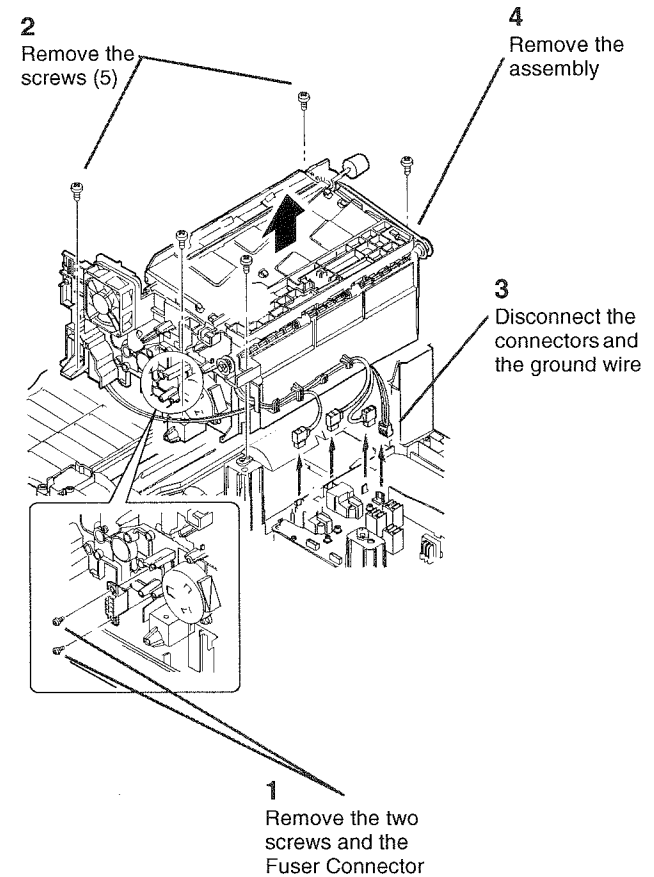
3. (Figure 3): Remove the Transport Roller.

REP 8.24 Tray 2 Paper Feed Clutch

Parts List on PL 5.8

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. (Figure 1): Remove the Rear Cover.

1
Remove the screw and
remove the Rear Cover

1
Remove the
E-ring

Bearing

Rear Cover

NOTE: Ensure the ground spring is
in contact with the bearing when rein-
stalling the bearing

2
Remove the E-ring and
bearing and remove the
Transport Roller

NOTE: Engage the Latch when
reinstalling the Rear Cover

0500016A-SKY

Figure 1 Removing the Rear Cover

0500021A-SKY

2. (Figure 2): Remove the Tray 2 Drive Assembly.

Figure 3 Removing the Transport Roller

NOTE: When reinstalling Tray 2 Drive Assembly, make sure it is mounted on the locator posts

2
Move the clutch pawl out of the way and remove the clutch

NOTE: Match up the clutch with the flat surface of the Feed Roller Shaft during reinstallation

1
Remove the E-ring

2
Remove the screw and disconnect the ground wire

1
Open the Lower Side Door

3
Remove the screws (2)

4
Lower the drive arm gear and remove the Drive Assembly
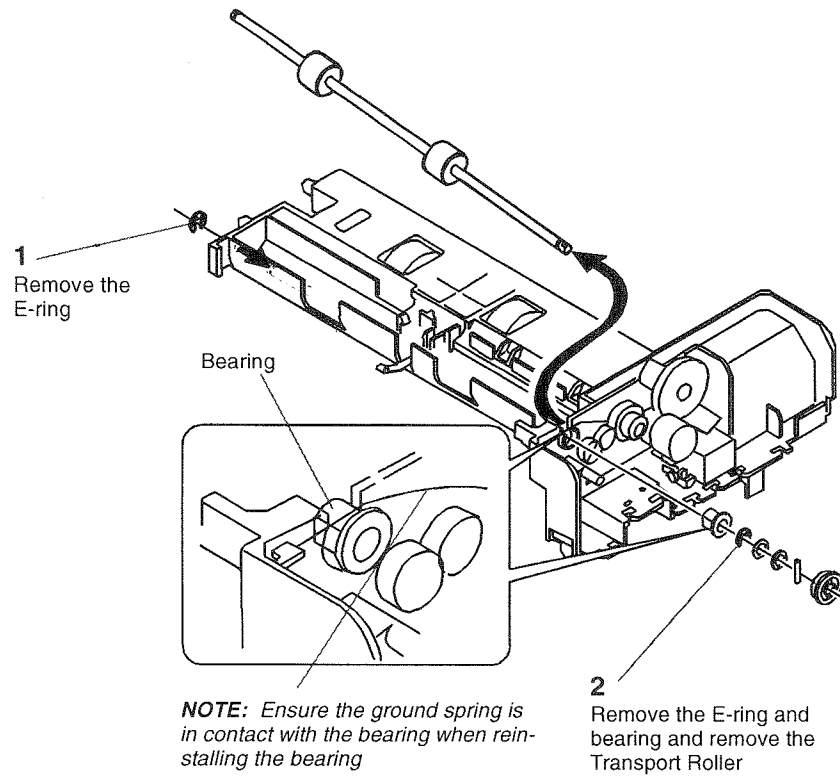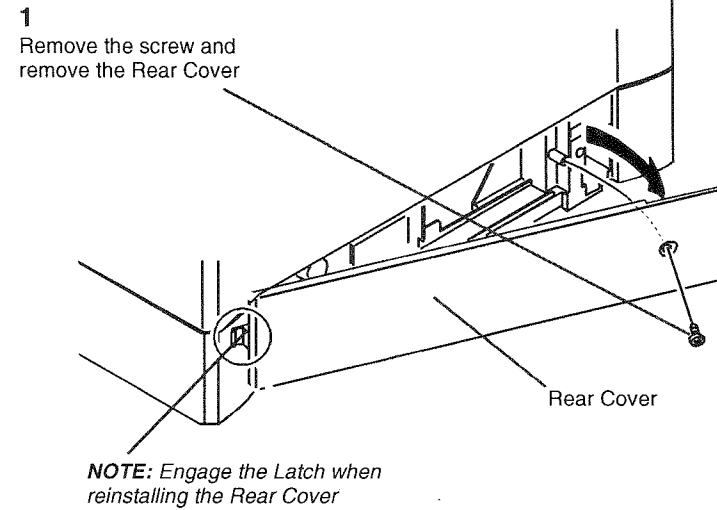
0500017A-SKY
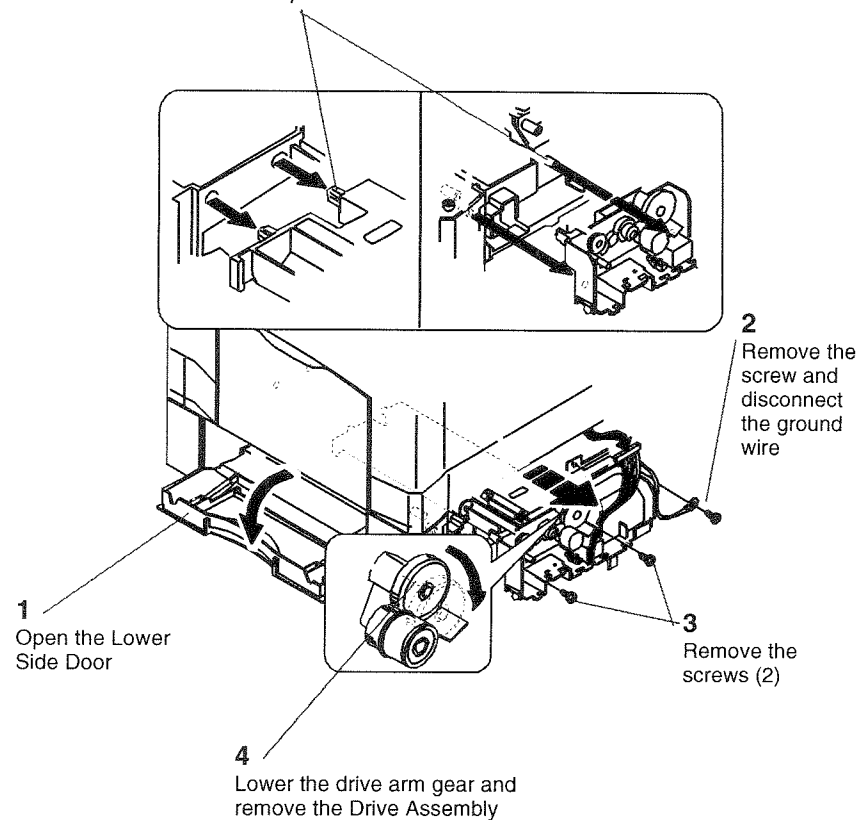
NOTE: Notice the position of each end of the spring before clutch disassembly

0500022A-SKY

Figure 2 Removing the Drive Assembly
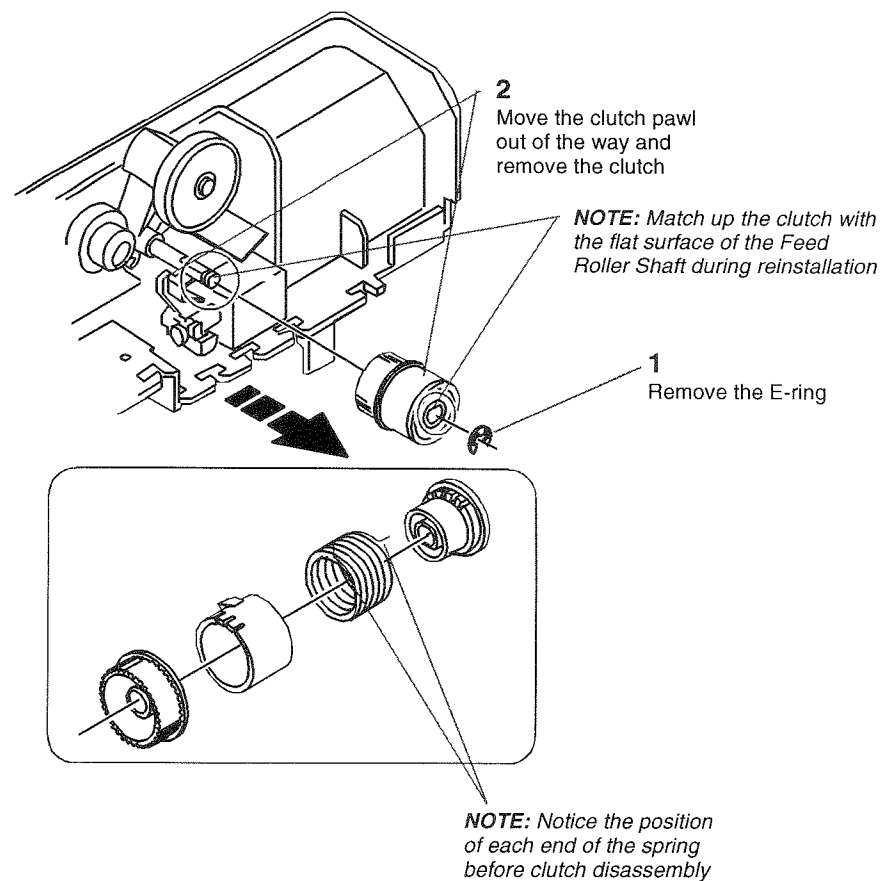
Figure 3 Removing the Paper Feed Clutch

3.   (Figure 3): Remove the Paper Feed Clutch.

REP 8.25 Tray 2 Feed Roller
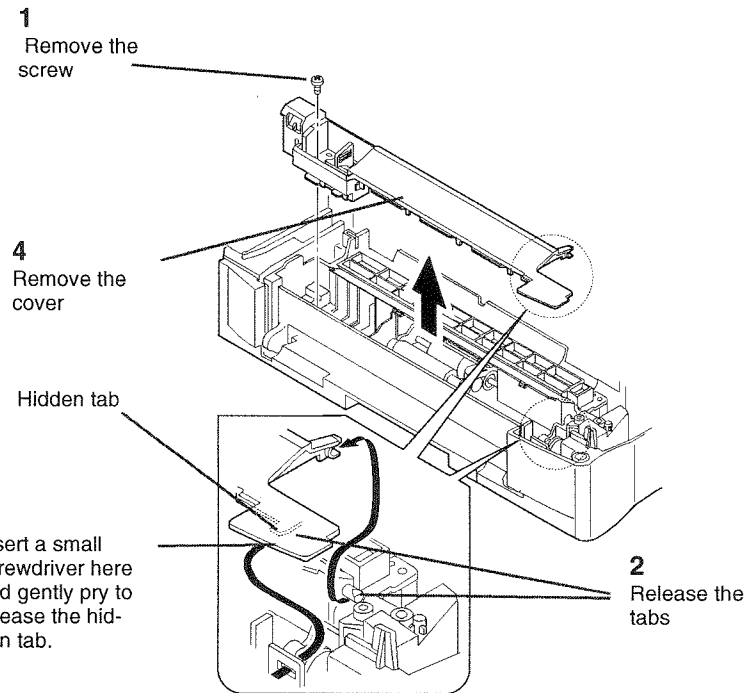
Parts List on PL 5.8

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. (Figure 1): Remove the Rear Cover.

1
Remove the screw and
remove the Rear Cover

Rear Cover

NOTE: Engage the Latch when reinstalling the Rear Cover

0500016A-SKY

Figure 1 Removing the Rear Cover

2. (Figure 2): Remove the Tray 2 Drive Assembly.

NOTE: When reinstalling Tray 2 Drive Assembly, make sure it is mounted on the locator posts

2
Remove the
screw and
disconnect
the ground
wire

1
Open the Lower
Side Door

3
Remove the
screws (2)

4
Lower the drive arm gear and
remove the Drive Assembly
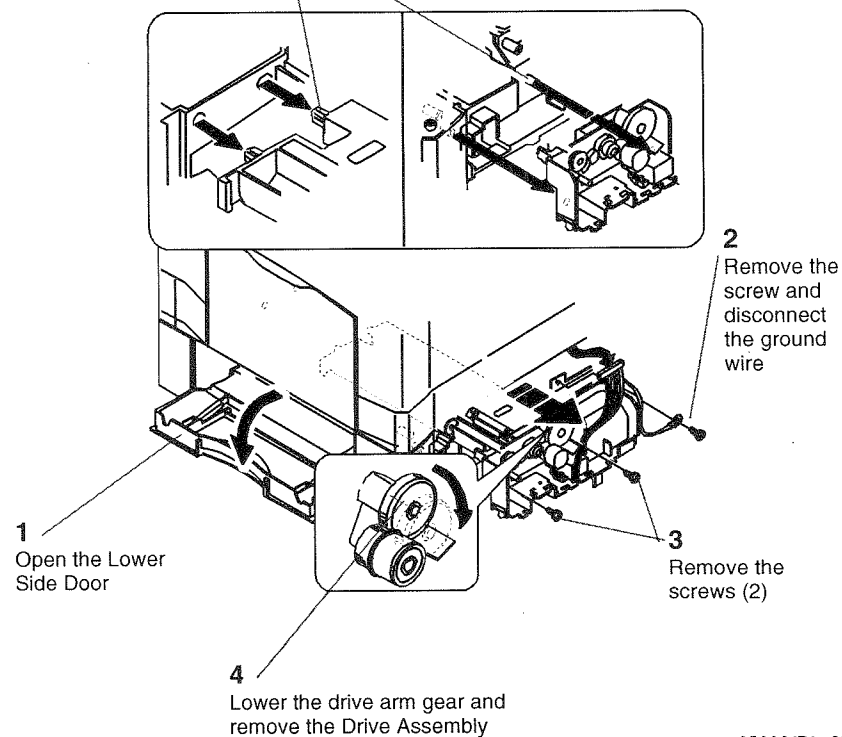
0500017A-SKY

Figure 2 Removing the Drive Assembly

3. Remove the Tray 2 Clutch (REP 8.24).
4. (Figure 3): Remove the Tray 2 Feed Roller.

1
Remove the
E-ring

3
Disconnect the spring
to the arm and remove
this unit

2
Remove the
E-ring

4
Remove the Feed
Roller Shaft

NOTE: Ensure the ground spring
is in contact with the bearing
when reinstalling the bearing
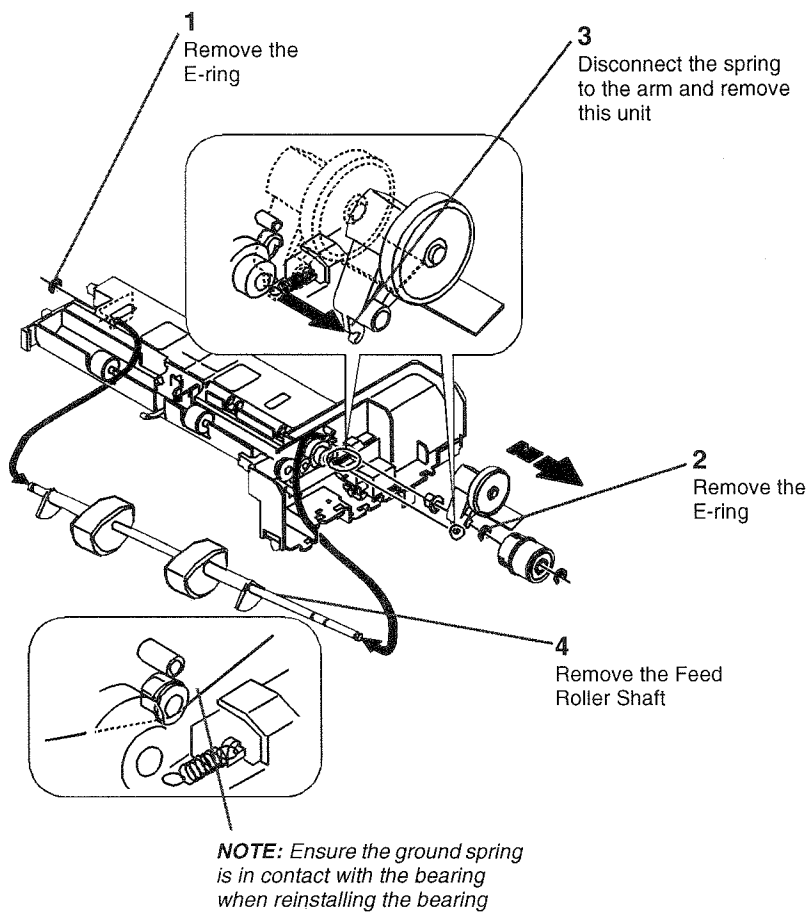
0500023A-SKY

Figure 3 Removing the Feed Roller

Notes:

04/00
4-92

REP 9.1 Toner Motor (MOT4)

Parts List on PL 2.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the Main PWB (REP 1.1).
4. (Figure 1): Remove the Toner Motor.

3
Remove the motor

1
Disconnect the harness

2
Remove the screws
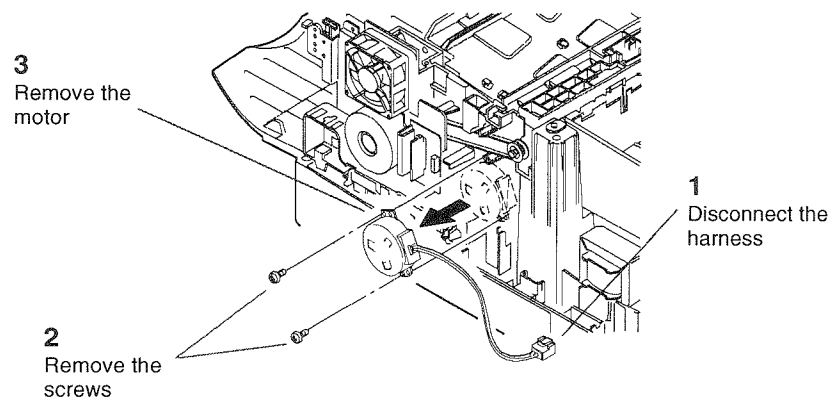
SKY030N

Figure 1 Removing the Toner Motor

REP 9.2 Transfer/Detack Corotron Assembly

Parts List on PL 1.4, PL 7.3

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Open the Side Door.
2. (Figure 1): Remove the Transfer/Detack Corotron Assembly.

2
Release the locking pawl

1
Release the locking pawl

3
Remove the assembly
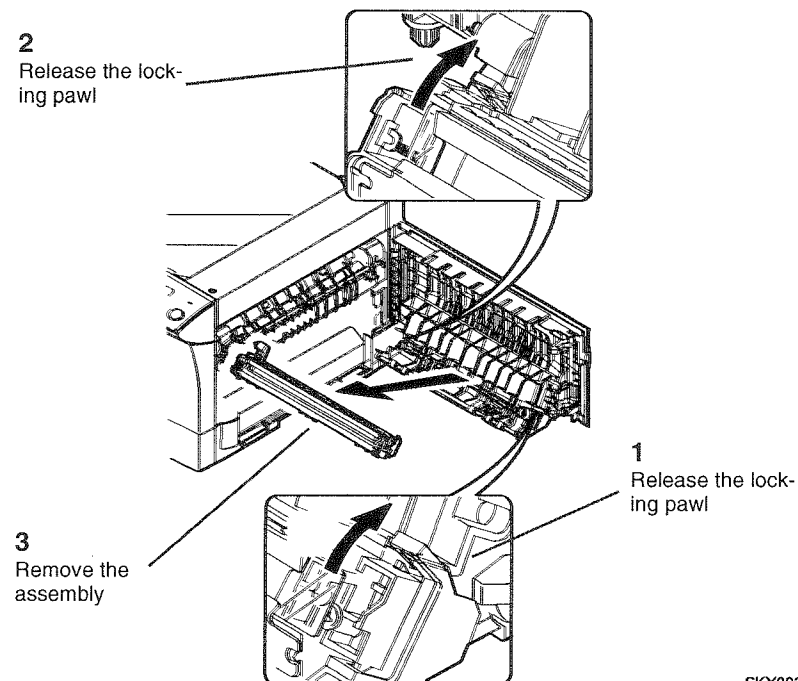
SKY002N

Figure 1 Removing the Transfer/Detack Corotron Assembly

Notes:

REP 10.1 Fuser Assembly

Parts List on PL 6.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord. Allow the Fuser to cool before performing the procedure

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Open the Side Door.
4. (Figure 1): Remove the Fuser Assembly.

1
Disconnect the connectors (3)

2
Remove the two screws and the Fuser Assembly
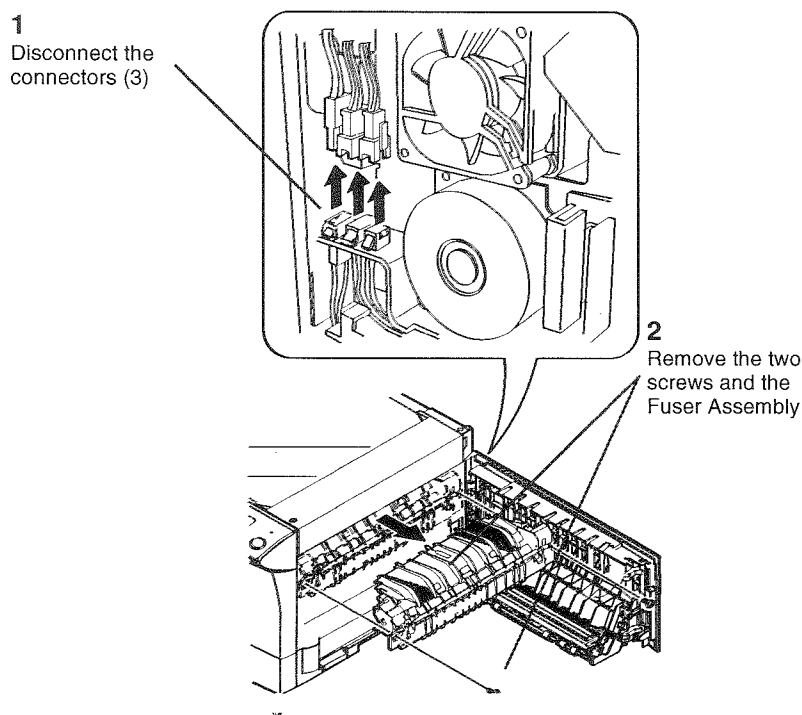
SKY014N

Figure 1 Removing the Fuser Assembly

REP 10.2 Heat Roll

Parts List on PL 6.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord. Allow the Fuser to cool before performing the procedure.

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Paper Guide (REP 10.10).

NOTE: Cut cable ties as necessary.

5. (Figure 1): Remove the End Covers and open the assembly.

4
Remove the screw

5
Remove the Left End Cover

2
Remove the screw

1
Remove the screws (2)

3
Remove the Right End Cover
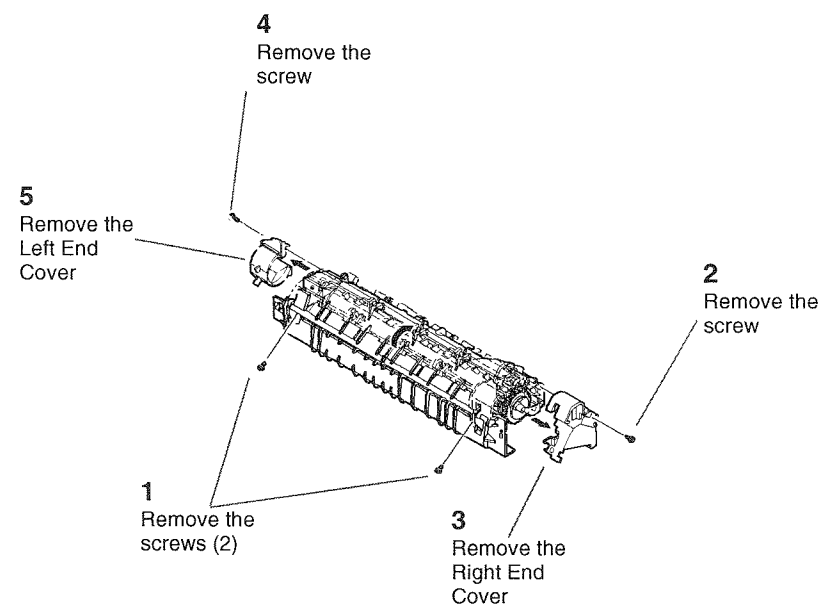
SKY024N

Figure 1 Removing the End Covers

6. Remove the Heat Rod (REP 10.8).
7. (Figure 2): Remove the Heat Roll.

2
Remove the
Heat Roll

3
Remove the
retaining ring,
gear, and
bearing

1
Remove the
retaining ring
and bearing

SKY025N

Figure 2 Removing the Heat Roll

REP 10.3 Pressure Roll

Parts List on PL 6.2

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord. Allow the Fuser to cool before performing the procedure.

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Paper Guide (REP 10.10).

NOTE: Cut cable ties as necessary.

5. (Figure 1): Remove the Right End Cover and open the assembly.

1
Remove the
screws (2)

3
Remove the Right
End Cover

2
Remove the
screw
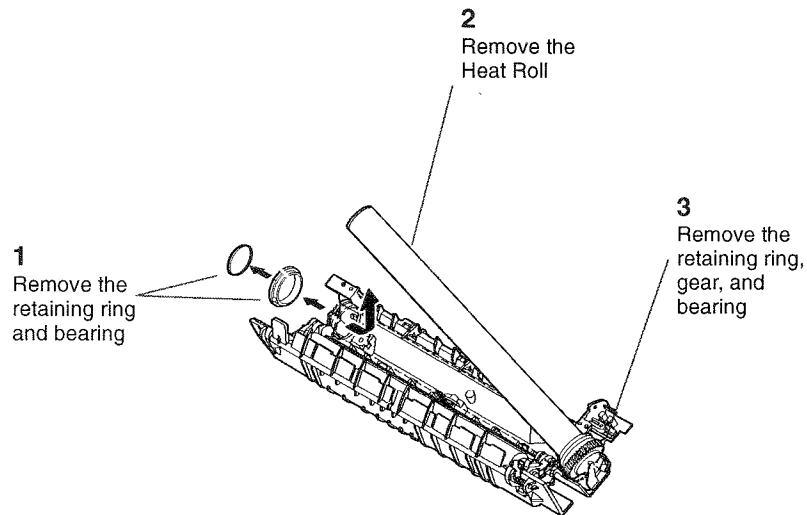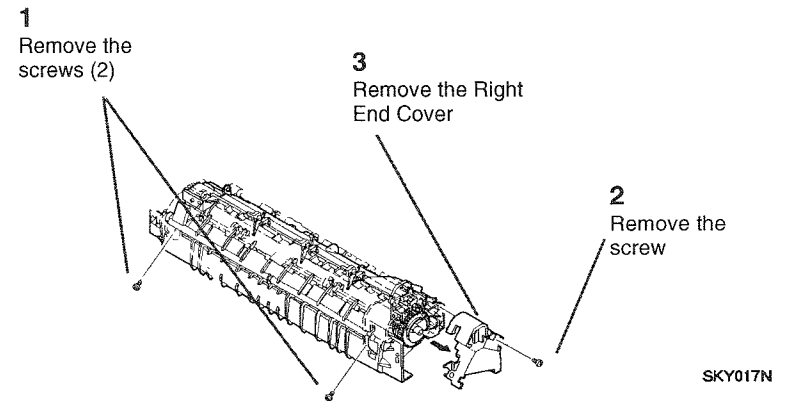
SKY017N

Figure 1 Removing the Right End Cover

6. (Figure 2): Remove the Pressure Roll Arms.

1
Remove the arms
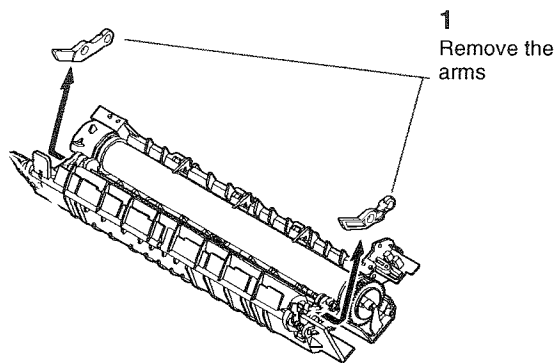
SKY022N

Figure 2 Removing the Pressure Roll Arms

7.   (Figure 3): Remove the Pressure Roll.

1
Pull the Pressure Roll out of the bearings and remove it along with the washers

Bearing

Bearing
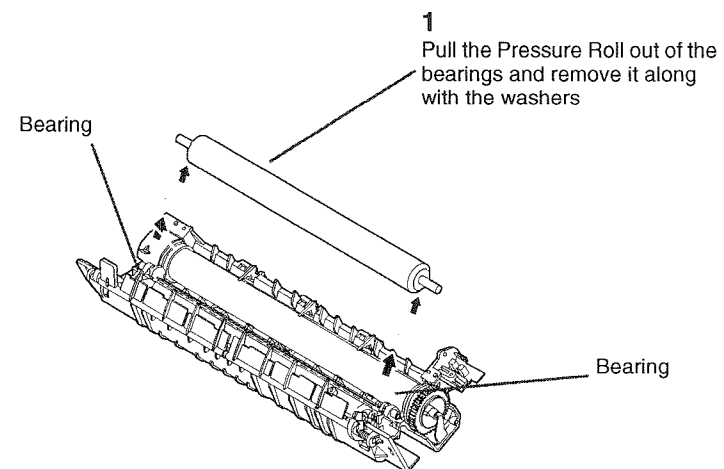
SKY023N

Figure 3 Removing the Pressure Roll

REP 10.4 Thermistor (RT1)

Parts List on PL 6.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord. Allow the Fuser to cool before performing the procedure

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the Fuser Assembly (REP 10.1).

NOTE: Cut cable ties as necessary.

4. (Figure 1): Remove the Thermistor.

2
Remove the screw
and the thermistor

1
Disconnect the
thermistor wires
from the Fuser
Assembly (cut the
cable tie)
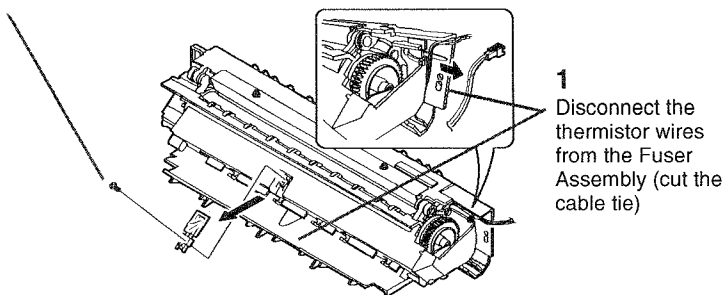
SKY015N

Figure 1 Removing the Thermistor

REP 10.5 Fuser Jam Sensor (Q3)

Parts List on PL 6.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord. Allow the Fuser to cool before performing the procedure.

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Paper Guide (REP 10.10).

NOTE: Cut cable ties as necessary.

5. (Figure 1): Remove the Right End Cover.

1
Remove the
screws (2)

3
Remove the Right
End Cover

2
Remove the
screw
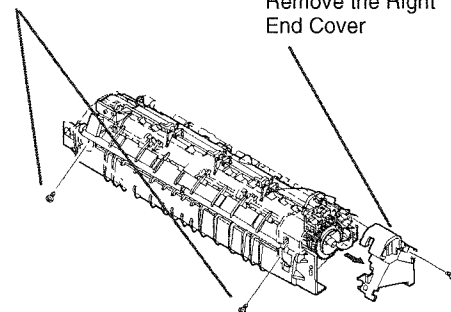
SKY017N

Figure 1 Removing the Right End Cover

6. (Figure 2): Remove the Fuser Jam Sensor.

1
Remove the
screw

2
Remove the
sensor
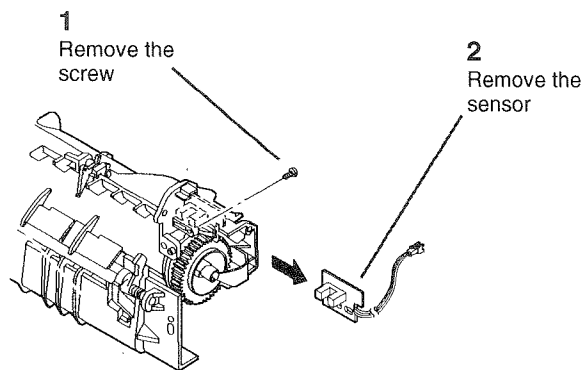
SKY018N

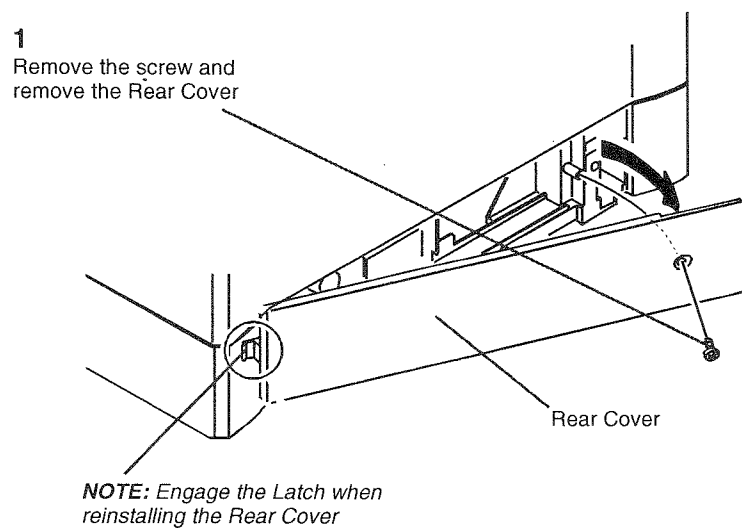**Figure 2 Removing the Fuser Jam Sensor**

REP 10.6 Ventilation Fan (MOT 3)

Parts List on PL 2.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.
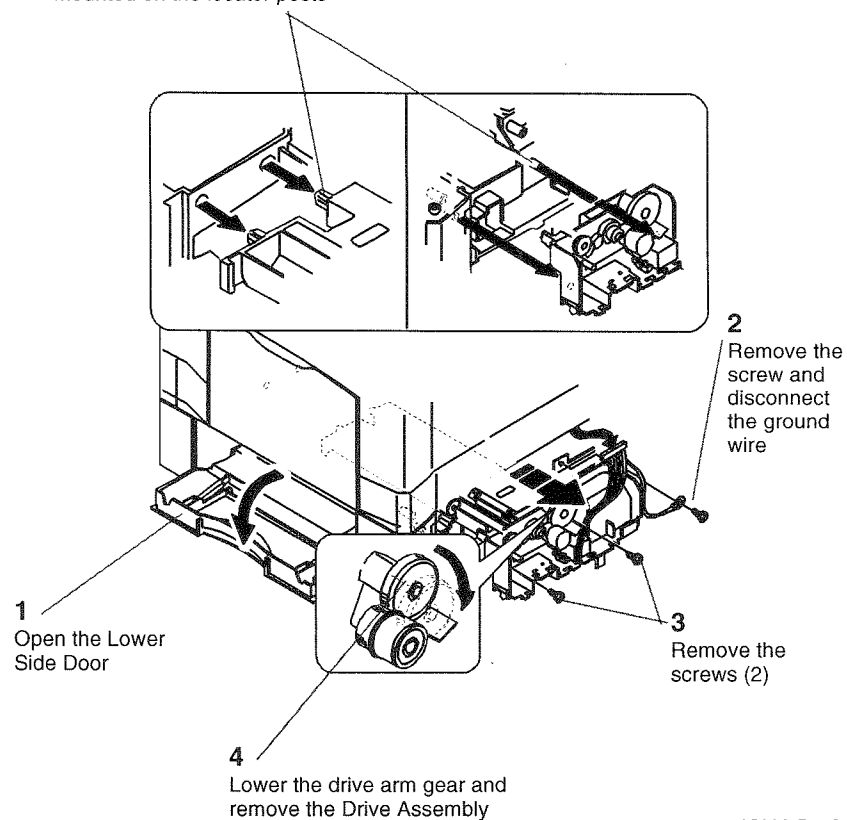
1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the six screws and the PWB Cover (PL 7.1).
4. (Figure 1): Remove the Ventilation Fan.

1
Disconnect the
connector

3
Remove
the fan

2
Remove the
screws (2)
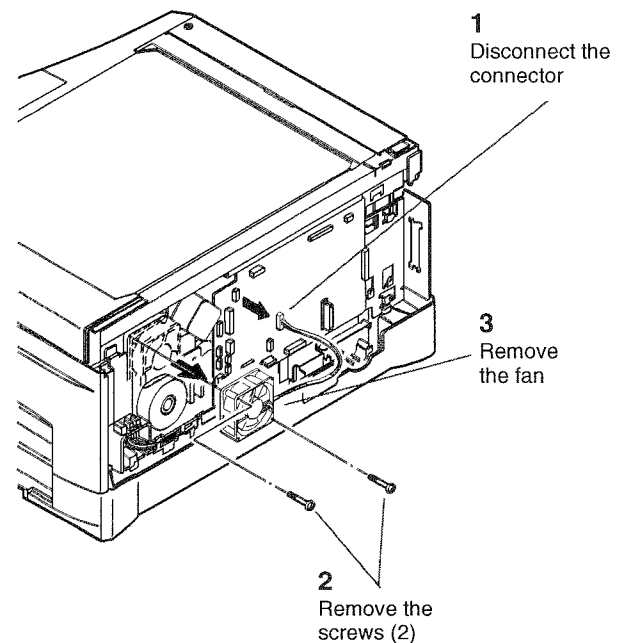
SKY063N

Figure 1 Removing the Ventilation Fan

REP 10.7 Exit Sensor (Q4)

Parts List on PL 6.3

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Document Cover Assembly
   b. Rear Cover
   c. Top Right Cover
   d. Top Left Cover
   e. Document Glass Assembly (REP 6.1)
   f. Control Console (REP 14.5)
   g. Main PWB (REP 1.1)
   h. Optics Frame Assembly (REP 6.6)
2. (Figure 1): Remove the Exit Sensor.

1
Remove the
plastic shield

2
Release the
tabs and
remove the
sensor
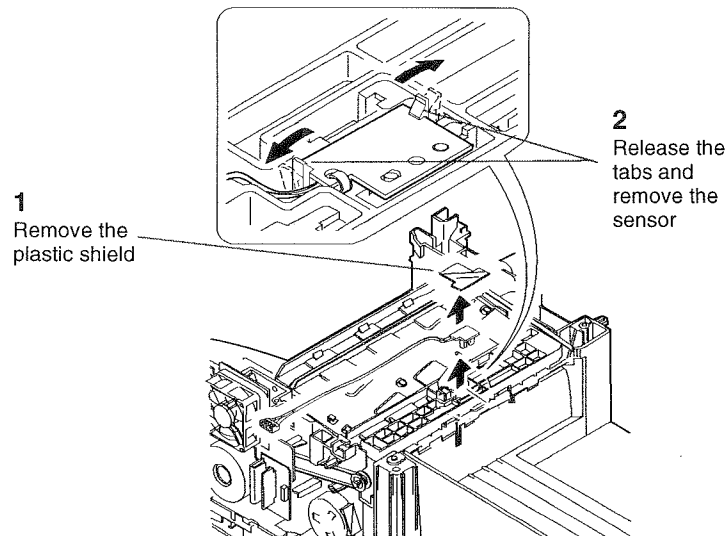
SKY029N

Figure 1 Removing the Exit Sensor

REP 10.8 Heat Rod

Parts List on PL 6.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord. Allow the Fuser to cool before performing the procedure.

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Paper Guide (REP 10.10).

NOTE: Cut cable ties as necessary.

5. (Figure 1): Remove the Right End Cover.

1
Remove the
screws (2)

3
Remove the Right
End Cover

2
Remove the
screw
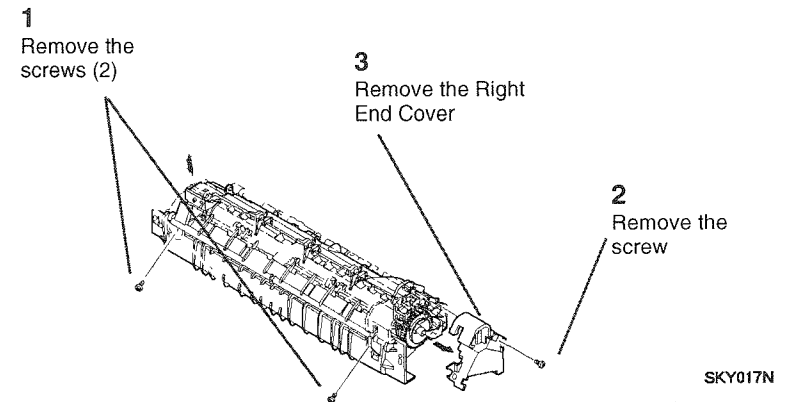
SKY017N

Figure 1 Removing the Right End Cover

CAUTION

Wear gloves or wrap a sheet of paper around the Heat Rod when handling it. Do not touch the glass section of the Heat Rod. Oil from fingers can cause damage to the rod. If you touch the Heat Rod, clean the rod with Film Remover on a lint-free cloth.

6. (Figure 2): Remove the Heat Rod.

1
Pull the spring and remove the Heat Rod

SKY019N

Figure 2 Removing the Heat Rod

REP 10.9 Thermostat

Parts List on PL 6.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord. Allow the Fuser to cool before performing the procedure.

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Paper Guide (REP 10.10).
5. Remove the Heat Roll (REP 10.2).
6. (Figure 1): Remove the Thermostat.

1
Remove the screws

2
Remove the Heat Rod Spring

3
Remove the Thermostat

SKY027N

Figure 1 Removing the Thermostat

REP 10.10 Paper Guide

Parts List on PL 6.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord. Allow the Fuser to cool before performing the procedure.

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the Fuser Assembly (REP 10.1).
4. (Figure 1): Remove the Paper Guide.

2
Remove the Paper Guide

1
Remove the screw

SKY016N
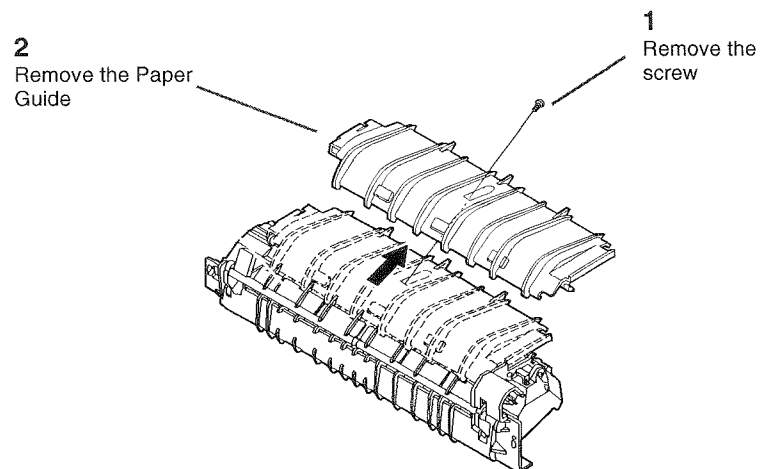
Figure 1 Removing the Paper Guide

REP 10.11 Stripper Fingers

Parts List on PL 6.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord. Allow the Fuser to cool before performing the procedure.

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Paper Guide (REP 10.10).

NOTE: Cut cable ties as necessary.

5. (Figure 1): Remove the Right End Cover and open the assembly.

1
Remove the screws (2)

3
Remove the Right End Cover

2
Remove the screw

SKY017N
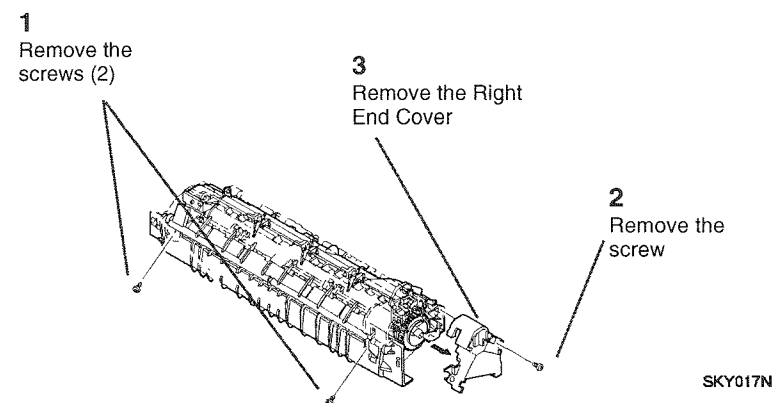
Figure 1 Removing the Right End Cover

6. (Figure 2): Remove the Stripper Fingers.

2
Rotate the Stripper
Finger out of the hole
and remove it

1
Disconnect the
spring

SKY020N

Figure 2 Removing the Stripper Fingers

REP 10.12 Fuser Gate

Parts List on PL 6.2

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord. Allow the Fuser to cool
before performing the procedure.

1. Remove the Document Cover Assembly.
2. Remove the Rear Cover.
3. Remove the Fuser Assembly (REP 10.1).
4. Remove the Paper Guide (REP 10.10).

NOTE: Cut cable ties as necessary.

5. (Figure 1): Remove the Right End Cover.

1
Remove the
screws (2)

3
Remove the Right
End Cover

2
Remove the
screw

SKY017N

Figure 1 Removing the Right End Cover

6. (Figure 2): Remove the Fuser Gate.

1
Remove the
E-ring

2
Remove the
Fuser Gate

SKY021N

Figure 2 Removing the Fuser Gate

REP 14.5 Control Console

Parts List on PL 1.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Raise the Document Cover Assembly and open the Front Door.

CAUTION

Take care not to damage the ribbon cable and the harness connected to the Control Console PWB.

2. (Figure 1): Remove the Control Console.

3
Carefully remove the Control Console by rotating the top out and downward

4
Disconnect the harness connector

2
Remove the screws

5
Disconnect the ribbon cable

1
Remove the screws

SKY006N
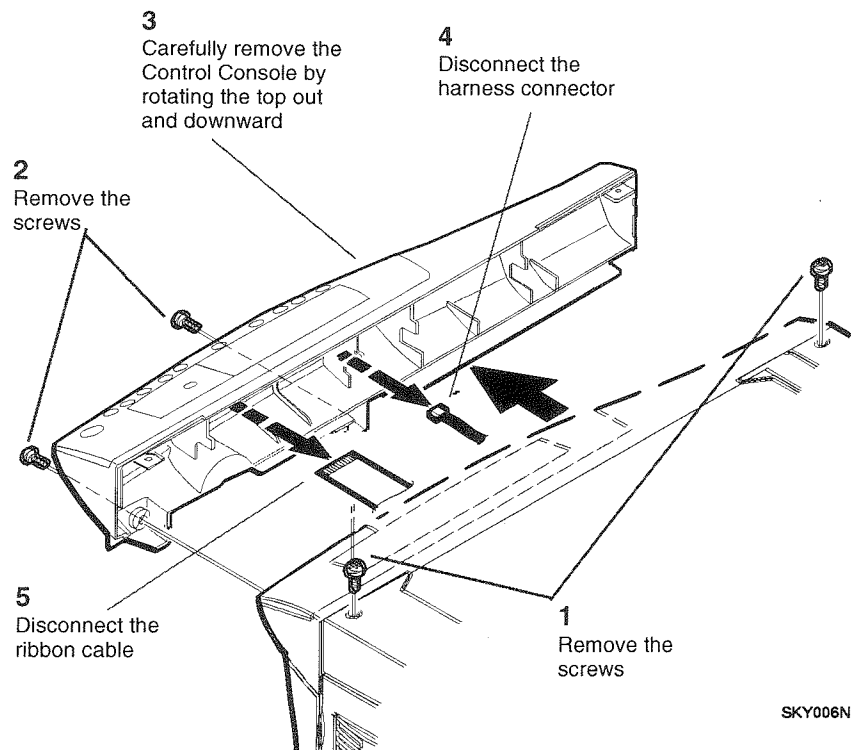
Figure 1 Removing the Control Console

REP 14.7 Output Tray

Parts List on PL 1.1

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the following:
   a. Paper Tray (PL 4.1)
   b. Document Cover Assembly
   c. Rear Cover
   d. Top Left Cover
2. Remove the screw located on the left side of the Output Tray.
3. Pry the tray away from the Main Power Switch using a flat-bladed screwdriver.
4. Release the locking tab which is located in the front left corner of the Output Tray.
5. (Viewed from the Top) Remove the Output Tray by rotating it counterclockwise.

Notes:

REP 15.1 Fax Control Panel

Parts List on PL 9.2A
Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION

Remove the Rear Cover carefully to prevent damage to the Speaker wires or connector.

1.   (Figure 1) Remove the Front Cover and the Rear Cover.

Speaker wires and connector

3
Remove the
Rear Cover

2
Remove the
Front Cover

1
Release the locking tabs from under-
neath the SDF Assembly
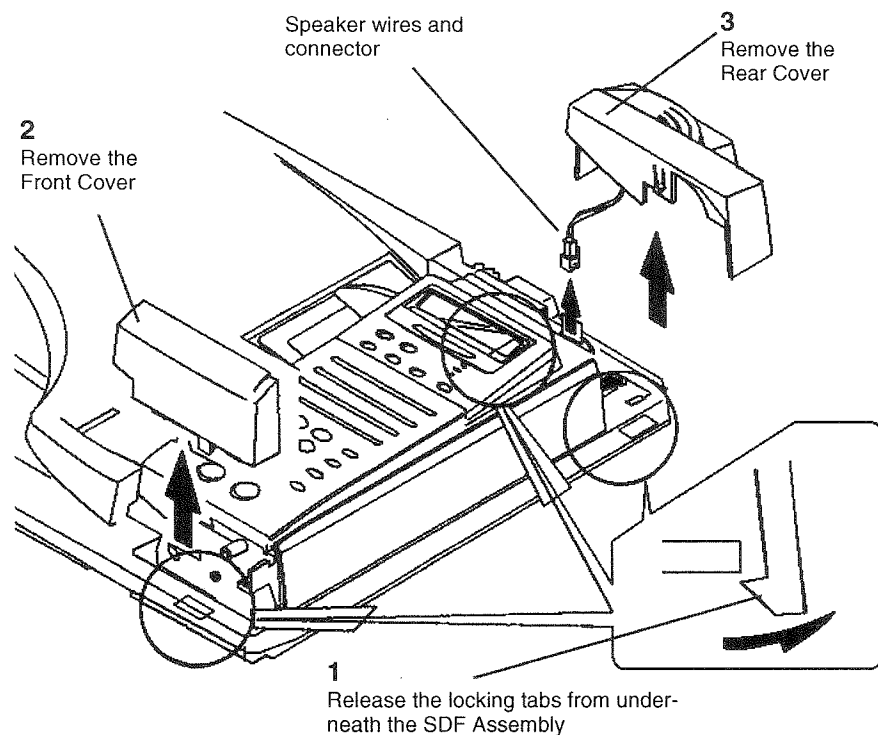
Figure 1 Removing the Front and Rear Covers

2.   (Figure 2) Prepare to remove the SDF Feed Assembly.

1
Disconnect the connector

2
Remove the screws and
the metal brackets
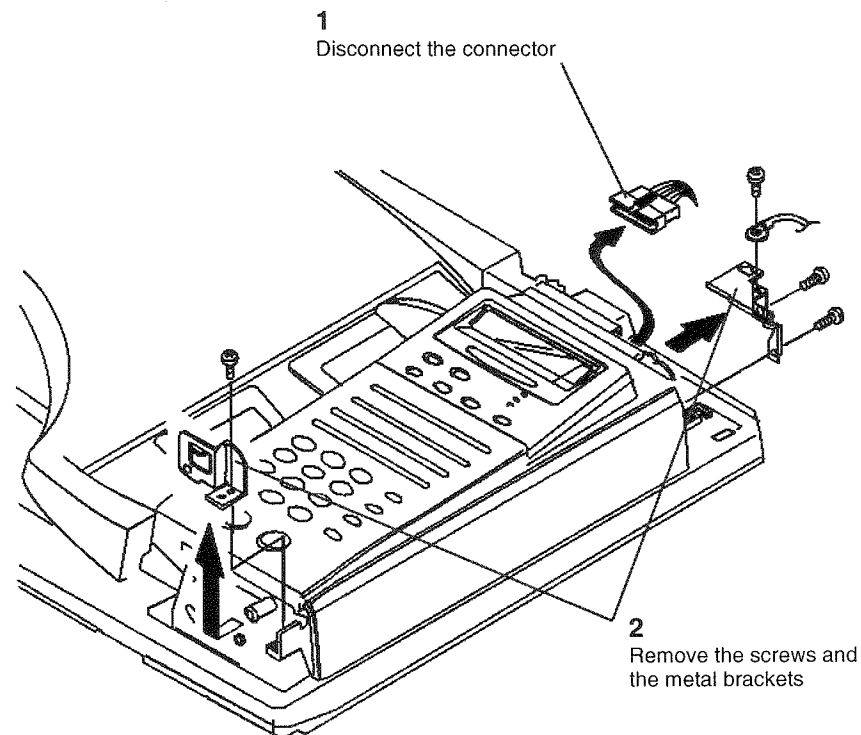
Figure 2 Preparing to remove the SDF Assembly

3.   (Figure 3) Remove the SDF Feed Assembly.
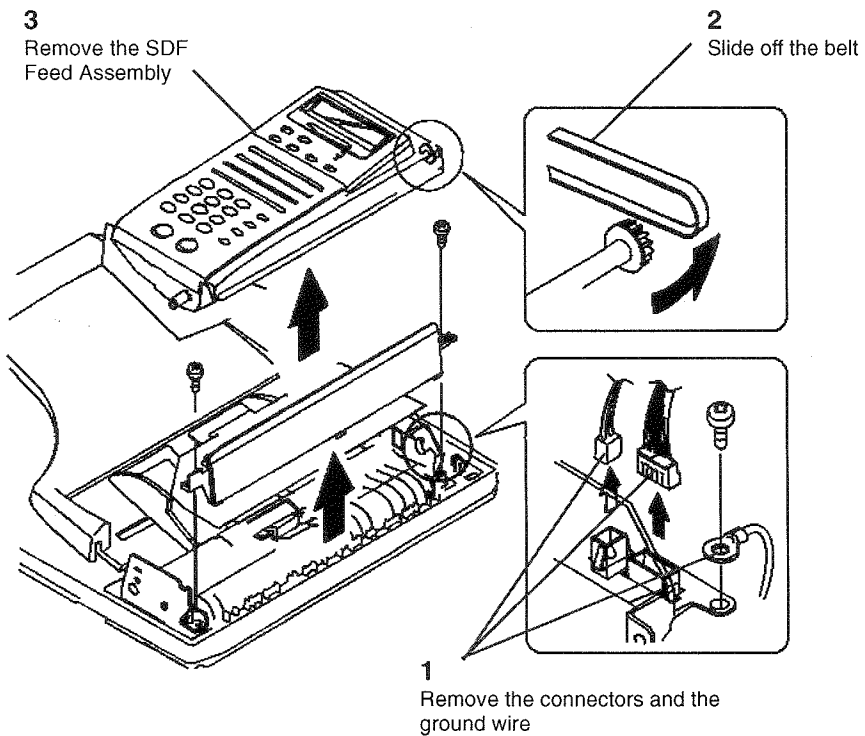
3
Remove the SDF
Feed Assembly

2
Slide off the belt

2
Lift off the Fax Control
Panel

1
Remove the connectors and the
ground wire

1
Remove the screws
(5)

Figure 3 Removing the SDF Feed Assembly

Figure 4 Removing the Fax Control Panel

CAUTION

Handle the SDF Feed Assembly carefully to prevent damage to the sensor actuators.
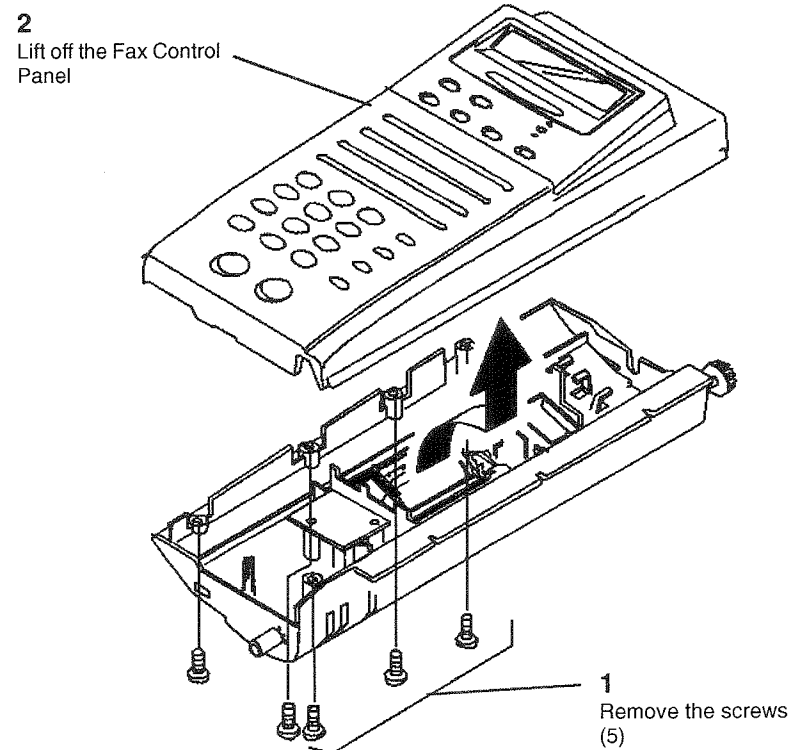
4.   (Figure 4) Remove the Fax Control Panel.

REP 15.2 Fax Control Panel PWB

Parts List on PL 9.2A

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1.   Remove the Fax Control Panel (REP 5.12).

CAUTION

Do not damage the LCD contrast control knob when removing the Fax Control Panel PWB from the Fax Control Panel.

2.   (Figure 1) Turn the Fax Control Panel face down and remove the Fax Control Panel PWB.
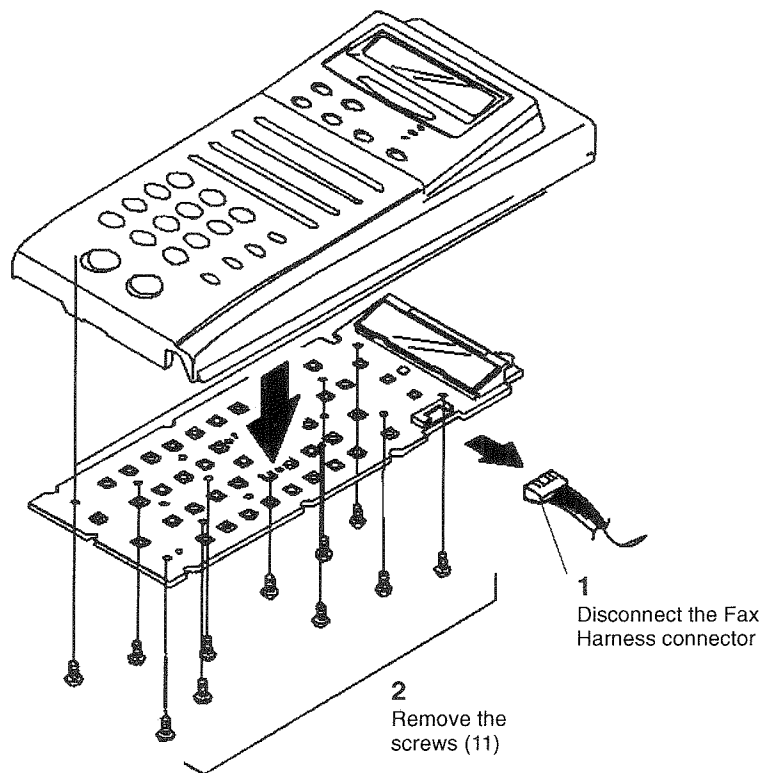
REP 15.3 Fax Harness

Parts List on PL 9.2A

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1.   Remove the Fax Control Panel (REP 5.12).

2.   Remove the Fax Control Panel PWB (REP 14.7).

3.   Squeeze in on the locking tabs and remove the Fax Harness connector from the Fax Control Panel.

4.   Remove the Fax Harness connector from the Fax Control Panel PWB.

1
Disconnect the Fax Harness connector

2
Remove the screws (11)

Figure 1 Removing the Fax Control Panel PWB

REP 15.4 Speaker

Parts List on PL 9.3

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

CAUTION

Remove the Rear Cover carefully to prevent damage to the Speaker wires or connector.

1. (Figure 1) Remove the Rear Cover.

Speaker wires and connector

2
Remove the Rear Cover

1
Release the locking tabs from underneath the SDF Assembly

Figure 1 Removing the Rear Cover

2. (Figure 2) Remove the Speaker.

2
Remove the Speaker

1
Remove the screws (2)
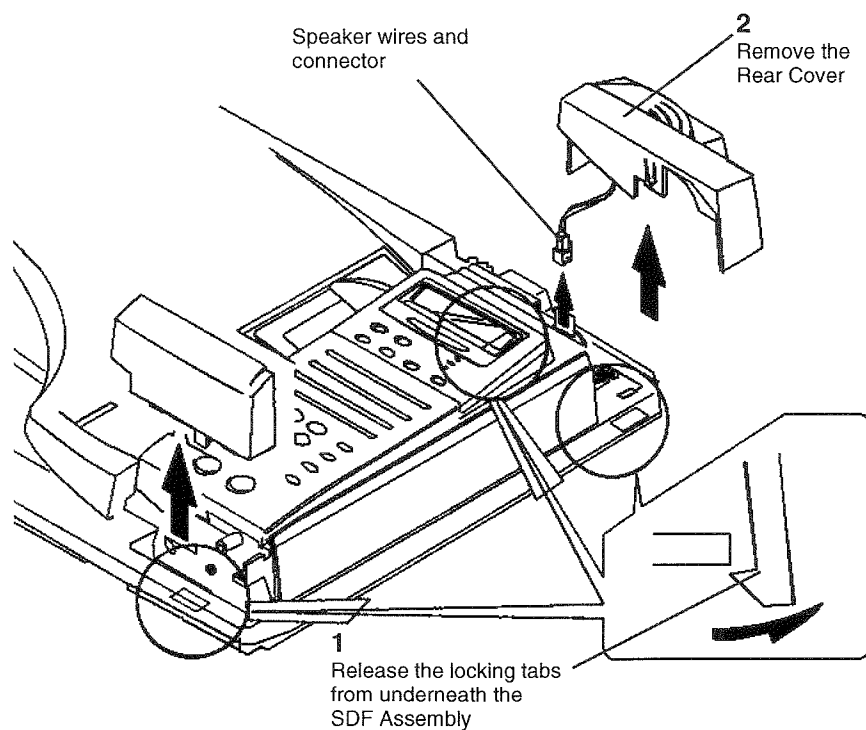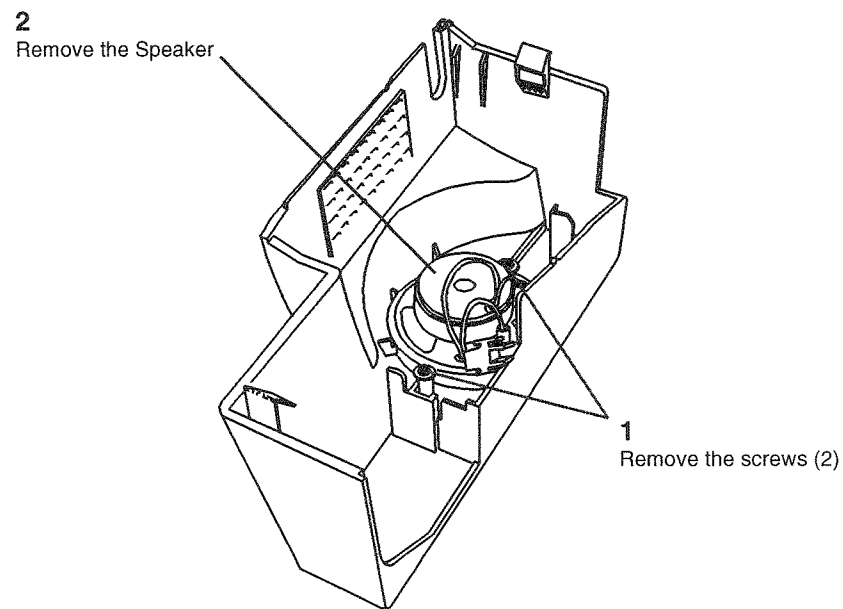
Figure 2 Removing the Speaker

REP 15.5 Speaker Harness

Parts List on PL 9.3

Removal

WARNING

Switch off the Main Power Switch. Disconnect the Power Cord.

1. Remove the Speaker (REP 15.4).
2. (Figure 1) Remove the Speaker Harness (PL 9.3).
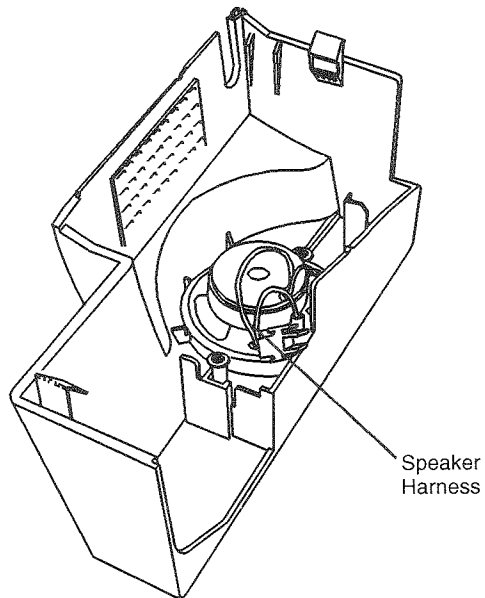
Speaker
Harness

Figure 1 Removing the Speaker Harness

Notes:

ADJ 5.1 SDF/DSDF Skew

Purpose

The purpose is to correct a 1 to 2mm skew that is caused by misalignment of the SDF Assembly or the DSDF Assembly relative to the body of the copier/printer.

Check

1. Make a 100% copy of the test pattern 82E12130 on the SDF or DSDF.
2. Carefully align the lead edge of the test pattern 82E12130 with the registration guide and make a 100% copy on the Document Glass.
3. Compare the copies.
   a. If skew is present and is the same on both copies, go to the Section 3 Image Quality Specifications.
   b. If a 1 to 2mm skew is present only on the copy made on the SDF or DSDF, perform the adjustment below.

Adjustment

1. (Figure 1): Open the SDF/DSDF Assembly and locate the two screws that secure the assembly to the right hinge.

Screw (2) locations
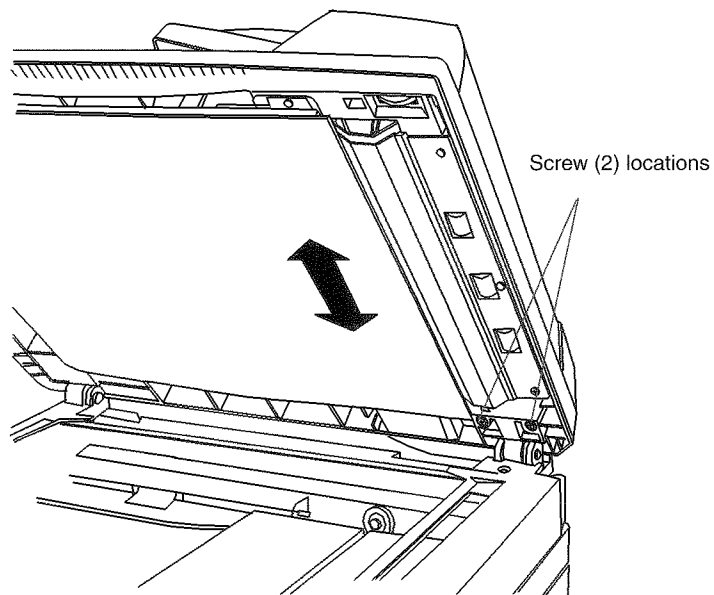
Figure 1 Adjusting SDF/DSDF skew

2. Loosen the screws and move the SDF/DSDF Assembly 1mm toward the front or rear of the machine to remove the skew.
3. Tighten the screws.

4. Run a copy from the SDF/DSDF to verify that the skew problem is corrected. If the problem is not corrected, repeat the adjustment procedure.

ADJ 6.1 Copy Density (Exposure)

Purpose

The purpose is to set the exposure level so that the correct density is produced.

Check

1. Clean the Optics and the Document Glass.
2. Set the magnification to 100%.
3. Set the Exposure to the Text mode.
4. Make five copies of Side A of the standard test pattern.
5. (Figure 1): Check the fifth copy.
   a. If the .20B line pair is just visible and the .10 line pair is not visible, the exposure is correct.
   b. If the .20B line pair is not visible, decrease the exposure.
   c. If the .10 line pair is visible, increase the exposure.

Line Pairs

SKY201N
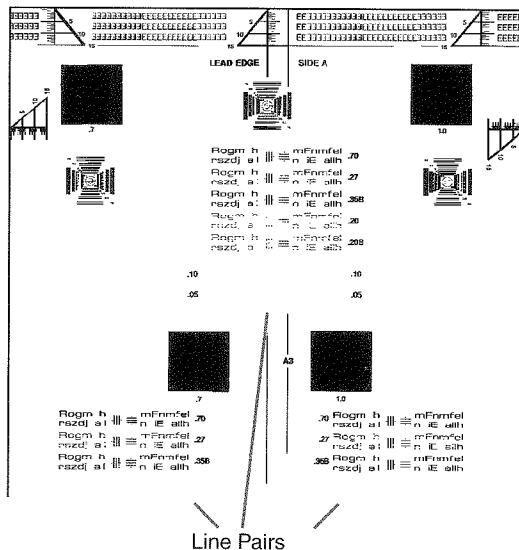
Figure 1 Checking the Exposure on the Copy

6. Repeat steps 4 and 5 for the Auto mode.
7. Set the Exposure to the Photo mode.
8. Make five copies of Side A of the standard test pattern.
9. Check the fifth copy.

   a. If the .20B line pair is just visible and the .10 line pair is not visible, the exposure is correct.
   b. If the .20B line pair is not visible, decrease the exposure.
   c. If the .10 line pair is visible, increase the exposure.
10. Repeat steps 8 and 9 for the Toner Saver mode.

Adjustment

1. Enter Diagnostic Code 46-1 and adjust the mode(s) identified in the check as requiring adjustment.
2. Adjust the Text mode.
   a. Select Text.
   b. Place the Test Pattern as described in the check.
   c. Press the Start button.
      * A copy is made.
   d. Decrease the number to increase the exposure (copy becomes lighter) and press the Start button.
      * Evaluate the copy per the check and adjust as required.
   e. Increase the number to decrease the exposure (copy becomes darker) and press the Start button.
      * Evaluate the copy per the check and adjust as required.
3. Adjust the Auto mode.
   a. Select Auto.
   b. Place the Test Pattern as described in the check.
   c. Press the Start button.
      * A copy is made.
   d. Decrease the number to increase the exposure (copy becomes lighter) and press the Start button.
      * Evaluate the copy per the check and adjust as required.
   e. Increase the number to decrease the exposure (copy becomes darker) and press the Start button.
      * Evaluate the copy per the check and adjust as required.
4. Adjust the Photo mode.
   a. Select Photo.
   b. Place the Test Pattern as described in the check.
   c. Press the Start button.
      * A copy is made.
   d. Decrease the number to increase the exposure (copy becomes lighter) and press the Start button.
      * Evaluate the copy per the check and adjust as required.
   e. Increase the number to decrease the exposure (copy becomes darker) and press the Start button.
      * Evaluate the copy per the check and adjust as required.
5. Adjust the Toner Saver mode.
   a. Select Toner Saver.
   b. Place the Test Pattern as described in the check.

c. Press the Start button.
  - A copy is made.
d. Decrease the number to increase the exposure (copy becomes lighter) and press the Start button.
  - Evaluate the copy per the check and adjust as required.
e. Increase the number to decrease the exposure (copy becomes darker) and press the Start button.
  - Evaluate the copy per the check and adjust as required.
6. Exit Diagnostics.

ADJ 6.2 Lens/CCD Module

Purpose

The purpose is to position the Lens/CCD Module at the factory-specified setting.

Adjustment

CAUTION

Only the mounting screws shown below are to be utilized by the Service Representative. The module is available only as an assembly and must not be disassembled

NOTE: *Example: Lens Unit Number is -2.8. Install the edge of the Lens/CCD Module approximately three lines in the negative direction from the Reference Line.*

Example: Lens Unit Number is 0. Install the edge of the Lens/CCD Module exactly on the Reference Line.

1. (Figure 1): Install the module so that the Lens Adjustment Plate is aligned with the lines on the Base Plate according to the number written on the Lens Adjusting Plate.
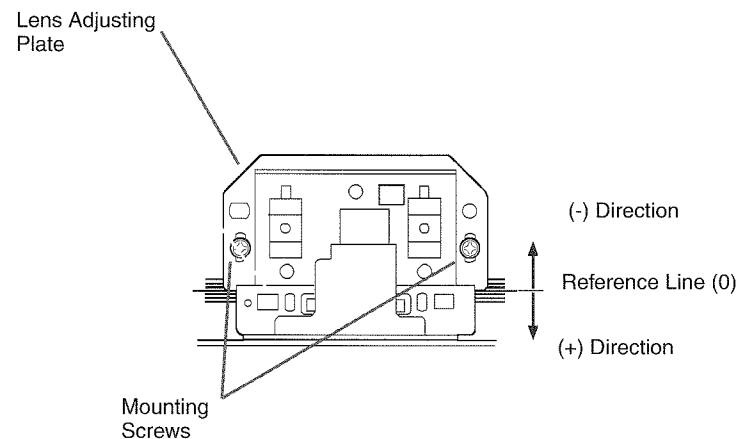
SKY091N

Figure 1 Adjusting the Lens/CCD Module

ADJ 6.7 Image Distortion (Horizontal and Vertical)

Purpose

The purpose is to correct image distortion by changing the parallelism of the mirrors (Exposure Lamp Carriage and Half-Rate Carriage).

Check

1. (Figure 1): Make a Test Pattern for the check and adjustment by drawing a rectangle on a sheet of 8-1/2" X 14" (B4) paper. Ensure that the corners are square.
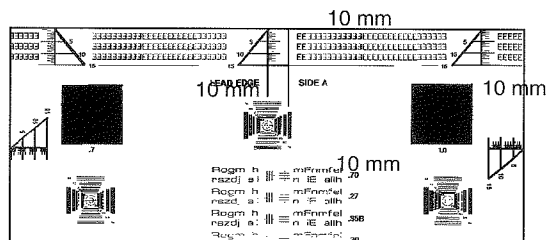
Figure 1 Making the Test Pattern

2. (Figure 2): Make several copies of the Test Pattern.
   a. If the copies look like the Document, the check is good.
   b. If the copies look like A or B, perform the Horizontal Image Distortion Adjustment.

Document   Copy A   Copy B

SKY069N
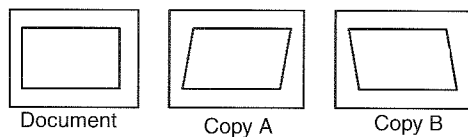
Figure 2 Checking the Copies

Adjustment

HORIZONTAL IMAGE DISTORTION

1. Remove the Document Glass Assembly (REP 6.1).
2. (Figure 3): Loosen the screws on the Exposure Lamp Carriage.

1
Loosen the screws
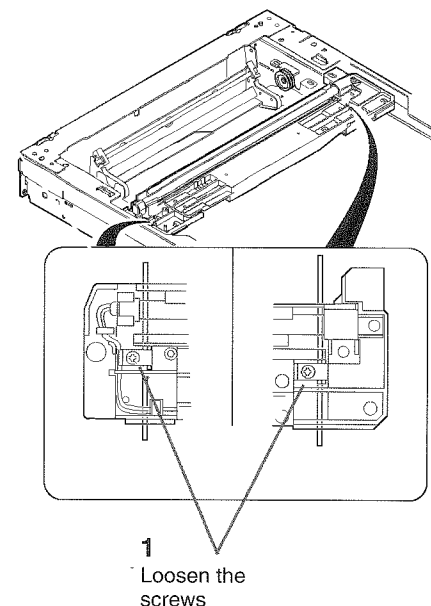
SKY072N

Figure 3 Loosening the Exposure Lamp Carriage Screws

3. (Figure 4): Rotate the Scan Drive Gear until the Half-Rate Carriage comes in contact with the Positioning Brackets.
   a. If contact is equal on both sides, the adjustment is good.
   b. If there is no contact on one side, continue with the adjustment.

Half-Rate
Carriage

Positioning
Bracket

Positioning
Bracket

1
Rotate
the gear
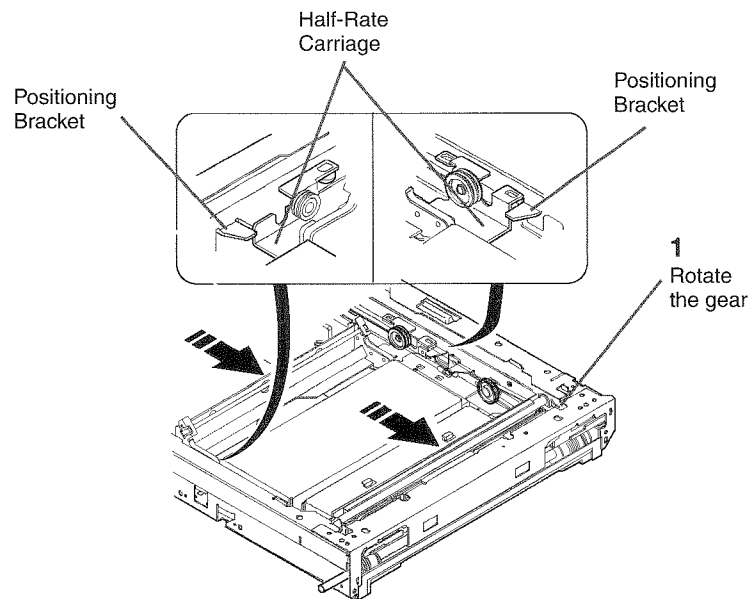
SKY073N

Figure 4 Checking the Contact of the Half-Rate Carriage

4.   (Figure 5): Loosen the setscrews on the Scan Cable Hub on the side where there was
no contact.

1
Loosen the
setscrews
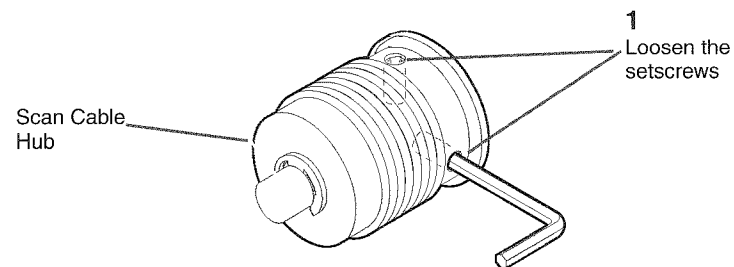
Scan Cable
Hub

SKY074N

Figure 5 Loosening the Setscrews on the Scan Cable Hub

5.   (Figure 6): Without moving the Scan Cable Hub Shaft, rotate the Hub until the Half-Rate
Carriage makes contact with the Positioning Bracket.

Half-Rate
Carriage

2
Tighten the
setscrews

1
Rotate the Hub
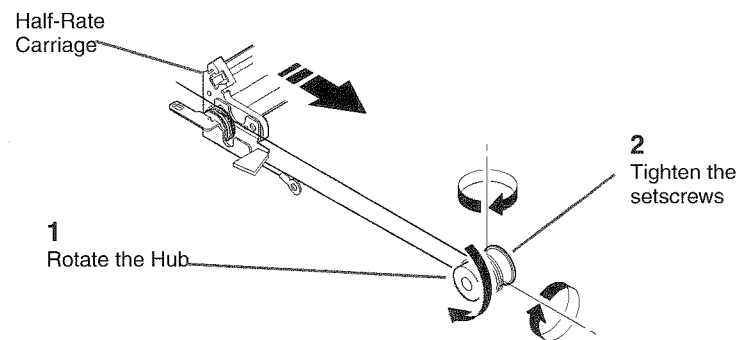
SKY075I

Figure 6 Aligning the Half-Rate Carriage

6.   Repeat steps 3 through 5 until the parallelism of the Half-Rate Carriage is properly
adjusted.

7. (Figure 7): With the Half-Rate Carriage against the Positioning Brackets, move the Exposure Lamp Carriage into contact with the frame. Hold a straightedge firmly against the frame and ensure that the front and rear tabs are parallel with and do not protrude beyond the frame, then tighten the mounting screws.

Front and rear tabs contact straightedge

Exposure Lamp Carriage

NOTE: *Use a straightedge to ensure that the front and rear tabs are aligned parallel to the frame before tightening the screws.*

2
Tighten the screws
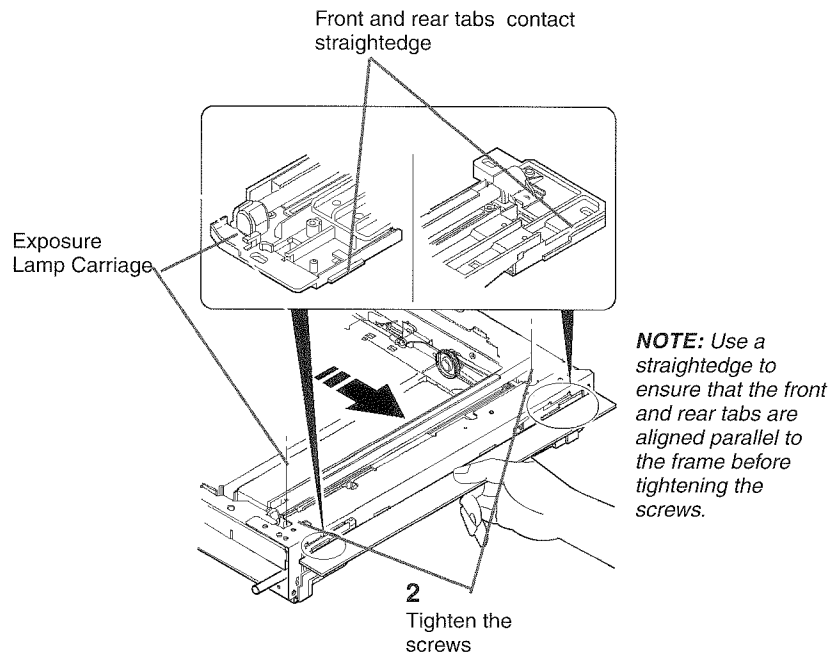
SKY076N

Figure 7 Aligning the Half-Rate Carriage

VERTICAL IMAGE DISTORTION

1. (Figure 8): Correction is made for Vertical Image Distortion when the copy of the Test Pattern looks like the following figure. If all corners are well-formed right angles, no further adjustment is required,

1
Correction required to balance the distortion

Change the height of the right side of the rail

Change the height of the left side of the rail
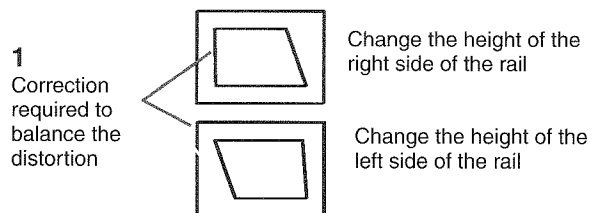
SKY085N

Figure 8 Evaluating the Copies

2. (Figure 9): Loosen the mounting screws of the Half-Rate Carriage Rail to set the balance.

2
Set the rail

1
Loosen the screws

3
Tighten the screws

SKY084N

Figure 9 Aligning the Half-Rate Carriage Rail

3. Reassemble the Copier and repeat the check.
4. Check Image Magnification (ADJ 6.8).

ADJ 6.8 Image Magnification

Purpose

The purpose is to provide the correct vertical and horizontal magnification.

Check

1. Make a 100% copy of Side B of the Standard Test Pattern.
2. The magnification of a 100% copy should be within 1.0% of the original size in the vertical and horizontal directions.

Adjustment

MAGNIFICATION (Front to Rear)

1. Enter Diagnostic Code 48-1.
2. Press the Exposure Mode button until the Text lamp is lit.
3. To change the magnification, press the Copy Quantity buttons.
    a. To increase the magnification, increase the number.
    b. To decrease the magnification, decrease the number.
    c. Press the Clear button.

MAGNIFICATION (Lead Edge to Trail Edge)

1. Enter Diagnostic Code 48-1.
2. Press the Exposure Mode button until the Photo lamp is lit.
3. To change the magnification, press the Copy Quantity buttons.
    a. To increase the magnification, increase the number.
    b. To decrease the magnification, decrease the number.
    c. Press the Clear button.
4. Repeat the check.

ADJ 8.2 Lead Edge Deletion

Purpose

The purpose is to set the Lead Edge Deletion to within specification.

Check

1. Make a copy with the Document Cover Assembly open (Dark Dusting).
2. Check that the Lead Edge Deletion is 1 to 4 mm.

Adjustment

1. Enter Diagnostic Code 50-1.
2. Press the Exposure button until the Text lamp is lit.

   NOTE: Each increment to the Copy Quantity display changes the deletion by 0.1 mm.

3. To change the Lead Edge Deletion, press the Copy Quantity buttons.
   a. To increase the deletion, increase the number.
   b. To decrease the deletion, decrease the number.
   c. Press the Clear button.
4. Repeat the check.

ADJ 8.3 Trail Edge Deletion

Purpose

The purpose is to set the Trail Edge Deletion to within specification.

Check

1. Make a copy with the Document Cover Assembly open (Dark Dusting).
2. Check that the Trail Edge Deletion is a maximum of 4 mm.

Adjustment

1. Enter Diagnostic Code 50-1.
2. Press the Exposure button until the Auto, Text, and Photo lamps are lit.

   NOTE: Each increment to the Copy Quantity display changes the deletion by 0.1 mm.

3. To change the Trail Edge Deletion, press the Copy Quantity buttons.
   a. To increase the deletion, increase the number.
   b. To decrease the deletion, decrease the number.
   c. Press the Clear button.
4. Repeat the check.

ADJ 8.4 Lead Edge Registration

Purpose

The purpose is to set the Lead Edge Registration to specification.

NOTE: This adjustment advances or delays the Registration Roller ON timing.

Check

1. Enter Diagnostic Code 50-[01].
2. Press the **Image Quality** button until the **Text** lamp is lit.
3. Record the value that is displayed for Lead Edge Deletion.
4. Press the **Copy Quantity** buttons and set the Lead Edge Deletion value to zero (0).
5. Press the **Clear** button to store the value and exit diagnostics.
6. Place test pattern 82P524 (NASG and XCL) or 82P523 (XE) on the Document Glass with Side A down and the lead edge against the registration edge.
7. Make two copies at 100% magnification and discard the first copy.
8. Check that the lead edge registration of the second copy is 0 +/- .2mm.

Adjustment

1. Enter Diagnostic Code 50-1.
2. Press the Image Quality button until the **Auto** lamp is lit.
3. Record the value that displays on the Control Panel.

   NOTE: Each increment of 10 to the Copy Quantity display changes the lead edge registration by 1.0 mm.

   NOTE: Do not adjust the registration by pressing the Copy Quantity "ones" button. Pressing the "ones" button while performing the adjustment procedure will change the Lead Edge Deletion only, not the Lead Edge Registration.

4. To change the Lead Edge Registration, press the Copy Quantity "tens" button.
   a. To move the image toward the lead edge of the paper, increase the number.
   b. To move the image away from the lead edge of the paper, decrease the number.
   c. Press the **Start** button to run a copy at the new setting.
5. Check the lead edge registration on the copy.
6. Repeat steps 4 and 5 until the Lead Edge Registration is correct.
7. Press the **Clear** button to exit diagnostics.
8. Perform the Lead Edge Deletion adjustment (ADJ 8.2) and reset the initial value that is displayed (zero) to the setting that was recorded in the Check section.

ADJ 8.5 SDF/DSDF Lead Edge Registration

Purpose

The purpose is to set the SDF/DSDF Lead Edge Registration to specification.

NOTE: This adjustment advances or delays the document scan.

Check

1. Enter Diagnostic Code 50-[01].
2. Press the **Image Quality** button until the **Text** lamp is lit.
3. Record the value that is displayed for Lead Edge Deletion.
4. Press the **Copy Quantity** buttons and set the Lead Edge Deletion value to zero (0).
5. Press the **Clear** button to store the value and exit diagnostics.
6. Place the test pattern 82E12130 in the SDF/DSDF with Side A facing up and the lead edge against the Paper Gate.
7. Make two copies at 100% magnification and discard the first copy.
8. Check that the SDF/DSDF Lead Edge Registration on the second copy is 0 +/- .2 mm.

Adjustment

1. Power the copier/printer Off and then On.
2. Enter the Diagnostic Code 50-[1].
3. Press the Image Quality button until the **Auto** and **Text** lamps are lit.
4. Record the setting value that is displayed on the Control Panel.

   NOTE: Each increment of 10 to the Copy Quantity display changes the lead edge registration by 1.0 mm.

   NOTE: Do not adjust the registration with the Copy Quantity "ones" button. Pressing the "ones" button while performing the adjustment procedure will change the Lead Edge Deletion only, not the Lead Edge Registration.

5. To change the SDF/DSDF Lead Edge Registration, press the Copy Quantity "tens" button.
   a. To move the image toward the lead edge of the paper, decrease the number.
   b. To move the image away from the lead edge of the paper, increase the number.
   c. Press the **Start** button.
6. Check the SDF/DSDF Lead Edge Registration on the copy.
7. Repeat steps 5 and 6 until the SDF/DSDF Lead Edge Registration is correct.
8. Press the **Clear** button to exit diagnostics.
9. Perform the Lead Edge Deletion adjustment (ADJ 8.2) and reset the initial value that is displayed (zero) to the setting that was recorded in the Check section.

ADJ 9.1 Developer Bias

Purpose

The purpose is to adjust the developer bias voltage.

Adjustment

WARNING

Switch off the Main Power Switch, and disconnect the Power Cord before inserting the meter lead probes onto the Power Supply PWB.

1. Set the digital multi meter range to 400 VDC.

    NOTE: *An alternate hookup of the meter lead probes is at the rear of the machine. With the back cover off, connect the positive lead to P/J 9 pin 8 (refer to Section 7, Figure 3) Connect the negative lead to chassis ground.*

2. (Figure 1): Connect the positive lead to connector pin CN10-1
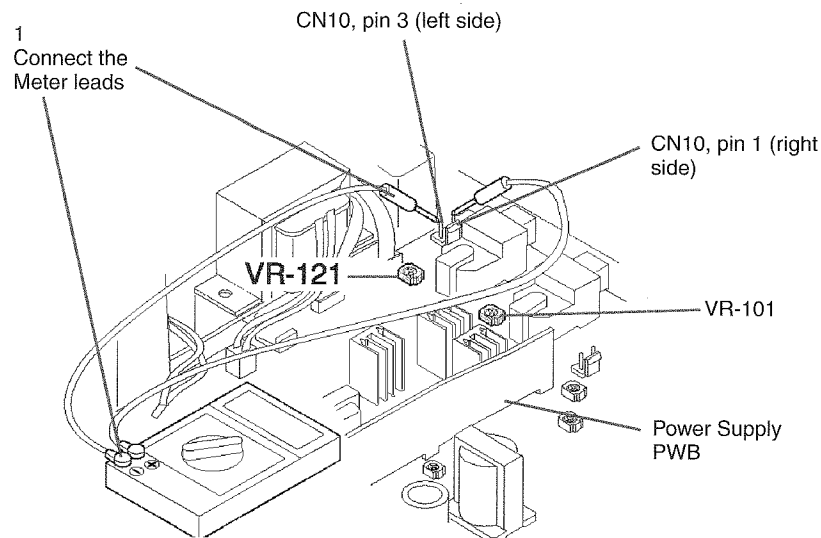
Figure 1 Adjusting the Developer Bias Voltage

3. Connect the negative lead to CN10-2.
4. Enter Diagnostic Code 25-1. When Start is pressed, the Developer Bias is present for 30 seconds.
5. Adjust VR-121 for a voltage of -380 +/- 20 VDC.

ADJ 9.2 Grid Bias

Purpose

The purpose is to adjust the grid bias voltage.

Adjustment

WARNING

Switch off the Main Power Switch, and disconnect the Power Cord before inserting the meter lead probes onto the Power Supply PWB.

NOTE: *Set the LOW output voltage first. Set the HIGH output voltage last..*

1. Set the digital multi meter range to 4000 VDC.
2. (Figure 1): Connect the positive lead to connector pin CN11-3
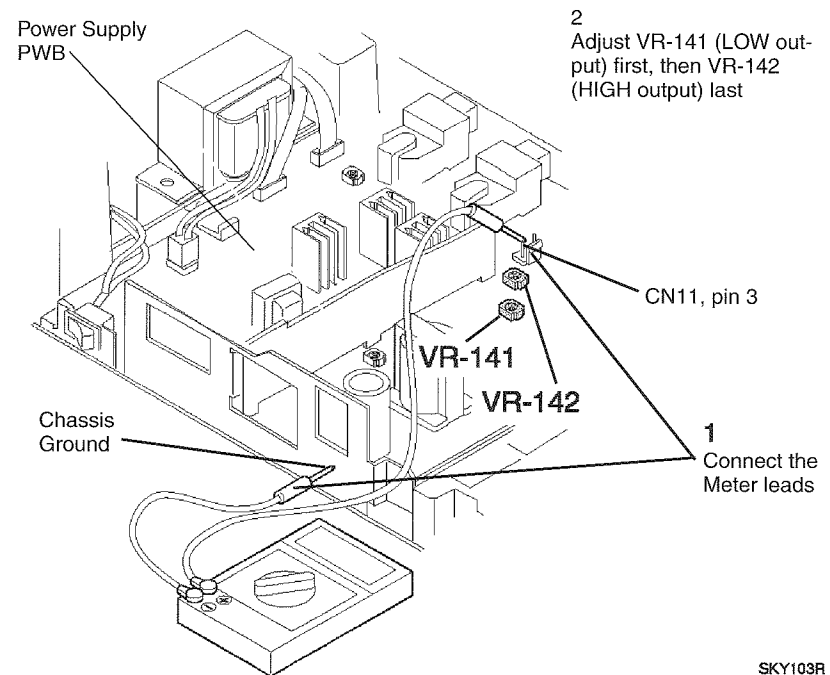
Figure 1 Adjusting the Grid Bias Voltage

3. Connect the negative lead to the Chassis Ground.
4. Enter Diagnostic Code 8-3.
5. Adjust VR-141 for a LOW output voltage of -420 +/- 20 VDC.
6. Enter Diagnostic Code 8-2.
7. Adjust VR-142 for a HIGH output voltage of -580 +/- 20 VDC.

5 SKYWALKER FAX

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
M	Millimeters
MOD	Magneto Optical Drive
NOHAD	Noise Ozone Heat Air Dirt
PL	Part List
P/O	Part of
R/E	Reduction/Enlargement

Table 1

Abbreviation	Meaning
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.

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).
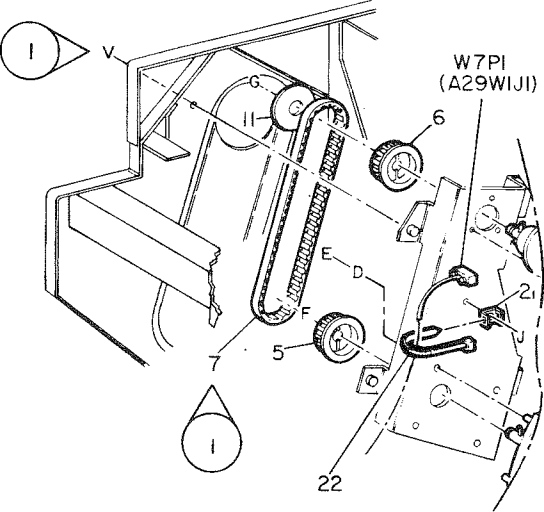
O	Z004	A
850	PL	M	I

Figure 1 With Tag Symbol
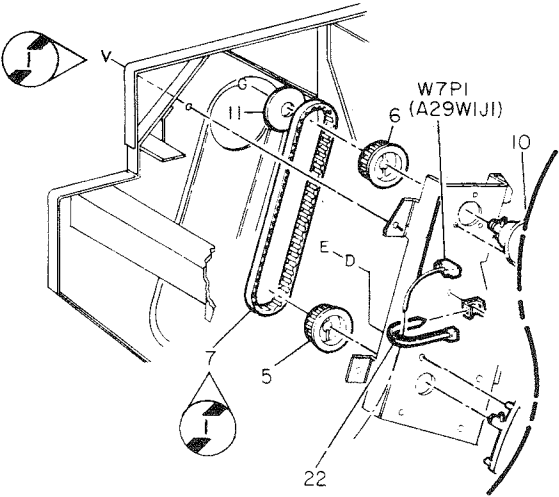
O	Z005	A
850	PL	M	I

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.

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).
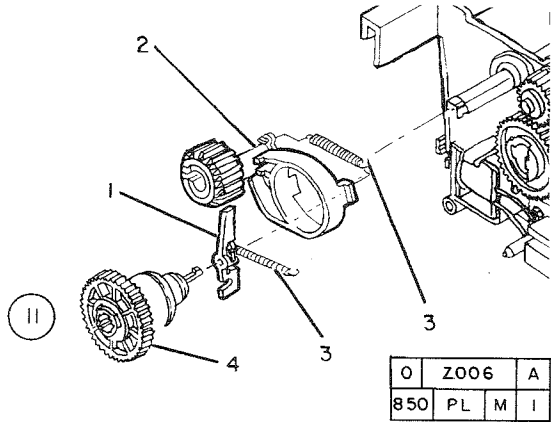
Figure 3 Entire Drawing With Tag Symbol
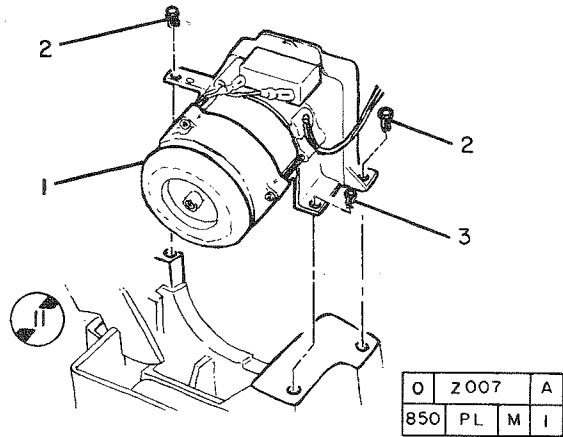
Figure 4 Entire Drawing Without Tag Symbol

PL 1.1 COVERS

Item	Part	Description
1	2N1525	FRONT DOOR (USO/XCL)
2	–	OUTPUT TRAY (USO/XCL) (REP 14.7)
3	–	SCREW (3X8)
4	50N230	TRAY EXTENSION (USO/XCL)
5	–	SCREW (4X12)
6	–	CONTROL CONSOLE (REP 14.5) (REF: PL 1.3)
7	152N1630	CONTROL CONSOLE HARNESS
8	–	HARNESS
9	–	SCREW (3X8)
10	–	TOP LEFT COVER
11	891E82000	INSTRUCTION LABEL
12	90N140	DOCUMENT GLASS ASSEMBLY (USO/XCL) (REP 6.1)
13	–	REGISTRATION GUIDE
14	–	CALIBRATION STRIP
15	–	ADHESIVE STRIP
16	–	DOCUMENT GLASS
17	2N1591	TOP RIGHT COVER
18	–	REAR COVER (NOT SPARED)
19	–	CAUTION LABEL
20	–	LABEL
21	–	SERVICE LABEL
22	–.	FAN GASKET
23	53N142	OZONE FILTER
24	–	DOCUMENT GLASS EDGE
25	–	SDF WINDOW
26	–	SDF GLASS CUSHION
27	–	SMALL REAR COVER
28	38N274	REAR SHIELD
29	38N275	FRONT SHIELD
30	–	CUSHION
31	–	TAPE
32	–	COVER B
33	–	COVER A
34	–	SCREW
35	–	CORE HOLDING SHEET

12 { 13 – 16, 24, 25, 28 - 31
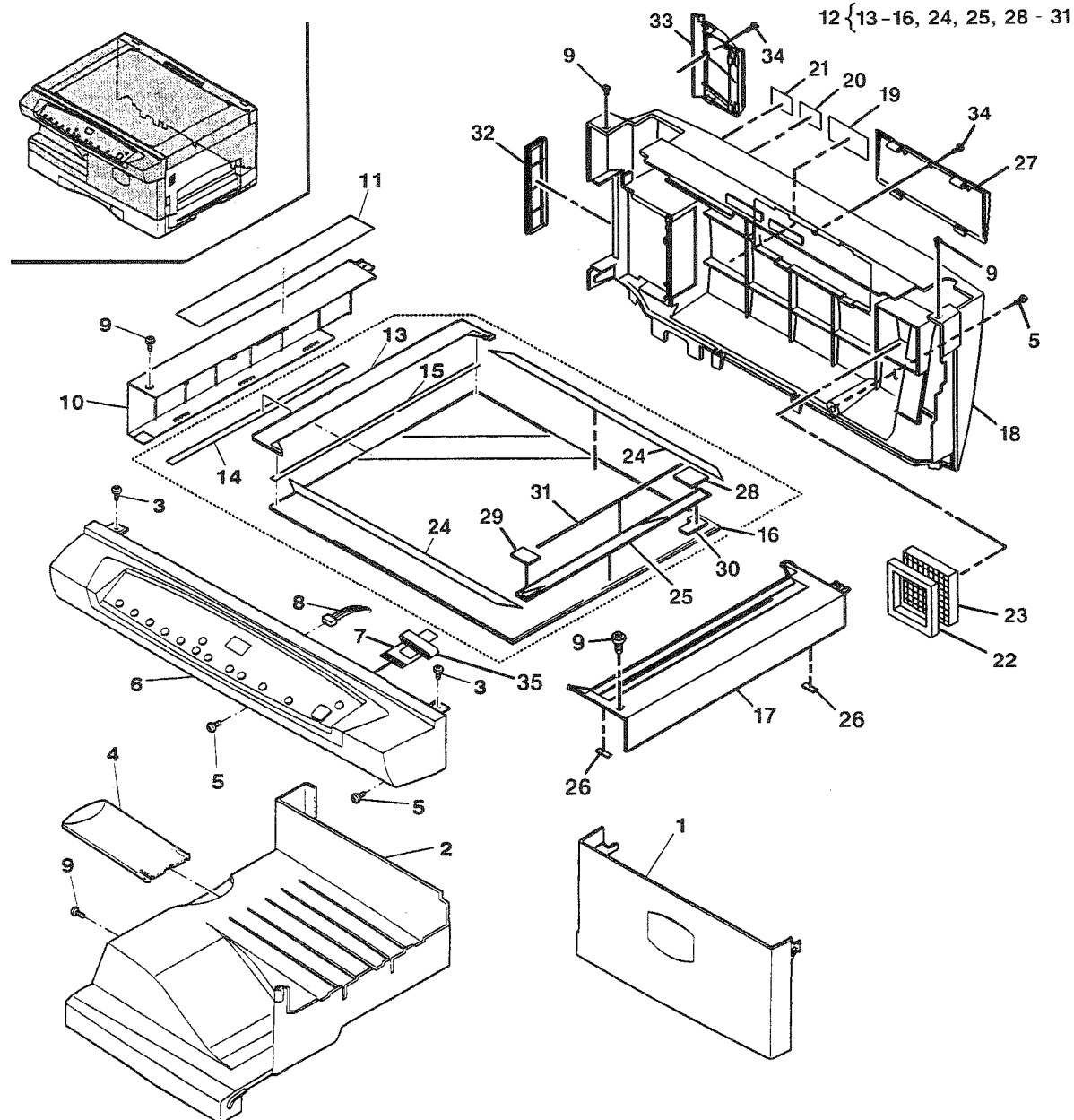
0000038A-SKW

PL 1.3 CONTROL CONSOLE

Item	Part	Description
1	53N203	CONTROL BUTTON COVER (PRO 215 ONLY)
–	–	CONTROL BUTTON COVER (PRO16FX/PRO16P) (NOT SPARED)
2	–	CONTROL CONSOLE COVER
3	3N673	START PRINT BUTTON
4	–	CLEAR/STOP BUTTON
5	–	FUNCTION BUTTON (R)
6	–	FUNCTION BUTTON (L)
7	–	BOOK MODE SELECT BUTTON
8	140N5206	CONTROL CONSOLE PWB
9	–	GROUNDING SPRING
10	–	SCREW (3X8)
11	2N1593	CONTROL CONSOLE SURROUND
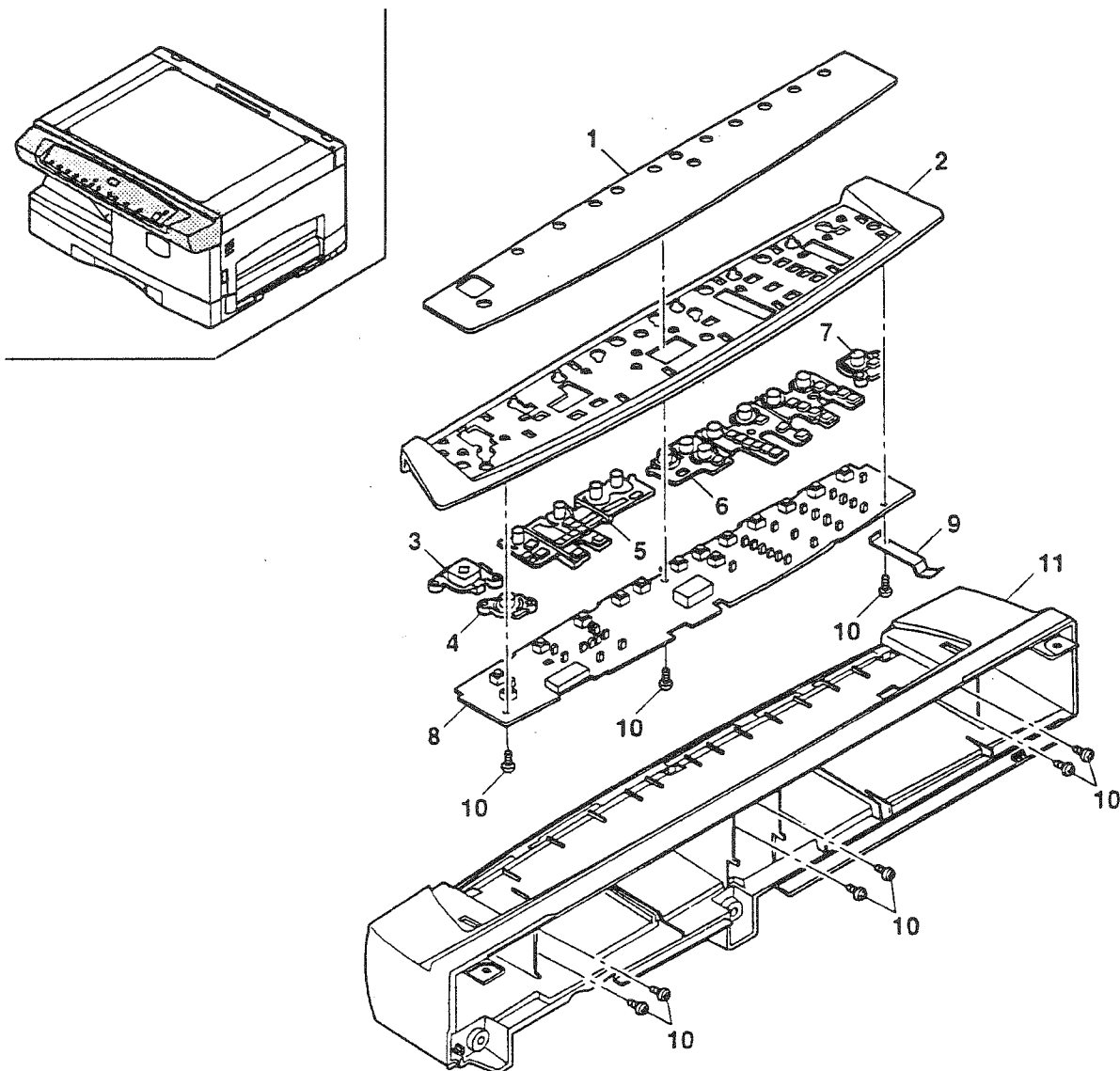
0000054A–SKW

PL 1.4 SIDE DOOR

Item	Part	Description
1	2N1730	SIDE DOOR
2	3N668	SIDE DOOR LATCH
3	9N978	LATCH SPRING
4	–	HINGE GUIDE
5	–	GROUNDING PLATE
6	–	GROUNDING SPRING
7	–	SCREW (3X6)
8	–	SCREW (3X6)
9	–	INNER PAPER GUIDE
10	–	SCREW (3X10)
11	9N964	PRESSURE SPRING
12	152N1635	GROUND WIRE
13	–	GROUNDING SPRING
14	9N962	PRESSURE SPRING
15	–	SHAFT
16	–	E-RING
17	22E22060	UPPER ROLLER
18	19N415	TRANSFER/DETACK COROTRON (REP 9.2)
19	–	SCREW (3X8)
20	7N750	DUPLEX DRIVE GEAR
21	7N751	DUPLEX DRIVE GEAR A
22	22N1002	DUPLEX DRIVE ROLLER (REP 5.28)
23	9N1027	DUPLEX PRESSURE SPRING

Pro 16P + 215
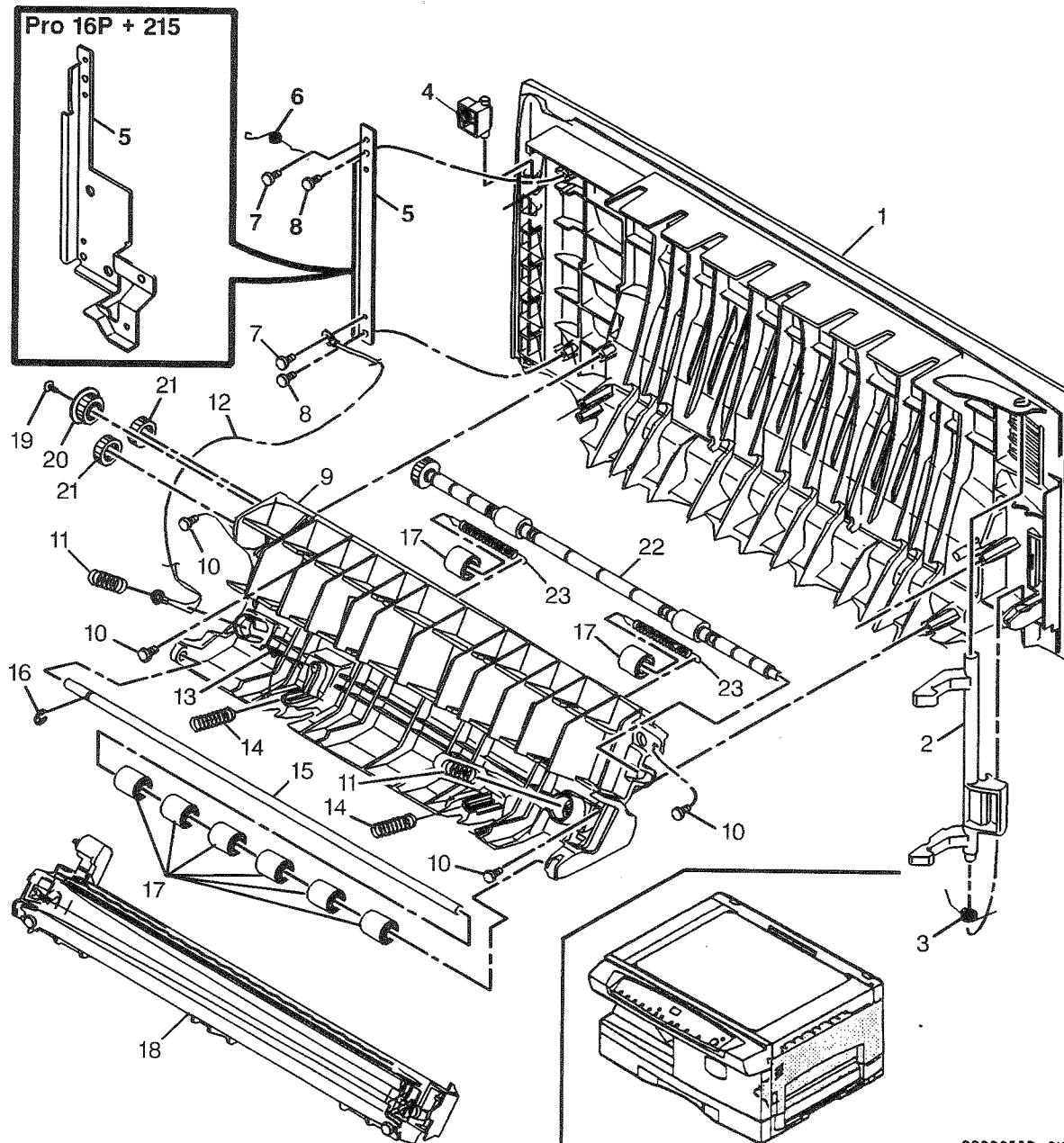
0000055B-SKW

PL 2.1 DRIVES AND MID-FRAME COMPONENTS

Item	Part	Description
1	22N926	EXIT ROLLER (REP 8.9)
2	–	BEARING
3	22N925	LOWER TRANSPORT ROLLER (REP 8.11)
4	–	PULLEY (22T)
5	23N596	EXIT DRIVE BELT (WCPRO16FX)
–	23N634	EXIT DRIVE BELT (WCPRO16P, WCPRO215)
6	–	CABLE TIE
7	–	COUPLING
8	–	SPRING
9	127N972	TONER MOTOR (MOT 4) (REP 9.1)
10	–	SCREW (3X10)
11	–	SCREW (3X30)
12	127N971	VENTILATION FAN (MOT 3) (REP 10.6)
–	127K30260	VENTILATION FAN (MOT 3)
13	–	TRANSFER COROTRON CONTACT HOUSING
14	–	BIAS CONTROL PLATE
15	–	SCREW (3X6)
16	–	TRANSFER COROTRON PLATE
17	–	SCREW (3X6)
18	–	BIAS CONTROL HARNESS
19	–	TRANSFER COROTRON HARNESS
20	–	MANUAL EXIT DRIVE BELT (REP 8.10)
21	–	CENTER FRAME
22	–	MANUAL EXIT KNOB
23	–	FUSER JAM SENSOR HARNESS
24	152N1623	FUSER HEAT ROD HARNESS (100V)
25	–	HARNESS GUIDE
26	–	GUIDE PIN
27	–	DVS HARNESS
28	–	SCREW (3X6)
29	–	SCREW (3X8)
30	–	SCREW (4X12)
31	–	DUPLEX MOTOR MOUNTING BRACKET
32	–	DUPLEX SPACER
33	–	SCREW (3X10)
34	–	SCREW (3X6)
35	127N996	EXIT DRIVE MOTOR (MOT5) (REP 5.30)
36	–	SHIELD
37	–	CUSHION

EXPLODED ON PL2.2

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Parts List

PL 2.1

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5-10

Reissue

Workcenter Pro16/Pro215 Series
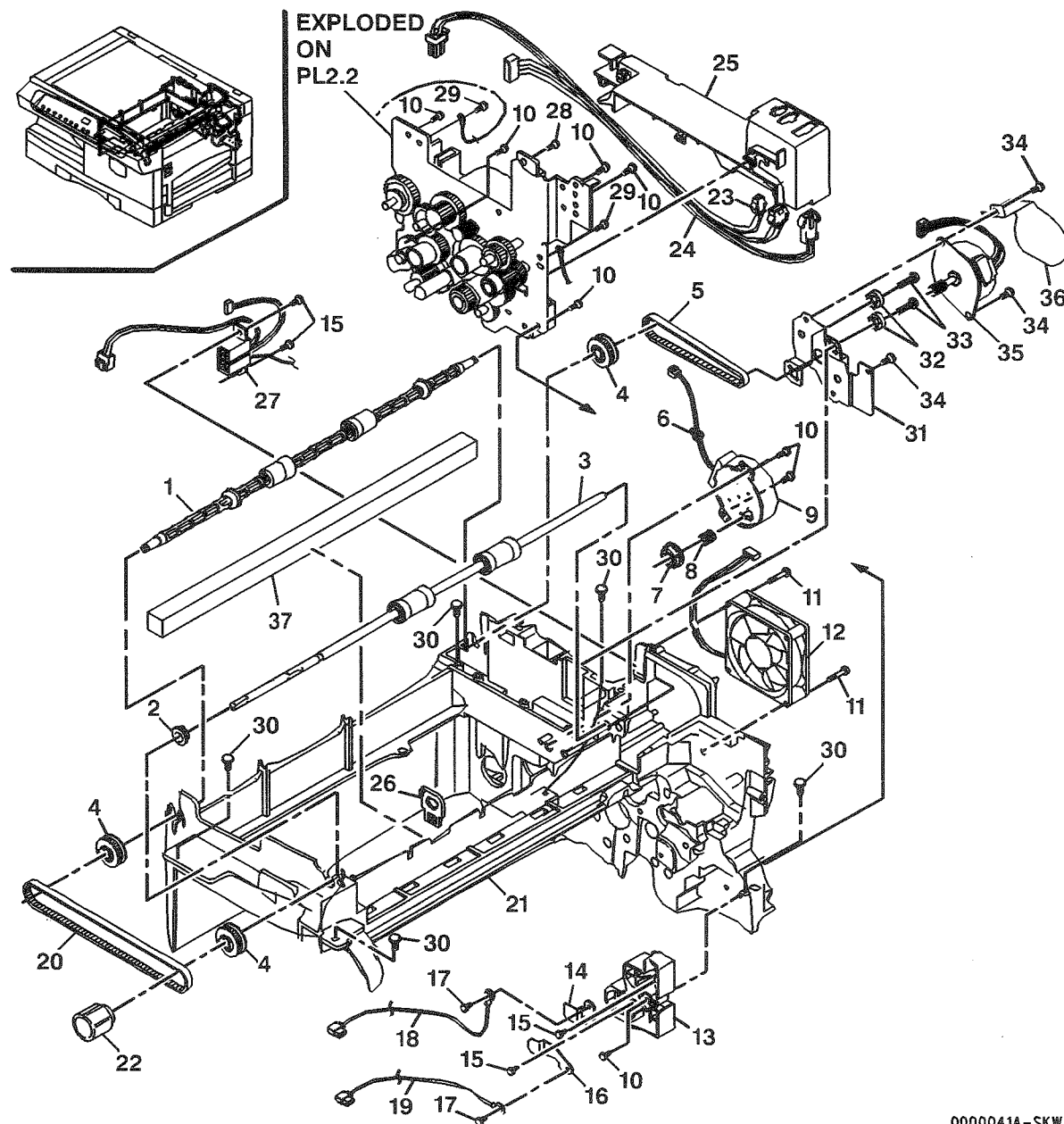
PL 2.2 MAIN DRIVES ASSEMBLY

Item	Part	Description
1	–	MAIN DRIVE ASSEMBLY (REP 8.12)
2	127N969	MAIN DRIVE MOTOR (MOT 1) (REP 4.1)
3	–	SPRING
4	–	GEAR
5	–	PULLEY
6	–	GEAR (28T)
7	–	GEAR (46/16T)
8	–	GEAR (30/15T)
9	–	DRIVE GEAR ASSEMBLY
10	–	GEAR (37/15T)
11	–	GEAR (68/26T)
12	–	COUPLING GEAR (34T)
13	–	RATCHET GEAR (21T)
14	–	RATCHET GEAR (28T)
15	–	SPRING
16	–	GEAR (55/19T)
17	–	GEAR (33/20/15T)
18	–	GEAR (20T)
19	–	GEAR (31/17T)
20	–	MAIN DRIVE BRACKET
21	–	SCREW (3X4)
22	121N400	SOLENOID REGISTRATION (SOL 1) (REP 8.1)
–	121N421	SOLENOID REGISTRATION (WCPRO16P/WCPRO215)
23	–	SPRING
24	–	PAWL
25	121N401	SOLENOID PAPER FEED (SOL 3) (REP 8.2)
26	–	PAWL
27	–	SCREW (4X6)
28	152N1633	MAIN MOTOR HARNESS

1 { 2 - 28

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Reissue

Workcenter Pro16/Pro215 Series

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Parts List

PL 2.2
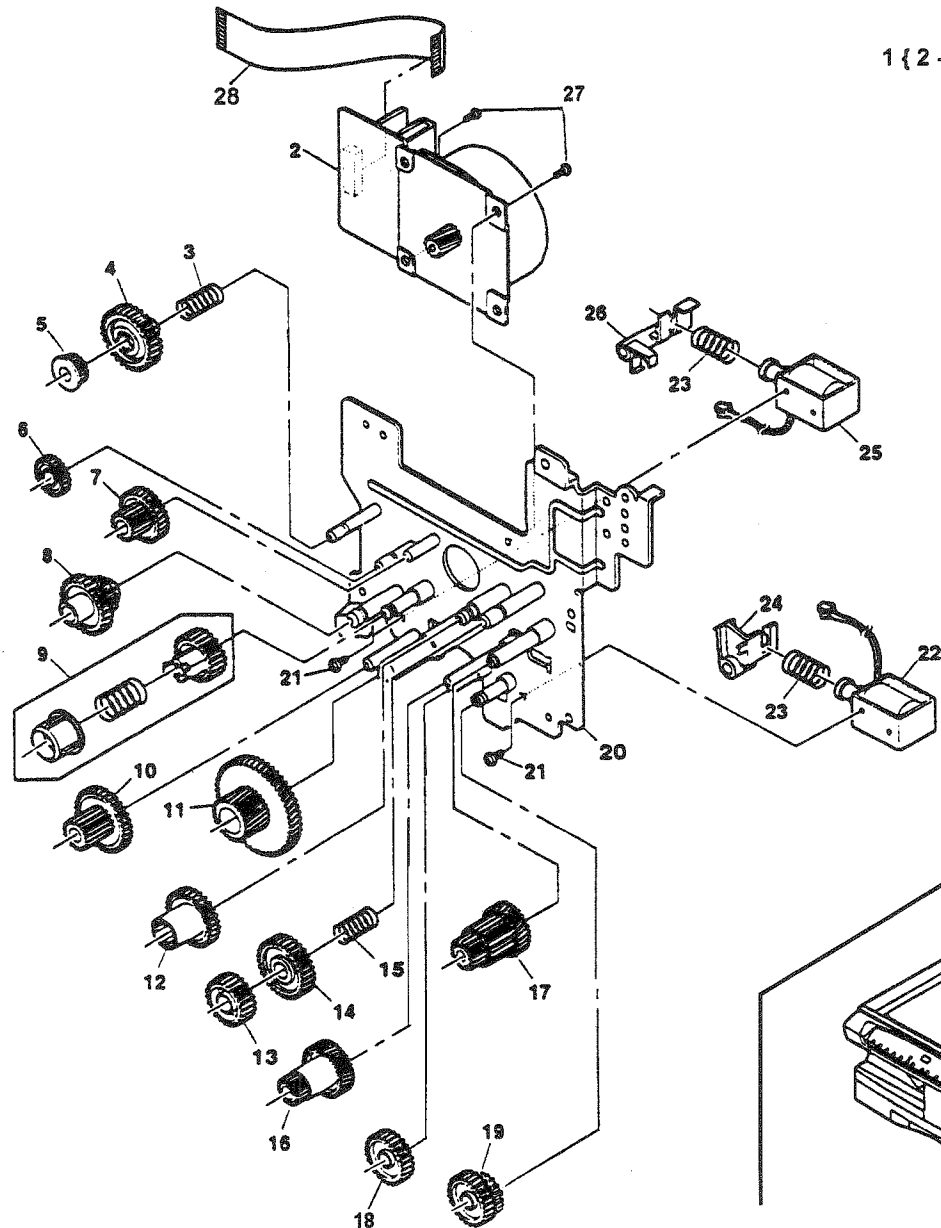
PL 3.1 OPTICS FRAME (1 OF 2)

Item	Part	Description
1	–	SCAN CABLE
2	–	HALF RATE CARRIAGE ASSEMBLY
3	62N139	EXPOSURE LAMP CARRIAGE (REP 6.2)
4	–	CABLE CLAMP
5	–	SCREW (3X5)
6	–	EXPOSURE LAMP HARNESS
7	–	SCREW
8	–	PULLEY STUD PLATE
9	–	PULLEY
10	–	PULLEY
11	–	E-RING
12	–	OPTICS FRAME
13	–	SCREW (3X8)
14	–	SCAN RAIL (REAR)
15	–	SCAN RAIL (FRONT)
16	–	SCREW
17	–	E-RING
18	7N694	SCAN DRIVE GEAR/PULLEY
19	–	MOTOR TENSION SPRING
20	127K30270	SCAN DRIVE MOTOR (MOT 2) (REP 6.3)
21	–	SCAN DRIVE MOTOR MOUNTING PLATE
22	–	E-RING
23	–	BEARING
24	–	SPRING PIN (3MM)
25	–	SCAN DRIVE PULLEY
26	–	SCAN DRIVE BELT
27	–	SCREW (3X4)
28	–	SCAN CABLE HUB
29	–	SCREW (4X6)
30	–	SCAN CABLE DRIVE SHAFT
31	–	BEARING
32	–	WASHER
33	–	OPTICS FRAME ASSEMBLY (REP 6.6)
34	–	CAUTION LABEL

33 { 1 - 32

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Parts List

PL 3.1

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5-12

Reissue

Workcenter Pro16/Pro215 Series
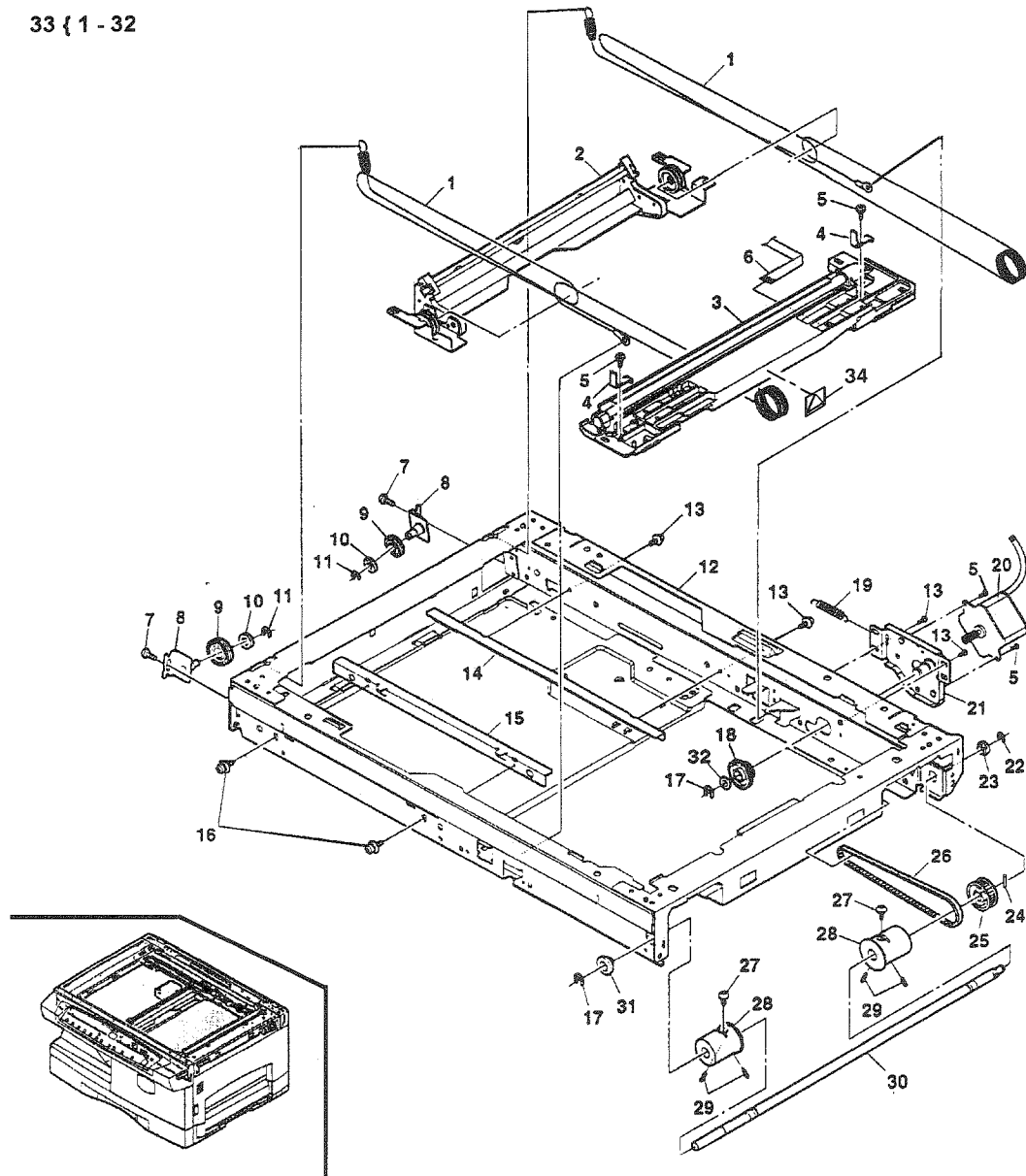
PL 3.2 OPTICS FRAME (2 OF 2)

Item	Part	Description
1	–	SCREW (3X8)
2	–	LENS COVER
3	–	EXPOSURE LAMP HARNESS
4	–	HARNESS GUIDE
5	152N1632	CCD HARNESS
6	–	SCREW
7	62N141	LENS/CCD MODULE (REP 6.5)
8	–	SCREW (3X8)
9	140N5112	SCAN HOME SENSOR (Q5)
10	–	DOCUMENT GLASS CUSHION
11	–	RIBBON GUIDE
12	–	PROTECTOR SHEET
13	–	DISCHARGE BRUSH
14	–	OPTICS FRAME GUIDE
15	–	UPPER DUPLEX PAPER GUIDE
16	–	CAUTION LABEL
17	–	CCD HARNESS COVER
18	–	CCD PWB COVER
19	–	FERRITE HOLDER
20	–	LOWER SHEET
21	–	SCREW (4X12)
22	–	FERRITE
23	–	CUSHION
24	–	SDF LEFT HINGE GUIDE
25	–	SDF RIGHT HINGE GUIDE
26	–	SCREW (3X8)
27	–	WIRE BAND
28	–	BAND (PLT1M)
29	–	WIRE HOLDER (LWS-1M)
30	–	CUSHION
31	–	CRIP HOLDER
32	–	CABINET HOOK SHEET A
33	–	CABINET HOOK SHEET B
34	–	CORE HOLDING SHEET
35	–	GLASS CUSHION

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Reissue

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5-13

Parts List

PL 3.2
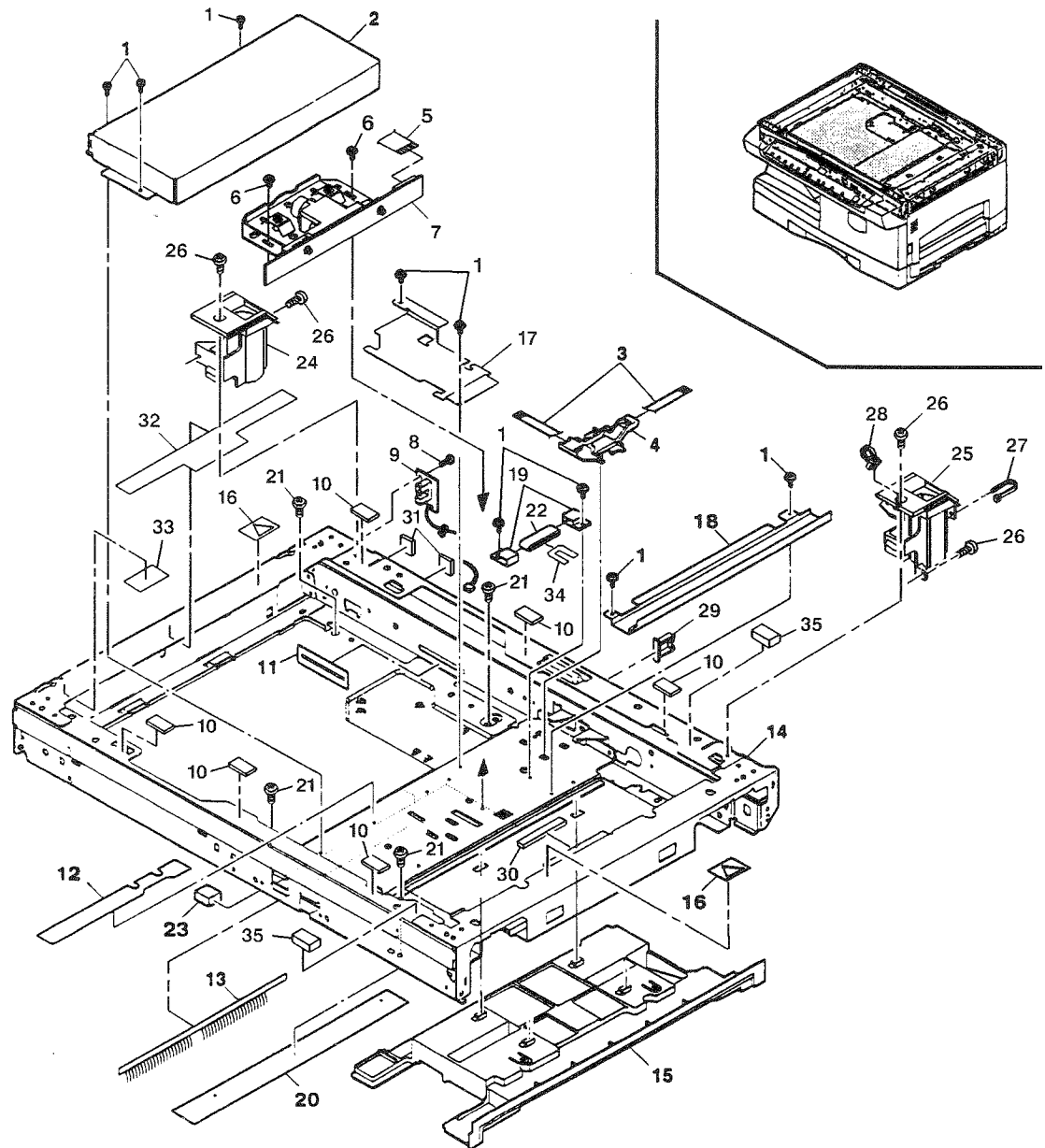
PL 3.3 LASER ASSEMBLY

Item	Part	Description
1	–	SCREW (3X6)
2	–	LASER HARNESS COVER
3	152N1692	LASER HARNESS
4	–	TIE WRAP
5	62N173	LASER MODULE (REP 6.4)
6	–	SPRING
7	–	SCREW
8	–	SPIRAL WRAP

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Parts List

PL 3.3

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5-14

Reissue

Workcenter Pro16/Pro215 Series
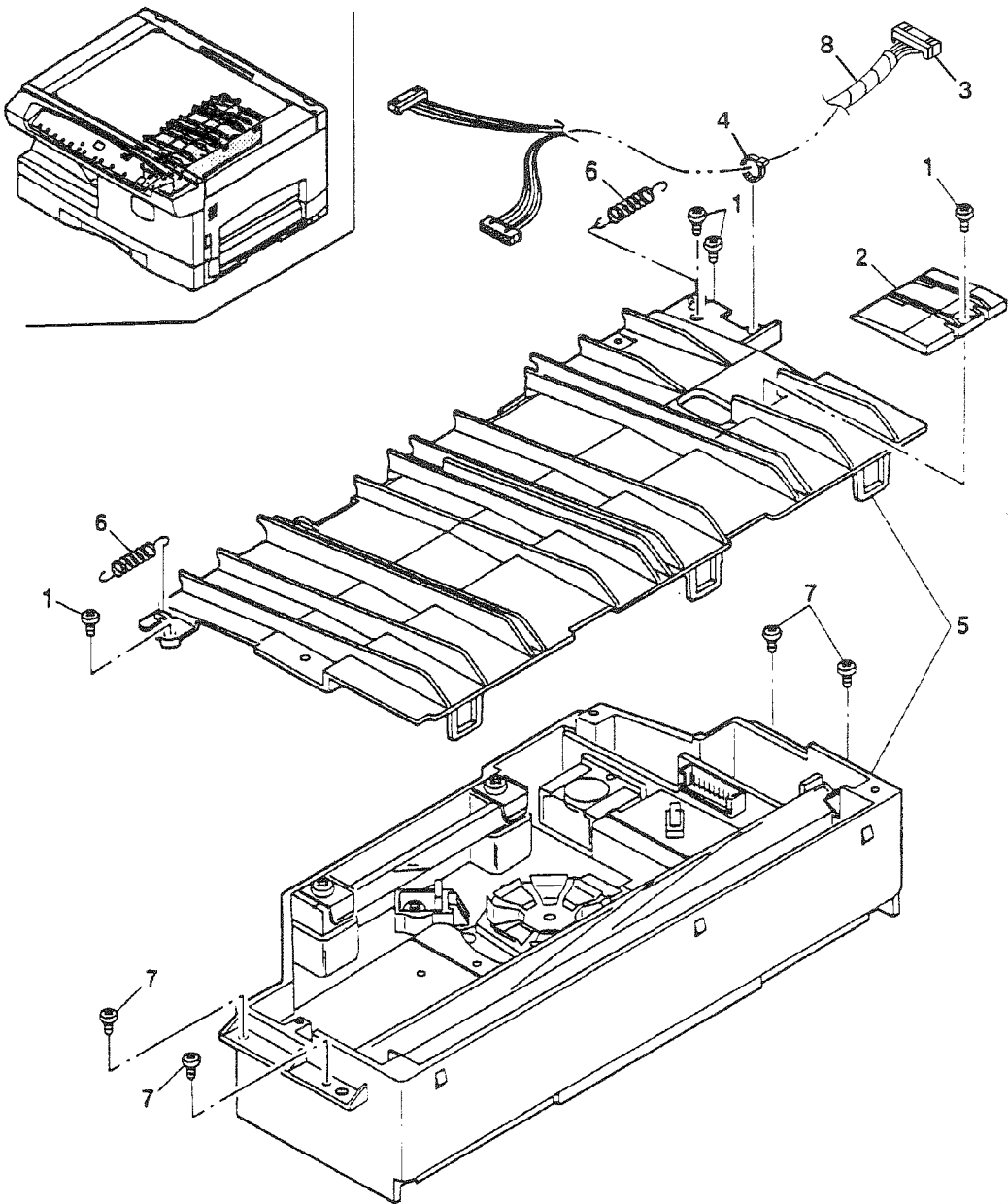
PL 3.4 HALF RATE CARRIAGE ASSEMBLY

15 { 1 - 14

Item	Part	Description
1	–	LIGHT SHIELD
2	–	HALF RATE CARRIAGE
3	–	SCREW (4X6)
4	–	PULLEY
5	–	GUIDE
6	–	SCREW (4X6)
7	10N64	SLIDE BUTTON
8	–	SCREW
9	–	PULLEY BRACKET (REAR)
10	–	CUSHION (REAR)
11	19E26730	MIRROR CLIP
12	62N140	MIRROR
13	–	PULLEY BRACKET (FRONT)
14	–	CUSHION (FRONT)
15	–	HALF RATE CARRIAGE ASSEMBLY

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Reissue

Workcenter Pro16/Pro215 Series

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Parts List

PL 3.4
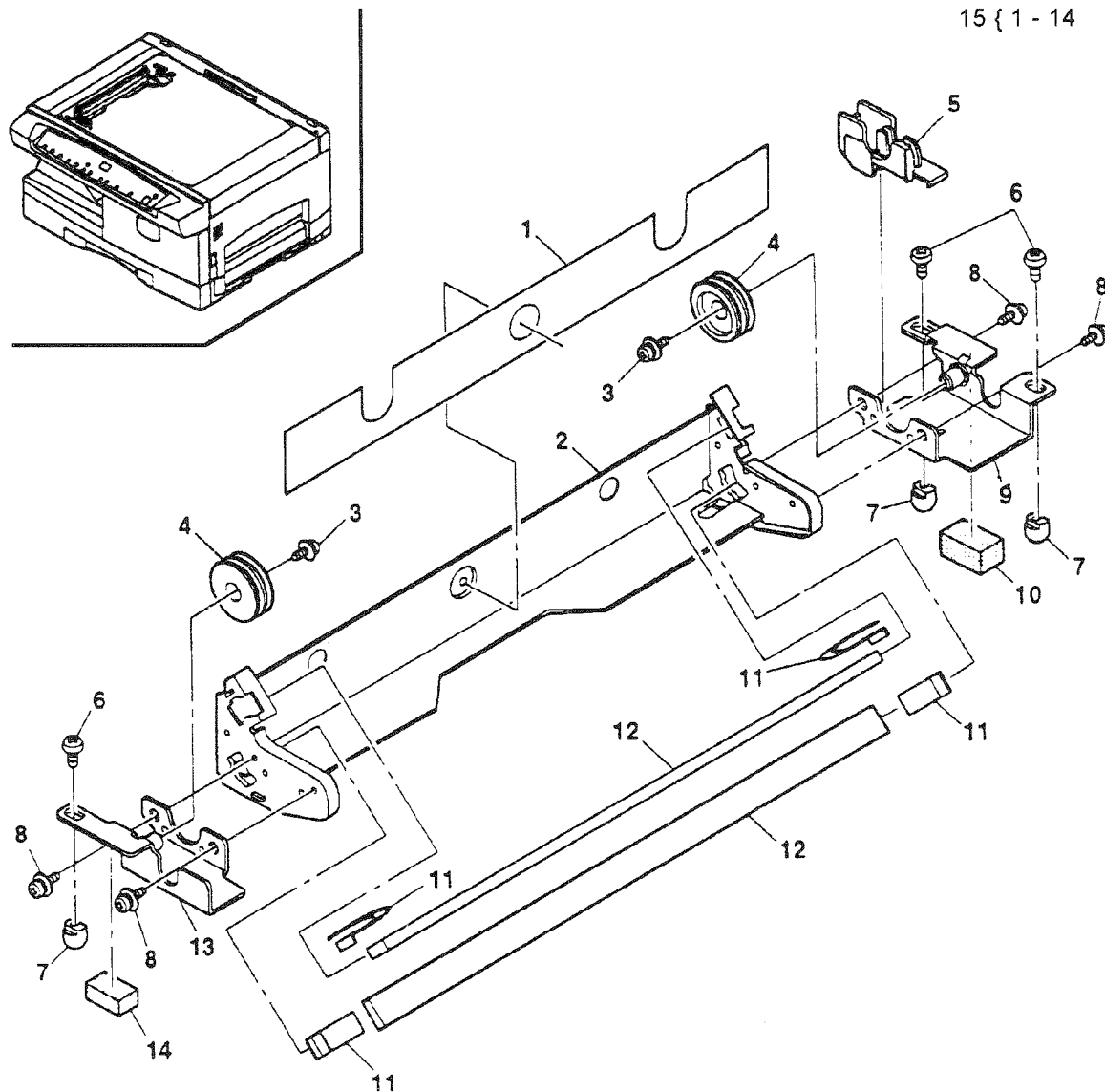
PL 4.1 250 SHEET TRAY

Item	Part	Description
1	–	PAPER PRESSURE PLATE
2	–	RETARD PAD
3	120E10520	PRESSURE PLATE LOCK
4	3E26060	PAPER SIZE GUIDE
5	–	FRONT PAPER GUIDE
6	–	FRONT PAPER SNUBBER
7	–	E-RING
8	–	LABEL
9	–	SCREW (3X8)
10	–	WASHER
11	–	GEAR
12	–	LOAD LABEL
13	–	REAR PAPER GUIDE
14	–	REAR PAPER SNUBBER
15	809E24950	LIFT SPRING
16	9E63280	TRAY SPRING
17	–	SPRING
18	–	PLATE RELEASE
19	–	TRAY FRAME
20	–	LABEL
21	50N233	250 SHEET PAPER TRAY

21 { 1 - 20

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Parts List

PL 4.1

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5-16

Reissue

Workcenter Pro16/Pro215 Series
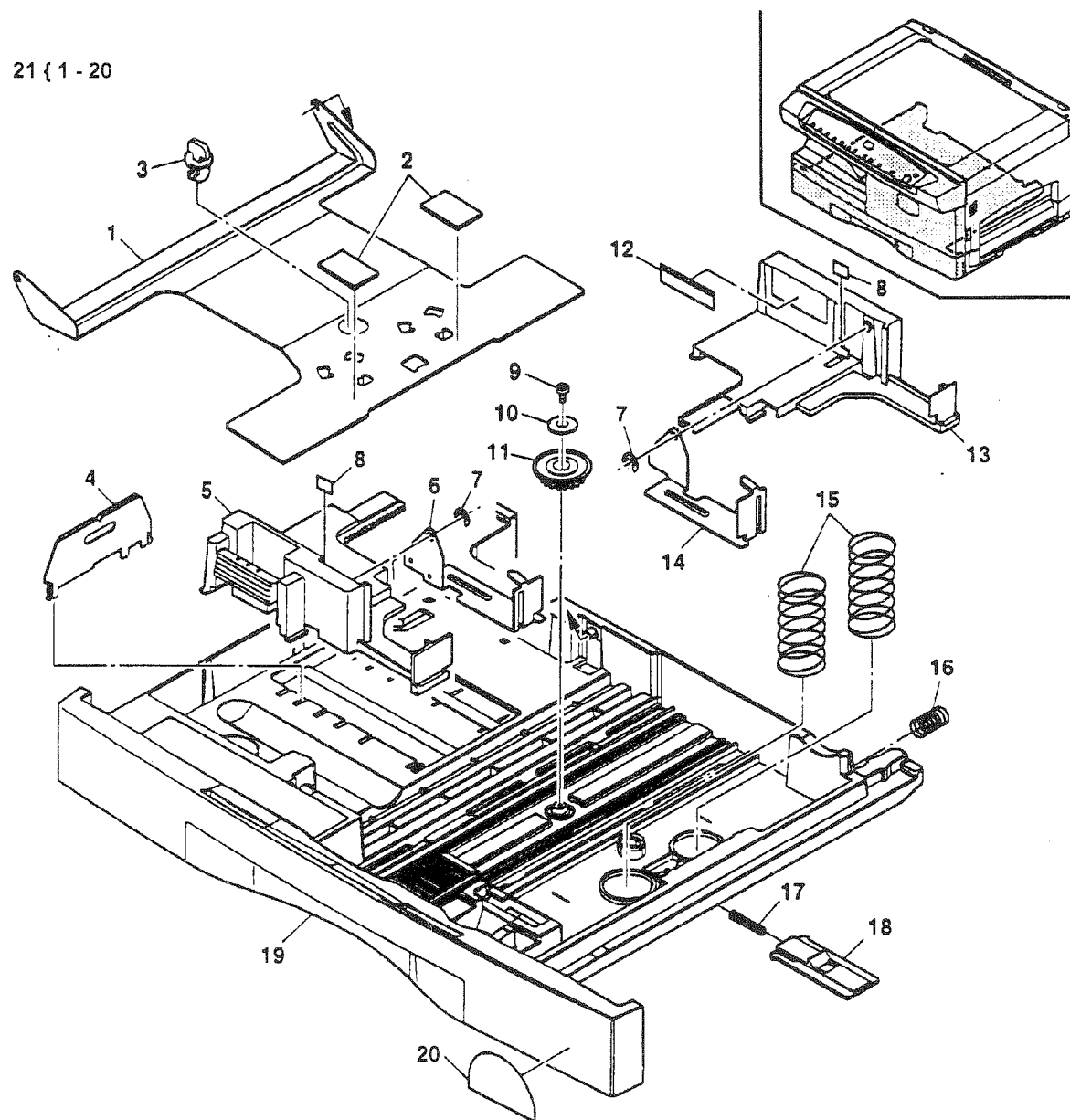
PL 5.1 PAPER FEEDING AND DRIVES

Item	Part	Description
1	140N5109	TRAY 1 PAPER FEED SENSOR (Q1) (REP 8.3)
2	–	SENSOR ACTUATOR
3	–	ACTUATOR SPRING
4	–	SCREW (3X10)
5	–	UPPER FRONT PAPER GUIDE
6	–	E-RING
7	22N929	LOWER REGISTRATION ROLLER (REP 8.13)
8	–	BEARING
9	–	CLUTCH GEAR (26T)
10	5E9640	CLUTCH SLEEVE
11	–	CLUTCH SPRING
12	–	SPRING PIN
13	–	CLUTCH BOSS
14	–	E-RING
15	–	CLUTCH BOSS
16	–	CLUTCH SPRING
17	16N174	CLUTCH SLEEVE
18	–	CLUTCH GEAR (29T)
19	–	BEARING
20	–	PAPER FEED ROLLER (REP 8.6)
21	–	GEAR (33T)
22	–	GEAR (21/29T)
23	–	GEAR (30T)
24	–	GEAR SUPPORT BRACKET
25	–	GROUNDING PLATE
26	110N817	TRAY DETECT SWITCH (S2) (REP 8.14) DRUM RESET SWITCH (S6) PAPER SIZE SWITCH (S11)
27	152N1638	HARNESS (REP 8.5)
28	–	BASE FRAME
29	–	RETARD PAD
30	–	RETARD ARM
31	–	LIFT SPRING
32	–	RETARD SUPPORT PLATE
33	–	SPRING
34	–	PAPER GUIDE
35	–	SCREW (4X12)
36	38E13480	RETARD PAD
37	–	SCREW (3X8)
38	–	SENSOR COVER
39	–	D-RST HARNESS
40	–	SCREW (3X12)
41	–	FRONT LEVER SPRING
42	–	FRONT LEVER PLATE
43	–	WASHER
44	–	GUIDE
45	–	WIDTH ACTUATOR SPRING
46	–	FIXING PLATE
47	–	JOINT GEAR
48	–	WIDTH ACTUATOR LEVER

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Reissue

Workcenter Pro16/Pro215 Series

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Parts List

PL 5.1
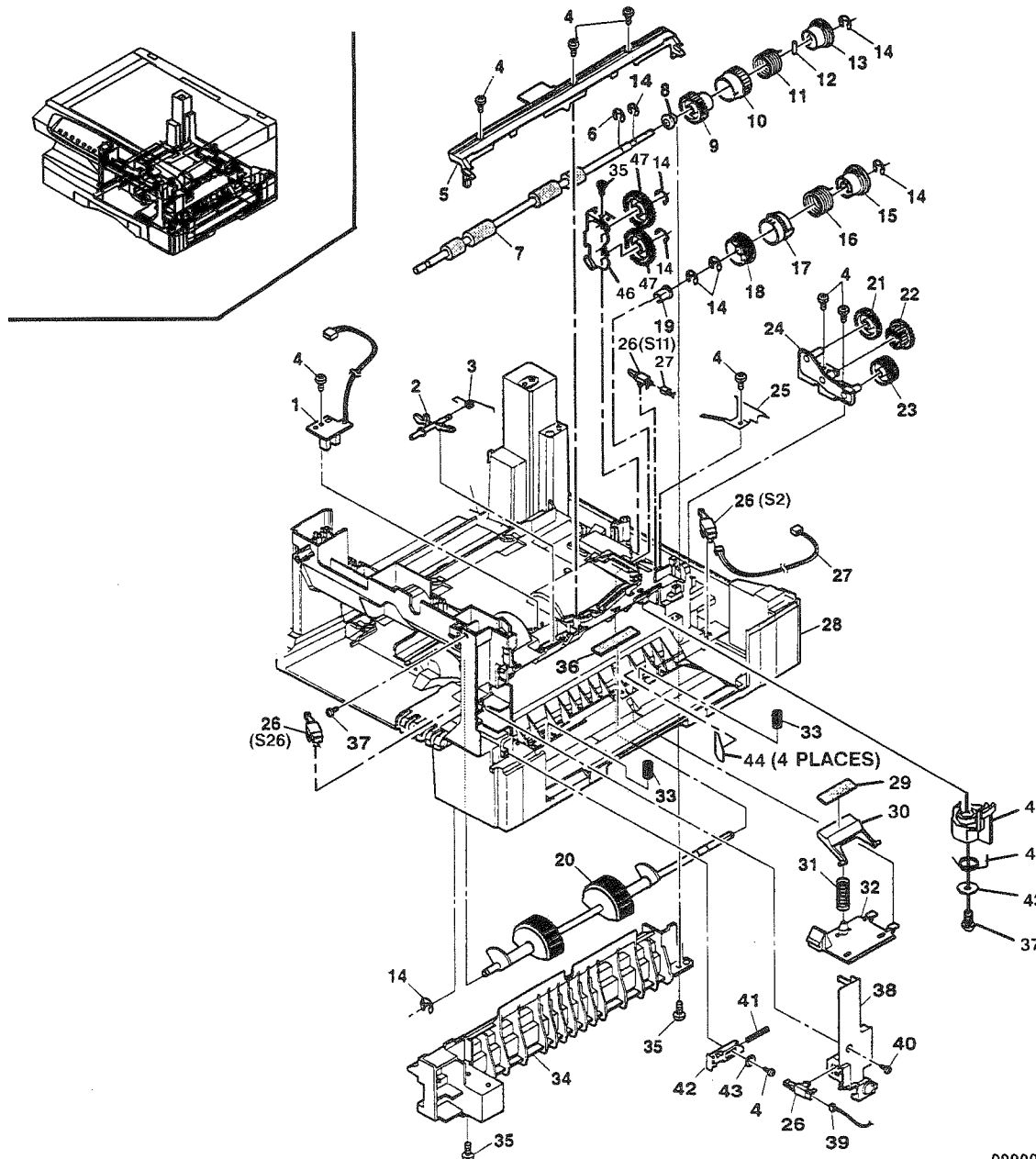
PL 5.4 MULTISHEET BYPASS COVER

Item	Part	Description
1	42E1430	COROTRON CLEANER
2	–	SCREW
3	–	UPPER COVER
4	110N783	SIDE DOOR INTERLOCK SWITCH
		(S3/S4) (24V/5V) (REP 8.8)
5	–	CAUTION LABEL
6	–	SWITCH ACTUATOR
7	–	UPPER GUIDE

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Parts List

PL 5.4

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Reissue

Workcenter Pro16/Pro215 Series
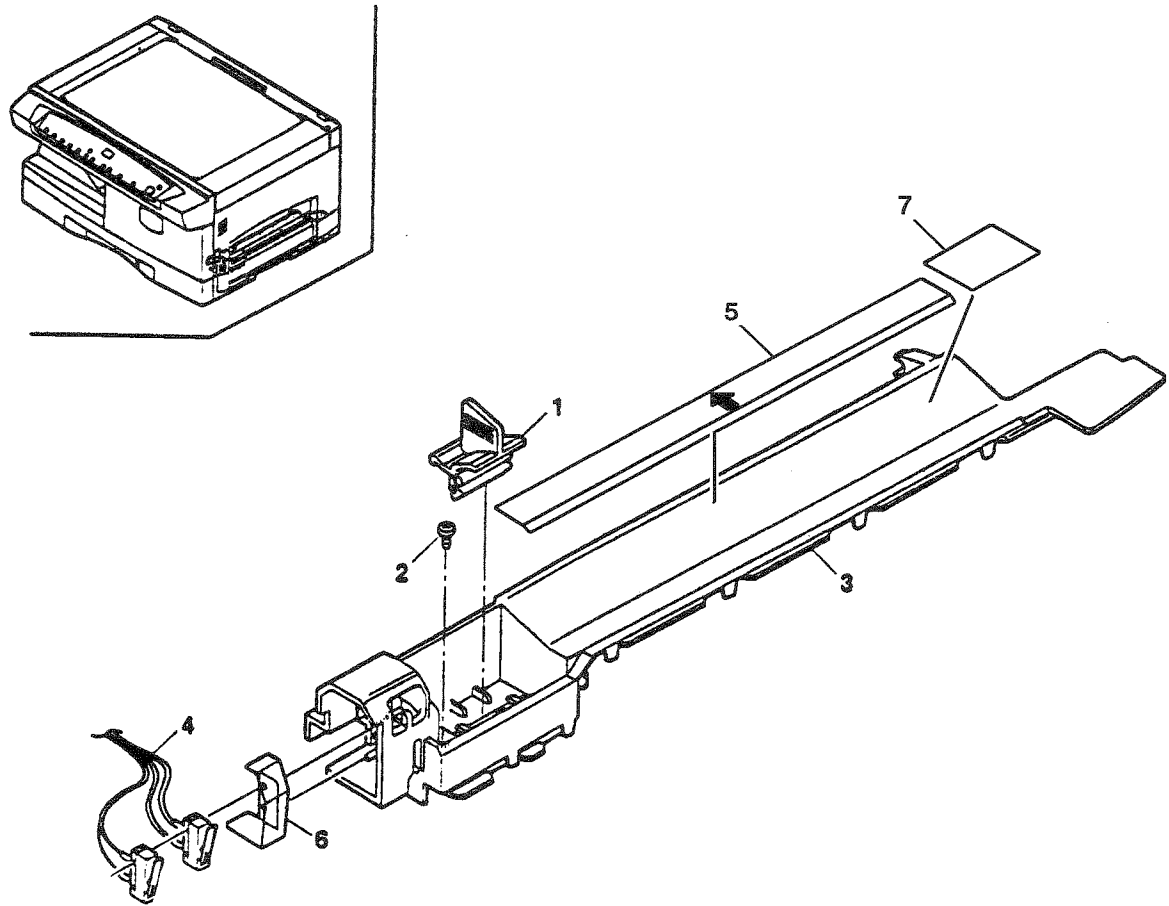
PL 5.5 MULTISHEET BYPASS FEEDER

Item	Part	Description
1	5E10560	FEED ROLL (REP 8.15)
2	–	E-RING
3	–	GEAR (20T)
4	–	ROLL SUPPORT
5	22E20680	RETARD ROLL (REP 8.16)
6	–	SPRING PIN
7	–	GEAR (16T)
8	–	SHAFT
9	–	BUSHING
10	–	SUPPORT
11	–	SCREW (3X8)
12	–	UPPER GUIDE
13	–	SCREW (3X6)
14	–	GROUNDING SPRING
15	–	CLUTCH BOSS
16	9E57550	FEED CLUTCH SPRING
17	5E9640	CLUTCH SLEEVE
18	–	CLUTCH BOSS
19	–	GEAR (27T)
20	–	GEAR (20T)
21	–	TIE WRAP
22	–	GROUNDING WIRE
23	–	SCREW (3X6)
24	–	SCREW (3X6)
25	–	SUPPORT PLATE
26	–	CLUTCH SLEEVE
27	–	CLUTCH SPRING
28	–	CLUTCH BOSS
29	–	MULTI BYPASS SOLENOID (SOL4) (REP 8.17)
30	–	SOLENOID SPRING
31	–	RATCHET ARM
32	–	RATCHET ARM
33	–	SPRING
34	–	SCREW (3X8)
35	–	FRAME
36	–	SCREW (4X12)
37	–	GATE
38	–	SUPPORT FRAME
39	–	ARM
40	–	HINGE
41	–	SPRING
42	22N948	FEEDER ASSEMBLY
43	–	DOOR SPRING

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Reissue

Workcenter Pro16/Pro215 Series

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Parts List

PL 5.5
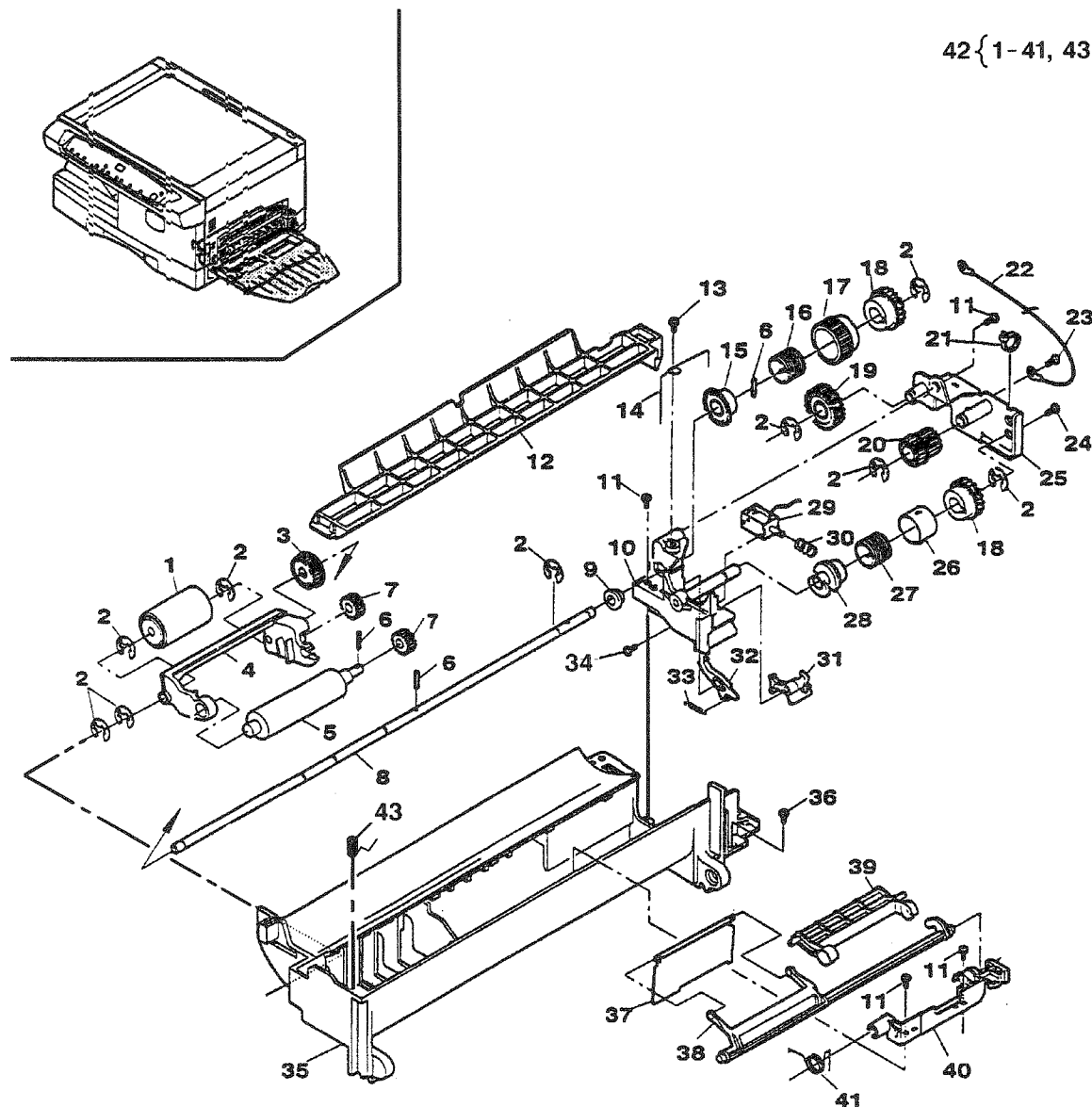
PL 5.8 TRAY 2 PAPER FEED ASSEMBLY

Item	Part	Description
1	22N1029	TRAY 2 TRANSPORT ROLLER (REP 8.23)
2	–	BEARING (B-F5-13)
3	–	E-RING
4	–	DRIVE FRAME
5	–	GEAR (20T)
6	–	SPRING PIN
7	–	CLUTCH BOSS
8	–	CLUTCH SPRING
9	–	CLUTCH SLEEVE
10	–	CLUTCH GEAR (29T) (REP 8.24)
11	–	GEAR (40)
12	–	ARM
13	809E12000	SPRING
14	–	TRAY 2 HARNESS
15	110E5370	TRAY 2 PAPER FEED SENSOR (Q7) (REP 8.20)
16	–	ACTUATOR
17	–	GROUND SPRING
18	121N411	TRAY 2 PAPER FEED SOLENOID (SOL 2) (REP 8.22)
19	–	SCREW (3X6)
20	7N742	CLUTCH PAWL
21	809E12010	CLUTCH PAWL SPRING
22	–	GEAR (18/26T)
23	7E29490	GEAR (16T)
24	110N817	TRAY 2 DETECT SWITCH (S5) (REP 8.21) PAPER SIZE SWITCH (S12)
25	–	TRAY 2 FEED ROLLER (REP 8.25)
26	–	TIE WRAP
27	–	ACTUATOR LEVER
28	–	ACTUATOR SPRING
29	–	WASHER
30	–	SCREW
31	–	TRAY 2 FEED ASSEMBLY

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Parts List

PL 5.8

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Reissue

Workcenter Pro16/Pro215 Series
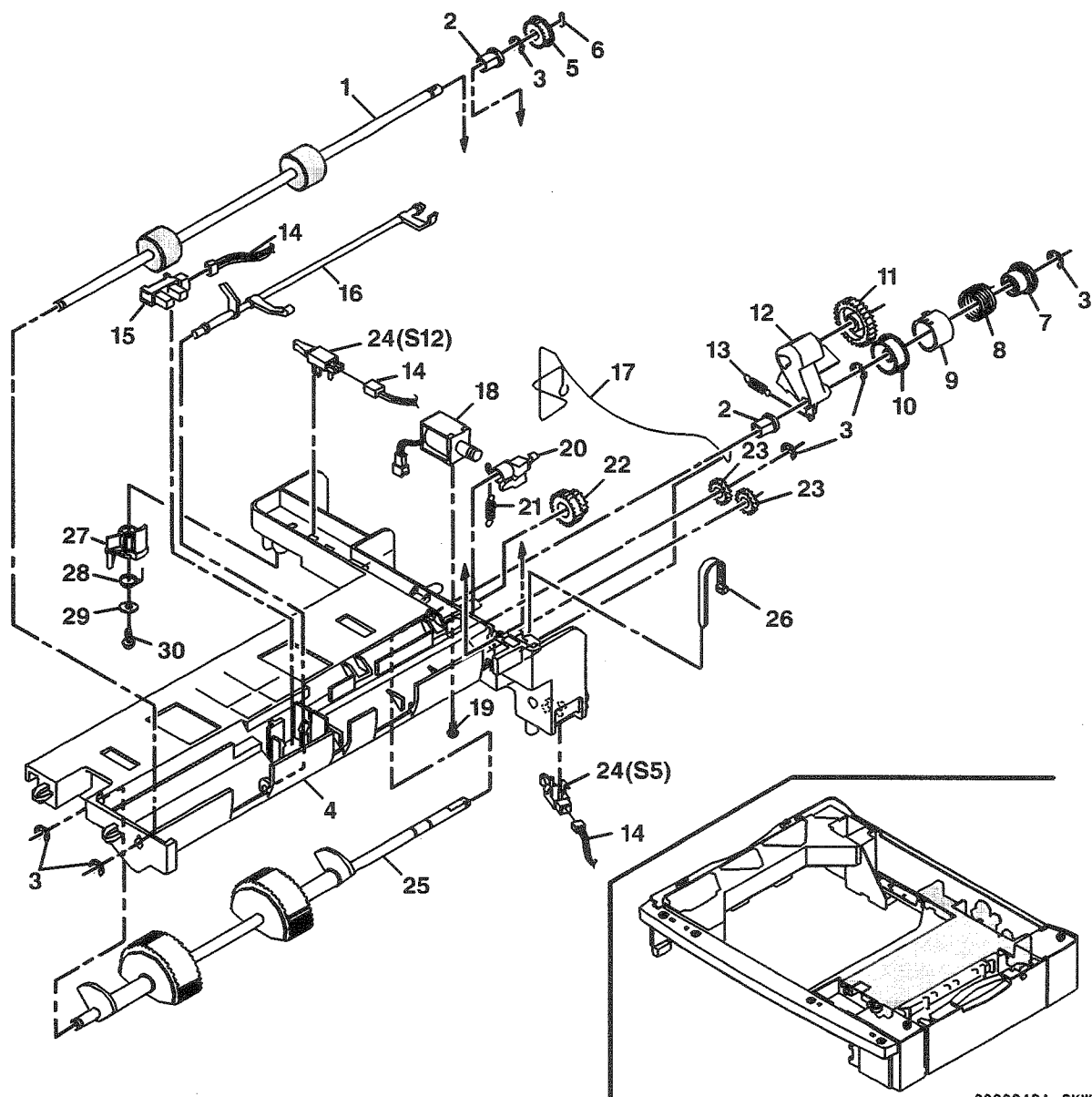
PL 6.1 FUSING (1 OF 2)

Item	Part	Description
1	–	PAPER GUIDE (REP 10.10)
2	103N206	RESISTOR (1/2 W)
3	117N1312	GROUND WIRE
4	115N284	DISCHARGE BRUSH
5	–	END COVER
6	–	HEAT ROD SPRING (F)
7	–	FUSER UPPER FRAME
8	–	SCREW (3X6)
9	130E7840	THERMISTOR (RT1) (REP 10.4)
10	–	SCREW (3X10)
11	7N695	STRIPPER FINGER (REP 10.11)
12	130E9190	THERMOSTAT (REP 10.9)
13	140N5110	FUSER JAM SENSOR (Q3) (REP 10.5)
14	–	HEAT ROD SPRING (R)
15	–	END COVER (R)
16	152N1624	FUSER ASSEMBLY HARNESS
17	–	TIE WRAP
18	3E10140	RETAINING RING
19	7E14961	DRIVE GEAR (45T)
20	13E12780	BEARING
21	22E23440	HEAT ROLL (PRO 16P/PRO 16FX) (REP 10.2)
–	22N1146	HEAT ROLL (PRO 215) (REP 10.2)
22	122N115	HEAT ROD (REP 10.8)
23	–	SCREW
24	126N58	FUSER ASSEMBLY (PRO 16P/PRO 16FX) (REP 10.1)
–	126N153	FUSER ASSEMBLY (PRO 215)
–	126N96	FUSER ASSEMBLY ALTERNATE (PRO 16P/PRO 16FX)
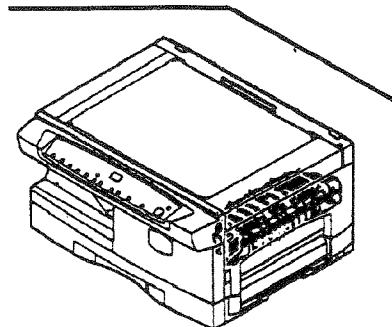
24 { 1 - 20, ITEM 1 ON PL6.2

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Reissue

Workcenter Pro16/Pro215 Series

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Parts List
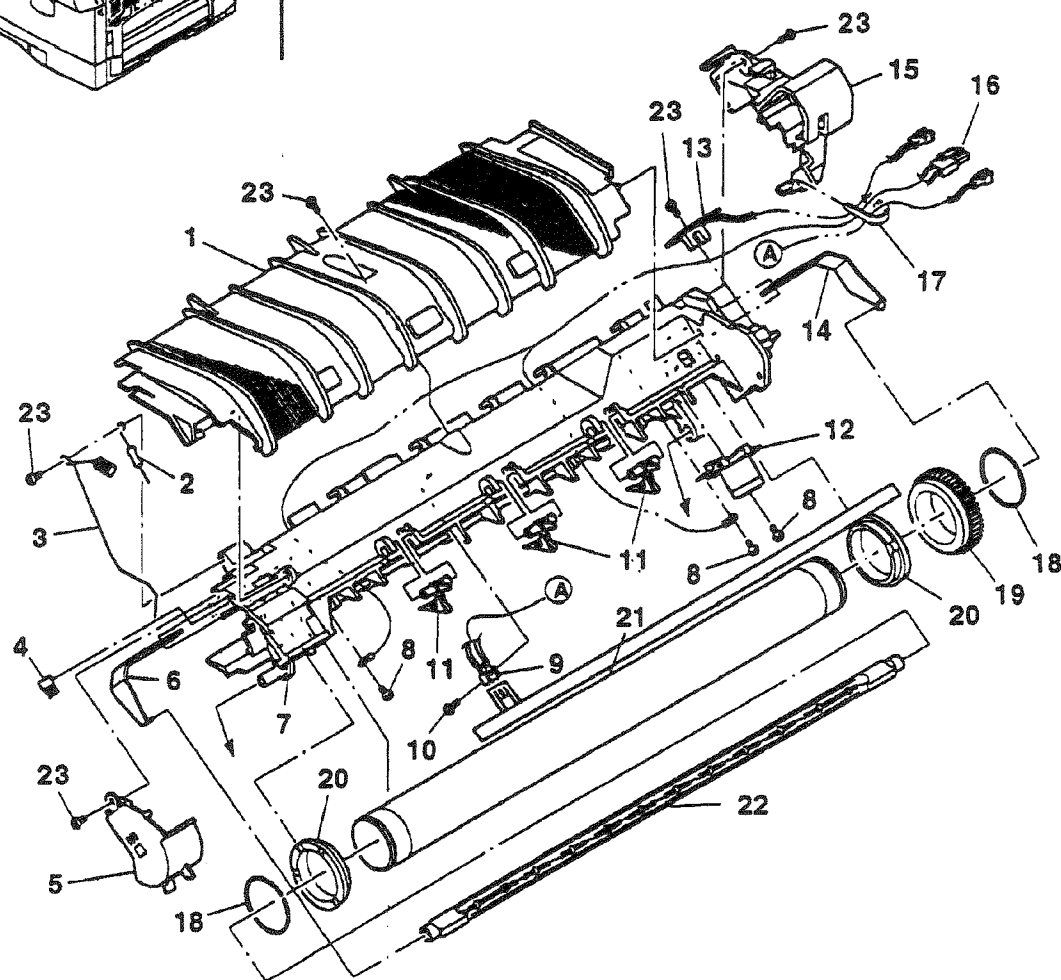
PL 6.1

Item	Part	Description
1	–	FUSER ASSEMBLY (P/O PL 6.1 Item 24)
2	–	E-RING
3	38N230	FUSER GATE (REP 10.12)
4	809E43360	GATE SPRING
5	–	SCREW
6	–	FRONT PAPER GUIDE SHEET
7	–	FRONT PAPER GUIDE
8	–	GROUNDING STRAP
9	–	HIGH TEMP CAUTION LABEL
10	–	SCREW (3X12)
11	–	FUSER LOWER FRAME
12	–	PRESSURE ROLL STRIPPER FINGERS
13	31N166	PRESSURE ROLL ARM (F)
14	22N924	PRESSURE ROLL (REP 10.3)
15	–	WASHER
16	9N1088	PRESSURE SPRING
17	13E5110	PRESSURE ROLL BEARING
18	31N167	PRESSURE ROLL ARM (R)
19	–	HANDLE LABEL
20	600K87880	FUSER STRIPPER FINGER KIT

1 { 2 - 19

20 { 8 - 12

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Parts List

PL 6.2

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Reissue

Workcenter Pro16/Pro215 Series
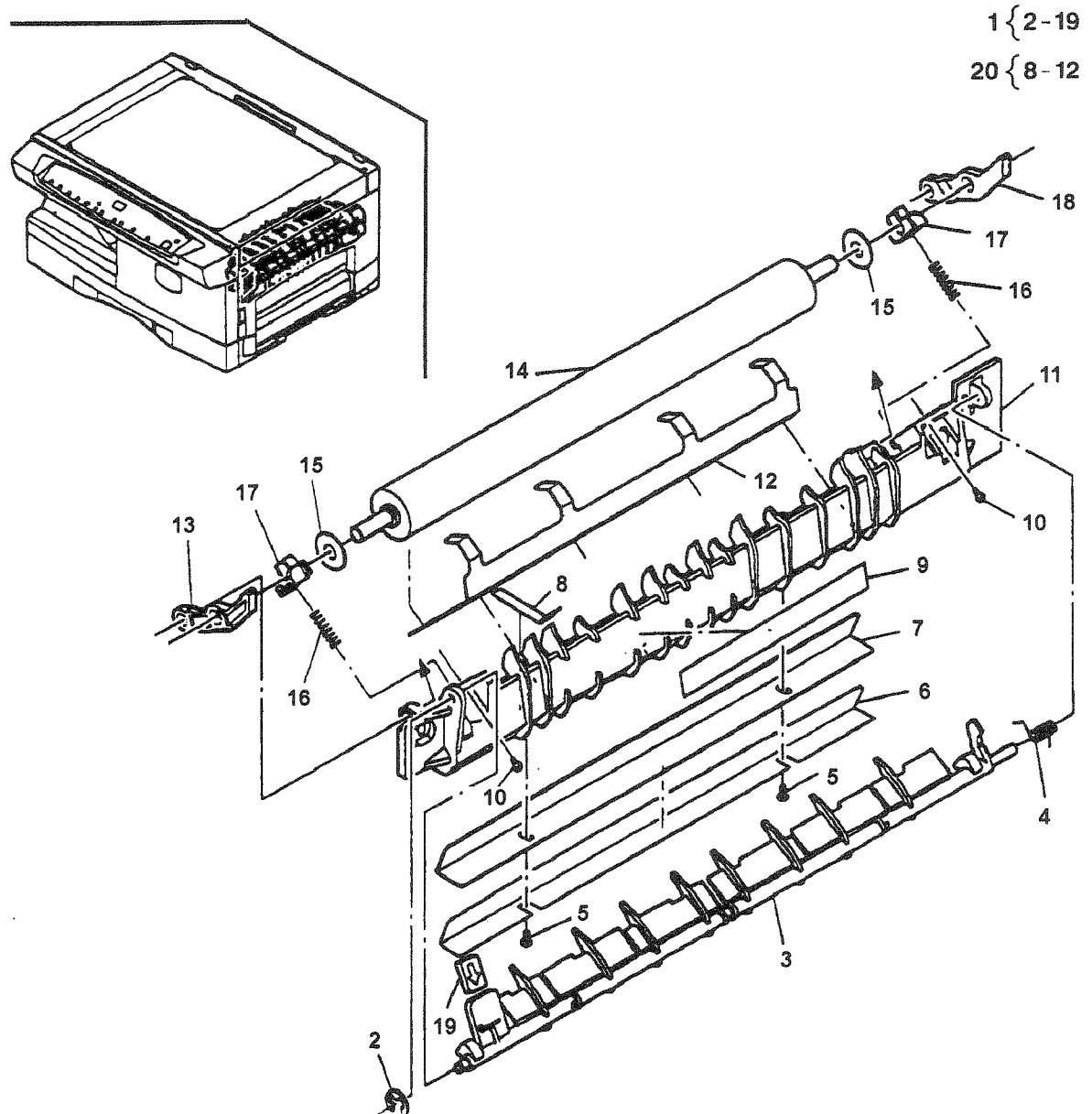
PL 6.3 OUTPUT TRANSPORT

Item	Part	Description
1	22N927	UPPER EXIT ROLLER
2	9N966	TENSION SPRING
3	–	PWB INSULATOR
4	140N5111	EXIT SENSOR (Q4) (REP 10.7)
5	120N275	SENSOR ACTUATOR
6	–	EXIT GUIDE
7	–	TENSION SPRING
8	22E22060	UPPER ROLLER
9	–	GROUNDING SPRING
10	152N1630	CONTROL CONSOLE RIBBON CABLE
11	–	FERRITE RETAINER
12	–	FERRITE

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Reissue

Workcenter Pro16/Pro215 Series

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Parts List

PL 6.3
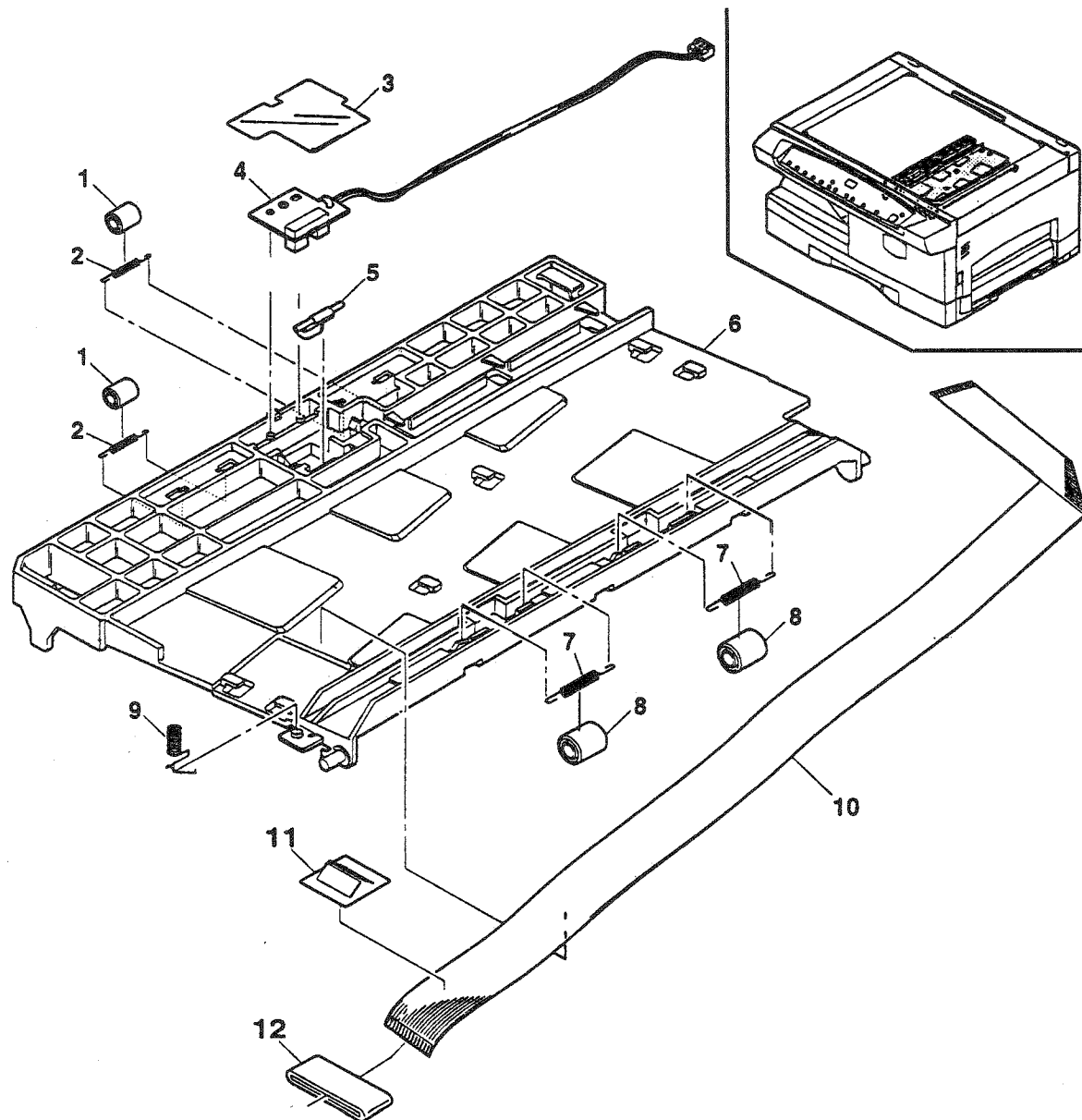
PL 7.1 ELECTRICAL COMPONENTS

Item	Part	Description
1	–	SCREW (3X6)
2	–	PWB COVER
3	–	CONNECTOR CAP
4	140N5514	GDI/USB INTERFACE PWB (WCPRO16FX)
–	140N5404	PCL/USB INTERFACE PWB (WCPRO16P/WCPRO215)
5	140N5210	GDI MEMORY PWB (6 MEG)
6	–	CENTER FRAME HARNESS
7	–	FUSER HARNESS
8	140N5407	MAIN PWB (PRO 16P/PRO 16FX) (REP 1.1, ADJ 9.1 ADJ 9.2)
–	140N5563	MAIN PWB (PRO 215)
9	–	PWB MOUNTING BRACKET
10	–	SCREW (3X10)
11	–	PWB COVER CAP
12	152N1623	FUSER HEAT ROD HARNESS (120V)
13	140N5406	POWER SUPPLY PWB (120V) ASSEMBLY (WCPRO16FX) (REP 1.2, ADJ 9.1 ADJ 9.2)
–	140N5207	POWER SUPPLY PWB (120V) ASSEMBLY (WCPRO16P/WCPRO215)
14	–	SCREW
15	–	SCREW (4X12)
16	–	STIFFENER BAR
17	–	BASE FRAME
18	–	RUBBER FOOT
19	–	2ND TRAY CONNECTOR COVER
20	–	2ND TRAY GEAR COVER
21	–	PWB COVER
22	–	FUSE (F3) (5A) (125V)
23	117E9750	POWER CORD (60HZ)
24	–	POWER RECEPTACLE (REP 1.4)
25	152N1652	GDI HARNESS
26	–	TIE WRAP
27	–	FERRITE CORE
28	130N911	DOCUMENT COVER CLOSED SENSOR (Q9)
29	–	PWB MOUNTING BRACKET
30	140N5409	FAX PWB (REP 1.5) (WCPRO16FX)
–	140N5405	PCL PWB (REP 1.5) (WCPRO16P/WCPRO215)
31	–	PWB MYLAR
32	–	CORE CUSHION

13 { 10, 12, 22, 24, 26, 27

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Parts List

PL 7.1

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Reissue

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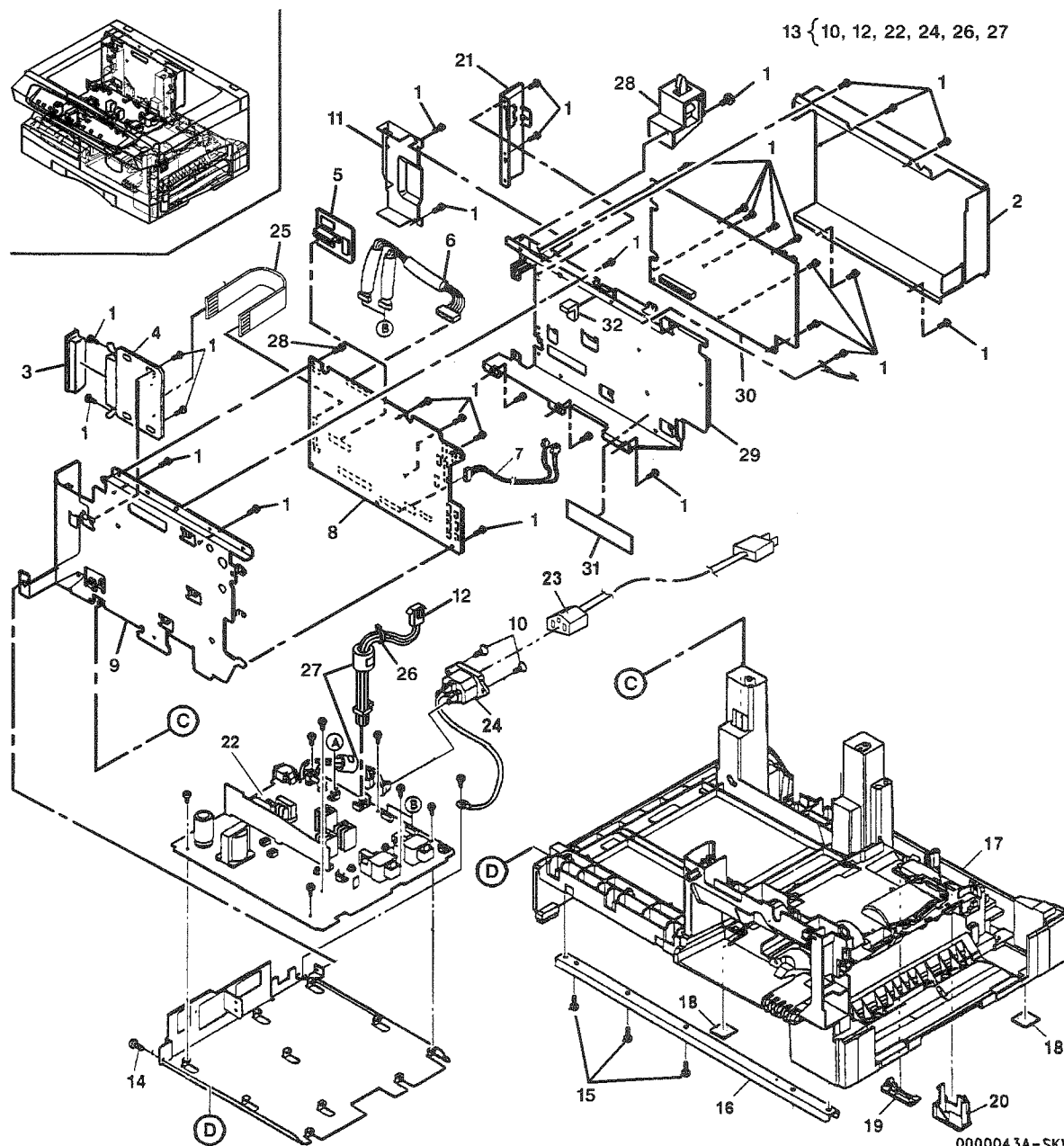
PL 7.2 DRUM CARTRIDGE CONTACT HOUSING

Item	Part	Description
1	–	DRUM CARTRIDGE CONTACT HOUSING
2	152N1625	CHARGE COROTRON HARNESS
3	152N1622	GRID BIAS/MAIN PWB HARNESS
4	–	SCREW (3X6)
5	9N968	CONTACT SPRING
6	9N969	CONTACT SPRING
7	9N967	CONTACT SPRING
8	–	SCREW (3X8)
9	–	TIE WRAP

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Reissue

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Parts List

PL 7.2
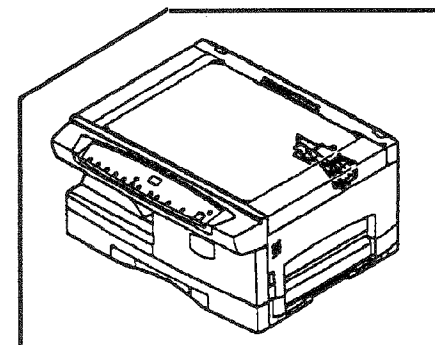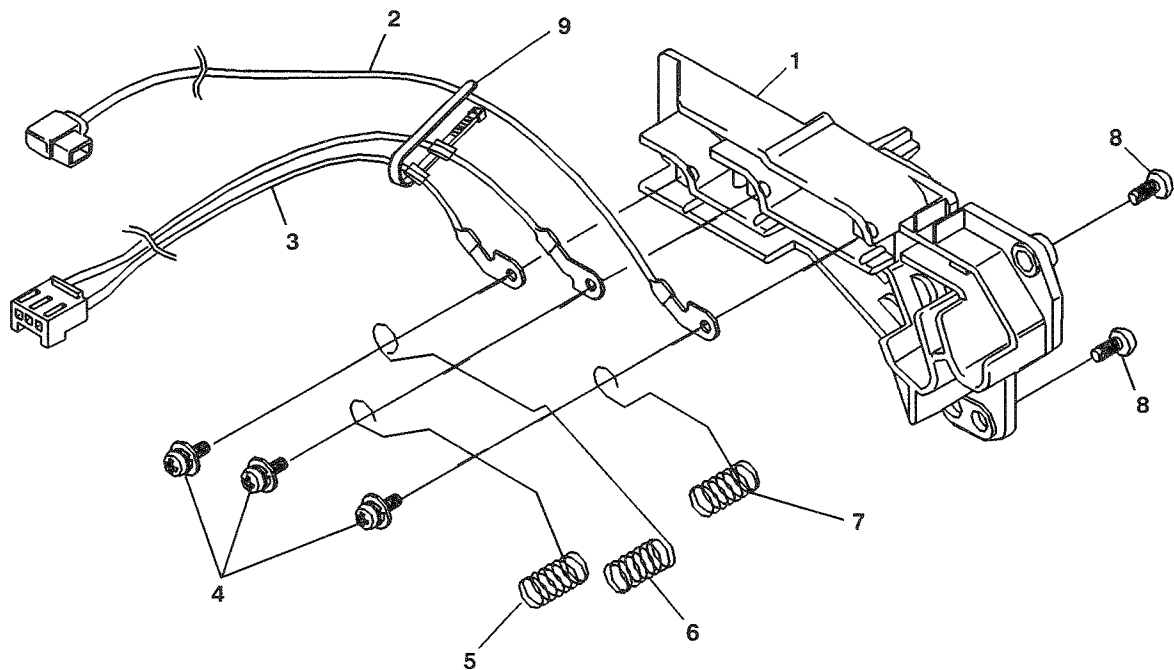
PL 7.3 TRANSFER/DETACK
COROTRON ASSEMBLY

Item	Part	Description
1	–	DETACK COROTRON
2	–	GUIDE
3	–	INSULATOR
4	–	FRONT GUIDE
5	–	SCREW (3X6)
6	–	CONTACT COVER (R)
7	–	TENSION SPRING
8	600K15950	TRANSFER COROTRON WIRE
9	–	SPRING BRACKET
10	–	TRANSFER COROTRON SPRING
11	–	BC SPRING
12	–	GROUNDING SPRING
13	–	CONTACT COVER (F)
14	–	COROTRON HOUSING
15	–	PLATE
16	–	GROUNDING PLATE
17	19N415	TRANSFER/DETACK COROTRON ASSEMBLY (REP 9.2)
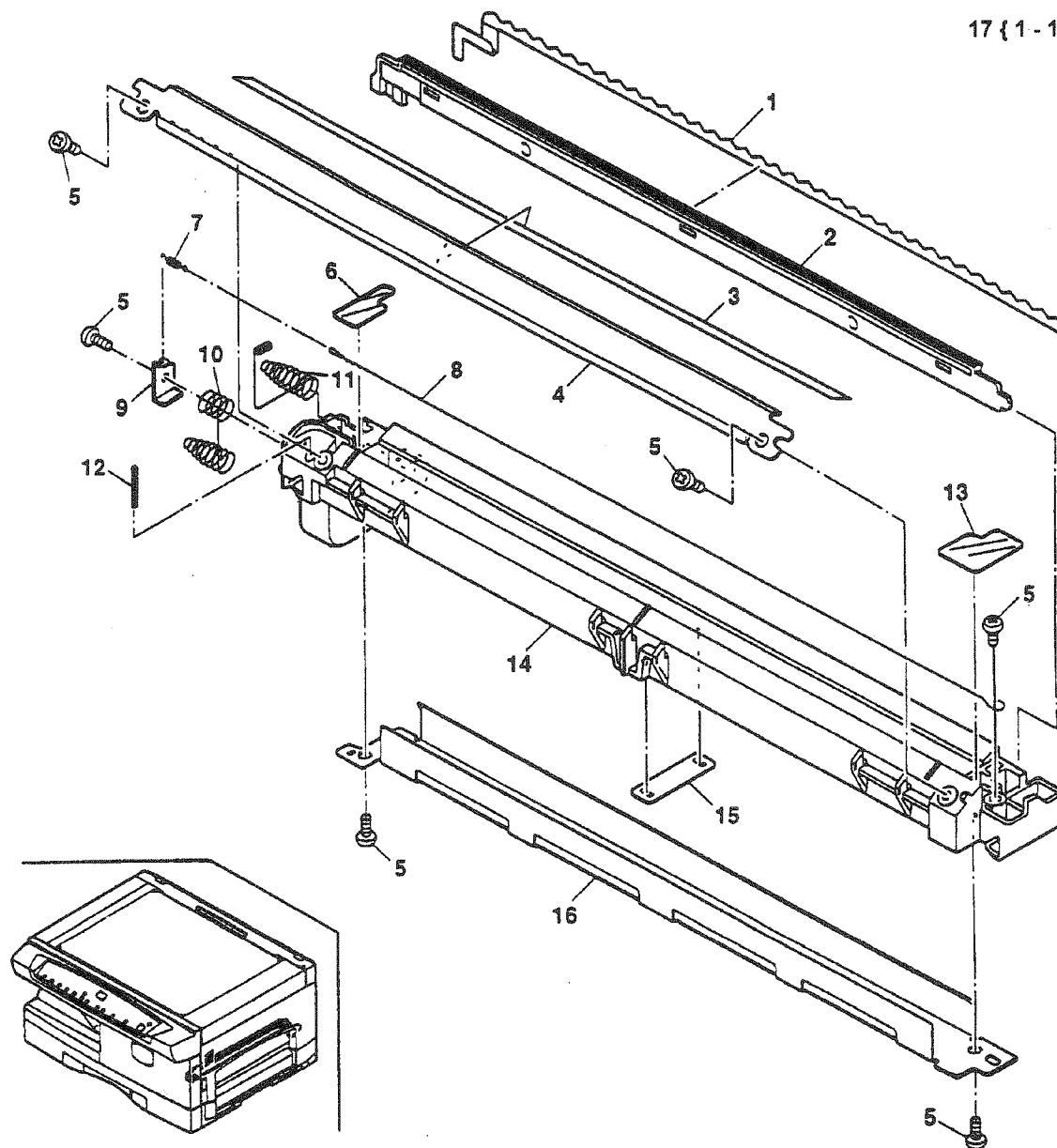
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PL 7.4 HARNESS'S

Item	Part	Description
1	–	CL LEAD HARNESS
2	152N1632	ICU-CCD HARNESS
3	–	CENTER FRAME HARNESS
4	152N1630	OP HARNESS
5	152N1633	MAIN MOTOR HARNESS
6	–	DVS HARNESS
7	–	PPD2 INTERFACE HARNESS
8	152N1623	HL HARNESS

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Workcenter Pro16/Pro215 Series

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Parts List

PL 7.4
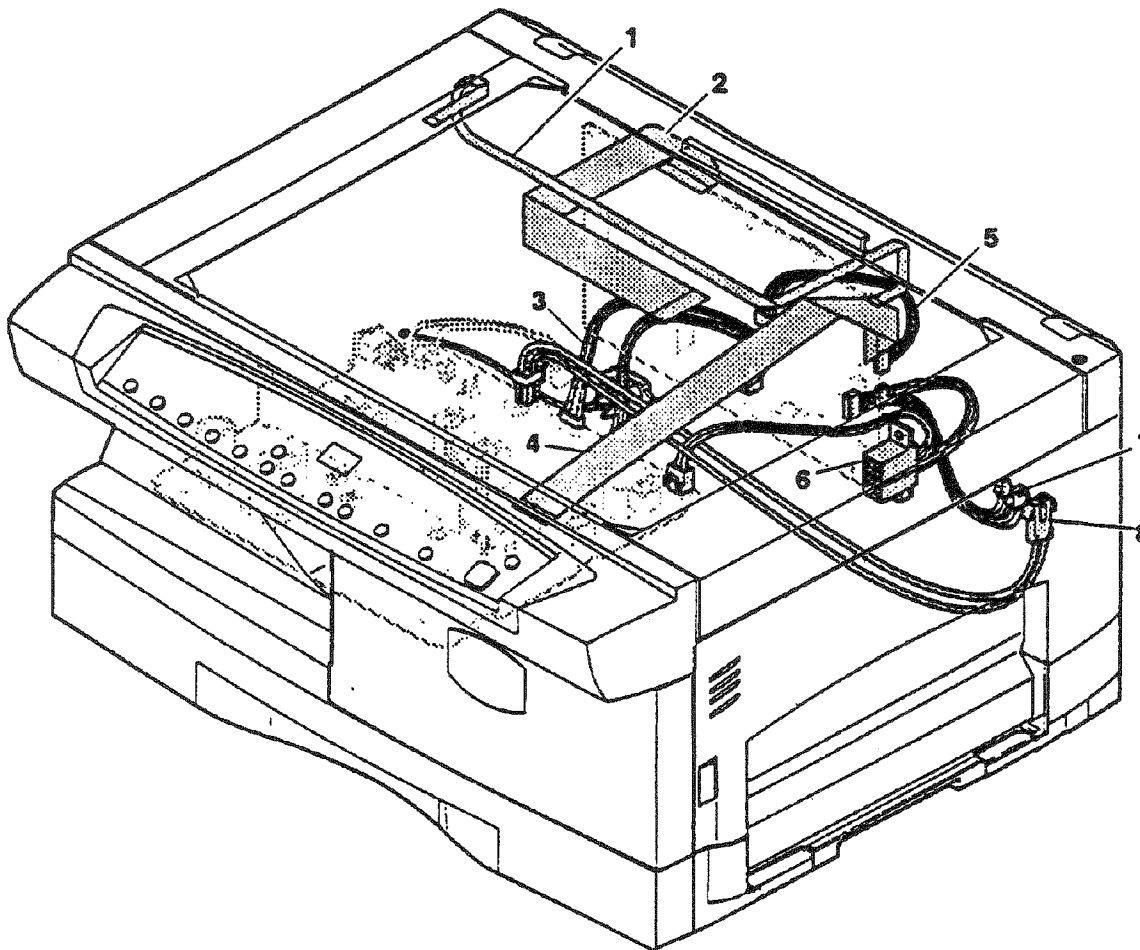
PL 8.1 PACKAGING AND ACCESSORIES

Item	Part	Description
1	–	TOP PACKING CUSHION (L)
2	–	TOP PACKING CUSHION (R)
3	117E9750	POWER CORD(60HZ)
4	–	TIE WRAP
5	–	BAG
6	–	BAG
7	–	SHIPPING CUSHION
8	–	SHIPPING CUSHION
9	–	BOTTOM PACKING CUSHION
10	–	BOX
11	–	SHIPPING CUSHION
12	120E10520	THUMB SCREW
13	–	LABEL
14	–	DOCUMENT COVER CUSHION
15	–	SHIPPING STRAP
16	26E39240	HALF RATE CARRIAGE SHIPPING SCREW
17	7N696	PRESSURE BLOCK LEVER
18	117E18690	ALTERNATE
–	117E19340	PRINTER CABLE
19	–	PACKING CUSHION
20	–	PACKING CUSHION
21	–	CAUTION LABEL
22	–	LABEL
23	–	BAG
24	–	BAG
25	162K6530	TELEPHONE CABLE
26	–	FILTER

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Parts List
PL 8.1

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Reissue
Workcenter Pro16/Pro215 Series
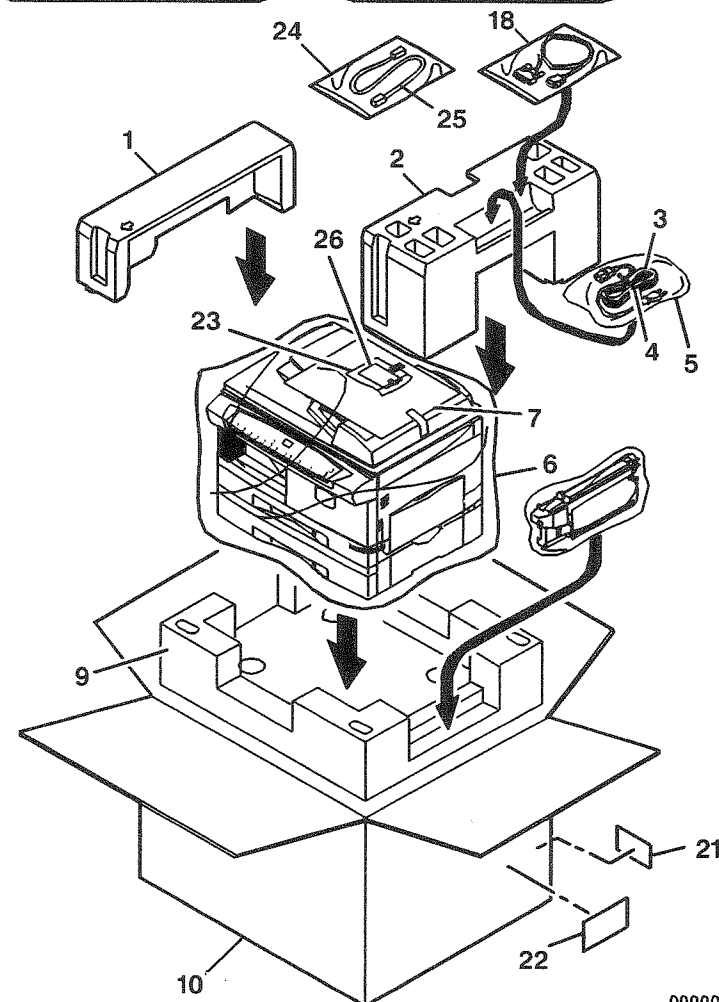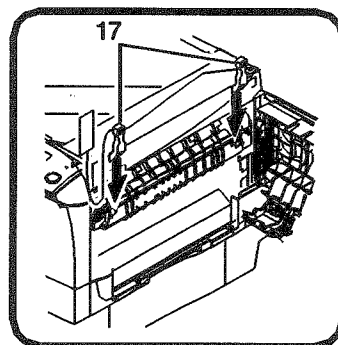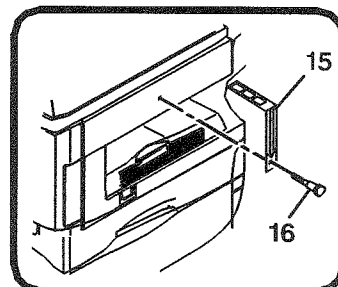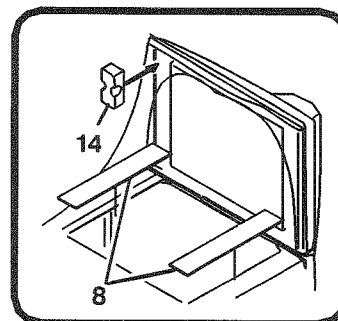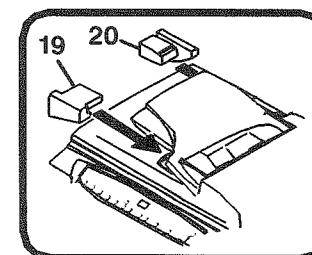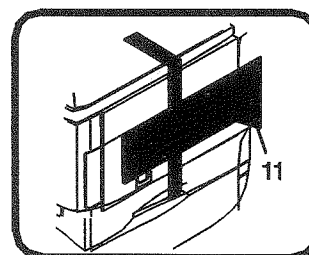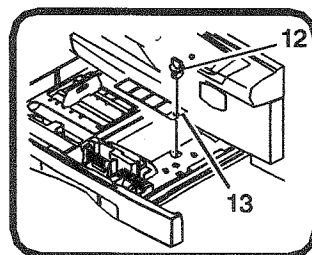
PL 8.2 DRUM AND TONER CARTRIDGES

Item	Part	Description
1	6R972	TONER CARTRIDGE (PRO 16P/PRO 16FX)
–	6R987	TONER CARTRIDGE (METERED)(PRO 215)
–	6R988	TONER CARTRIDGE (SOLD)(PRO 215)
2	13R563	DRUM CARTRIDGE (PRO 16P/PRO 16FX)
–	13R573	DRUM CARTRIDGE (PRO 215)

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Workcenter Pro16/Pro215 Series

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Parts List

PL 8.2
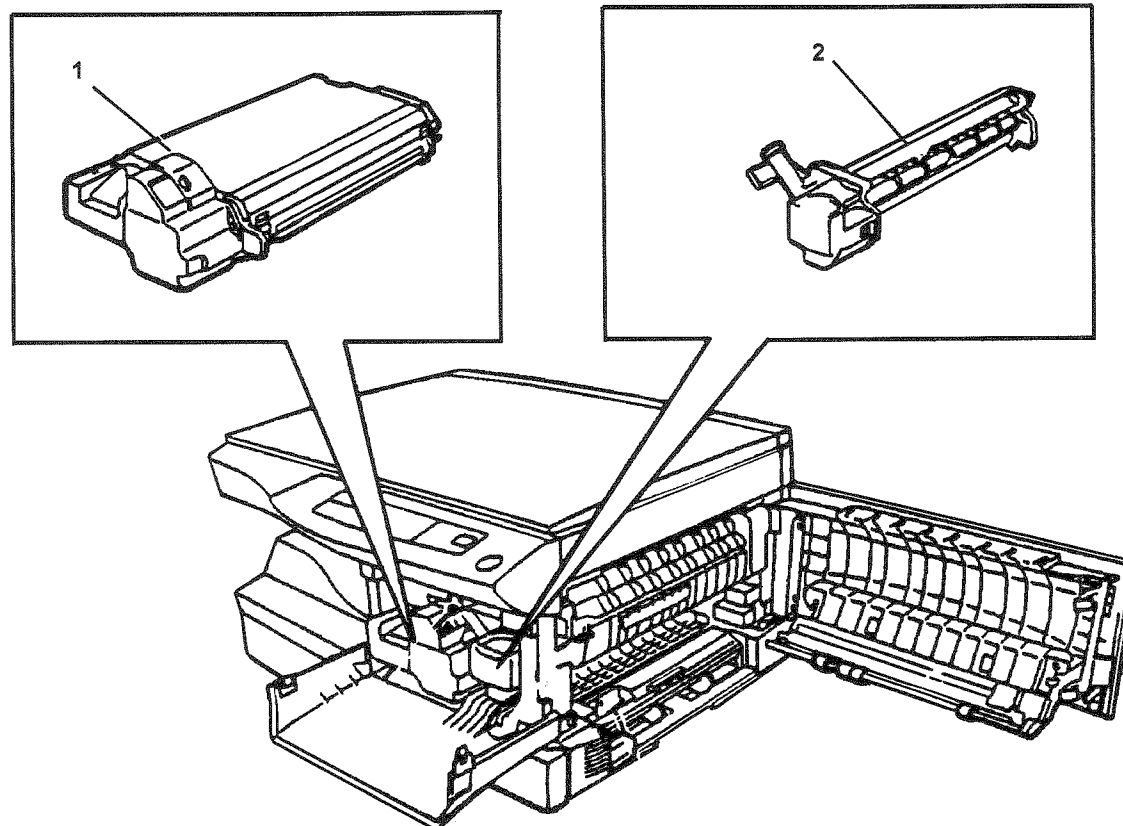
PL 9.1A SET DOCUMENT FEEDER (SDF) ASSEMBLY (WCPRO16FX ONLY)

$36\{$ 5, 7, 10, 11, 17, 25, 31, 35

$37\{$ 1-35

Item	Part	Description
1	–	REAR SHAFT BRACKET
2	–	SCREW(3X10)
3	–	SCREW (4X10)
4	–	TRANSPORT FRAME
5	–	REAR GUIDE
6	–	TIE WRAP
7	50N301	DOCUMENT TRAY
8	–	FRONT SHAFT BRACKET
9	–	SCREW (3X12)
10	–	FRONT GUIDE
11	–	FEED RACK
12	–	MYLAR GUIDE
13	–	MYLAR GUIDE
14	–	MOTOR PAD
15	–	GROUND STRAP
16	–	PAD
17	–	SCREW (3X8)
18	22N976	EXIT ROLLER (REP 5.10)
19	14N330	SPONGE
20	6N890	EXIT SHAFT
–	–	EXIT SHAFT
21	–	TRANSPORT SHAFT
22	–	EXIT GROUND STRAP
23	22N973	TRANSPORT ROLLER (REP 5.9)
24	–	SPRING
25	–	SPRING
26	–	SPRING
27	–	GROUND SPRING
28	–	HINGE RIGHT
29	–	SCREW (4X14)
30	–	BASE PLATE
31	–	GEAR
32	–	HINGE LEFT
33	4N192	DOCUMENT COVER CUSHION
34	–	BASE
35	–	LOWER COVER
36	50N300	SDF DOCUMENT TRAY ASSEMBLY (REP 5.11)
37	22N1057	SDF ASSEMBLY (REP 5.1) (WC PRO16FX)

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Parts List

PL 9.1A

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Reissue

Workcenter Pro16/Pro215 Series
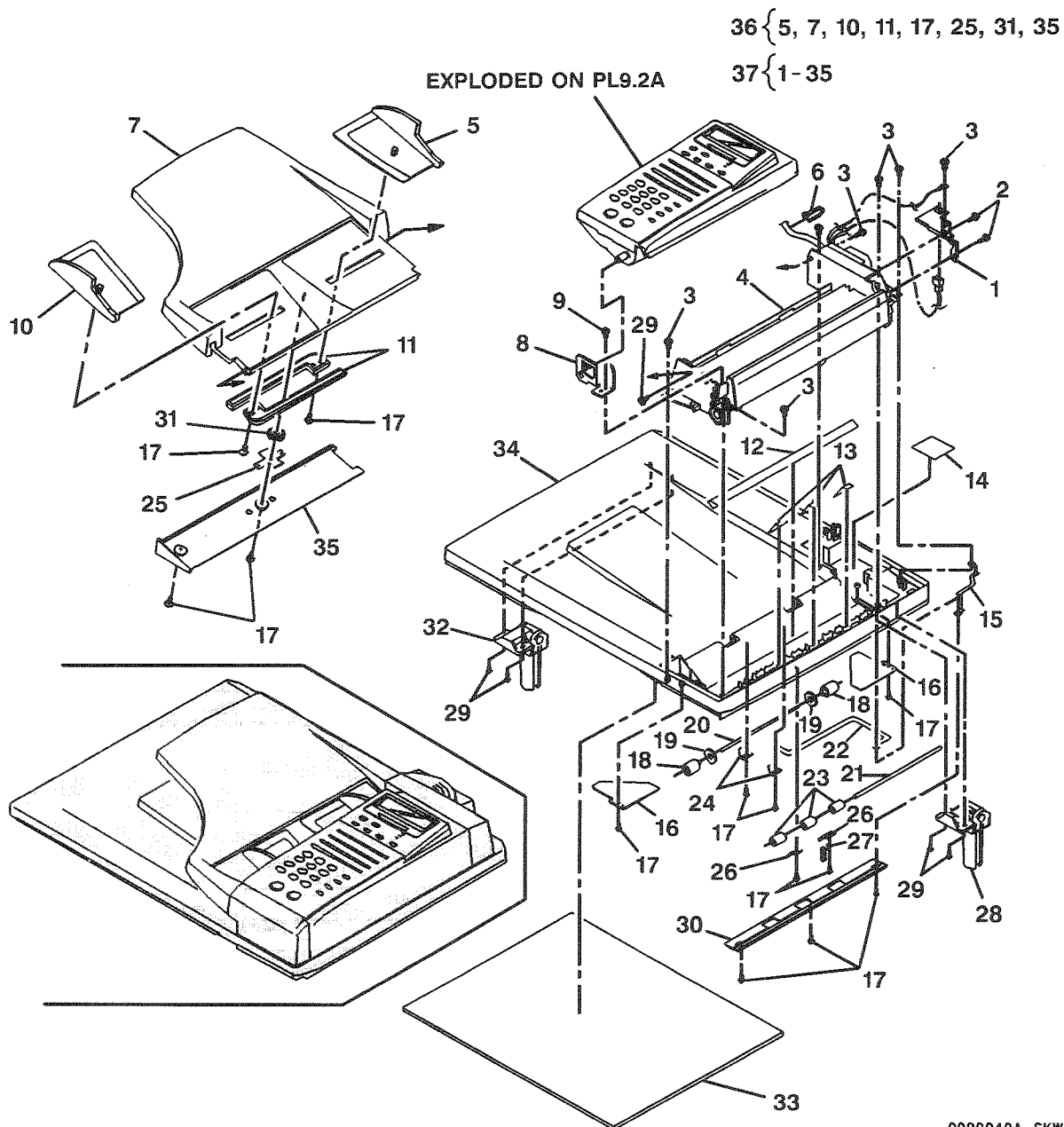
PL 9.1B DUPLEX SET DOCUMENT FEEDER (DSDF) ASSEMBLY (WCPRO16P/WCPRO215)

Item	Part	Description
1	–	DOCUMENT TRAY (WCPRO16P)
2	–	FRONT GUIDE
3	–	REAR GUIDE
4	–	FEED RACK
5	–	SCREW (3X8)
6	–	GEAR
7	–	SPRING
8	–	LOWER COVER
9	50N274	DUPLEX TRAY
10	–	DSDF COVER
11	–	SDF FEED ASSEMBLY
12	–	TIE WRAP
13	–	SCREW (4X12)
14	–	SCREW (4X14)
15	–	SCREW (3X10)
16	–	SCREW (3X6)
17	121N419	DSDF DEFLECTION GATE SOLENOID (SOL3) (REP 5.29)
18	–	LEVER
19	–	SPRING
20	–	STOPPER
21	–	MYLAR GUIDE
22	–	SCREW (3X14)
23	–	MOTOR PAD
24	–	SCREW (3X8)
25	–	LEVER
26	–	BEARING
27	–	E RING
28	50N272	DSDF DEFLECTION GATE
29	38N273	MYLAR GUIDE
30	50N275	BASE
31	–	CUSHION
32	22N1031	DSDF ASSEMBLY (REP 5.15)

32 {1-31, PL9.1C Item 31

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Reissue
Workcenter Pro16/Pro215 Series

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Parts List
PL 9.1B
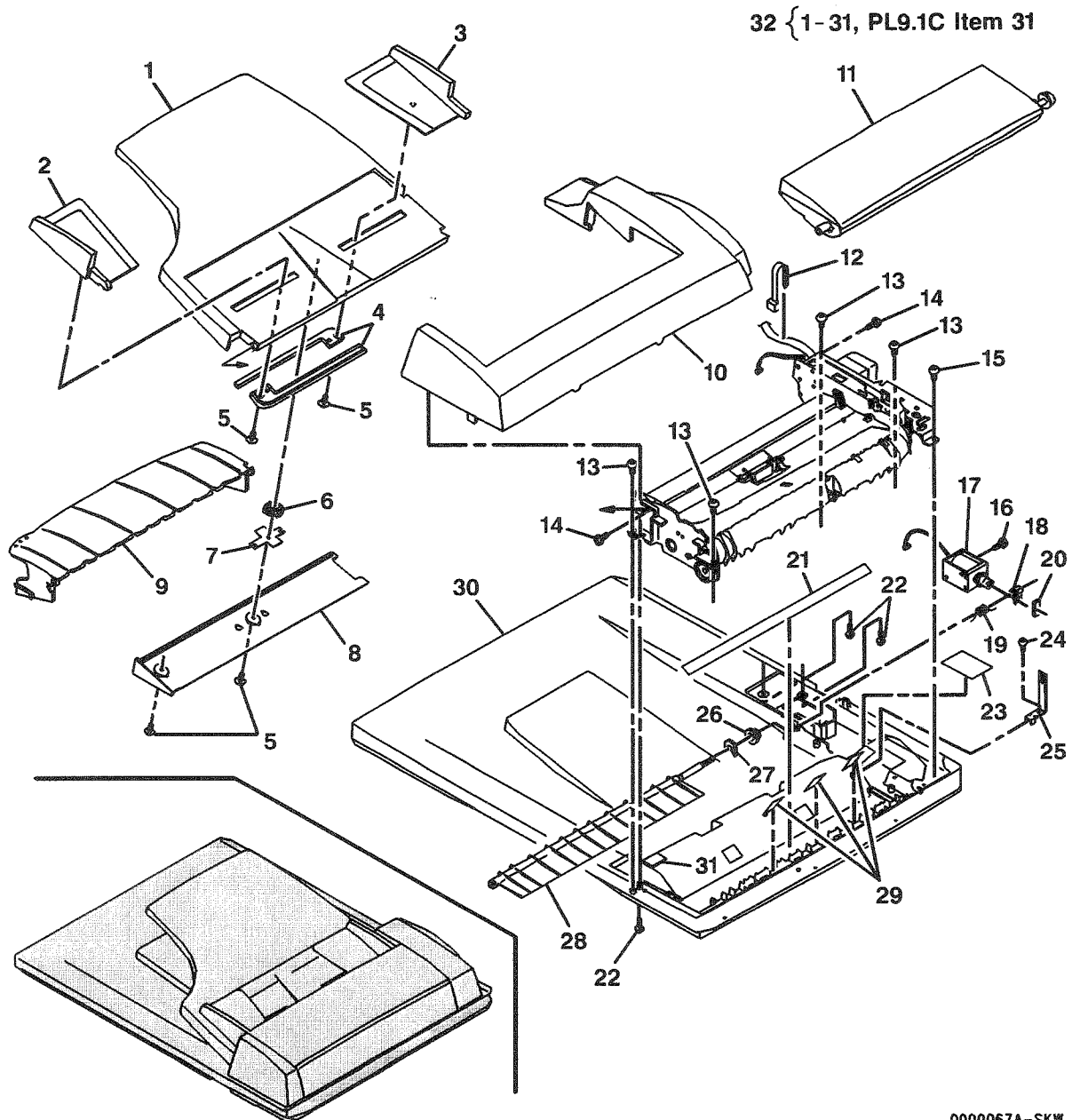
PL 9.1C DUPLEX SET DOCUMENT FEEDER (DSDF) ASSEMBLY (WCPRO16P ONLY)

Item	Part	Description
1	50N275	BASE (PRO16P/PRO215)
–	50N257	PAD (PRO16FX)
2	4N192	DOCUMENT COVER CUSHION
3	–	SCREW (4X14)
4	–	HINGE LEFT
5	38N279	PAD (PRO16P/PRO215)
–	38N254	PAD (PRO16FX)
6	–	E-RING
7	22N976	EXIT ROLLER EXIT ROLLER
8	14N330	SPONGE
9	14N341	SPONGE
10	6N901	EXIT SHAFT
11	–	SCREW (3X8)
12	–	BEARING
13	–	E-RING
14	15N300	PRESSURE PLATE
15	–	SCREW (3X10)
16	–	WRAP SPRING (F)
17	–	WRAP SPRING (R)
18	–	SPRING
19	–	SHAFT
20	22N973	TRANSPORT ROLLER (REP 5.9)
21	–	TRANSPORT SHAFT
22	–	SPRING
23	38N278	PAD
24	–	HINGE RIGHT
25	–	GROUND STRAP
26	–	SCREW (3X14)
27	–	BASE PLATE
28	–	GROUND SPRING
29	–	SCREW (3X8)
30	–	GROUND SPRING
31	–	DSDF ASSEMBLY (BOTTOM)

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Parts List
PL 9.1C

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Workcenter Pro16/Pro215 Series
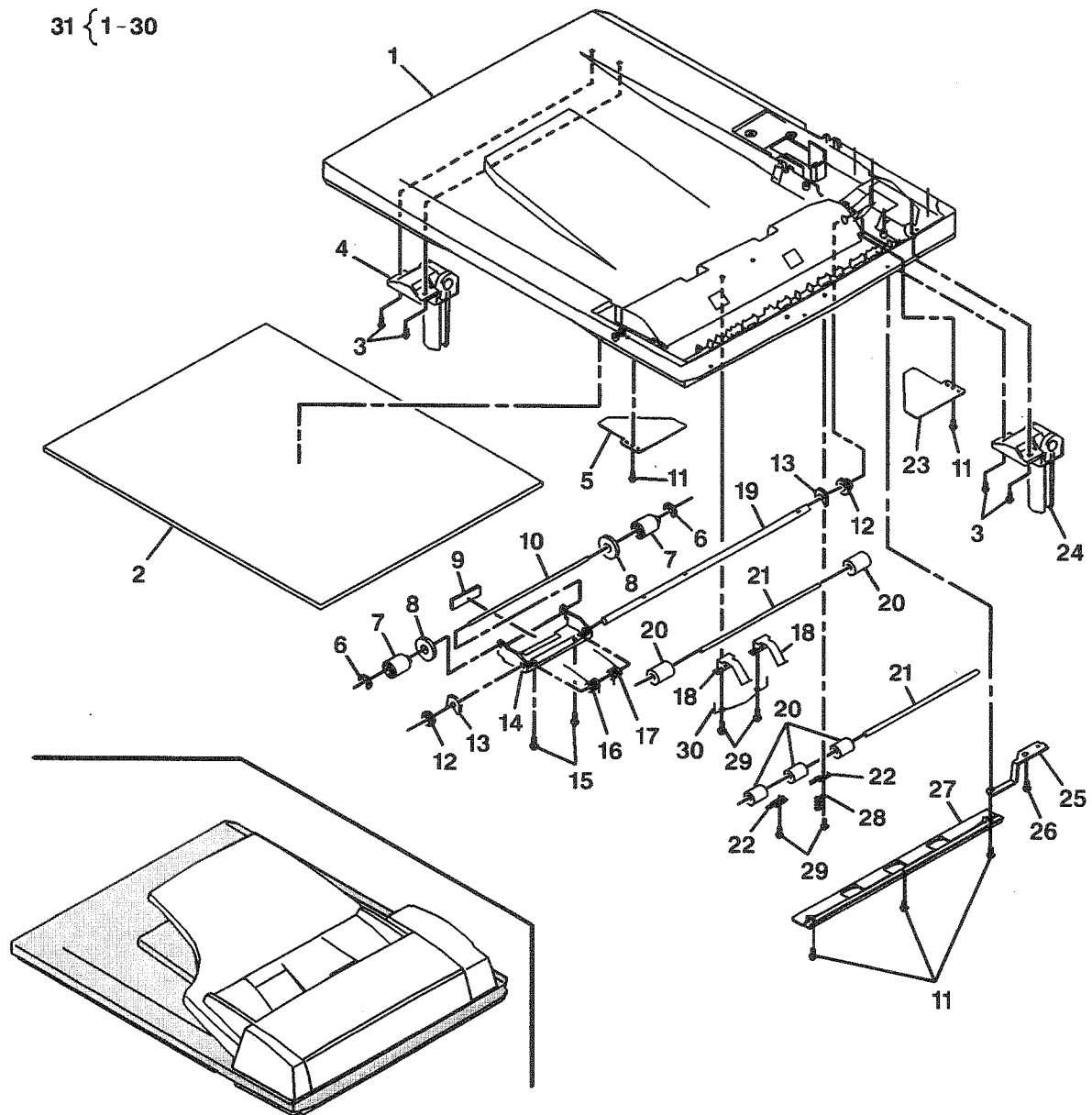
PL 9.2A SDF FEED ASSEMBLY
(WCPRO16FX ONLY)

Item	Part	Description
1	–	FAX COVER
2	–	FAX TOP COVER
3	–	ENTER KEY
4	–	FUNCTION KEY
5	–	STOP KEY
6	–	START KEY
7	–	ONE TOUCH KEY
8	–	TEN KEY
9	–	FAX CONTROL PANEL PWB (REP 15.2) (NOT SPARED)
10	–	SCREW (2.6X6)
11	–	CUSHION
12	6N892	CLUTCH SHAFT
13	–	E RING
14	–	CAM BOSS (REP 5.18)
15	9E57580	CLUTCH SPRING (REP 5.18)
16	16N176	CLUTCH SLEEVE (REP 5.18)
17	7N738	CLUTCH GEAR (REP 5.18)
18	16E9640	BUSHING
19	–	FAX COVER BASE
20	–	ARM
21	–	SDF FEED SOLENOID (REP 5.17) (SOL1)
22	–	PAPER GATE
23	120N284	SET DETECT ACTUATOR
24	120N285	SENSOR ACTUATOR
25	9N1009	SPRING
26	31N160	SOLENOID ARM
27	120N320	B4 DETECT ACTUATOR (REP 5.12)
28	–	LOWER COVER
29	–	CLUTCH PAWL
30	9N1036	CLUTCH PAWL CLUTCH
31	–	SCREW
32	20N464	20MXE PULLEY
33	22N977	RETARD ROLLER (REP 5.19)
34	6N891	FEED SHAFT
35	–	SPRING PIN
36	5E10560	FEED ROLLER (REP 5.19)
37	–	SDF SENSOR HARNESS
38	–	GEAR (20T)
39	152N1697	FAX HARNESS (REP 15.3)
40	–	SDF SENSOR PWB
41	–	SCREW (3X8)
42	31N162	ARM
43	9N1012	SPRING
44	7E29490	GEAR (16T)
45	2N1649	FAX CONTROL PANEL ASSEMBLY (REP 15.1)

45 { 1 - 11, 19, 39

31 (2 PLACES)

31 (4 PLACES)

10 (11 PLACES)

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Workcenter Pro16/Pro215 Series

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Parts List

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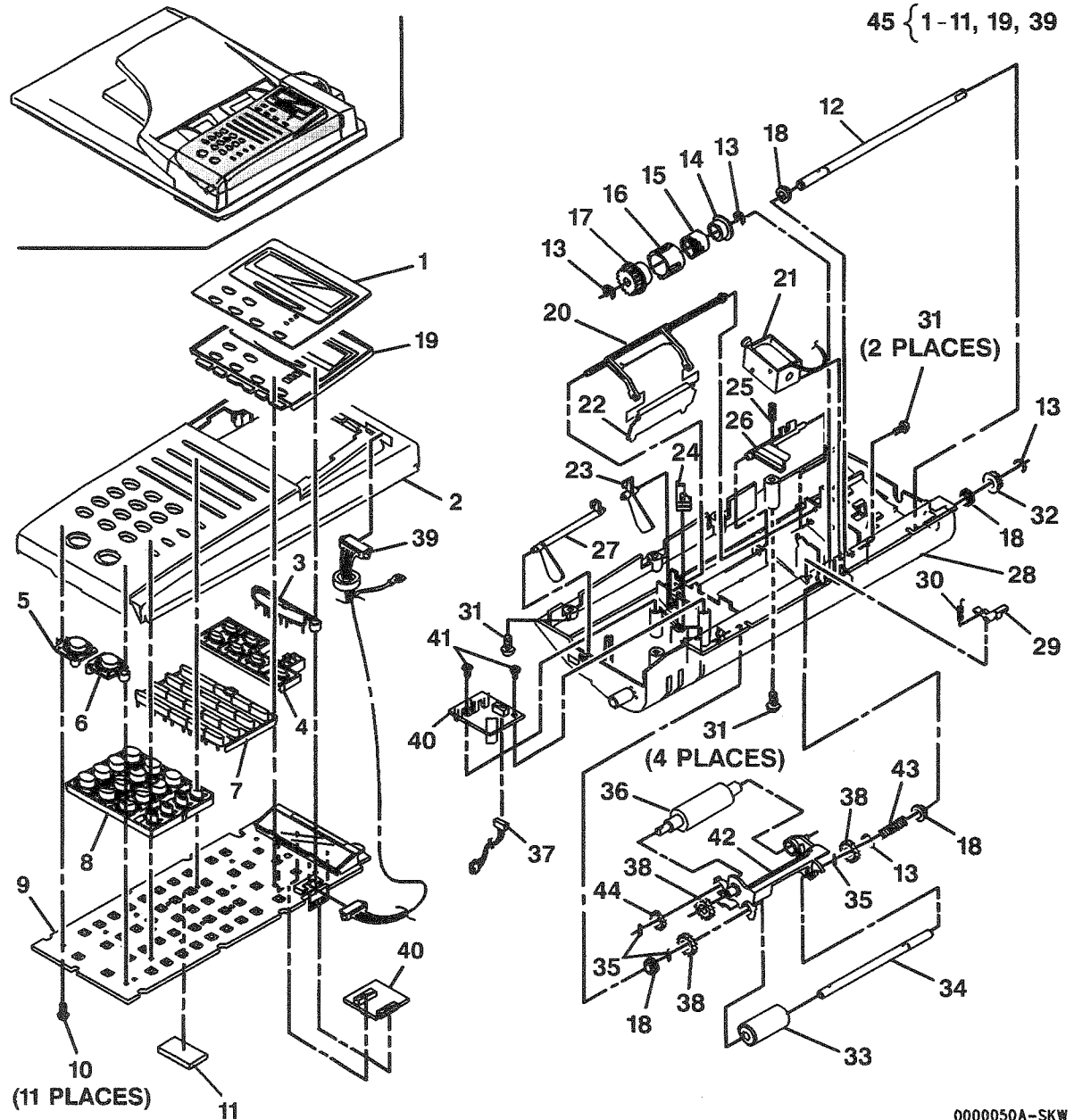
PL 9.2B SDF FEED ASSEMBLY (WCPRO16FX/WCPRO215)

Item	Part	Description
1	2N1563	FEED ASSEMBLY TOP COVER
2	14N331	PAD
3	9N1010	PAPER GATE SPRING (PRO16FX)
4	31N161	ARM
5	3N764	PAPER GATE
6	–	SCREW (3X8)
7	140N5199	SDF SENSOR PWB (REP 5.16)
8	152N1656	SDF SENSOR HARNESS
9	120N284	SET DETECT ACTUATOR
10	120N285	SENSOR ACTUATOR
11	121N410	SDF FEED SOLENOID (SOL 1) (REP 5.17)
12	–	SCREW (3X6)
13	31N160	SOLENOID ARM
14	9N1037	SPRING
15	–	E RING
16	7N738	CLUTCH GEAR (REP 5.18)
17	16N176	CLUTCH SLEEVE (REP 5.18)
18	9E57580	CLUTCH SPRING (REP 5.18)
19	–	CAM BOSS (REP 5.18)
20	16E9640	BUSHING
21	6N892	CLUTCH SHAFT
22	9N1031	TENSION SPRING
23	20N464	20MXE PULLEY
24	–	E RING
25	9N1036	CLUTCH PAWL SPRING
26	7N739	CLUTCH PAWL
27	22N977	RETARD ROLLER (REP 5.19)
28	7E29490	GEAR (16T)
29	–	SPRING PIN
30	–	GEAR (20T)
31	5E10560	FEED ROLLER (REP 5.19)
32	6N891	FEED SHAFT
33	9N1012	SPRING
34	31N162	ARM
35	1N280	LOWER COVER
36	–	SDF FEED ASSEMBLY (REP 5.22)

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Parts List

PL 9.2B

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Workcenter Pro16/Pro215 Series
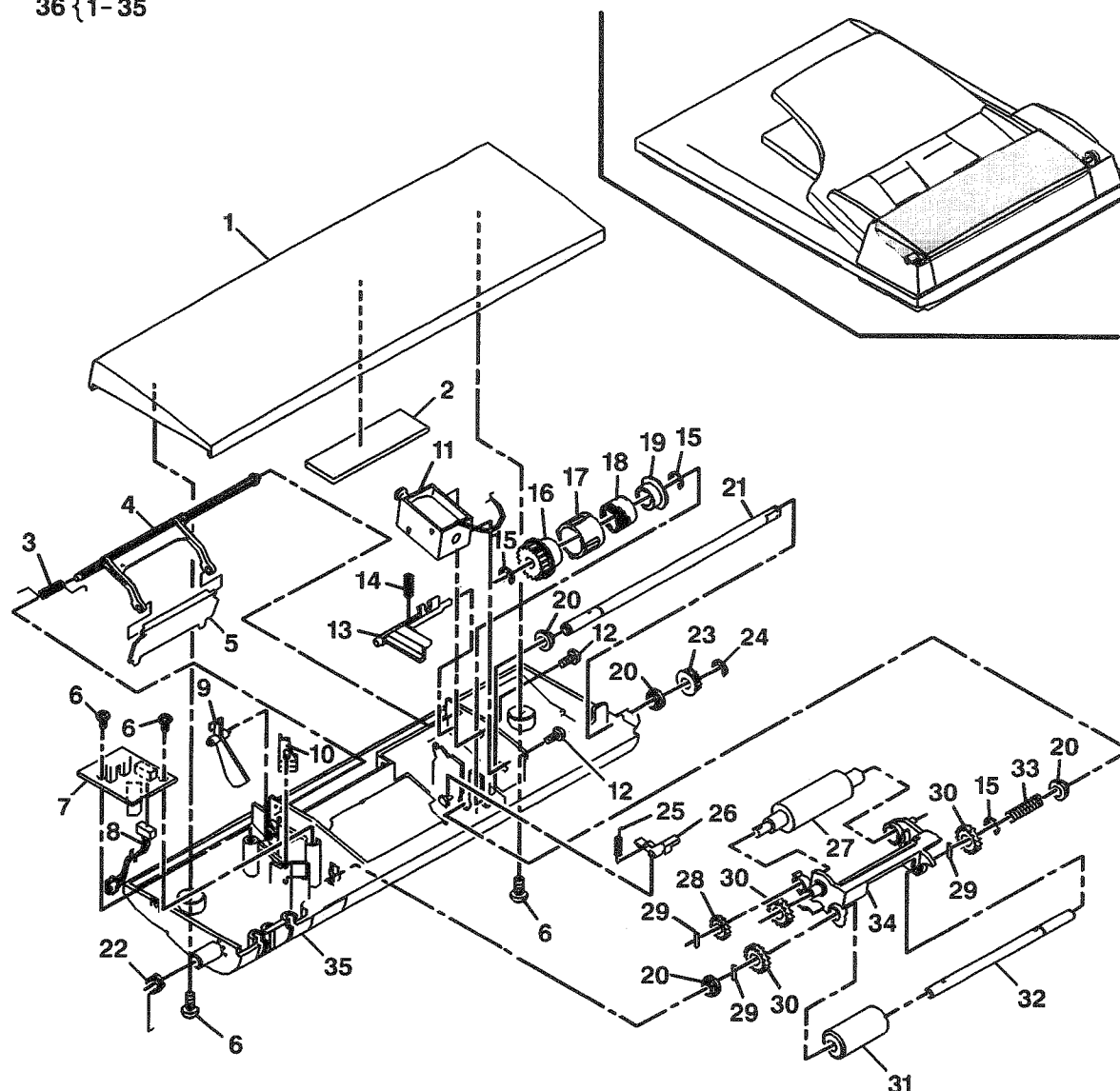
PL 9.3 SDF TRANSPORT ASSEMBLY (WCPRO16FX)

Item	Part	Description
1	–	PLATE
2	–	SCREW (3X8)
3	–	DOCUMENT GUIDE
4	–	SCREW (3X12)
5	130N943	SPEAKER (REP 15.4)
6	130N854	DOCUMENT PATH SENSOR (Q3) (REP 5.8)
7	–	REAR COVER
8	–	FRONT COVER
9	127N988	DRIVE MOTOR (MOT 1) (REP 5.7)
10	–	DRIVE FRAME
11	–	DRIVE ARM
12	–	GEAR (27T)
13	–	SCREW
14	–	TIE WRAP
15	9N1071	SPRING
16	152N1694	SPEAKER HARNESS (REP 15.5)
17	–	SCREW (3X5)
18	–	DRIVE BELT (83MXE4.8)
19	–	E RING
20	–	WASHER
21	–	GEAR (48T/15T)
22	–	SPRING PIN
23	–	BEARING
24	–	TUBING
25	–	BEARING
26	1N281	BRACKET
27	–	SDF DOCUMENT TRANSPORT
28	–	EXIT GUIDE SPRING
29	22N979	EXIT ROLLER
30	22N978	TRANSPORT ROLLER (REP 5.26)
31	38N261	REFLECTOR
32	–	DOCUMENT GUIDE
33	–	DISCHARGE BRUSH
34	–	SDF HARNESS
35	–	PAPER RELEASE KNOB
36	–	PRESSURE SPRING
37	–	TRANSPORT DRIVE BELT (REP 5.6)
38	–	PULLEY
39	–	RETARD PAD
40	15N298	PRESSURE PLATE
41	–	LOCK SPRING
42	38E13480	PAD
43	–	GROUND WIRE

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Parts List

PL 9.3
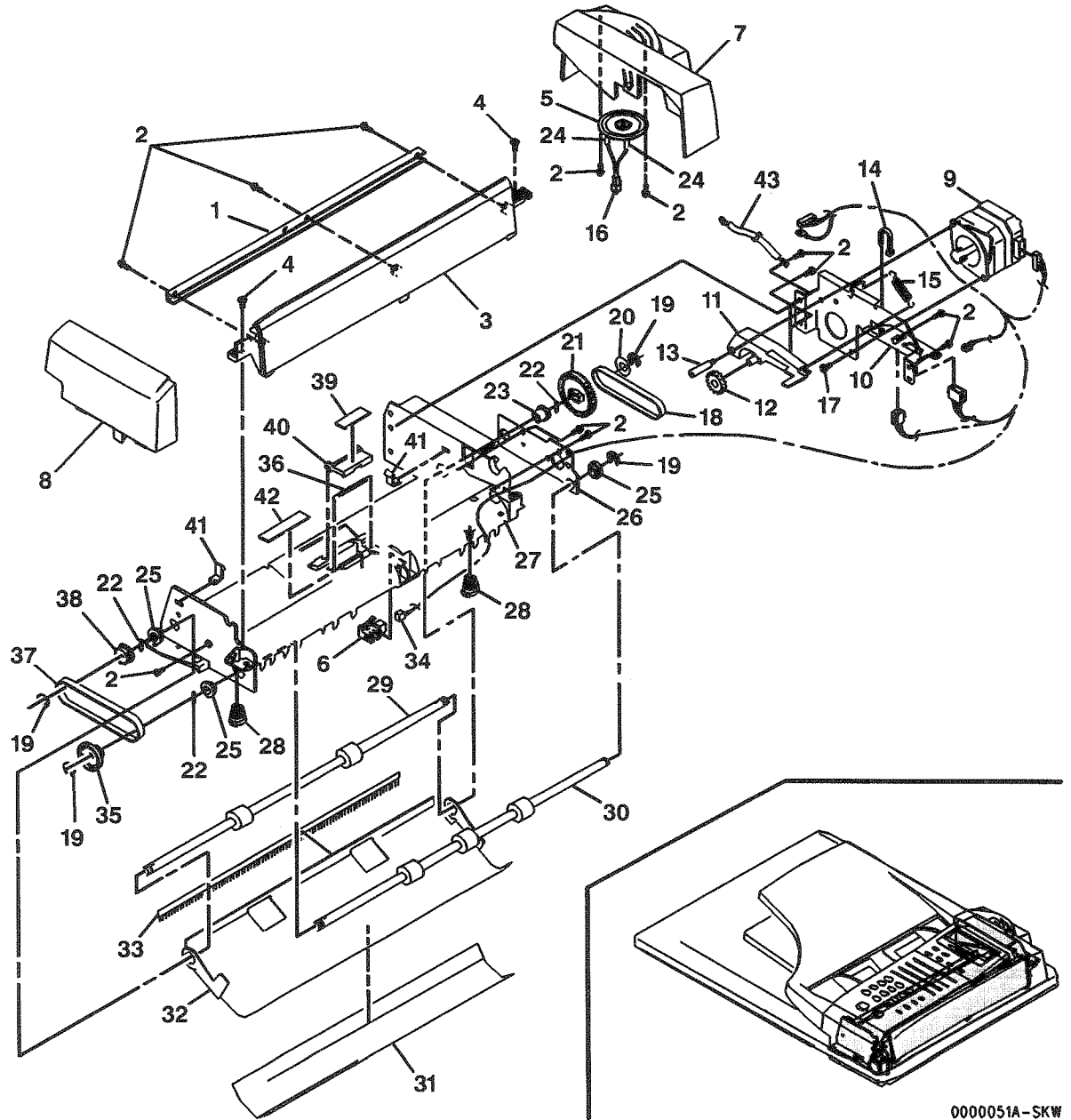
PL 9.4 DSDF TRANSPORT ASSEMBLY (WCPRO16P/WCPRO215)

Item	Part	Description
1	38E13480	PAD
2	–	RETARD PAD
3	15N298	PRESSURE PLATE
4	–	PRESSURE SPRING
5	–	UPPER PAPER GUIDE
6	22N1001	DSDF EXIT ROLLER (REP 5.25)
7	–	DISCHARGE BRUSH
8	–	LOWER PAPER GUIDE
9	–	SCREW (3X8)
10	–	DOCUMENT GUIDE
11	–	DSDF HARNESS
12	–	SCREW (3X6)
13	127N988	DSDF DRIVE MOTOR (MOT1) (REP 5.20)
14	–	PAD
15	121N420	DSDF EXIT ROLL SOLENOID (SOL2) (REP 5.24)
16	–	TIE WRAP
17	–	DRIVE FRAME
18	–	SCREW (3X4)
19	–	SCREW (3X5)
20	–	E-RING
21	–	WASHER
22	–	DRIVE BELT
23	–	GEAR (48T/15T)
24	–	SPRING PIN
25	–	BEARING
26	–	GEAR (30T)
27	–	BEARING
28	121N418	DSDF TRANSPORT ROLL CLUTCH (CL1) (REP 5.31)
29	–	E RING
30	–	BRACKET
31	–	OPEN & SHUT LOCK SPRING
32	–	SCREW (3X12)
33	–	22MXE PULLEY
34	–	TRANSPORT DRIVE BELT
35	–	PAPER RELEASE KNOB
36	–	EXIT GUIDE SPRING
37	130N854	DOCUMENT PATH SENSOR (Q3) (REP 5.21)
38	–	DOCUMENT TRANSPORT
39	–	DUPLEX GATE
40	22N1000	DUPLEX TRANSPORT ROLLER (REP 5.27)
41	–	DOCUMENT GUIDE
42	–	REFLECTOR
43	22N978	TRANSPORT ROLLER (REP 5.26)
44	–	SLEEVE
45	–	TRANSPORT ASSEMBLY (REP 5.23)

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Parts List

PL 9.4

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Workcenter Pro16/Pro215 Series
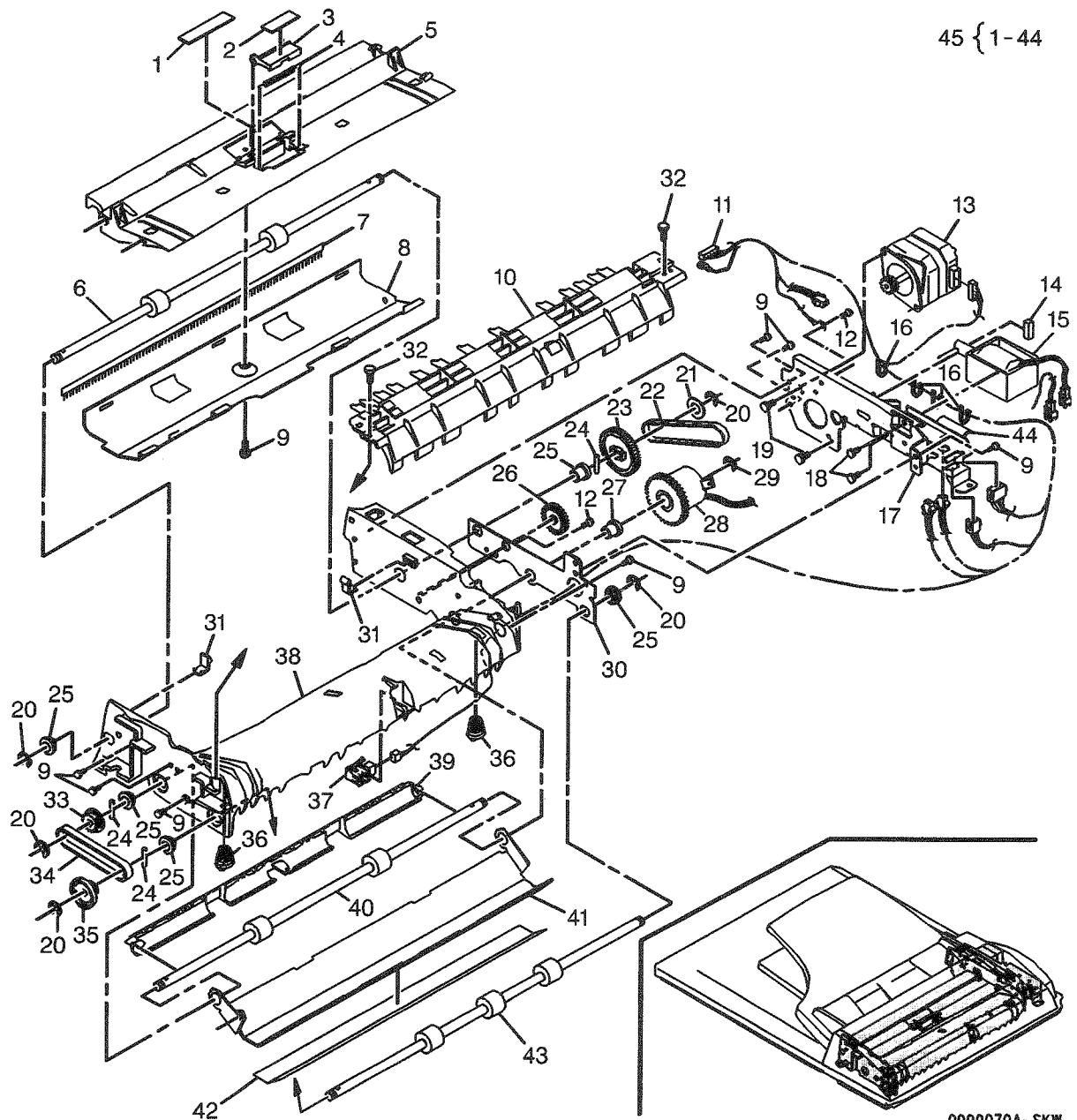
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	PL 9.1C
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	PL 5.5
5E10560	PL 5.5
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9N1010	PL 9.2B
9N1012	PL 9.2A
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Table 1 Part Number Index

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22N926	PL 2.1	38N275	PL 1.1
22N927	PL 6.3	38N278	PL 9.1C
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22N1001	PL 9.4	50N300	PL 9.1A
22N1002	PL 1.4	50N301	PL 9.1A
22N1029	PL 5.8	53N142	PL 1.1
22N1031	PL 9.1B	53N203	PL 1.3
22N1057	PL 9.1A	62N139	PL 3.1
22N1146	PL 6.1	62N140	PL 3.4
22E20680	PL 5.5	62N141	PL 3.2
22E22060	PL 1.4	62N173	PL 3.3
	PL 6.3	90N140	PL 1.1
22E23440	PL 6.1	103N206	PL 6.1
23N596	PL 2.1	110N783	PL 5.4
23N634	PL 2.1	110N817	PL 5.1
26E39240	PL 8.1		PL 5.8
31N159	PL 5.7	110E5370	PL 5.8
31N160	PL 9.2A	115N284	PL 6.1
	PL 9.2B	117N1312	PL 6.1

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Table 1 Part Number Index

Part Number	Part List
117E9750	PL 7.1
	PL 8.1
117E18690	PL 8.1
117E19340	PL 8.1
120N275	PL 6.3
120N284	PL 9.2A
	PL 9.2B
120N285	PL 9.2A
	PL 9.2B
120N320	PL 9.2A
120E10520	PL 4.1
	PL 8.1
121N400	PL 2.2
121N401	PL 2.2
121N410	PL 9.2B
121N411	PL 5.8
121N418	PL 9.4
121N419	PL 9.1B
121N420	PL 9.4
121N421	PL 2.2
122N115	PL 6.1
126N58	PL 6.1
126N96	PL 6.1
126N153	PL 6.1
127N969	PL 2.2
127N971	PL 2.1
127N972	PL 2.1
127N988	PL 9.3
	PL 9.4
127N996	PL 2.1
127K30260	PL 2.1
127K30270	PL 3.1
130N854	PL 9.3
	PL 9.4
130N911	PL 7.1
130N943	PL 9.3
130E7840	PL 6.1
130E9190	PL 6.1
140N5109	PL 5.1
140N5110	PL 6.1
140N5111	PL 6.3

Part Number	Part List
140N5112	PL 3.2
140N5199	PL 9.2B
140N5206	PL 1.3
140N5207	PL 7.1
140N5210	PL 7.1
140N5404	PL 7.1
140N5405	PL 7.1
140N5406	PL 7.1
140N5407	PL 7.1
140N5409	PL 7.1
140N5514	PL 7.1
140N5563	PL 7.1
152N1622	PL 7.2
152N1623	PL 2.1
	PL 7.1
	PL 7.4
152N1624	PL 6.1
152N1625	PL 7.2
152N1630	PL 1.1
	PL 6.3
	PL 7.4
152N1632	PL 3.2
	PL 7.4
152N1633	PL 2.2
	PL 7.4
152N1635	PL 1.4
152N1638	PL 5.1
152N1652	PL 7.1
152N1656	PL 9.2B
152N1692	PL 3.3
152N1694	PL 9.3
152N1697	PL 9.2A
162K6530	PL 8.1
600K15950	PL 7.3
600K87880	PL 6.2
809E11980	PL 5.7
809E12000	PL 5.8
809E12010	PL 5.8
809E24950	PL 4.1
809E43360	PL 6.2
891E82000	PL 1.1

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6 General Procedures

Diagnostics

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User Simulation Mode

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Lot Number Identification

General Service Notes

Entering/Exiting Copier/Printer Diagnostics

1.   Switch on the power.

     NOTE: Step 2 must be performed within 4 seconds to enter diagnostics.

2.   Press the **Clear** button, press the **Image Quality** button, press the **Clear** button, and press the **Image Quality** button.

     a.   All lamps on the Control Console will go out.

     b.   The copy count display will become blank.

3.   Using the **Copy Quantity** button(s), select the number that corresponds to the desired diagnostic test.

4.   Press **Start**.

5.   Using the **Copy Quantity** button(s), select the number that corresponds to the desired subcode.

     a.   Pressing the Copy Quantity "ones" button increases the count by one. Pressing the Copy Count "tens" button increases the count by 10.

     b.   Pressing and holding the **%** button while pressing the **Copy Quantity** "ones" button will decrease the count by one. Pressing and holding the **%** button while pressing the **Copy Quantity** "tens" button will decrease the count by 10.

6.   Press the **Start** button.

     NOTE: When exiting diagnostics, the number of times Clear needs to be pressed depends on the diagnostic code that is entered.

7.   To exit diagnostics, either switch the power off, then on, or press the **Clear** button until the Ready LED illuminates and a copy quantity of 1 appears in the Copy Quantity display.

Entering/Exiting Fax Diagnostics

There are two ways to enter fax diagnostics - either follow the procedure below or enter diagnostic code 66 on the machine control panel when the copier/printer is in the diagnostic mode (refer to Entering/Exiting Copier/Printer Diagnostics). Fax diagnostic messages display on the fax LCD.

1.   Switch on the power.

2.   Press the **Menu** key.

3.   Press the following keys in sequence: **9**, *****, **8**, **#**, **7**, **Enter**.

     The fax system will enter the diagnostic mode and the following message will appear on the display:

     DIAGNOSTIC MODE

     ROM VERSION = <version>

4.   Press the **Enter** key.

     The following message will be displayed on the LCD:

     DIAGNOSTIC MODE

     SELECT MENU (< >)

5.   When the **SELECT MENU (< >)** message appears, either key in the two-digit number of the menu item to go directly to the item or press the right or the left arrow key to scroll through the menu to the desired selection. After scrolling to a menu selection, press the **Enter** key (refer to Fax Diagnostics Menu Selections).

6.   To exit fax diagnostics, press the **Stop/Exit** key one or more times until the standby mode message reappears on the LCD.

Input Codes

An Input Code is entered to check the operation of a sensor or a switch. Enter the code for the component. Manually actuate the component while observing the appropriate lamp on the Control Console. Testing input components requires that the lamps on the Control Console function correctly.

Table 1 Input Codes

Code	Input Component	Control Console Lamp
2-[02]	SDF Sensor Status Set Detect Sensor Document Path Sensor Document Cover Closed Sensor Position Sensor	 Toner Cartridge LED Paper Jam LED Drum Cartridge LED SDF Jam LED
30-[01]	Paper Feed Sensor Q1	Toner Cartridge LED
30-[01]	Fuser Jam Sensor Q2	Paper Jam LED
30-[01]	Paper Exit Sensor Q3	Drum cartridge LED
30-[01]	Bypass Tray Paper Sensor	Image Quality Auto LED
30-[01]	New Drum Cartridge Sensor	R/E LED
30-[01]	Main Paper Tray A4 Width Detection Sensor (Pro 16fx only)	Exposure Level 1 (Light) LED illuminates when the tray is fully seated
30-[01]	Tray 2 A4 Width Detection Sensor (Pro 16fx and Pro 215)	Exposure Level 5 (Dark) LED illuminates when the tray is fully seated

Output Codes

Enter an Output Code to check the operation of an output component (clutch, motor, solenoid etc.) or to output the Grid Bias, Transfer Corotron, or Developer Bias voltage.

Table 1 Output Codes

Code	Output Component	Description
1-[01]	Scan Drive Motor MOT2	The optics will scan at a speed that corresponds to the selected magnification when the **Start** button is pressed. The Drum Cartridge LED will illuminate when the Scan Home sensor is in the home position.
2-[03]	SDF Drive Motor MOT1	The SDF Motor operates for 10 seconds at a speed that corresponds to the current magnification.
2-[04]	SDF Feed Solenoid SOL1	The SDF Paper Feed Solenoid cycles 20 times between On (500 ms) and Off (500 ms) when the **Start** Button is pressed.
2-[05]	DSDF Pinch Roll Solenoid SOL2	The DSDF Exit Pinch Roll Solenoid SOL2 cycles 20 times between On (500 ms) and Off (500 ms) when the **Start** Button is pressed.
2-[06]	DSDF Exit Roll Clutch CL1	The DSDF Exit Roll Clutch CL1 cycles 20 times between engaged (500 ms) and disengaged (500 ms) when the **Start** button is pressed.
2-[07]	DSDF Deflection Gate Solenoid SOL3	The DSDF Deflection Gate Solenoid SOL3 cycles 20 times between On (500 ms) and Off (500 ms) when the **Start** Button is pressed.
5-[01]	Control Console LED check	The LEDs on the Control Console will illuminate for five seconds when the **Start** button is pressed.
5-[02]	Heat Rod HTR1 and Exhaust Fan MOT3	The heat rod will pulse on five times each time the **Start** button is pressed. The Exhaust Fan will rotate in the high speed mode.
5-[03]	Exposure Lamp	The exposure lamp will illuminate for five seconds each time the **Start** button is pressed.
6-[01]	Paper Feed Solenoid SOL1 (Tray 1), Paper Feed Solenoid SOL2 (Tray 2), Alternate Tray Feed Solenoid	The paper feed solenoid for the selected paper tray will cycle on and off 20 times when the **Start** button is pressed.
6-[02]	Registration Roller Solenoid check	The registration roller solenoid will cycle on and off 20 times when the **Start** button is pressed.
8-[06]	Transfer Corotron Voltage	When the **Start** button is pressed, the Transfer Corotron output is present for 30 seconds. This mesurement is made at the Transfer Corotron Plate with the Side Door open and the Side Door Interlock Switch (S3/S4) actuated. **Voltage:** +1200 VDC (not under load)
10	Toner Motor MOT4	The toner motor will operate for 30 seconds when the **Start** button is pressed.

Table 1 Output Codes

Code	Output Component	Description
25-[01]	Main Drive Motor and Developer Bias Voltage	The main motor will operate for 30 seconds when the **Start** button is pressed. The Developer Bias Voltage, Charge Corotron voltage, and Grid Bias voltage will also be present for 30 seconds if the Toner Cartridge is installed.
25-[10]	Polygon Motor operation check	The polygon motor operates for 30 seconds when the **Start** button is pressed.
61-[03]	Polygon Motor (HSYNC output) check	HSYNC is performed and the Polygon Motor is run for 30 seconds when the **Start** button is pressed. Fault Code **E7-03 Laser Problem** will set when the control logic fails to detect HSYNC.
63-[01]	Shading check	Shading check is performed and the detected level is displayed on the copier control panel.
64-[01]	Internal Test Pattern	The copier/printer produces a solid grey test print when the **Start** button is pressed.

Counter Data Codes

The totals for each of the counters in (Table 1) will flash three digits at a time, two times (six digits). The display will pause about 2 seconds between counts.

Example: The digits 000 followed by 234 indicate a count of 234.

Table 1 Counter Data Codes

Code	Copier Counter Data
22-[04]	Jam Total Counter The Jam Total Counter displays the total number of paper jams that have been detected.
22-[05]	Total Counter The Total Counter displays the total number of copies and prints that have been made.
22-[08]	SDF Counter The SDF Counter displays the total number of originals that have been fed through the SDF.
22-[12]	Drum Cartridge Counter The Drum Cartridge Counter displays the drum cartridge count.
22-[14]	PROM Version The PROM version is displayed as 3 digits when the **Start** button is pressed.
22-[17]	Total Copies Counter The Total Copies Counter displays the total number of copies that have been made.
22-[18]	Total Prints Counter The Total Prints Counter displays the total number of prints that have been made.
22-[20]	Fax Print Counter The Fax Print Counter displays the total number of prints that have been made from received faxes.
22-[21]	Scanner Counter The Scanner Counter displays the total number of scanning cycles that have been made by the scanner.
22-[23]	Fax Reception Counter The Fax Reception Counter displays the total number of incoming faxes that have been received.
22-[24]	Fax Transmission Counter The Fax Transmission Counter displays the total number of outgoing faxes that have been sent.

Counter Reset Codes

A code is entered to reset or disable drum count data.

Table 1 Counter Reset Codes

Code	Copier Counter Data
24-[01]	Jam Counter Clear When Start is pressed, the jam counter will reset to 000-000.
24-[04]	SDF Counter Clear When Start is pressed, the SDF counter will reset to 000-000.
24-[07]	Drum Cartridge Count Clear When Start is pressed, the drum copy count will reset to 000-000.
24-[08]	Copy Counter Clear When Start is pressed, the copy counter will reset to 000-000.
24-[09]	Print Counter Clear When Start is pressed, the print counter will reset to 000-000.
24-[10]	Fax Transmission/Reception Counter Clear When Start is pressed, the fax transmission/reception counter will reset to 000-000.
24-[11]	Fax Print Counter Clear When Start is pressed, the fax print counter will reset to 000-000.
24-[13]	Scanner Counter Clear When Start is pressed, the scanner counter value is reset to 000-000.
24-[14]	SDF Jam Counter Clear When Start is pressed, the SDF jam counter will reset to 000-000.

Displaying Status Subcode

If a status code which is displayed is associated with more than one subcodes, press the Start button to view the subcode.

Status Code Clear

A code is entered to clear a U2 or other status code.

Table 1 Status Code Clear Codes

Code	Status Code
14	**Status Code Clear - Codes other than U2** When Start is pressed, Status codes other than U2 will be cleared.
16	**U2 Status Code Clear** When Start is pressed, a U2 Status code will be cleared.

Initializing the Copier/Printer

CAUTION

Changes to the factory default settings which exist prior to initialization will be lost when the copier/printer initializes. Check and record all Configuration Codes, Adjustment Codes and Programmable Settings Features before initializing the copier/printer.

NOTE: *When diagnosis indicates that the Main PWB may require replacement, initialize the copier/printer before changing the Main PWB. Operate the copier/printer after completing the initialization process to determine if the problem still exists.*

1. Enter the diagnostic mode and check all Configuration Codes, Adjustment Codes and Programmable Settings Features. Record all settings which are different than the factory default settings.
2. Exit the diagnostics mode.
3. Initialize the copier/printer.
    a. Ensure that the **Preset Reduction/Enlargement** LED is set to the 100% setting.
    b. Perform the following within four seconds:
        - press the **Clear** button
        - press the **Image Quality** button
        - press the **Clear** button again
        - press the **Preset Reduction/Enlargement** button
        The display will go blank.
    c. Enter the Initialization Code 88-[1] and press the **Start** button.
        The copier/printer will initialize and resume operation in the Ready mode.
4. Enter the diagnostic mode and re-enter all of the Adjustment Codes and Configuration Codes which were programmed prior to initialization.
5. Re-enter the Programmable Features Settings which were present prior to initialization and then press the **Clear** button to resume normal machine operation.

Adjustment Codes

A code is entered to perform an adjustment.

Table 1 Adjustment Codes

Code	Function	Range	Default	ADJ	Description
8-[02]	Grid Bias Voltage (High mode)	-550 to -580 VDC	-	ADJ 9.2	**NOTE:** Check that the Grid Bias Voltage (Low mode) **8-[3]** is within range before checking and/or adjusting the Grid Bias Voltage (High mode). When the **Start** button is pressed, the Charge Corotron output is present in the High Mode for 30 seconds.
8-[03]	Grid Bias Voltage (Low mode)	-400 to -450 VDC	-	ADJ 9.2	When the **Start** button is pressed, the Charge Corotron output is present in the Low Mode for 30 seconds.
25-[01]	Main Motor MOT1 and Developer Bias Voltage	-380 +/- 20 VDC	-	ADJ 9.1	The main motor will operate for 30 seconds when the **Start** button is pressed. The Developer Bias Voltage, Charge Corotron voltage, and Grid Bias voltage will also be present for 30 seconds if the Toner Cartridge is installed. If the Toner Cartridge is removed before this code is entered, only the Main Motor is energized.
26-[43]	Side Edge Erase (Pro 16fx)	0 to 5.0 mm	2.0 mm	-	When the **Start** button is pressed, the code number for the side edge erase amount is displayed. **Code Erase Amount (mm)** 0=0 mm 1=0.5 mm 2=1.0 mm 3=1.5 mm 4=2.0 mm (default) 5=2.5 mm 6=3.0 mm 7=3.5 mm 8=4.0 mm 9=4.5 mm 10=5.0 mm To change the side edge erase amount, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.
43-[01]	Fuser temperature	175 to 200°C	190°C - Pro 16fx 195°C - Pro 16p and Pro 215	-	When the **Start** button is pressed, the code number for the fuser temperature is displayed. **Code Temperature (Degrees C)** 0=175 1=180 2=185 3=190 default for WorkCentre Pro 16fx 4=195 default for WorkCentre Pro 16p and WorkCentre Pro 215 5=200 To change the fuser temperature, press the **Copy Quantity** "ones" button to select the code for the desired temperature and then press the **Start** button.

Table 1 Adjustment Codes

Code	Function	Range	Default	ADJ	Description
43-[04]	Multi-copy fusing temperature	155 to180°C	165°C - Pro 16fx 170°C - Pro 16p and Pro 215	-	When the **Start** button is pressed, the code number for the multi-copy fusing temperature is displayed. *NOTE: To reduce heat build up in the machine during jobs of 20 copies or more, the fusing temperature is lowered to the selected value in the list below when the twentieth copy is reached.* **Code Temperature (Degrees C)** 0=155 1=160 2=165 default (Pro 16fx) 3=170 default (Pro 16p and Pro 215) 4=175 5=180 To change the multi-copy fusing temperature, press the **Copy Quantity** "ones" button to select the code for the desired temperature and then press the **Start** button.
43-[05]	Duplex copying fusing temperature shift (Pro 16p and Pro 215)	0 to 9	-	-	When the **Start** button is pressed, the code number for the current duplex copying fusing temperature shift is displayed. *NOTE: The temperature shift which is selected is added to the currently selected Fuser Temperature (refer to Adjustment Code 43-[01]).* **Code Temperature (Degrees C)** 0=+/-0 1=-8 2=-6 3=-4 4=-2 5=+/-0 6=+2 7=+4 8=+6 9=+8 To change the duplex copying fusing temperature, press the **Copy Quantity** "ones" button to select the code for the desired temperature shift and then press the **Start** button.

Table 1 Adjustment Codes

Code	Function	Range	Default	ADJ	Description
46-[01]	Exposure Adjustment	00 to 99	50	ADJ 6.1	When the **Start** button is pressed, the exposure setting for Auto mode is displayed. To view the settings for the other modes, press the **Image Quality** button until the appropriate LED or LEDs illuminate. **Image Quality Mode / Illuminated LED** Auto Auto mode LED Text Text mode LED Photo Photo mode LED Toner Save Toner Save LED To change an exposure setting value, press the **Copy Quantity** buttons until the desired setting appears in the Copy Quantity display. Press the **Clear** button to exit and store the new setting or settings.
46-[12]	Fax Resolution Adjustment: Overall Mode	00 to 99	50	-	This diagnostic code sets the overall resolution value for sent faxes. When the code is entered, the machine warms up, performs shading, and displays the current setting on the Control Console. To change the setting, press the **Copy Quantity** buttons to increase or decrease the setting, then press the **Start** button to store the new value.
46-[13]	Fax Resolution Adjustment: Normal Mode	00 to 99	50	-	This diagnostic code sets the resolution value in the normal mode. When the code is entered, the machine warms up, performs shading, and displays the current setting on the Control Console. To change the setting, press the **Copy Quantity** buttons to increase or decrease the setting, then press the **Start** button to store the new value.
46-[14]	Fax Resolution Adjustment: Small Character	00 to 99	50	-	This diagnostic code sets the ext and photo resolution values in the small character mode. To select the text mode, press the **Copy Quality** button until the Auto LED illuminates. To select the photo mode, press the **Copy Quality** button until the Photo LED illuminates. When the code is entered, the machine warms up, performs shading, and displays the current setting on the Control Console. To change the setting, press the **Copy Quantity** buttons to increase or decrease the setting, then press the **Start** button to store the new value.
46-[15]	Fax Resolution Adjustment: Fine Mode	00 to 99	50	-	This diagnostic code sets the resolution value in the fine mode. When the code is entered, the machine warms up, performs shading, and displays the current setting on the Control Console. To change the setting, press the **Copy Quantity** buttons to increase or decrease the setting, then press the **Start** button to store the new value.
46-[16]	Fax Resolution Adjustment: 300 dpi Mode	00 to 99	50	-	This diagnostic code sets the resolution value in the fine (300 dpi) mode. When the code is entered, the machine warms up, performs shading, and displays the current setting on the Control Console. To change the setting, press the **Copy Quantity** buttons to increase or decrease the setting, then press the **Start** button to store the new value.
48-[01]	Image Magnification (Front to Rear) Adjustment: Automatic	00 to 99	50	ADJ 6.8	Press the **Image Quality** button until only the **Auto** lamp is lit, then press the **Start** button. The machine scans the reference line on the calibration strip, calculates the correct magnification, and automatically adjusts the setting. The adjusted setting appears in the Quantity display. Press the **Clear** button to exit the mode.

Table 1 Adjustment Codes

Code	Function	Range	Default	ADJ	Description
48-[01]	Image Magnification (Front to Rear) Adjustment: Manual	00 to 99	50	ADJ 6.8	Press the **Image Quality** button until only the **Text** lamp is lit. The current setting is displayed in the Quantity display. To change magnification, press the **Copy Quantity** buttons. Increasing the number increases the magnification. Decreasing the number decreases the magnification. Press the **Clear** button to exit and store the new setting.
48-[01]	Image Magnification (Lead Edge to Trail Edge)	00 to 99	50	ADJ 6.8	Press the **Image Quality** button until only the **Photo** lamp is lit. The scan speed is adjusted. To change magnification, press the **Copy Quantity** buttons. Increasing the number increases the magnification. Decreasing the number decreases the magnification. Press the **Clear** button to exit and store the new setting.
50-[01]	Lead Edge Deletion	00 to 99	50	ADJ 8.2	Press the **Image Quality** button until only the **Text** lamp is lit. The Lead Edge Deletion setting is displayed. To change Lead Edge Deletion, press the **Copy Quantity** buttons. An increase of 1 produces a shift of 0.1 mm. To decrease the lead edge deletion, decrease the number. To increase the lead edge deletion, increase the number. Press the **Clear** button to exit and store the new setting.
50-[01]	Trail Edge Deletion	00 to 99	50	ADJ 8.3	Press the **Image Quality** button until the **Auto**, **Text**, and **Photo** lamps are lit. The Trail Edge Deletion setting is displayed. To change Trail Edge Deletion, press the **Copy Quantity** buttons. An increase of 1 produces a shift of 0.1 mm. To decrease the trail edge deletion, decrease the number. To increase the trail edge deletion, increase the number. Press the **Clear** button to exit and store the new setting.
50-[01]	Lead Edge Registration (Scan Start Timing) This setting affects the Scan ON signal timing.	00 to 99	50	-	Press the **Image Quality** button until only the **Photo** lamp is lit. The Lead Edge Registration (Scan Start Timing) setting is displayed. To change the timing of the Scan ON signal, press the **Copy Quantity** buttons. An increase of 1 produces a shift of 0.1 mm. To decrease the distance between the image and the lead edge of the paper, enter a higher number. This action causes the scan to start sooner. To increase the distance between the image and the lead edge of the paper, enter a smaller number. This action delays the scan. Press the **Clear** button to exit and store the new setting.

Table 1 Adjustment Codes

Code	Function	Range	Default	ADJ	Description
50-[01]	Lead Edge Registration This setting affects the Registration Roller ON timing.	00 to 99	50	ADJ 8.4	Press the **Image Quality** button until only the **Auto** lamp is lit. The Lead Edge Registration setting is displayed. To change the Lead Edge Registration, press the **Copy Quantity** buttons. An increase of 1 produces a shift of 0.1 mm. To decrease the distance between the image and the lead edge of the paper, enter a higher number. To increase the distance between the lead edge and the image, enter a lower number. Press the **Clear** button to exit and store the new setting.
50-[01]	SDF/DSDF Lead Edge Registration (Scan Start Timing) This setting affects the Scan ON signal timing when copies are made from the SDF/DSDF.	00 to 99	50	ADJ 8.5	Press the **Image Quality** button until the **Auto** and **Text** lamps are lit. The SDF/DSDF Lead Edge Registration setting is displayed. To change the setting, press the **Copy Quantity** buttons. An increase of 1 produces a shift of 0.1 mm. To move the image toward the lead edge of the paper, enter a lower number. To move the image away from the lead edge of the paper, enter a higher number. Press the **Clear** button to exit and store the new setting.
50-[10]	Center Offset Adjustment: Paper Tray1 and Paper Tray 2	00 to 99	50	-	**Paper Tray 1:** Press the **Image Quality** button until the **Auto** and **Paper Tray 1** lamps are lit. **Paper Tray 2:** Press the **Image Quality** button until the **Auto** and **Paper Tray 2** lamps are lit. The Center Offset setting is displayed. To change the Center Offset setting, press the **Copy Quantity** buttons. An increase of 1 produces a shift of 0.1 mm. To shift the image toward the front of the machine, increase the number. To shift the image toward the rear of the machine, decrease the number. Press the **Clear** button to exit and store the new setting.
50-[10]	Center Offset Adjustment: Print Position Alternate Paper Tray	00 to 99	50	-	Press the **Image Quality** button until the **Auto** and **Alternate Tray** lamps are lit. The Center Offset setting is displayed. To change the Center Offset setting, press the **Copy Quantity** buttons. An increase of 1 produces a shift of 0.1 mm. To shift the image toward the front of the machine, increase the number. To shift the image toward the rear of the machine, decrease the number. Press the **Clear** button to exit and store the new setting.

Table 1 Adjustment Codes

Code	Function	Range	Default	ADJ	Description
50-[10]	Center Offset Adjustment: Scan Scan from SDF / DSDF	00 to 99	50	-	Press the **Image Quality** button until the **Auto, Text** and **Photo** lamps are lit. The Center Offset setting is displayed. To change the Center Offset setting, press the **Copy Quantity** buttons. An increase of 1 produces a shift of 0.1 mm. To shift the image toward the front of the machine, decrease the number. To shift the image toward the rear of the machine, increase the number. Press the **Clear** button to exit and store the new setting.
50-[10]	Center Offset Adjustment: Scan Scan from Document Glass	00 to 99	50	-	Press the **Image Quality** button until the **Auto** and **Text** lamps are lit. The Center Offset setting is displayed. To change the Center Offset setting, press the **Copy Quantity** buttons. An increase of 1 produces a shift of 0.1 mm. To shift the image toward the front of the machine, decrease the number. To shift the image toward the rear of the machine, increase the number. Press the **Clear** button to exit and store the new setting.
50-[18]	Duplex Copy lead edge registration (Pro 16p and Pro 215)	00 to 99	50	-	When this diagnostic code is entered, the current value is displayed on the Control Console. *NOTE: A setting of either 00 or 50 provides no correction.* Enter the new correction value with the **Copy Quantity** 10's button and press the **Start** button. A copy will be made. Evaluate the copy. When the setting is acceptable, press the **Clear** button to store the value and exit Diagnostics. **1 to 2 Mode:** In 1 to 2 copying mode, a setting that is greater than 50 increases the distance from the lead edge of the paper to the image on side 1. A setting of less than 50 decreases the distance from the lead edge of the paper to the image on side 1. The image position on side 2 does not change. **2 to 1 Mode:** In the 2 to 1 copying mode, a setting that is greater than 50 decreases the distance from the lead edge of the paper to the image on side 2. A setting of less than 50 increases the distance from the lead edge of the paper to the image on side 2. The image position on side 1 does not change.

<p style="text-align: center;">Table 1 Adjustment Codes</p>

Code	Function	Range	Default	ADJ	Description
50-[19]	Lead Edge Deletion, Duplex Mode (Pro 16p and Pro 215)	00 to 99	50	-	Use this diagnostic code to increase or decrease the Lead Edge Deletion of side one or side two of duplex copies. When a 1 to 2 job is run, the lead edge deletion is made to side one. When a 2 to 2 job is run, the lead edge deletion is made to side two. 1. Press the **Image Quality** button until the Text LED illuminates. The current value is displayed on the Control Console. *NOTE: A value of either 00 or 50 provides no correction.* 2. Enter a new correction value with the **Copy Quantity** buttons and press the **Start** button. A copy will be made. 3. Evaluate the copy. If the Lead Edge Deletion of Side Two still is not acceptable, enter a new correction value and press the **Start** button. Continue adjusting the setting until it produces an acceptable result. 4. When the deletion is acceptable, press the **Clear** button to store the value and exit Diagnostics.
51-[02]	Registration Buckle: Paper Tray1 and/ or Paper Tray 2	00 to 99	50	-	**Paper Tray 1:** Press the **Image Quality** button until the **Auto** and **Paper Tray 1** lamps are lit. **Paper Tray 2:** Press the **Image Quality** button until the **Auto** and **Paper Tray 2** lamps are lit. The setting for the selected Paper Tray is displayed in the Copy Quantity display and the LED for the selected magnification is lit. To change the setting, select the desired magnification, then press the **Copy Quantity** buttons. To increase the buckle, increase the number. To decrease the buckle, decrease the number. Press the **Clear** button to exit and store the new setting(s).
51-[02]	Registration Buckle: Alternate Paper Tray	00 to 99	50	-	Press the **Image Quality** button until the **Auto** and **Alternate Paper Tray** lamps are lit. The Alternate Paper Tray setting is displayed in the Copy Quantity display and the LED for the selected magnification is lit. To change the setting, select the desired magnification, then press the **Copy Quantity** buttons. To increase the buckle, increase the number. To decrease the buckle, decrease the number. Press the **Clear** button to exit and store the new setting(s).

Table 1 Adjustment Codes

Code	Function	Range	Default	ADJ	Description
51-[06]	SDF Exposure Correction	00 to 99	50	-	The current setting for SDF Exposure is displayed when this diagnostic code is entered. If the copy output is acceptable when copies are run from the Document Glass but is consistently either too light or too dark when run from the SDF, make the appropriate adjustment below: Increase the setting to obtain darker copy output. Decrease the number to obtain lighter copy output. To change the setting, press the copy quantity buttons until the new value is displayed, then press the **Start** button. The new value is stored and a copy is made. If necessary, repeat the process until the output has the desired density. Press the **Clear** button to store the setting and exit the Diagnostic mode.

Configuration Codes

These codes allow the displaying or changing of various machine configurations.

Table 1 Configuration Codes

Code	Function	Range	Default	ADJ	Description
22-[14]	PROM version	-	-	-	When the **Start** button is pressed after entering 22-[14], the PROM version displays as three digits on the Copy Quantity display.
26-[01]	Tray Configuration	0 or 1	-	-	When the **Start** button is pressed after entering 26-[01], the current tray configuration (0 or 1) is displayed: 0 = Single sheet bypass 1 = Alternate Tray To change the configuration, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.
26-[02]	SDF Setting	0 or 1 or 2	-	-	When the **Start** button is pressed after entering 26-[02], the current SDF configuration (0, 1 or 2) is displayed: 0 = Without SDF 1 = With SDF 2 = With DSDF To change the configuration, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.
26-[03]	Paper Tray 2 setting	0 or 1	-	-	When the **Start** button is pressed after entering 26-[03], the current Paper Tray 2 configuration (0 or 1) is displayed: 0 = Without Paper tray 2 1 = With Paper tray 2 To change the configuration, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.
26-[04]	Duplex setting	0 or 1	-	-	When the **Start** button is pressed after entering 26-[04], the current duplex configuration (0 or 1) is displayed: 0 = Without Duplex 1 = With Duplex To change the configuration, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.
26-[06]	Paper size type	0 or 1	-	-	When the **Start** button is pressed after entering 26-[06], the current paper size configuration (0, 1 or 2) is displayed: 0 = Inch series 1 = AB series 2 = Japan AB Series To change the configuration, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.

Table 1 Configuration Codes

Code	Function	Range	Default	ADJ	Description
26-[07]	Copy output speed	10, 12, 15 cpm	-	-	When the **Start** button is pressed after entering 26-[07], the machine copy rate is displayed. This setting cannot be changed through the Control Panel. To determine the copy rate for the machine, refer to the section Copier/Printer Specifications.
26-[20]	Trail edge deletion	0 or 1	0	-	When 26-[20] is entered, the currently active code number (0 or 1) is displayed: 0 = Trail edge deletion is allowed 1 = Trail edge deletion is not allowed To change the configuration, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.
26-[30]	CE mark application	0 or 1	0	-	When 26-[30] is entered, the currently active code number (0 or 1) is displayed: 0 = CE mark application control off 1 = CE mark application control on To change the configuration, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.
26-[38]	Drum cartridge life end	0 or 1	0	-	When 26-[38] is entered, the currently active code number (0 or 1) is displayed: 0 = End of life disabled 1 = End of life enabled To change the configuration, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.
26-[39]	Memory capacity (Main PWB)	0, 1, 2	-	-	When 26-[39] is entered, the currently active code number (0, 1 or 2) is displayed: 0 = No memory 1 = 4 Mbyte 2 = 6 Mbyte To change the configuration, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.
26-[40]	Polygon motor off time setting	0, 1, 2, 3	-	-	When 26-[40] is entered, the currently active code number (0, 1, 2 or 3) is displayed. 0 = 0 seconds 1 = 30 seconds 2 = 60 seconds 3 = 90 seconds To change the configuration, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.

Table 1 Configuration Codes

Code	Function	Range	Default	ADJ	Description
26-[54]	CRUM setting for Pro 16p only	0 or 1	0	-	When 26-[54] is entered, the currently active code number (0 or 1) is displayed. 0 = CRUM enabled 1 = CRUM disabled To change the configuration, press the **Copy Quantity** "ones" button until the desired code is displayed, then press the **Start** button.
26-[55]	CRUM setting for Pro 215 only	001, 004, 010 or 040	N/A	-	001 = Standard 004 = Convert to Third Party 010 = Sold 040 = Metered

Total Copy Count Read

1. Enter diagnostics.
2. Record the total copy count.
   a. Enter code 22-[05].
   b. The copy count will flash 3 digits at a time, 2 times (6 digits), then repeat the sequence indefinitely. The most significant digits will flash first.

   For example, $000 \rightarrow 234$ (Example shows a Copy count of 234.)
   c. The display will pause about 1 second between counts.
3. To end the copy count read, press the **Clear** button.

Drum Cartridge Count Read

1. Enter diagnostics.
2. Record the drum cartridge copy count.
   a. Enter code 22-[12].
   b. The drum count will flash 3 digits at a time, 1 times (6 digits), then repeat the sequence indefinitely. The most significant digits will flash first.

      For example, 000 → 234 (Example shows a drum count of 234.)
   c. The display will pause about 1 second between counts.
3. To end the drum count read, press the **Clear** button.

Drum Cartridge Count Clear

1. Enter diagnostics.
2. Enter code 24-[07].
3. Press the **Start** button.
4. The drum cartridge count will reset to 0.
5. Exit diagnostics.

GP1 Image on Photoreceptor

1. Open the document cover and prepare the copier to make a copy of Side B of the Standard Test Pattern (82P524).

2. Leaving the document cover open, press the **Start** button. (The carriage will begin to scan.) Open the copier or turn off the power when the carriage reaches the center. This will cause a paper jam.

3. Clear the paper jam, being careful not to disturb the image on the photoreceptor.

4. Observe the image on the photoreceptor.

5. Repeat steps 1 through 4 two more times, or as required.

Fax Diagnostics Menu Selections

To enter fax diagnostics, refer to Entering/Exiting Fax Diagnostics. To access a diagnostic mode in the menu when the **SELECT MENU (< >)** message is displayed, press the right or left arrow key and scroll to the selection, then press the **Enter** key.

The fax diagnostics menu selections are listed and defined in Table 1. For operating instructions, go to Fax Diagnostic Modes Operating Procedures.

Table 1 Fax Diagnostic Menu Selections

Menu LCD Display	Mode	Function
01 SOFT SWITCH	Set soft switch(es)	Use this menu selection to enter the Soft Switch Setting mode.
02 SOFT SW CLEAR	Clear soft switch settings	Use this mode to reset the soft switch settings to the factory defaults. Soft switches that contain adjustments are not reset when this mode is selected.
03 ROM/RAM CHECK	ROM & RAM check	Use this mode to perform a ROM checksum and RAM read/write test. Test results are indicated in the LCD and by a buzzer: No error: NO ERROR / No buzzer ROM error: ROM ERROR / Buzzer once RAM error: RAM ERROR / Buzzer twice
04 SIGNAL SEND	Signal send	Use this mode to send signals to the line. The fax signal is sent at the level that is set with the soft switch. The types of signals that can be sent are listed in Table 2.
10 IMAGE MEM CLEAR	Image memory clear	Use this mode to clear the image data memory (DRAM).
14 DIAL TEST 10 PPS	Dial test / adjustment (Pulse 10 pps)	Use this mode to dial in dial pulse at 10 pps and to set the pulse make ratio adjustment value. Make ratio variable range: -8% to +7% The setup is reflected on the adjustment value area of the soft switch. The dialed number is fixed to: 1590
16 DIAL TEST TONE	Dial test (Tone)	Use this mode to dial with DTMF. The dialed number is fixed at: 123456789*0#
21 PRINT SOFT SW	Print out soft switch	Use this mode to print the report of the current soft switch settings.
42 FAX PANEL TEST	Fax panel test	Use this mode to test the keys and the LEDs on the Fax control panel. When any key on the fax control panel other than the Stop key is pressed, the name of the pressed key is displayed in the LCD. The LEDs on the fax panel illuminate one by one sequentially. When any sensor in the SDF is actuated, the sensor name and its ON/OFF state are displayed on the LCD.
43 SIG DETECT	Signal detect	This mode is used to detect signals in the line. The detected signal name is displayed on the LCD. The signals to be detected are CNG, DTMF, and silent. The detection conditions conform to the soft switch setting.
44 LONG DIST COMM	Long distance communication	Use this mode to specify one touch / speed dial numbers that are prone to communications errors due to poor line conditions. To the specified parties, the transmission speed will be reduced to stabilize the communication line. Available speeds are: 9600bps and 4800bps.

Table 2 Signal types in Signal Send Mode

No.	Signal Type	Signal
1	No signal	OFF-HOOK state
2	DTMF	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, *, #
3	14400 bps (V.17)	00000000b, 11111111b, 01010101b
4	12000 bps (V.17)	00000000b, 11111111b, 01010101b
5	9600 bps (V.17)	00000000b, 11111111b, 01010101b
6	7200 bps (V.17)	00000000b, 11111111b, 01010101b
7	9600 bps (V.29)	00000000b, 11111111b, 01010101b

Table 2 Signal types in Signal Send Mode

No.	Signal Type	Signal
8	7200 bps (V.29)	00000000b, 11111111b, 01010101b
9	4800 bps (V27ter)	00000000b, 11111111b, 01010101b
10	2400 bps (V27ter)	00000000b, 11111111b, 01010101b
11	300 bps (FLAG)	00000000b, 11111111b, 01010101b
12	2100 Hz (CED)	
13	1100 Hz (CNG)	

Fax Diagnostic Modes Operating Procedures

Table 1

Step	Procedure	LCD	Operation
1	Enter fax diagnostics (press **Menu, 9, *, 8, #, 7** on the Fax Control Panel)	DIAGNOSTIC MODE ROM VERSION = <version>	---
2	Press the **Enter** key	DIAGNOSTIC MODE SELECT MENU (< >)	---
3	Press **0, 1**	The machine enters the Soft Switch Setting Mode and the LCD displays: SW # =	---
4	Enter the two digits of the Soft Switch number to be changed. *Example: Enter 1 then 0 to access Soft Switch 10, Language*	SW # = 10	---
5	Press **the right or the left arrow key (< >)** to move the cursor to the bit to be changed. **NOTE:** *Bit 1 is at the left.* *Example: Select the bit that must be changed to switch from the American English to the French language.*	SW 10 = 00110000 bit # = 12345678	---
6	Press the **Menu** key to highlight the bit and change its state.	SW 10 = 00110001 bit # = 12345678	---
7	Press the **Enter** key to register the change.	SW # =	Press the **Stop** button to exit from the mode or return to Step 3 and enter a new soft switch number to change another setting.

02 Soft Switch Clear Mode

Table 2

Step	Procedure	LCD	Operation
1	Enter fax diagnostics (press **Menu, 9, *, 8, #, 7**)	DIAGNOSTIC MODE ROM VERSION = <version>	---
2	Press the **Enter** key	DIAGNOSTIC MODE SELECT MENU (< >)	---

Table 2

Step	Procedure	LCD	Operation
3	Press **0, 2**	02:SOFT SW CLEAR 1:OK 2:CANCEL	---
4	Press **1**	DIAGNOSTIC MODE SELECT MENU (< >)	The soft switches setup is reset to the default and this mode is terminated.

03 ROM & RAM Check Mode

NOTE: *If running the ROM & RAM Check Mode results in a ROM Failure or RAM Failure, power the machine off and on to clear the message and resume copier/printer operation,*

Table 3

Step	Procedure	LCD	Operation
1	Enter fax diagnostics (press **Menu, 9, *, 8, #, 7**)	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press the **Enter** key	DIAGNOSTIC MODE SELECT MENU (< >)	
3	Press **0, 3**	03:ROM/RAM CHECK	
4	(Normal case) (RAM error) (ROM error)	ROM/RAM OK RAM ERROR ROM ERROR	 Two short beeps One short beep

04 Signal Send Mode

Table 4

Step	Procedure	LCD	Operation
1	Enter fax diagnostics (press **Menu, 9, *, 8, #, 7**)	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press the **Enter** key	DIAGNOSTIC MODE SELECT MENU (< >)	
3	Press **0, 4**	04:SIGNAL SEND SELECT SIGNAL	
4	Press < or > repeatedly until the desired target signal appears on the LCD.	<signal type> PRESS ENTER KEY	For <signal type>, refer to Table 5 .
5	When the target signal is displayed, press the **Enter** key.		mode # = 1 to 10 mode # = 2 to 20 mode # = 3 - 6 to 30 mode # = 7 to 40
10		1:NO SIGNAL	The relay is turned on.
11	Press the **Stop/Exit** key.	04:SIGNAL SEND SELECT SIGNAL	The relay is turned OFF. "NO SIGNAL" mode terminates.
12	Press the **Stop/Exit** key to terminate this mode.		The mode terminates.
20		2:DTMF DTMF # =	

Table 4

Step	Procedure	LCD	Operation
21	Press any NUM key (0 - 9) or * or #.	2:DTMF DTMF # = \<pressed keys\>	The DTMF signal that corresponds to the pressed key is sent.
22	Press the **Stop/Exit** key.	2:DTMF DTMF # =	
23	To continue, go to Step 21.		
	To change the signal kind, press the **Stop/Exit** key.	04:SIGNAL SEND SELECT SIGNAL	
	To terminate this mode, press the **Stop/Exit** key two times.		The mode terminates.
30		\<signal type\> SELECT SPEED	
31	Press < or > to select the target speed.	\<signal speed\> PRESS ENTER KEY	For \<signal speed\>, refer to Table 6 .
32	Press the **Enter** key when the target speed is displayed.	\<signal speed\> SELECT DATA	
33	Press < or > to select the target data to be sent.	\<data\> PRESS ENTER KEY	For \<data\>, refer to Table 7 .
34	When the target data is displayed, press the **Enter** key.	\<signal speed\> \<data\>	The selected signal is sent.
35	Press the **Stop/Exit** key.	\<signal speed\> SELECT DATA	Signal send stop
36	To change data only, go to Step 33.		
	To change speed, press the **Stop/Exit** key.	\<signal type SELECT SPEED	
	To change the signal kind, press the **Stop/Exit** key two times.	04:SIGNAL SEND SELECT SIGNAL	
	To terminate this mode, press the **Stop/Exit** key three times.		The mode terminates.
40		7:TONE SELECT FREQUENCY	
41	Press < or > to select the target frequency.	\<signal freq.\> PRESS ENTER KEY	For \<signal freq.\>, refer to Table 6 .
42	When the target frequency is displayed, press the **Enter** key.	\<signal freq.\>	The selected signal is sent.
43	Press the **Stop/Exit** key.	7:TONE SELECT FREQUENCY	Signal send stop
44	To change the frequency only, go to Step 41.		
	To change the signal kind, press the **Stop/Exit** key.	04:SIGNAL SEND SELECT SIGNAL	
	To terminate the mode, press the **Stop/Exit** key two times.		The mode terminates.

Table 5 Signals in the Signal send mode

MODE #	MENU	Display
1	No Signal	1:NO SIGNAL
2	DTMF	2:DTMF
3	V.17	3:V.17

Table 5 Signals in the Signal send mode

MODE #	MENU	Display
4	V.29	4:V.29
5	V27ter	5:V27ter
6	FLAG	6:FLAG

Table 5 Signals in the Signal send mode

MODE #	MENU	Display
7	Tone (CED, CNG)	7:TONE

Table 6 Speed/Frequency in the Signal send mode

MODE #	MENU ITEM 1	MENU ITEM 2	MENU ITEM 3	MENU ITEM 4
3	1:V.17 14400BPS	2:V.17 12000BPS	3:V.17 9600BPS	4:V.17 7200BPS
4	1:V.29 9600BPS	2:V.29 7200BPS		
5	1:V27ter 4800BPS	2:V27ter 2400BPS		
6	1:FLAG 300BPS			
7	1:TONE 2100Hz	2:TONE 1100Hz		

Table 7 Data sent in the Signal send mode

MODE #	MENU (DATA)	DISPLAY
1	00000000b	1:00000000b
2	11111111b	2:11111111b
3	01010101b	3:01010101b

10 Image Memory Clear Mode

Table 8

Step	Procedure	LCD	Operation
1	Enter fax diagnostics (press **Menu, 9, *, 8, #, 7**)	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press the **Enter** key	DIAGNOSTIC MODE SELECT MENU (< >)	
3	Press **1, 0**	10:IMAGE MEM CLEAR 1:OK 2:CANCEL	
4	Press **1**	DIAGNOSTIC MODE SELECT MENU (< >)	The image data are cleared and the mode terminates.

14 Dial Test / Adjustment Mode (Pulse 10 PPS)

Table 9

Step	Procedure	LCD	Operation
1	Enter fax diagnostics (press **Menu, 9, *, 8, #, 7**)	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press the **Enter** key.	DIAGNOSTIC MODE SELECT MENU (< >)	
3	Press **1, 4**	14:DIAL TEST 10 PPS MAKE RATIO = ##%	The current make ratio setup is displayed.
4	Press < or >.		Press < to decrease by 1%. Press > to increase by 1%.
5	Press the **Enter** key.		"1590" is dialed

Table 9

Step	Procedure	LCD	Operation
6	Adjustment/test end: Press the **Stop/Exit** key. To continue adjustment/test: Return to Step 4		The mode terminates.

16 Dial Test Mode (Tone)

Table 10

Step	Procedure	LCD	Operation
1	Enter fax diagnostics (press **Menu, 9, *, 8, #, 7**)	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press the **Enter** key.	DIAGNOSTIC MODE SELECT MENU (< >)	
3	Press **1, 6**	16:DIAL TEST TONE	"123456789*0#" is dialed. The mode terminates.

21 Print Out Soft Switch Mode

Table 11

Step	Procedure	LCD	Operation
1	Enter fax diagnostics (press **Menu, 9, *, 8, #, 7**)	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press the **Enter** key.	DIAGNOSTIC MODE SELECT MENU (< >)	
3	Press **2, 1**	21: PRINT SOFT SW	The soft switch list prints. The mode terminates.

42 Fax Panel Test Mode

Table 12

Step	Procedure	LCD	Operation
1	Enter fax diagnostics (press **Menu, 9, *, 8, #, 7**)	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press the **Enter** key.	DIAGNOSTIC MODE SELECT MENU (< >)	
3	Press **4, 2**	42:FAX PANEL TEST	
4	Press any key on the Fax Control Panel	42:FAX PANEL TEST <key name>	The name of the key that is pressed is displayed on the lower line of the LCD.
5	Press the **Stop/Exit** key.		The mode terminates.

43 Signal Detect Mode

Table 13

Step	Procedure	LCD	Operation
1	Enter fax diagnostics (press **Menu, 9, *, 8, #, 7**)	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press the **Enter** key.	DIAGNOSTIC MODE SELECT MENU (< >)	
3	Press **4, 3**	43:SIG. DETECT	
4	When DTMF signal is detected.	43:SIG. DETECT DTMF:<number>	
	When CNG signal is detected.	43:SIG. DETECT CNG	
	When QUIET signal is detected.	43:SIG. DETECT QUIET	
	To terminate this mode, press the **Stop/Exit** key.		The mode terminates.

44 Long Distance Comm Select Mode

NOTE: One-touch keys and speed dials which are not registered cannot be designated.

NOTE: When one-touch keys and speed dials which are registered are cancelled, this setup is also cancelled.

NOTE: The group key and the polling key cannot be registered.

Table 14

Step	Procedure	LCD	Operation
1	Enter fax diagnostics (press **Menu, 9, *, 8, #, 7**)	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press the **Enter** key.	DIAGNOSTIC MODE SELECT MENU (< >)	
3	Press **4, 4**	44:LONG DIST COMM 1:SET 2:CLEAR	Press the **Stop/Exit** key to terminate this mode.
4	Select the mode.		To register > 10 To cancel registration > 20
10	Press **1**.	SET ENTER # OR RAPID	
11	Press the desired one-touch key or the speed dial (2 digits) to be registered.	SELECT SPEED 1:9600BPS 2:4800BPS	
12	Press **1** or **2** to select the speed.	<Name or Number> STORED	
13	Return to Step 3.		
20	Press **2**.	CLEAR ENTER # OR RAPID	
21	Press the desired one-touch key or speed dial (2 digits) to be cancelled.	<Name or Number> CLEARED	

Table 14

Step	Procedure	LCD	Operation
22	Return to Step 3.		

Table 1 Soft Switch 01 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
1	1	300dpi reception enable	Use to enable/disable 300 x 300dpi reception. 1 = Enable 0 = Disable	0
	2	200 x 400dpi reception enable	Use to enable/disable 200 x 400dpi reception 1 = Enable 0 = Disable	1
	3 4 5	Maximum modem reception speed	Use to limit the maximum reception speed of the modem to 14400bps, 12000bps, 9600bps, 7200bps, 4800bps, 2400bps. For settings, go to Table 2	1 1 0
	6 7 8	Maximum modem sending speed	Use to limit the maximum sending speed of the modem to 14400bps, 12000bps, 9600bps, 7200bps, 4800bps, 2400bps For settings, go to Table 3	1 1 0

Table 2 Maximum modem speed in reception

Bit No.	14400 BPS	12000 BPS	9600 BPS	7200 BPS	4800 BPS	2400 BPS
3	1	1	0	0	0	0
4	1	0	1	1	0	0
5	0	0	1	0	1	0

Table 3 Maximum modem speed in sending

Bit No.	14400 BPS	12000 BPS	9600 BPS	7200 BPS	4800 BPS	2400 BPS
3	1	1	0	0	0	0
4	1	0	1	1	0	0
5	0	0	1	0	1	0

Soft Switch 02 Settings

Table 4 Soft Switch 02 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
2	1 2 3 4	Silent detection threshold value	Use to set the silent detection threshold value in the answering and recording mode. Threshold = 8 x Bit1 + 4 x Bit2 + 2 x Bit3 + 1 x Bit4 Factory setting = 8	1 0 0 0
	5 6 7 8	Silent detection start time	Use to set the silent detection start time in the answering and recording mode. The time that is set is the time from connection of the line to silent detection start. TIME = 8 x Bit5 + 4 x Bit6 + 2 x Bit7 + 1 x Bit8 Factory setting = 8 x 0 + 4 x 1 + 2 x 0 + 1 x 1 = 5 sec.	0 1 0 1

Soft Switch 03 Settings

Table 5 Soft Switch 03 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
3	1 2 3 4	CNG detection threshold value (AUTO, MANUAL mode)	Use to set the CNG signal detection threshold value. Threshold = 8 x Bit1 + 4 x Bit2 + 2 x Bit3 +1 x Bit4 Factory setting = 8	0 0 1 1
	5 6 7 8	CNG detection threshold value (A. M. mode)	Use to set the required number of times of CNG detection for recognition of CNG signal one time. Threshold = 8 x Bit1 + 4 x Bit2 + 2 x Bit3 +1 x Bit4 Factory setting = 8	0 0 1 1

Soft Switch 04 Settings

Table 6 Soft Switch 04 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
4	1 2	Silent detection end time	Use to set the silent detection end time in the answering and recording mode. The time set with this switch is the time from the last call sound to the silent detection end. For settings, go to Table 7 .	0 1
	3 4	Number of CNG detection times	Number of times = 2 x Bit5 + 1 x Bit6 + 1 Factory setting = 2 x 1 + 1 x 0 + 1 = 3	1 0
	5, 6, 7	Reserved	---	all bits 0
	8	Answering and recording mode signal detection filter	Use to select the CNG signal detection filter in the answering and recording mode. 1: Type 2 0: Type 1	0

Table 7 Silent detection end time settings

Bit No.	No Limit	60 sec	45 sec	30 sec
1	1	1	0	0
2	1	0	1	0

Soft Switch 05 Settings

Table 8 Soft Switch 05 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
5	1	Maximum reception length	Use to specify the maximum length of received fax documents. When this function is enabled, a reception length of 1.5m or above is treated as a communication error. 1 = No limit 0 = 1.5m	0 1
	2,3	Reserved	---	both bits 0

Table 8 Soft Switch 05 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
	4	Line monitor	When this function is enabled, the sound of the line under the fax session can be heard.	0
	5		For settings, go to Table 9 .	0
	6	Protocol monitor (LCD)	When this function is enabled, the signal name under the Fax session is displayed on the LCD in real time. 1 = ON 0 = OFF	0
	7	Protocol Monitor (Report)	When this function is enabled, the detailed report on communication is provided after completion of Fax sending or reception.	0
	8		For settings, go to Table 10 .	0

Table 9 Line Monitor settings

Bit No.	Always ON	Error Only	OFF
4	1	0	0
5	0	1	0

Table 10 Protocol Monitor (Report) settings

Bit No	Always ON	Error Only	OFF
7	1	0	0
8	0	1	0

Soft Switch 06 Settings

Table 11 Soft Switch 06 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
6	1	Signal send level	Use this mode to set the Fax signal send level. The effective set range is -1 dBm to -16 dBm. The values are estimates because they are affected by DAA. Level = -8 x Bit1 -4 x Bit 2 -2 x Bit3 -0 x Bit4 -1 dBm Factory setting = -9 dBm (set for each destination) When modem speed is greater than or equal to 7200 bps: If the setting is -1 Or -2 dBm, the level is forced to -3 dBm.	1
	2			0
	3			0
	4			0
	5,6	Reserved	---	both bits 0
	7	Dial tone detection	Use to turn dial tone detection ON/OFF before dialing for Fax sending. When this function is set to ON, dialing is started after the detection of the dial tone. When this function is set to OFF, dialing is started after the setting for the "Interval between OFF-HOOK and dial send" regardless of dial tone detection. 1 = ON 0 = OFF	0

Table 11 Soft Switch 06 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
	8	Busy tone detection	Use this function to turn busy tone detection ON or OFF. When this function is set to ON and the busy tone is detected, the transmission is interrupted and the machine enters the redial mode. 1 = ON 0 = OFF	1

Soft Switch 07 Settings

Table 12 Soft Switch 07 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
7	1 2 3 4	Reception sensitivity offset	Use this function to set the Fax signal reception level offset. The set range is -8dBm to +7 dBm. The values are estimates because they are affected by DAA. When "Auto reception sensitivity adjustment" is set to Enable, this setup is disabled. Sensitivity offset = -8 x Bit1 +4 x Bit2 + 2 x Bit3 + Bit4 dBm Factory setting = 0 dBm	0 0 0 0
	5	Auto reception sensitivity adjustment	When this function is set to Enable, the modem automatically adjusts the received signal gain. 1 = Enable 0 = Disable	1
	6 7	Transmission Line Equalizer	Use this function to set the signal send level frequency characteristics. This function is provided to absorb the difference in frequency characteristics between lines. When communication problems occur frequently, another equalizer must be selected. For settings, go to Table 13 and Table 14 .	0
	8	Reserved	---	0

Table 13 Transmission Line Equalizer settings (frequency)

Frequency	None	Equalizer 1	Equalizer 2	Equalizer 3
500	0	+1.2	-1.0	-1.5
1000	0	-0.4	-1.1	-4.1
1500	0	-0.4	-0.6	-3.6
2500	0	+0.7	+0.9	+2.4
3000	0	+2.5	+2.5	+4.9

Table 14 Transmission Line Equalizer settings (bits)

Bit No.	None	Equalizer 1	Equalizer 2	Equalizer 3
6	0	0	1	1
7	0	1	0	1

Soft Switch 08 Settings

Table 15 Soft Switch 08 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
8	1	Non-modulation carrier send in V.29	Non-modulation carriers are not required for V.29 modem transmission in ITU-TS standards. However, non-modulation carriers can be sent in advance to image signals. This function helps avoid communication problems due to echoes in overseas communication. 1 = ON 0 = OFF	0
	2	CED tone signal interval	Use this function to set the time interval between the CED signal and the NSF signal. This function helps avoid communication problems due to echoes in overseas communication. 1 = 500 msec 0 = 75 msec	0
	3	Communication error process when receiving RTN	Use this function to set the communication error process for received RTN when there is an error in transmitted image data and RTN is returned. 1 = No transmission error 0 = Transmission error	1
	4	NSF receive acknowledge	Use this function to select between DIS signal recognition at 2-time reception of DIS signal and DIS signal recognition at DIS signal reception after NSF signal. This function helps avoid communication problems due to echoes in overseas communication. 1 = Twice 0 = Once for NSF reception. Twice for DIS reception	0
	5	EOL detection timer	Use this function to set the EOL (End of Line) detection time to either 25 sec or 5 sec. This function helps avoid communication errors due to the long EOL of certain models. 1 = 25 sec 0 = 5 sec	0
	6,7	Reserved	---	both bits 0
	8	ECM	Use this function to turn ECM ON or OFF. 1 = ON 0 = OFF	1

Soft Switch 09 Settings

Table 16 Soft Switch 09 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
9	1 2	Interval between OFF-HOOK and dial send	Use this function to set the delay from OFF-HOOK when starting dialing to actual send start of the dial signal. If the dial tone detection function is enabled, this setup is ignored. For settings, go to Table 17 .	1 1
	3-8	Reserved		all bits 0

Table 17 Delay from OFF-HOOK to send start

Bit No.	0 sec	1 sec	2 sec	3 sec
1	0	0	1	1
2	0	1	0	1

Soft Switch 10 Settings

Table 18 Software Switch 10 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
10	1,2	Reserved	---	both bits 0
	3	2-line OR circuit in scanning	Use this function to Enable or Disable the 2-line OR circuit in scanning. If set to Enable, OR of two lines of images scanned in the fine resolution is used to form data of one line when scanning a Fax document in the standard resolution. If set to Disable, the data scanned in the standard resolution are used to form the data of one line. However, when scanning in the standard resolution, filter processes such as edge emphasis are not performed. 1 = Enable 0 = Disable	1
	4	Basic resolution	Use this function to select the basic resolution for scanning and printing. 1 = Inch series 0 = Metric series	0
	5	Reserved	---	0
	6 7 8	Language	Use this function to select the language that is displayed on the LCD and reports. For North America: Language 1 = American English Language 2 = French Language 3 = Spanish For settings, go to Table 19 .	0 0 0

Table 19 Language bit settings

Bit No.	Language 1	Language 2	Language 3
6	0	0	0
7	0	0	1
8	0	1	0

Soft Switch 11 Settings

Table 20 Soft Switch 11 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
11	1	Header	Use this function to set the header attachment to the transmitted document. 1 = Not Attached 0 = Attached	0
	2	Header in data transfer	Use this function to set the header attachment to the transferring document. 1 = Not attached 0 = Attached	0
	3	Training (EQM) threshold value	Use this function to select the threshold value used to judge the Success/Failure of training in reception of training. 1 = Easy to fall back 0 = Normal	0
	4	Reserved	---	0
	5	Error judgement threshold value in Non ECM	Use this function to select the threshold value to judge the Success/Failure of image data reception in non-ECM reception. 1 = Easy to cause an error 0 = Normal	0
	6, 7, 8	Reserved	---	All bits 0

Soft Switch 12 Settings

Table 21 Soft Switch 12 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
12	1 2 3 4 5	Activity report auto listing time	Use this function to set the start time of the Activity Report. Setup is made in units of one hour; setup can not be made in minutes. Print start time = Bit1 x 16 + Bit2 x 8 + Bit3 x 4 + Bit4 x 2 + Bit5 hour 00 min Set range = 0 - 23 Factory setting = 00:00	0 0 0 0 0
	6, 7, 8	Reserved	---	0

Soft Switch 16 Settings

Table 22 Soft Switch 16 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
16	1	RING signal frequency check	Use this function to select the allowable frequency range of the RING signal. This function is used in the production process to perform a communication test using a simple switchboard. 1 = To be checked 0 = Not to be checked	1
	2 - 8	Reserved	---	all bits 0

Soft Switch 17 Settings

Table 23 Soft Switch 17 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
17	1 2 3 4	Pulse dial signal make ratio adjustment (10 PPS)	Use this function to adjust the make ratio of the 10PPS pulse dial signal. The set range is -8% to +7%. Offset = -8 x Bit1 + 4 x Bit2 + 2 x Bit3 + 1 x Bit4 % Factory setting = 0 %	0 0 0 0
	5 - 8	Reserved	---	all bits 0

Soft Switch 21 Settings

Table 24 Soft Switch 21 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
21	1 2	Record paper size	Use this function to set the reception document size and the report output paper size. When set to Auto, the paper size is automatically selected according to the data size and the reduction ratio in reception. For settings, go to Table 25.	1 1
	3	Picture quality priority selection	Use this function to set the default resolution in sending. 1 = Fine 0 = Standard	0
	4	Reserved	---	0
	5 6 7 8	Number of reception start calls	Use this function to set the number of calls before reception in the auto reception mode. Number = 8 x Bit5 + 4 x Bit6 + 2 x Bit7 + 1 x Bit8 rings Set range = 0 - 9	0 0 1 0

Table 25 Record paper size

Bit No.	Letter	Legal	A4	Auto
1	0	0	1	1
2	0	1	0	1

Soft Switch 22 Settings

Table 26 Soft Switch 22 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
22	1 2 3 4	Number of auto reception select	Use this function to set the number of calls before reception in the manual reception mode. This setup is used as a backup function when the external telephone does not respond. Number = 8 x Bit1 + 4 x Bit2 + 2 x Bit3 + 1 x Bit4 rings Set range = 0 (= OFF), 1 - 9	0 0 0 0
	5	Reserved	---	0
	4	Reserved	---	0
	6 7 8	Result list print	Use this function to set the printing conditions for the result list after the completion of communication. For settings, go to Table 27.	1 0 0

Table 27 Result list settings

Bit No.	Always	Err/Tim	Send	Never	Error
6	0	0	0	0	1
7	0	0	1	1	0
8	0	1	0	1	0

Soft Switch 23 Settings

Table 28 Soft Switch 23 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
23	1 2 3 4	Number of redial attempts	Use this function to set the number of redial attempts when sending fails to complete normally due to a busy status or a communication error. The set range is OFF and 1 to 14 times. For some communication errors, the number of redial times must be set to a smaller level. Redial attempts = 8 x Bit1 + 4 x Bit2 + 2 x Bit3 + 1 x Bit4 Set range = 0 (= Off), 1 - 14	0 0 1 0
	5 6 7 8	Redial interval	Use this function to set the redial interval when a transmission fails to complete normally due to a busy status or a communication error. Redial interval = 8 x Bit5 +4 x Bit6 +2 x Bit7 +1 x Bit8 min Set range = 1 - 15	0 1 0 1

Soft Switch 24 Settings

Table 29 Soft Switch 24 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
24	1 2 3 4	Remote select number	Use this function to select the first digit of the select request signal when selecting from the external telephone to Fax reception. Number = 8 x Bit1 + 4 x Bit2 + 2 x Bit3 +1 x Bit4 Set range = 0 - 9	0 1 0 1
	5	Remote reception	Use this function to set whether "Remote select number" + "*" from an external telephone is detected and switched to Fax reception or not. 1 = ON 0 = OFF	1
	6	Fax signal reception	Use this function to set whether the CNG signal is detected during OFF-HOOK and switched to Fax reception or not. 1 = ON 0 = OFF	1
	7	Auto cover page	Use this function to attach or not attach a cover page to the last page in every transmission. 1 = ON 0 = OFF	0
	8	Reserved	---	0

Soft Switch 25 Settings

Table 30 Soft Switch 25 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
25	1 2 3	Record list auto print	Use this function to set the interval for the automatic printing of the record list. For settings, go to Table 31.	0 0 0
	4	Reserved	---	0
	5	Reduction ratio in reception	Use this function to set the magnification ratio for printing received documents. When AUTO is selected, the ratio is automatically determined according to the received document size and the output paper. 1 = 100% 0 = AUTO	0
	6	Reserved	---	0
	7 8	Communication end buzzer time	Use this function to set the duration of the buzzer sound at the completion of communication. For settings, go to Table 32 .	0 0

Table 31 Settings for interval for automatic printing of record list

Bit No.	OFF	1 day	2 days	4 days	1 week
1	0	0	0	0	1

Table 31 Settings for interval for automatic printing of record list

Bit No.	OFF	1 day	2 days	4 days	1 week
2	0	0	1	1	0
3	0	1	0	1	0

Table 32 Settings for duration of buzzer sound

Bit No.	3 seconds	1 second	No Beep
7	0	0	1
8	0	1	0

Soft Switch 26 Settings

Table 33 Soft Switch 26 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
26	1 2 3	Buzzer sound volume	Use this function to set the volume of all buzzers except call ring. For settings, go to Table 34.	0 1 0
	4	Key click sound	Use this function to turn ON or OFF the key click sound that is made when a key is pressed on the Fax Control Panel. 1 = ON 0 = OFF	1
	5 6 7	Incoming ring volume	Use this function to set the call ring volume. For settings, go to Table 35.	0 1 0
	8	Reserved	---	0

Table 34 Buzzer sound volume settings

Bit No.	MAX	HIGH	MED	LOW	MIN	OFF
1	0	0	0	0	1	1
2	0	0	1	1	0	0
3	0	1	0	1	0	1

Table 35 Incoming ring volume settings

Bit No.	MAX	HIGH	MED	LOW	MIN	OFF
1	0	0	0	0	1	1
2	0	0	1	1	0	0
3	0	1	0	1	0	1

Soft Switch 27 Settings

Table 36 Soft Switch 27 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
27	1 2 3	Distinctive ring	Use this function to set the RING signal pattern to start Fax reception with Distinctive Ring. For settings, go to Table 37.	1 1 0
	4	Reserved	---	0
	5	Footer	Use this function to turn ON or OFF the footer on printed received documents. 1 = ON 0 = OFF	0
	6	Reserved	---	0
	7	Telephone line kind	Use this function to specify the kind of telephone line, either TONE or PULSE 1 = TONE 0 = PULSE	Tone
	8	Reserved	---	0

Table 37 RING signal pattern settings

Bit No.	1	2	3	4	5	Standard	OFF
1	0	0	0	0	1	1	1
2	0	0	1	1	0	0	1
3	0	1	0	1	0	1	0

Soft Switch 28 Settings

Table 38 Soft Switch 28 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
28	1 2 3 4	Answering and recording mode silent detection time	Use this function to set the silent detection time in the answering and recording mode. The set range is OFF and 1 to 10 sec. Time = 8 x Bit1 + 4 x Bit2 + 2 x Bit3 +1 x Bit4 sec Effective = 0 (= OFF), 1 - 10	0 1 0 1
	5	Answering and recording mode auto reception function	Turn this function ON if the machine fails to start fax reception automatically. When set to ON, the machine will start fax reception after six rings. Turn this function OFF to automatically start fax reception. 1=ON 0=OFF	0
	6	Junk fax prevention function	Use this function to turn the Junk fax prevention feature ON or OFF. 1 = ON 0 = OFF	0

Table 38 Soft Switch 28 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
	7	Polling function	Use this function to set one-touch key 20 as the polling key. 1 = ON 0 = OFF	0
	8	Reserved	---	0

Soft Switch 29 Settings

Table 39 Soft Switch 29 Settings

SW Number	Bit Number	Item	Soft SW Setting and Function	Factory Setting
29	1 2	Paper size (Main Paper Tray)	Use this function to specify the paper size in the Main Paper Tray. For settings, go to Table 40.	LTR
	3	Reserved	---	0
	4 5	Paper size (Tray 2)	Use this function to specify the paper size in Paper Tray 2. For settings, go to Table 41.	LTR for inch series LTR
	6, 7	Reserved	---	0
	8	Index print	Use this function to turn index marking ON or OFF . 1 = ON 0 = OFF	1

Table 40 Paper size (Main Paper Tray)

Bit No.	Letter	Legal	A4	Other
1	0	0	1	1
2	0	1	0	1

Table 41 Paper size (Tray 2)

Bit No.	Letter	Legal	A4	Other
1	0	0	1	1
2	0	1	0	1

Programmable Settings

Features 0-9 & 11-21

To change a programmable setting, refer to Table 1.

NOTE: Programmable features can only be accessed while the copier is in the Ready mode.

1. Press the **Image Quality** button until the Toner Save LED illuminates.
2. Press the **Image Quality** button again and hold it for 4 to 6 seconds.

   The Auto LED illuminates and the three red LEDs (Jam, Toner Cartridge indicator, Photo-receptor) flash.
3. Press the Copy Quantity "10's" button to select the program number of the feature to be changed.

   NOTE: You will not be given the choice to change an option if the copier is not equipped with the feature.
4. Press the **Start** button.

   The current setting for the program will flash.
5. Press the 1's-unit button until the desired option number is displayed.
6. Press the **Start** button to store the selection.
7. Press the **Clear** button to continue making other changes, or press the **Image Quality** button to return to Ready mode.

Feature 10

To change the programmable feature, refer to Table 1.

NOTE: Programmable features can only be accessed while the copier is in the Ready mode.

1. Press the **Image Quality** button until the Toner Save LED illuminates.
2. Press the **Image Quality** button again and hold it for 4 to 6 seconds.

   The Auto LED illuminates and the three red LEDs (Toner Cartridge, Drum Cartridge, Paper Jam) flash.
3. Press the "10's" button until the number 10 is displayed.

   NOTE: You will not be given the choice to change an option if the copier is not equipped with the feature.
4. Press the **Start** button.

   The current reduction/enlargement setting will flash.
5. Press the **Zoom-Up** or **Zoom-Down** button until the desired percentage is displayed.
6. Press the **Start** button to store the selection.
7. Press the **Clear** button to make more changes or press the **Image Quality** button to return to Ready mode.

Table 1 Programmable Features Settings

Program Number	Program	Option Number and Option
0	Priority Tray	0 - Main paper tray (default) 1 - Alternate paper tray 2 - Tray 2

Table 1 Programmable Features Settings

Program Number	Program	Option Number and Option
1	Auto Clear Time Out	0 - Off 1 - 30 seconds 2 - 60 seconds (default) 3 - 90 seconds 4 - 120 seconds
2	Time-out to Power Save	0 - Off 1 - 45 seconds 2 - 90 seconds (default) 3 - 2 minutes 4 - 5 minutes
3	Time-out to Power Shut-Off	0 - 2 minutes 1 - 5 minutes (default) 2 - 15 minutes 3 - 30 minutes 4 - 60 minutes 5 - 120 minutes 6 - Off
4	Default Magnification	0 - 100% (default) 1 - 99% 2 - 101%
5	Default Image Quality	0 - Auto Exposure (default) 1 - Text 2 - Photo 1
6	Auto Contrast Adjustment	0 - Lightest 1 - Lighter 2 - Normal (default) 3 - Darker 4 - Darkest
7	Paper Trail Edge Deletion (4 mm)	0 - On (default) 1 - Off
9	SDF Auto Start (Pro 16fx)	0 - On (default) 1 - Off
9	DSDF Auto Start (Pro 16p and Pro 215)	0 - On 1 - Off (default)
10	R/E Preset	50 - 200% 50% (default)
11	Auto Paper Tray Switching	0 - On 1 - Off (default)
12	SDF Contrast Adjustment	0 - lightest 1 - lighter 2 - Normal (default) 3 - darker 4 - darkest

Table 1 Programmable Features Settings

Program Number	Program	Option Number and Option
14	Return to Print Mode Time Out	0 - 60 seconds (default) 1 - 90 seconds 2 - 120 seconds 3 - 150 seconds 4 - 180 seconds 5 - Off - no time out
16	Drum Cartridge Life Remaining	Percent (0-100)
17	Default 1-sided/2-sided Mode *(Pro 16p and Pro 215)*	0 - 1 to 1 default 1 - 1 to 2 2 - 2 to 2 3 - 2 to 1
Default copy paper size for 2-sided copying from the document glass:		
18	Top Paper Tray Default	0 - 8.5 x 14 1 - 8.5 x 13 2 - 8.5 x 12.4 3 - A4/ 210 x 297mm 4 - 8.5 x 11 (default) 5 - B5/ 182x 257mm 6 - 5.5 x 8.5 7 - A5/ 148 x 210mm
19	Lower Paper Tray Default	0 - 8.5 x 14 1 - 8.5 x 13 2 - 8.5 x 12.4 3 - A4/ 210 x 297mm 4 - 8.5 x 11 (default) 5 - B5/ 182x 257mm 6 - 5.5 x 8.5 7 - A5/ 148 x 210mm
20	Printer configuration list *(Pro 16p and Pro 215)*	0 - English 1 - French 2 - Spanish 3 - Italian 4 - German 5 - Portuguese
21	Printer font list *(Pro 16p and Pro 215)*	0 - English 1 - French 2 - Spanish 3 - Italian 4 - German 5 - Portuguese

Physical Characteristics

Table 1 Machine Dimensions

Machine Dimensions	Width x Depth x Height
Pro 16fx Pro 16p Pro 215	20.4 x 19.3 x 18.3 inches (518 x 491 x 464 mm)

Table 2 Machine Weight

Machine Weight	(includes Drum Cartridge and Toner Cartridge)
Pro 16fx Pro 16p Pro 215	57.2 lbs. (26 kg)

Installation Space Requirements
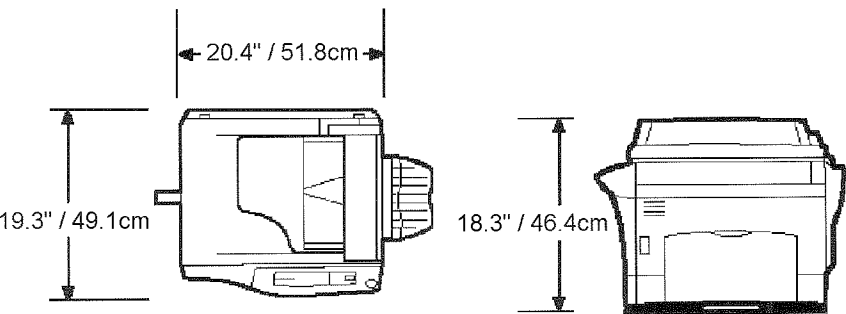
Figure 1 Physical Dimensions (Pro 16fx / Pro 16p / Pro 215)
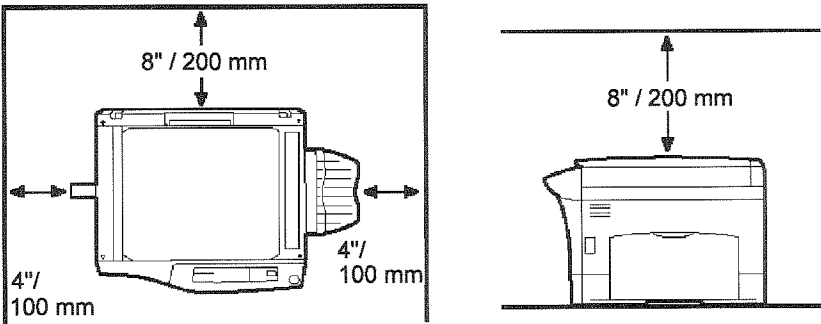
Figure 2 Minimum Clearances (All models)

Electrical Requirements

Table 1 Electrical Requirements

Electrical Requirements	120 VAC +/- 10%, 50/60 Hz, 9.5A
Power Consumption	MAX: 1.0 kW Standby: 14.3 Watts Shut-off: 20 Watts

Printer Driver Installation Requirements

Table 1

Computer Type	IBM PC/AT or Compatible Computer
Operating System	Windows 3.1x, Windows 95/98, Windows NT 4.0
CPU	486DX 66 MHz or better
PC RAM	8/16 MB
Printer RAM: Pro 16fx Pro 16p and Pro 215	 6 MB 8 MB installed expandable by EDO-DIMM to 16, 24, 40 or 72 MB

Connection:
 	
IEEE-1284 parallel cable (supplied)
USB Cable* (not supplied)
Ethernet Network Interface
(optional)(Pro 16p and Pro 215)
	
	Use an IEEE-1284 compliant cable only.
	
	Use a USB compliant cable only.
	
	Physical LAN Interface:
	  IEEE 802.3 Base-T
	Software/LAN Interface:
	  IPX
	  TCP/IP
	  NetBios
	  Ethertalk

* The parallel and USB ports should not be connected to the printer at the same time. The USB port is assigned a higher priority than the parallel port.

GP2 Add RAM to Pro 16p and Pro 215

The purpose of this procedure is to increase the **PCL Controller Memory** of the WorkCentre Pro 16p and Pro 215 from the installed 8 MB to 16 MB, 24 MB, 40 MB or 72 MB.

WARNING

Switch off the Main Power Switch before removing the small rear cover.

1. (Table 1): Ensure that the EDO-DIMM (Dual In-Line Memory Module) meets the recommended specifications.

Table 1 EDO-DIMM recommended specifications

Description	Recommendation
Type	EDO-DIMM
Package	168 pin

Dimensions:
    Height
    Width
	
	1 inch
	5.25 inches

Access Time	60 nanoseconds
Voltage	3.3 volts
Parity / No Parity	Type
Buffered / Unbuffered	Unbuffered
Single / Dual Bank	Single Bank
Size	8MB 16MB 40MB 64MB

2. (Figure 1): Prepare to install the EDO-DIMM.

2
Remove the screws
(2) and the DIMM
Connector Cover

1
Remove the
screw and the
Small Rear Cover
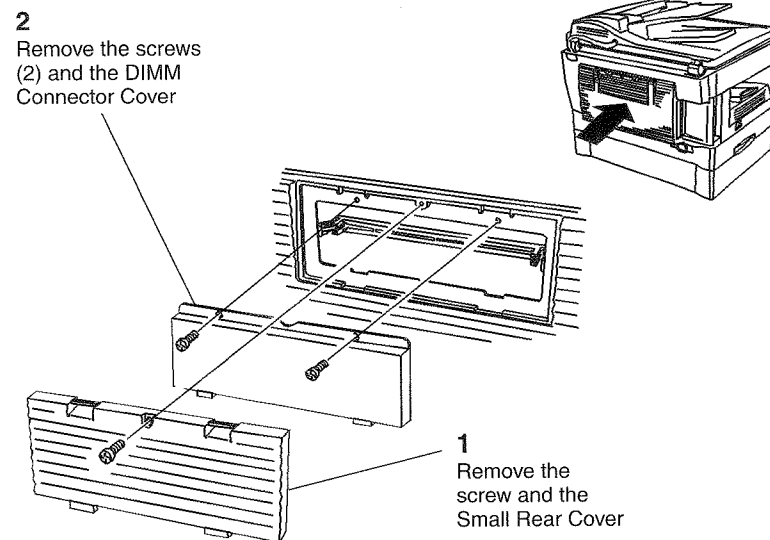
Figure 1 Preparing to install the EDO-DIMM

CAUTION

DIMMs are sensitive to static electricity. Keep the DIMM in its packaging until the DIMM connector is exposed and wear a ground strap during installation. If a ground strap is not available, discharge static electricity from your body by touching the metal PCL PWB Cover before handling the DIMM.

CAUTION

Avoid touching the DIMM connectors. Handle the DIMM by the edges only.

CAUTION

Do not force the EDO-DIMM into the connector; it should slip easily into position and then snap in place.

3. (Figure 2): Install the EDO-DIMM.

NOTE: The ejector tabs close automatically as the DIMM is seated

2
Open the ejector tabs

3
Align the keyed areas on the DIMM with the connector protrusions and install the DIMM by pushing it straight in

1
Attach a ground strap
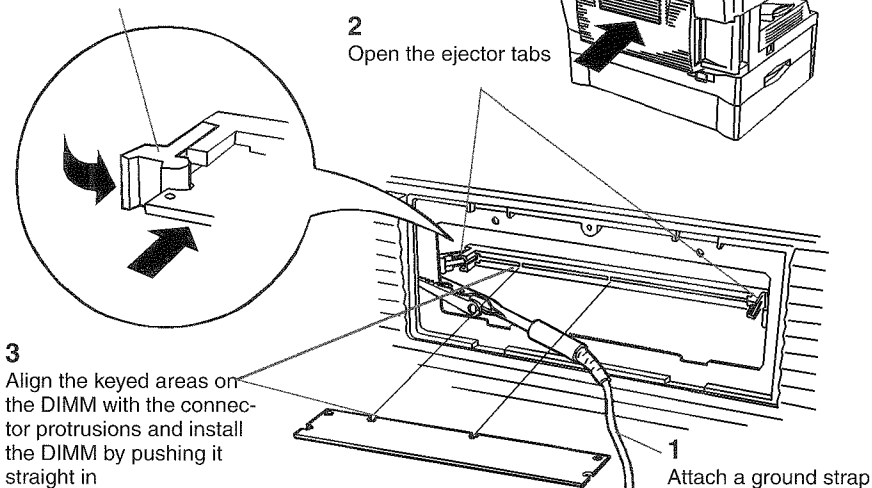
Figure 2 Installing the EDO-DIMM

4. Switch on the WorkCentre.

*NOTE: The Device Options tab can also be accessed by selecting **File > Print > Properties** from Windows-compatible application software.*

5. Click on the Windows **Start** button and make the following selections:
   Settings > Printers.
   The **Printers** window will appear.
6. Double click on the name of the appropriate Xerox WorkCentre Pro 16p PCL (5e or 6) printer.
   The **Xerox WorkCentre Pro PCL** window will appear.
7. On the menu bar, select **Printer**, and then select **Document Defaults** from the pull down menu.
   The **Xerox WorkCentre Pro PCL Default** window will appear.
8. Select the **Device Options** tab and verify that the Installed Memory is correct. The installed memory should be equal to the 8 MB base memory plus the added EDO-DIMM memory.

Copier/Printer Specifications

Table 1 Copier Capabilities

Original Size	Document Glass: 10" x 14" maximum (B4) SDF / DSDF: 10" x 14" (B4) maximum
SDF / DSDF Capacity	30 pages, 20 lb/80 gsm 15 lb - 24 lb (56 -90 gsm)
Copy Ratio Percentages	1:1 +/- 1% Preset: 50, 78, 86, 100, 129, 200, one customer settable Zoom: 50 - 200%
Copy Paper Size and Weight	
Tray 1 and Tray 2	5.5x8.5" / A5 to 8.5x14" / 216x356mm 15-24 lb / 56-90 gsm
Alternate Tray	3.5x5.5" / A6 to 8.5x14 / 216x356mm 8.5x14" / 216x356mm 14-34 lb / 52-130 gsm
Copy Rate	15 cpm at 600 dpi, 8-1/2" x 11 / A4 and smaller, same size originals
Print Rate:	
Pro 16fx	8 ppm at 600 dpi, 8-1/2" x 11 / A4 and smaller, same size originals
Pro 16p and Pro 215	15 ppm at 600 dpi, 8-1/2" x 11 / A4 and smaller, same size originals
Paper Tray Capacity:	
Tray 1	250 sheets, 20 lb/80 gsm
Tray 2	250 sheets, 20 lb/80 gsm
Alternate Paper Tray	50
First copy output time	9 seconds (warm) 23 seconds (cold)
Warm up time	less than 23 seconds
Restrictions: Paper Stock	Feed recycled paper, labels, or transparencies one sheet at a time. Use labels and transparencies which are specifically designed for copiers (high temperatures).

WorkCentre Pro 16fx Fax Specifications

Compatibility	ITU-T G3
Telephone line	PSTN
Dial mode	Pulse (10 pps), tone
Distinctive ringing	6 different patterns available
Modem rate	14,400 bps with automatic fallback to 12,000, 9,600, 7,200, 4,800, or 2,400 bps
Compression method	MH, MR, MMR
Transmission time	Approximately 6 seconds
Memory	2 megabytes of RAM (approximately 120 pages/A4 @ 5% area coverage)
Sending document size	Document Glass: B4 SDF: Maximum = 10.1" x 19.7" / 257 x 500mm (when feeding a single sheet), 10" x 14" / B4 (when feeding multiple originals) Minimum = 5.5" x 8.5" / A5
Recording paper size	A4, letter, legal
Set Document Feeder (SDF)	30 sheets
Resolution (Text mode)	Standard: 203,2 x 97.8 dpi Fine: 203.2 x 195.6 dpi Super Fine: 203.2 x 391.2 dpi
Resolution (Halftone mode)	203.2 x 195.6 dpi
Grayscale method (halftone)	Error diffusion
Grayscale level (halftone)	256 levels
Contrast	Light, Medium, Dark
Quick scan	14 pages per minute
Broadcasting	Destination: maximum of 50 different locations Destinations: selected from Rapid key, Speed Dial numbers, or Group keys
Polling	Modes: Polling others Polling from memory
Delayed faxing	3 types selectable: Standard, Memory Transmission, or Polling Others
Anti junk fax	Up to 10 numbers
Auto cover sheet	6 message types selectable: Urgent Important Confidential Pls. Distribute Pls. Call Back No Message

Table 1 Fax Specifications

Report	Transaction Power Fail Activity (send/receive)
Printable settings lists	Anti Junk Fax numbers timer group phone number optional setting

Supplemental Tools and Supplies

Table 1 Tools

Tool	Part Number
All Purpose Cleaner	XE - 8R90175
Antistatic Fluid	8R90275
Black Bag	95P2362
Bottom Pad	NASG/XCL/XE - 19P580
Cotton Swab	NASG - 35P2162
Cleaning Cloth	XE - 8R90019
Film Remover	NASG/XCL - 43P45
Formula A	NASG/XCL - 43P48 XE - 8R90175
General Cleaning Solvent	NASG - 43P78 XE - 8R90176
Fuser Lube	8R983
Turbine Oil	70P95
Heavy-Duty Towels	NASG/XCL - 35P3191
Lens and Mirror Cleaner	NASG/XCL - 43P81 or 43H12 XE - 8R901784
Lint-Free Cloth	NASG/XCL/XE - 600S4372
Oil	NASG/XCL - 70P23 XE - 70P95
Service Log Pouch	600K53510
Test Pattern	82P524 (NASG and XCL) 82P523 (XE) 82P12130 (NASG)

Table 2 Supplies

Supply Name	Part Number
Toner Cartridge	6R972
Drum Cartridge	13R563

Lot Number Identification

Drum Cartridge

Factory

Last digit of production year

Serial number

Production month
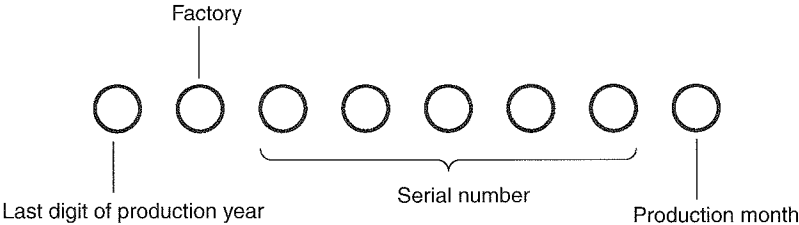
Figure 1 Drum Cartridge Lot Number Identification
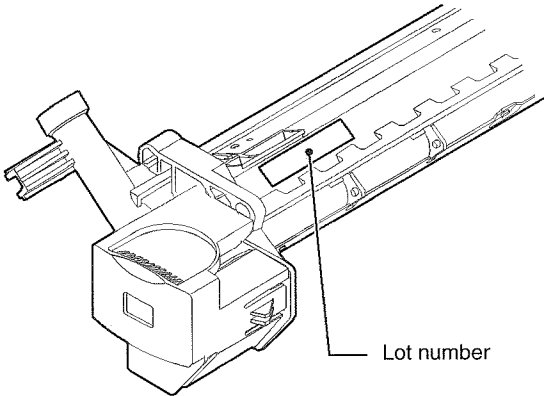
Lot number

Figure 2 Drum Cartridge Lot Number Label Location

Toner Cartridge

Destination

A

Last digit of production year

Serial number

Production month
(1, 2, 3, ... 0, X, Y)
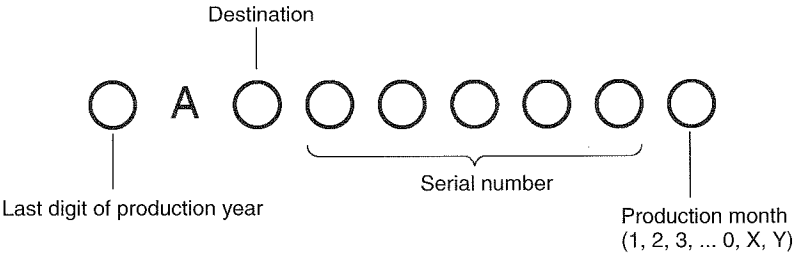
Figure 3 Toner Cartridge Lot Number Identification
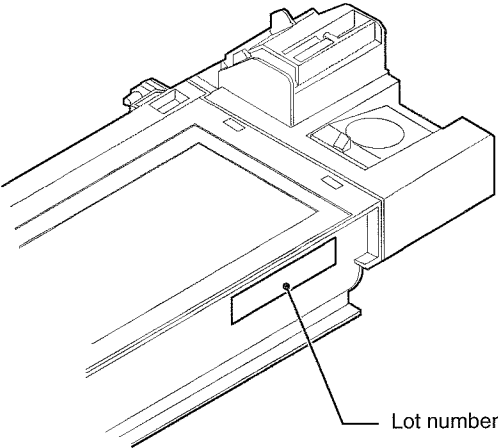
Lot number

Figure 4 Toner Cartridge Lot Number Label Location

General Service Notes

WorkCentre XD Series Toner Cartridge Yield

A small number of customers may complain that they are not getting 6000 copies from their toner cartridge.

The expected Toner Cartridge yield of 6000 copies is based on an average area coverage of six (6) percent per 8.5" X 11" (A4) copy. However, yield varies with area coverage of customer documents, document size, contrast setting, and percent of copies made with the document cover open. Therefore, the 6000 copies yield cannot be guaranteed.

It is important to understand that many of the customer's documents are greater than 6% area coverage. Any document which contains more area coverage than the samples represented in Figure 1 and Figure 2, will result in a yield of less than 6000 copies. Figure 3 and Figure 4 show examples of area coverage that exceeds 6 %.
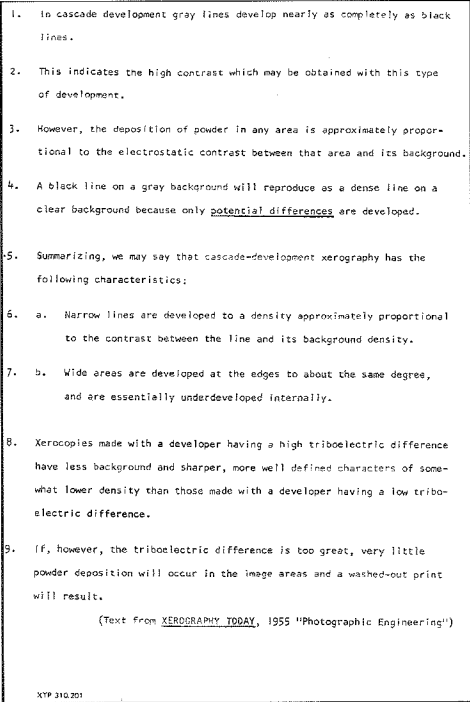
Figure 1 Three percent coverage
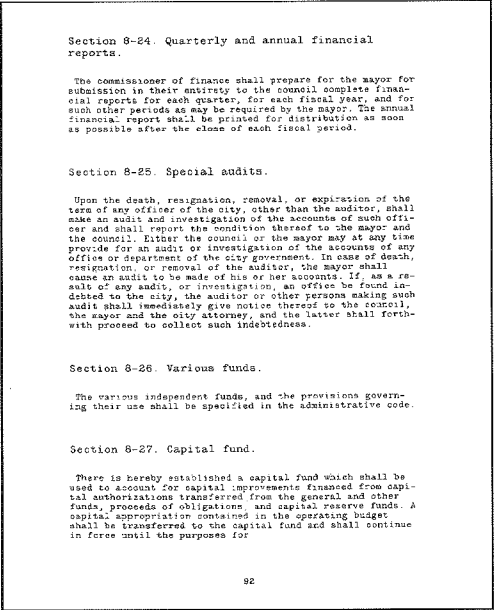
Figure 2 Five percent coverage

Figure 3 Eleven percent coverage

Figure 4 Twenty-three percent coverage

Fax Memory Usage Standard

The two megabytes of fax memory will hold approximately 120 pages (A4) at five percent area coverage. Figure 5 shows a five percent area coverage document that is a standard that originals can be compared with when the fax memory appears to be consumed too rapidly.
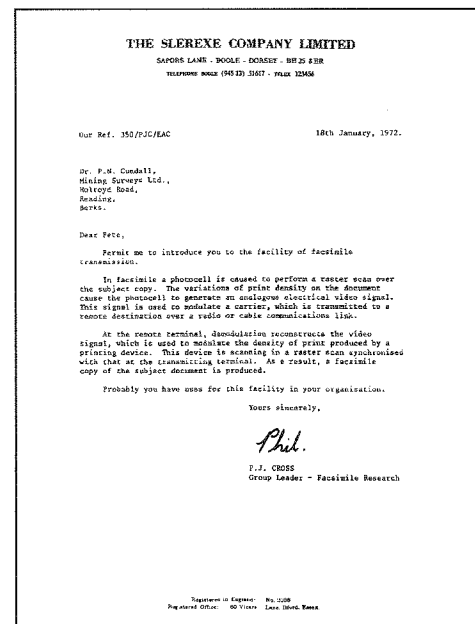

Figure 5 Fax five percent area coverage standard

Glossary of Terms

Table 1 Glossary of Acronyms and Terms

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 the type of current available at the power source for the machine.
ACT	Advanced Customer Training: A course that teaches customers to perform some of the service that is normally performed by a Xerox Service Representative.
A/D	Analog to Digital refers to a conversion of signal
ADJ	Adjustment Procedure
AO	Americas Operations
ACO	America Customer Operations
Baud	A unit of transmission and reception speed; in may cases equal to data bits oer second (bps).
Bit	Binary digit, either 1 or 0, representing an electrical state.
CCD	Charge Coupled Device (Photoelectric Converter)
CCITT	Consultative Committee for International Telegraphy and Telephony. The name of this organization has changed to the Interenational Telecommunications Union (ITU-T)
CD	Circuit Diagram
CED	Calling station identification
Chip	An Integrated Circuit (IC) (see Firmware)
CNG	Calling tone
CRUM	Customer Replaceable Unit Monitor
CSE	Customer Service Engineer
CVT	Constant Velocity Transport used in the SDF to move the document at scanning speed when the optics remain stationary
DC	Direct Current is the type of power the machine operates on. The machine converts AC power from the power source to DC power.
DIS	Digital Identification Signal
DMM	Digital Multimeter is a generic name for a meter that measures voltage, current, or electrical resistance and displays data in a digital display.
DRC	Delivery/Rigger Carrier
DSDF	Duplex Set Document Feeder. A document feeder capable of handling single and 2 sided originals.
DTMF	Dual tone multifrequency, enables senders to enter a subaddress number from a touch-tone phone, once a connection is made to the receiving fax machine.
Duplex	Two sided copies
ECM	Error Correction Mode
EEA	External Ethernet Adapter is used to connect the 214/212 DC/P to a network for access by more than one workstation.
EH/S	Environmental Health and Safety

Table 1 Glossary of Acronyms and Terms

Term	Description
EME	Electromagnetic Emissions are emitted from the machine during normal operation and the power of these emissions are reduced by machine design features.
EOM	End of message
EP	Environmental Partner
ESD	Electrostatic Discharge. A transfer of charge between bodies at different electro-static potential.
ESU	Electrostatic Set Up
FIA	Foreign Interface Accessory allows hardware such as a devise that accepts coins for copies (Coin-Op) or a Copytron/Auditron (a devise that enables copying with a plug in key) to be connected to the 214/212. Using the 214/212 as a printer is not possible in these applications.
FIRM-WARE	A Chip loaded with software identified by a date or revision.
FSMA	Full Service Maintenance Agreement
GDI	"Graphical Device Interface". Indicates that the device accepts data from a "PC" using the "Windows" operating system. Windows will do the majority of the processing that enables a document to be printed and will send it to the printer for output.
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
ITU-T	International Telecommunications Union (formerly CCITT)
KC	1000 copies
LCD	Liquid Crystal Display
LE	Lead Edge of the copy or print paper, with reference to definition of term TE
LED	Light Emitting Diode
LEF	Long Edge Feed
LPI	Lines per inch; resolution of facsimilie transmission
LVPS	Low Voltage Power Supply
MH	Modified Huffman, a one-dimensional compression method which abbreviates the coding of a 1,728-dot line on letter-size documents through short-hand coding of extended areas of white or black dots.
MMR	Modified Modified Read, an adaptation of Modified Read for use in digital environments (G/4 fax machines). MMR is faster than MR.
MR	Modified Read, a two-dimensional process that is faster than Modified Huffman. In addition to working horizontally, MR also works vertically, compressing like patterns in adjacent lines.
MN	Multinational
NASG	North American Solutions Group
NSF	Non Standard Facilities

Table 1 Glossary of Acronyms and Terms

Term	Description
NVM	Non Volatile Memory
OEM	Original equipment manufacturer
OGM	On-going Maintenance
PC	Personal Computer
PCL	"Printer Control Language". An "HP" developed printer control language. The computer or host will encode the image/document into PCL language. This information is sent to the printer where, the printer will do the majority of the processing as it decodes the information received and prints the image.
PCS	Publication Comment Sheet
PL	Parts List
PO	Part of (Assembly Name)
Polling	Calling a remote fax location to request a fax transmission.
PWB	Printed Wiring Board
PWS	Portable Work Station
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 the controller can read the information and it can write the 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 the component on the machine
ROM	Read Only Memory. A digital memory circuit that is designed to contain permanent software information. The name means that the controller on the PWB can only read the information from the ROM. The controller or any other device cannot change the values or send any software information to the ROM.
ROS	Raster Output Scanner - The devise that transfers the digitally processed image, using laser light, to the photoreceptor.
RTN	Retrain Negative
SAD	Solid Area Density
SDF	Set Document Feeder
SCP	Service Call Procedure
SEF	Short Edge Feed
Self-test	An automatic process that is used to check the Control Logic circuitry. Any fault that is detected during the self-test is displayed by a fault code or by LED's on the PWB.
SIMM	Single Inline Memory Module used in the Printer PWB to increase the printers printing capacity
Simplex	Single sided copies
Subaddress	Specifies a user beyond the standard telephone using a subaddress number.
TE	Trail Edge of the copy or print paper, with reference to definition of term LE

Table 1 Glossary of Acronyms and Terms

Term	Description
UM	Unscheduled Maintenance
UI	User Interface
US	United States
W/	With indicates a machine condition where the specified condition is present
W/O	Without indicates a machine condition where the specified condition is not present
XBRA	Xerox Brasil
XCL	Xerox Canada Limited
XE	Xerox Europe
XLA	Xerox Latin America

Plug/Jack Location Index

Plug / Jack Location Drawings

Block Schematic Diagrams

Plug / Jack Location Index

Table 1

P/J no.	LOCATION	FIG.
CN1	On Power supply PWB	7-1
CN2	On Power supply PWB	7-1
CN5	On Power supply PWB	7-1
CN6	On Power supply PWB	7-1
CN9	On Power supply PWB	7-1
CN10	On Power supply PWB	7-1
CN11	On Power supply PWB	7-1
CN1	On Main PWB	7-2
CN3	On Main PWB	7-2
CN4	On Main PWB	7-2
CN5	On Main PWB	7-2
CN6	On Main PWB	7-2
CN7	On Main PWB	7-2
CN9	On Main PWB	7-2
CN10	On Main PWB	7-2
CN11	On Main PWB	7-2
CN12	On Main PWB	7-2
CN13	On Main PWB	7-2
CN14	On Main PWB	7-2
CN15	On Main PWB	7-2
CN16	On Main PWB	7-2
CN17	On Main PWB	7-2
CN18	On Main PWB	7-2
CN20	On Main PWB	7-2
CN21	On Main PWB	7-2
CN22	On Main PWB	7-2
CN23	On Main PWB	7-2
CN25	On Main PWB	7-2
CN26	On Main PWB	7-2
CN27	On Main PWB	7-2
CN28	On Main PWB	7-2
CN30	On Main PWB	7-2
CN31	On Main PWB	7-2
CN115	On Main PWB	7-2
CN123	On Main PWB	7-2

Table 1

P/J no.	LOCATION	FIG.
P/J6	To Fuser Heat Rod	7-4
P/J7	To Fuser Jam Sensor	7-4
P/J8	To Fuser Thermistor RT1	7-4
P/J9	To Toner Cartridge	7-4

Plug / Jack Location Drawings
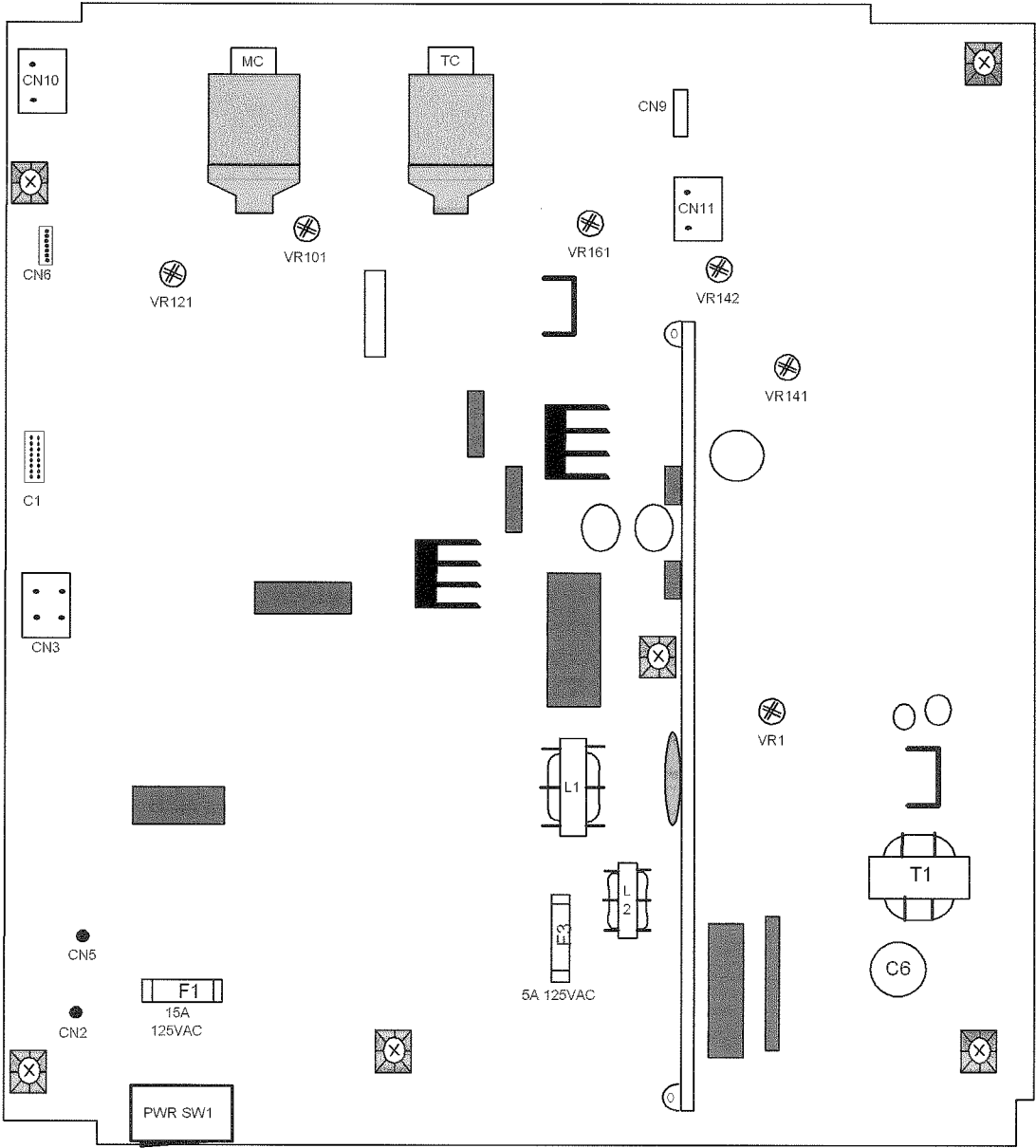
Figure 1 POWER SUPPLY PWB

Figure 2 MAIN PWB.

P/J 10

P/J 9
TONER
CARTRIDGE
P/J9

P/J 8

P/J 7

P/J 6

Tray Detect
Switch S2

Tray 2 Detect
Switch S5

REAR
VIEW
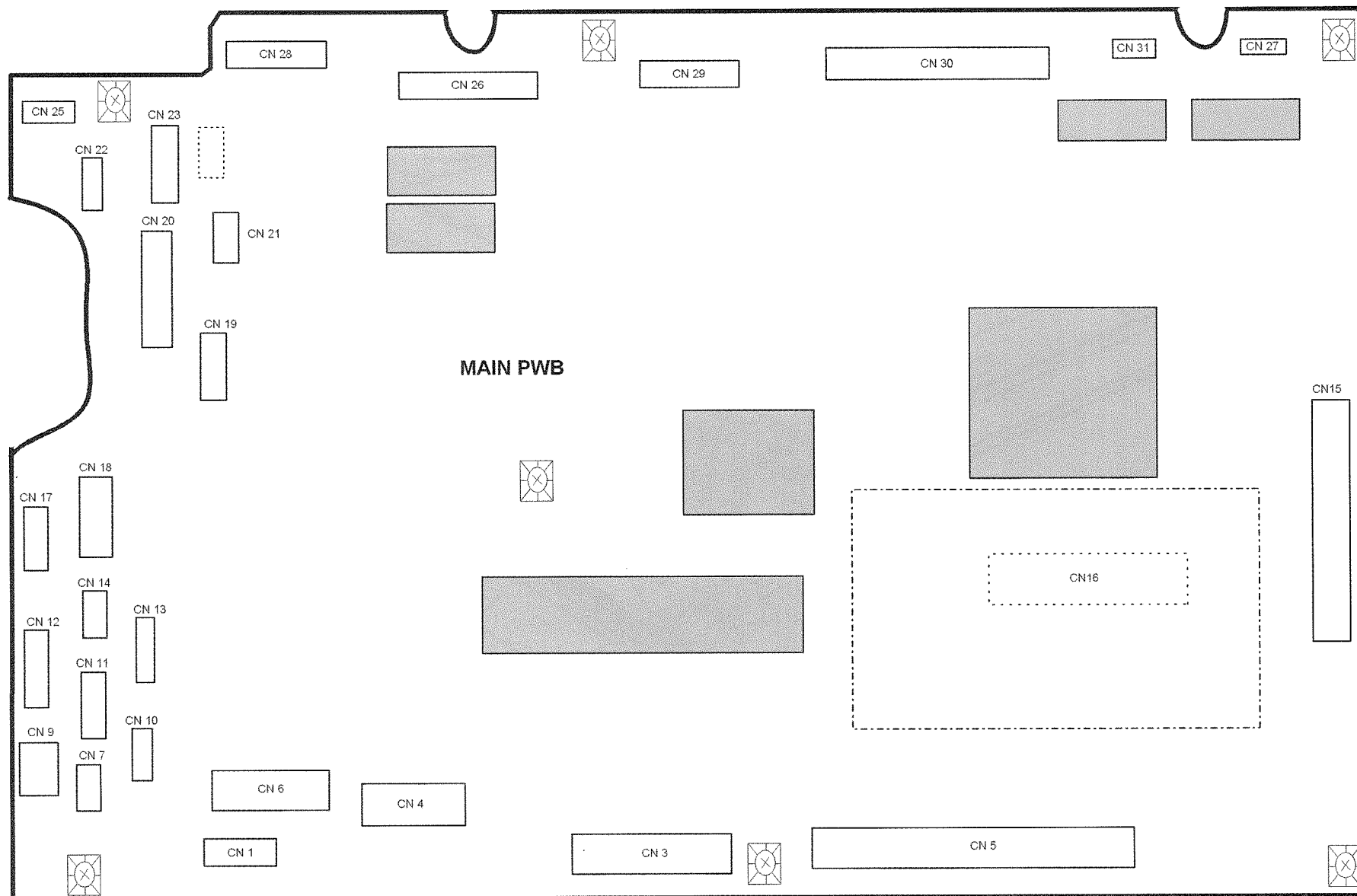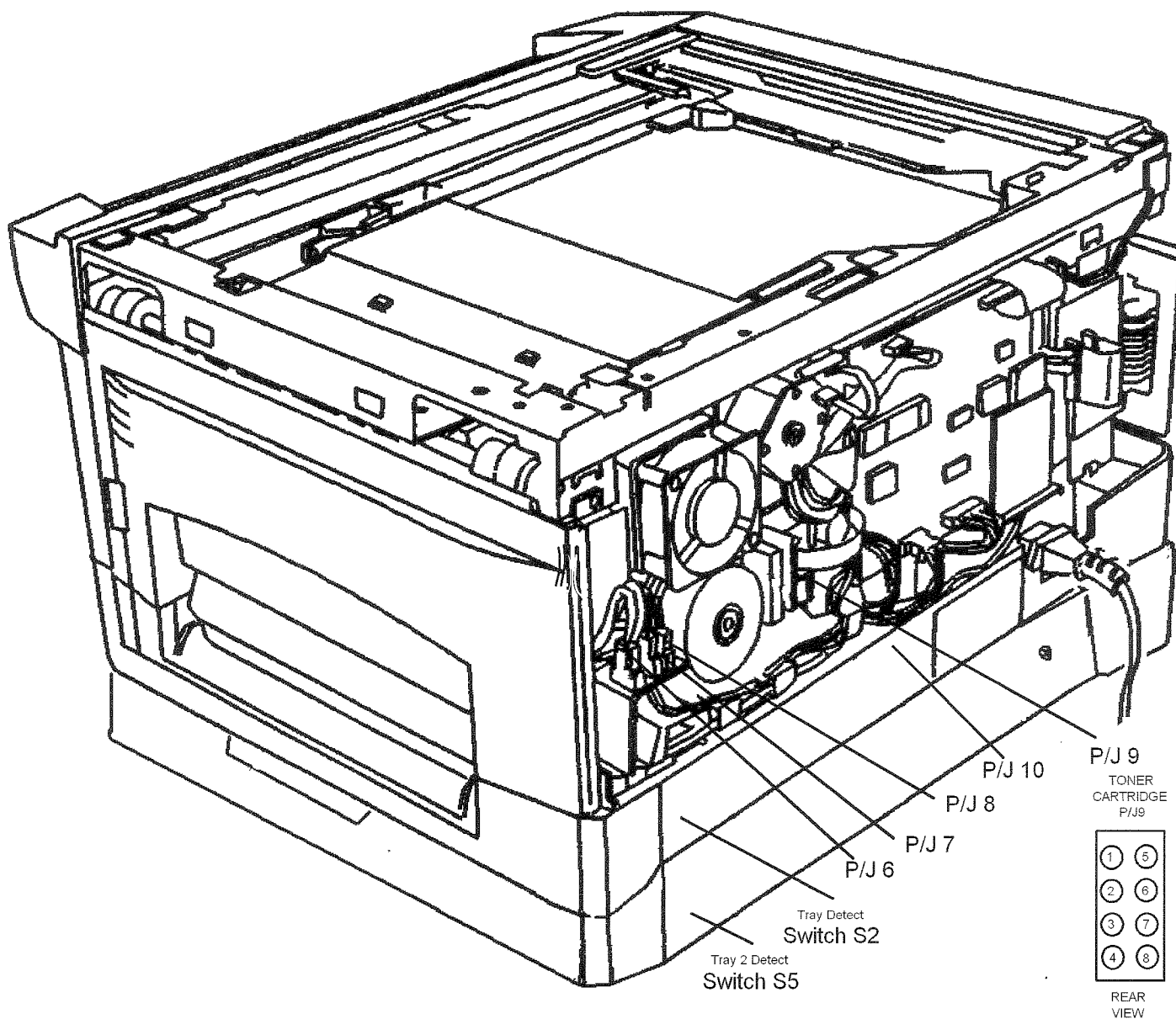
Figure 3 Machine P/J locations

Block Schematic Diagrams
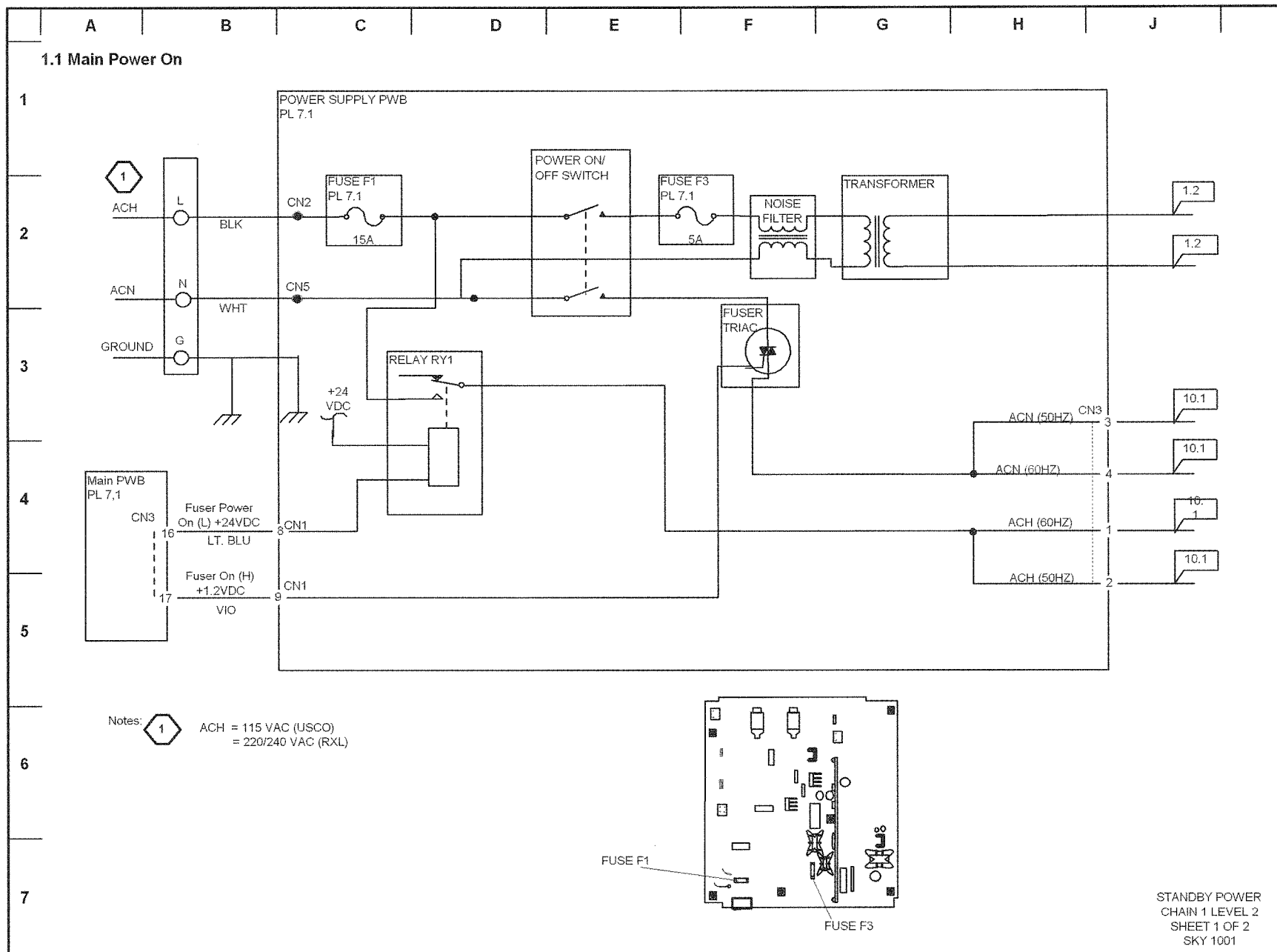
Figure 1 1.1 Main Power On
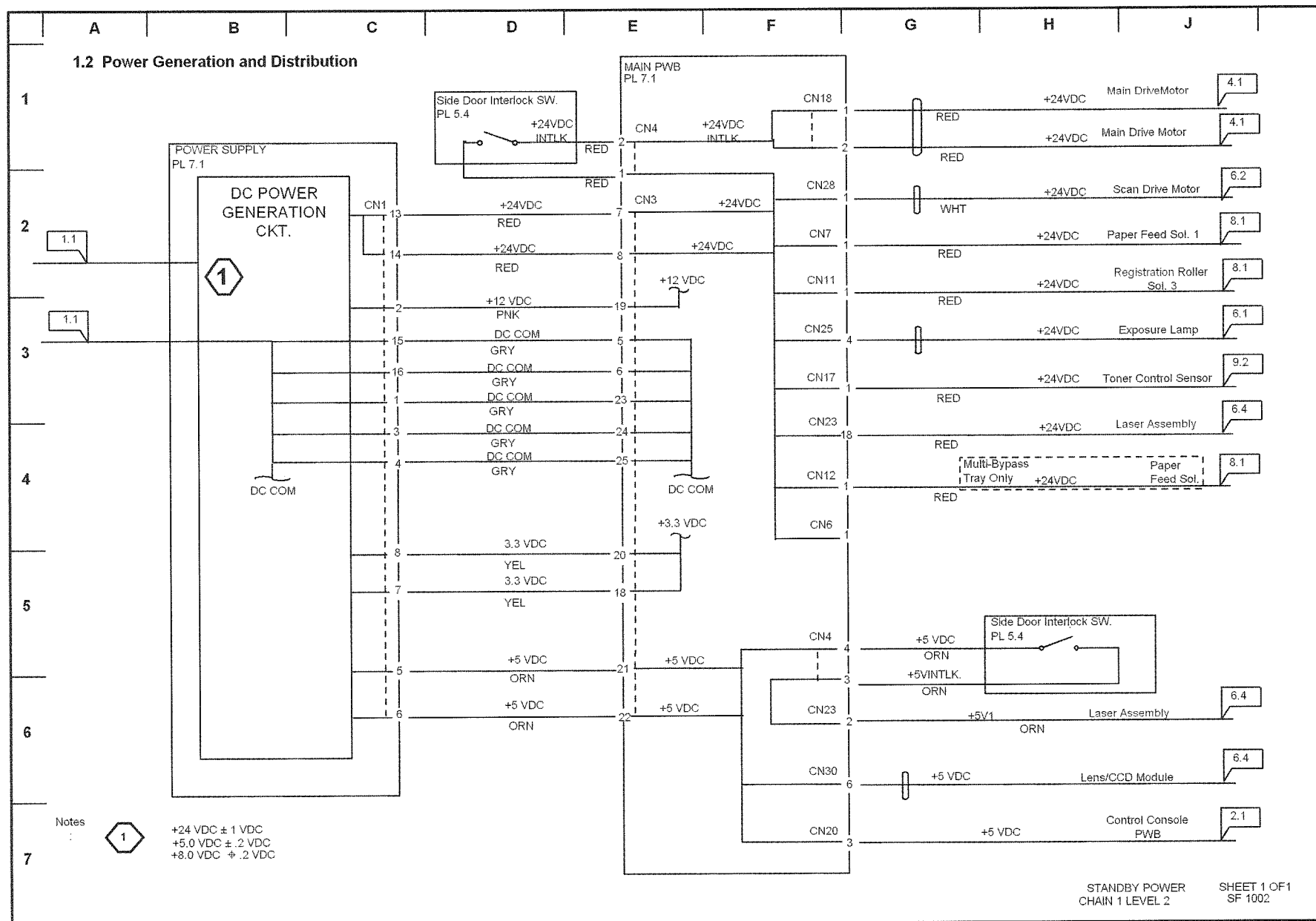
Figure 2 : 1.2 Power Generation and Distribution

2.1 Printer Mode Selection
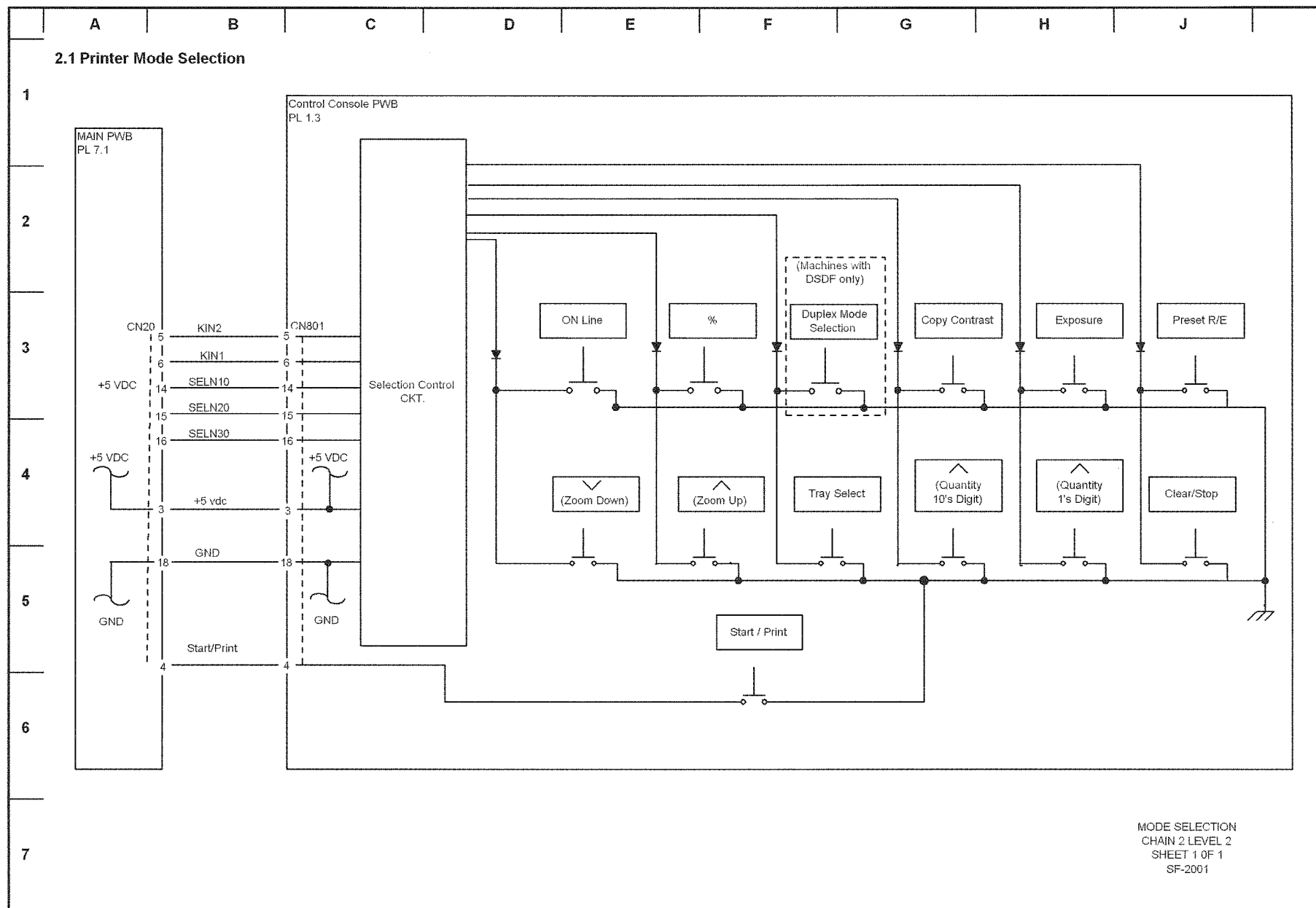
Figure 3 : 2.1 Printer Mode Selection
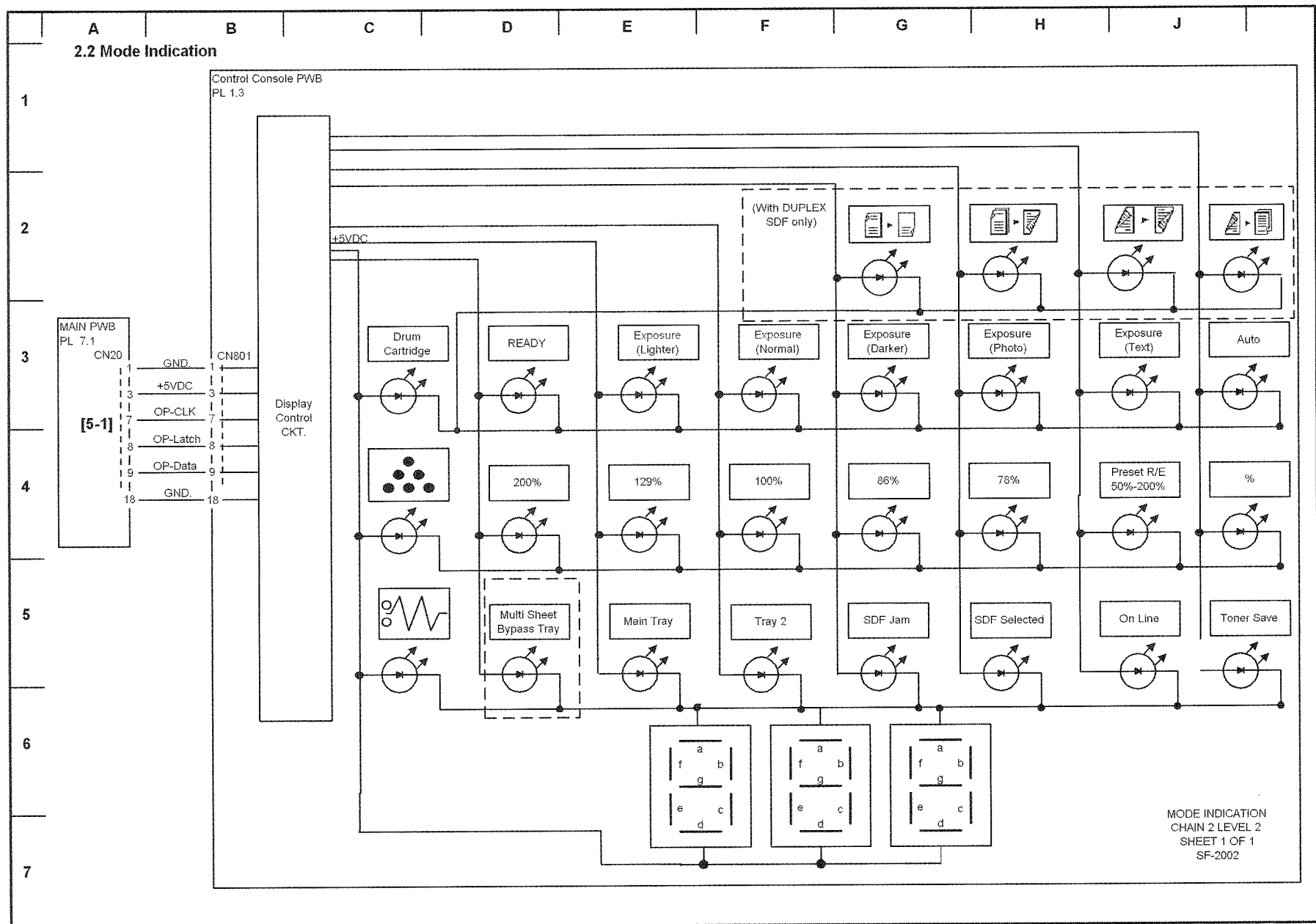
Figure 4 : 2.2 Mode Indication

Figure 5 : 4.1 Main Drive

5.1 SDF Document Feed

A	B	C	D	E	F	G	H	J

SDF SENSOR PWB
PL 9.2A

MAIN PWB
PL 7.1

[2-2] P/J52 Document In SDF Tray (L) +5VDC CN 26 +5 VDC

BLU 3
ORN 1 +5 VDC 8

[2-2] SDF Feed Assembly Closed (H) +5VDC
VIO 4 6

GRY 5 DC COM 3

LT BLU 2 B4 PAPER SENSED (L) +5VDC 7

+24 VDC

SDF Feed Solenoid On (L) P/J53
CN 26 12 [2-4] +24 VDC 2
BRN BLU

+24 VDC 11
RED 1 BLU

SDF FEED SOLENOID SOL1
PL 9.2A

SDF DRIVE MOTOR
PL 9.3, PL9.4

19 〈1〉 [2-3] SPMT-1 P/J51 3
PUR
20 〈1〉 SPMT-3 1
PNK
21 〈1〉 SPMT-2 6
BLU
22 〈1〉 SPMT-0 4
BRN
23 +24 VDC 2
RED
24 +24 VDC 5
RED

MOT 1

SDF DOCUMENT PATH SENSOR Q3
PL 9.3, PL 9.4

[2-2] Document at SDF Documnet Path Sensor Q3 (L) +5 VDC +5 VDC
BRN 3 2
1 1.2 VDC 4
PNK
DC COM 1
GRY 2

+24 VDC

DOCUMENT COVER CLOSED SENSOR Q9
PL 7.1

[2-2] Document Cover Closed (L) CN31 +5 VDC
+5 VDC
BRN 3 2
1 1.2 VDC 1
PNK
DC COM 3
GRY 2

CN 26   CN 31

MAIN PWB

NOTE: 〈1〉 SIGNAL READS APPROXIMATELY 23 VAC WHEN MOTOR IS OPERATING.

SDF DOCUMENT FEED
CHAIN 5.1
SHEET 1 OF2
SF-5001

Figure 6 : 5.1 SDF Document Feed

5.2 Duplex DSDF Components

(MACHINES WITH DUPLEX SDF ONLY)

MAIN PWB
PL 7.1

CN 26

DSDF Transport
Roll Clutch On
[2-6] (L) +24 VDC   P/J56
16   2   BLU
BRN

DSDF TRANSPORT ROLL
CLUTCH CL1
PL 9.4

+24 VDC
15   1   BLU
RED   BLU

+24 VDC

SDF Exit Roll
Solenoid On
[2-5] (L) +24 VDC   P/J54
14   2   BLU
BRN

DSDF EXIT ROLL
SOLENOID SOL2
PL 9.4

+24 VDC
13   1   BLU
RED   BLU

+24 VDC

SDF Deflection Gate
Solenoid On
[2-7] (L) +24 VDC   P/J55
18   2   BLU
BRN

DSDF DEFLECTION
GATE SOLENOID SOL3
PL 9.1A

+24 VDC
17   1   BLU
RED   BLU

+24 VDC

DSDF Deflection Gate
Solenoid SOL3

DSDF Exit Roll
Solenoid SOL2

P/J55

P/J56

P/J54   DSDF Transport Roll Clutch CL1
         (under SOL2)

SDF DOCUMENT FEED
CHAIN 5 LEVEL 2
SHEET 2 0F 2
SF-5002

Figure 7 : 5.2 Duplex DSDF Components

6.1 Document Illumination

Figure 8 Document Illumination

6.2 Scan Drive Control

Figure 9 : 6.2 Scan Drive Control

NOTES:

⟨1⟩ STEP 0 THRU STEP 3 SIGNALS ARE APPROXIMATELY 13.2 ± 0.5VDC TO GND. WHEN MOTOR IS OPERATING.

⟨2⟩ CONNECTOR NUMBERS IN PARENTHESIS ARE FOR MACHINES EQUIPPED WITH AN SDF.

OPTICS
CHAIN 6 LEVEL 2
SHEET 2 OF4
SF-6002

6.3 PRO 16FX PRINTER INTERFACE

Figure 10 : 6.3 Printer Input

6.3A PRO 16P PCL PRINTER INTERFACE
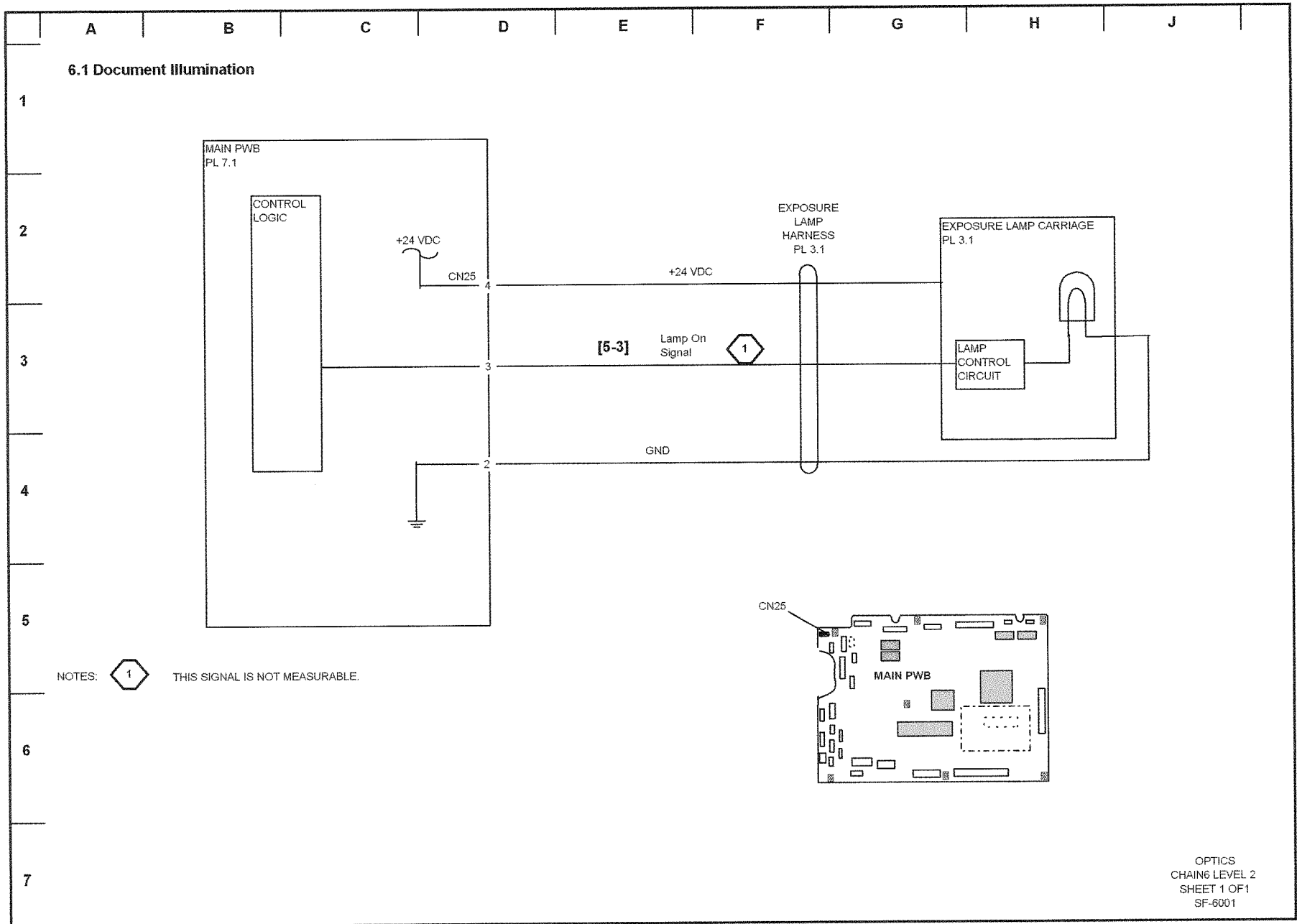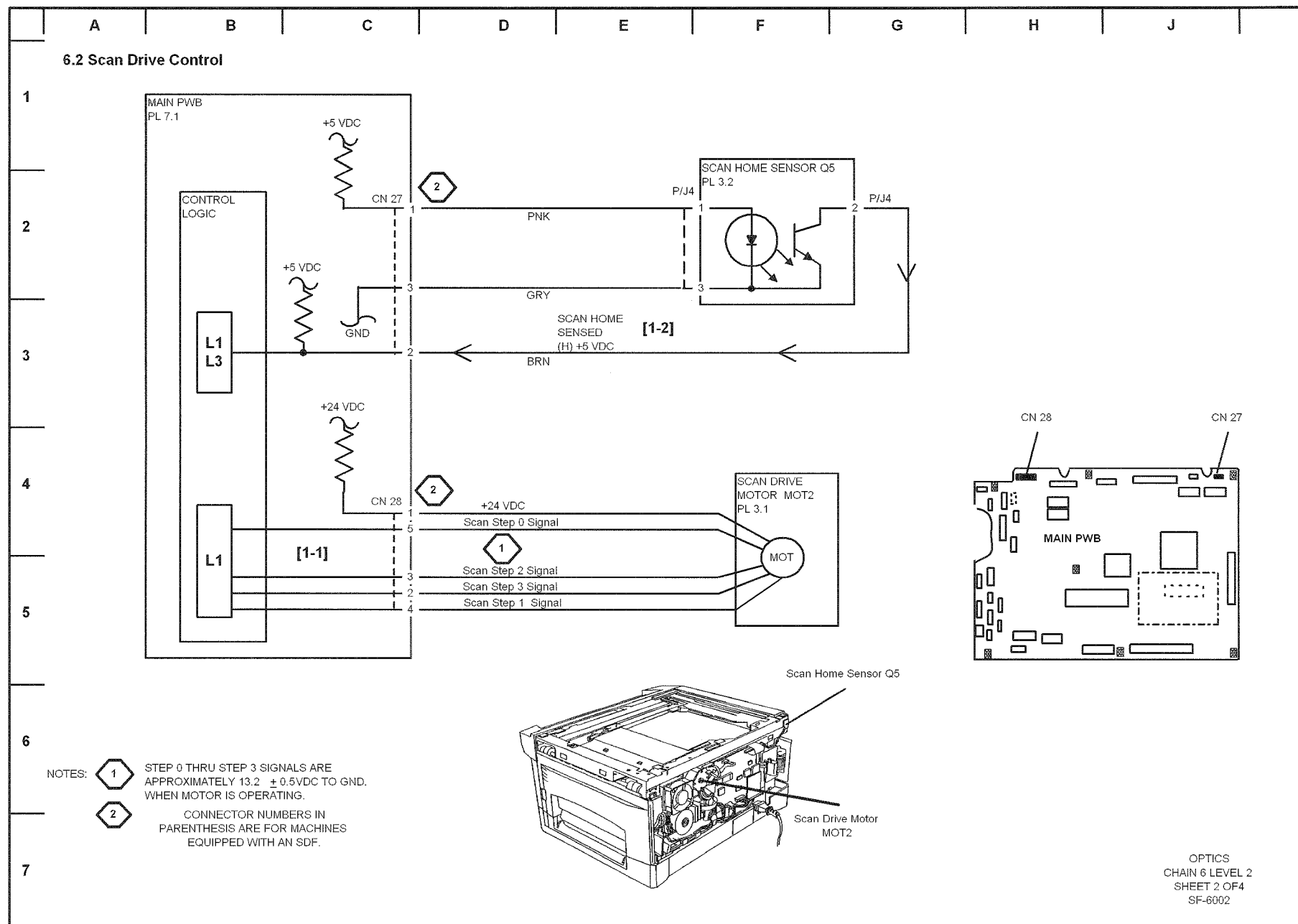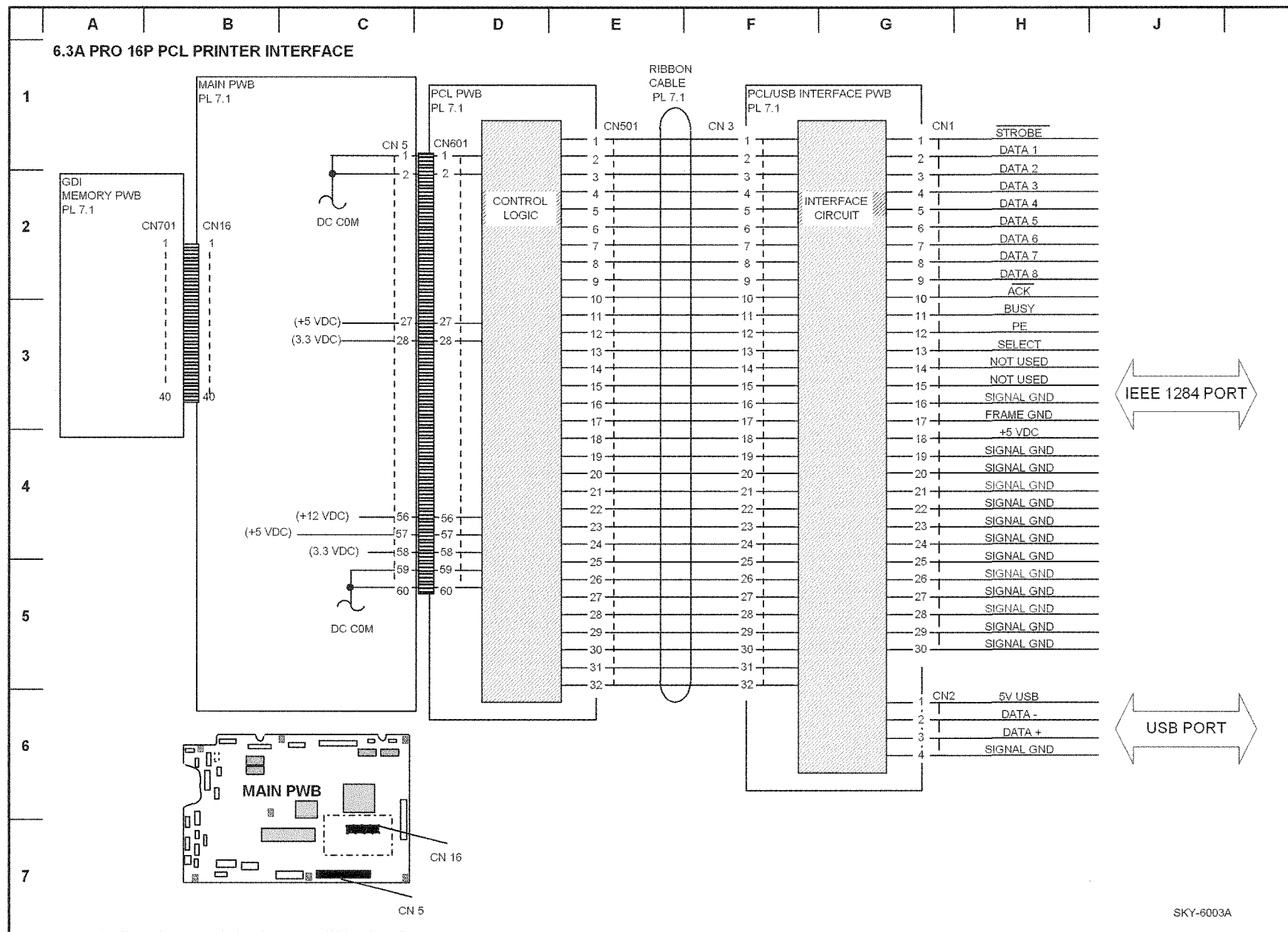
Figure 11 PCL / Printer Input

Figure 12 : 6.4 Image Processing
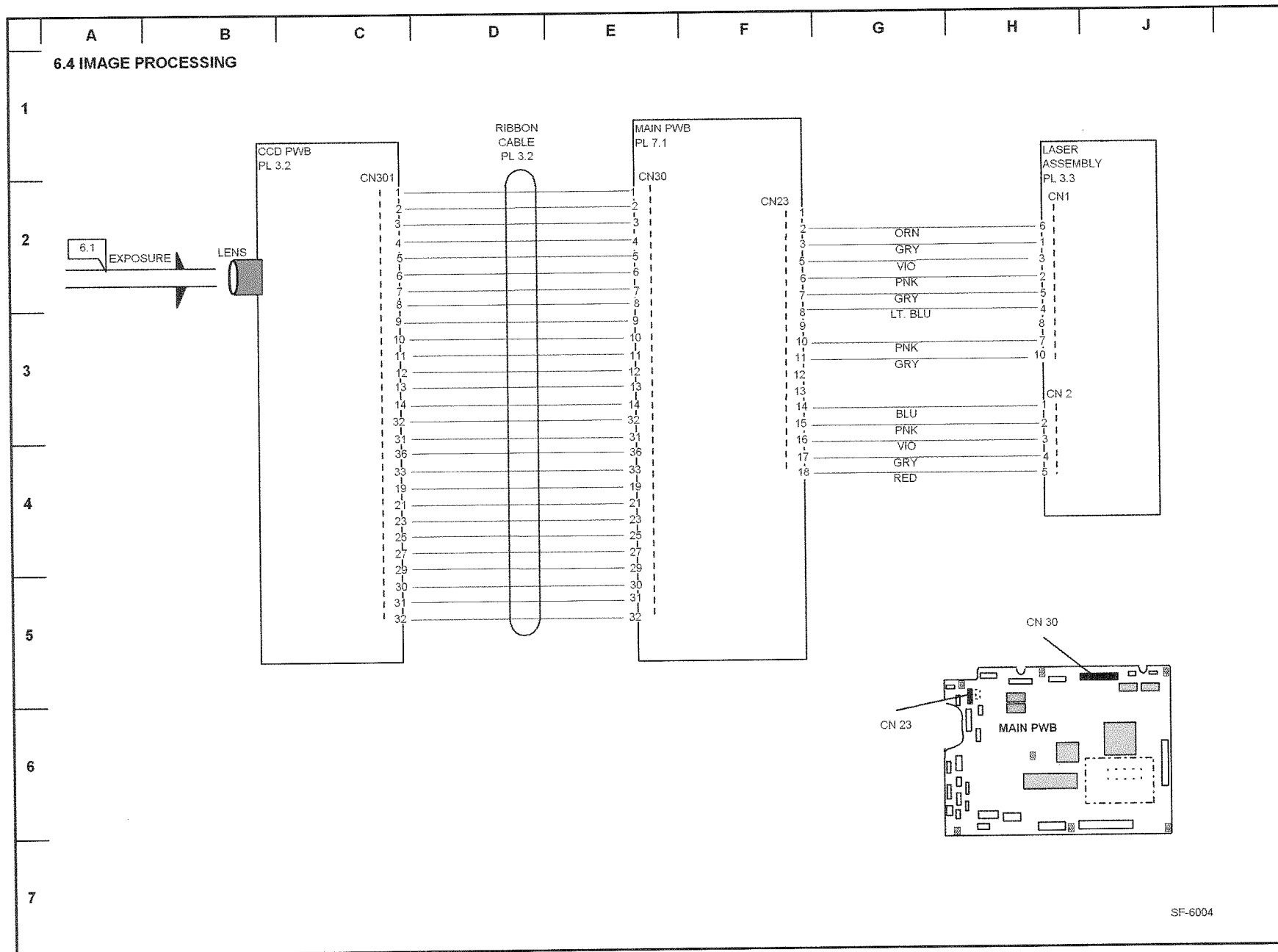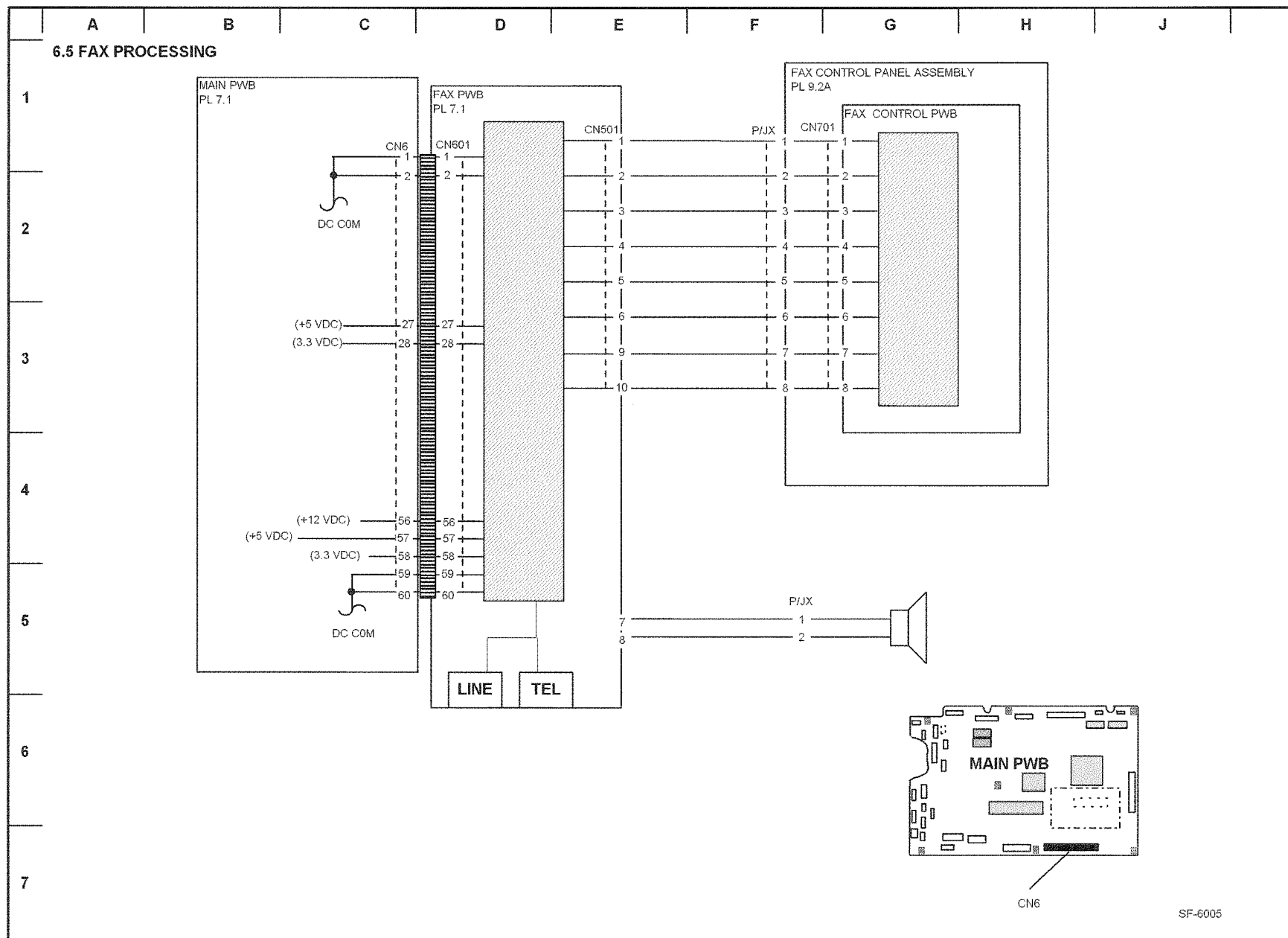
Figure 13 FAX PROCESSING

8.1 Paper Feed

TRAY 1 PAPER FEED SENSOR Q1 PL5.1

Paper At Paper Feed Sensor (L) +5 VDC **[30-1]**

VIO

GRY

PNK

MAIN PWB PL 7.1

+5 VDC

CN14

2

3

1

+5 VDC

P

CN7

Paper Feed Solenoid On (L) +24VDC **[6-1]**

2

1

PAPER FEED SOLENOID SOL 1 PL 2.2

+24 VDC

CN6

Tray 2 Feed Solenoid Energized (L) +24 VDC P/J10 **[6-1]**

2

1

14

13

TRAY 2 FEED SOLENOID SOL 2 PL 2.2

2

1

TRAY 2 PAPER FEED SENSOR Q7 PL 5.8

Paper At Tray 2 Feed Sensor (L) +5 VDC P/J10 **[30-1]**

7

BLU

8

GRY

4

PNK

+5 VDC

CN6

7

8

4

+5 VDC

+24 VDC

CN11

Multi. Bypass Tray Solenoid Energized (L) +24 VDC **[6-1]**

2

1

MULTI BYPASS SOLENOID SOL 4 PL 5.5

+24 VDC

NOTES:

⟨1⟩ A PAPER JAM WILL OCCUR (PAPER JAM LAMP FLASHING) IF:
A. THE PAPER FEED SENSOR IS ACTUATED AT POWER ON
B. THE PAPER FEED SENSOR DOES NOT DEACTUATE IN TIME.

⟨2⟩ A FLASHING "P" STATUS CODE WILL BE DISPLAYED IF THE PAPER FEED SENSOR Q1 IS NOT ACTUATED IN TIME AFTER START IS PRESSED.

Paper Feed Solenoid SOL1

Tray 2 Feed Solenoid SOL2

Multi. Bypass Tray Solenoid SOL 4

Paper Feed Sensor Q1

Bypass Feed Sensor Q2

PAPER FEED CHAIN 8 LEVEL 2 SHEET 1 OF 1 SKY-8001A

Figure 14 : 8.1 Paper Feed

8.2 Paper Registration

FUSER JAM SENSOR
Q3
PL 6.1

Paper At
Fuser Jam Sensor
(L) +5 VDC

P/J7 [30-1]

MAIN PWB
PL 7.1

+5 VDC

E2

2 BLU 2 CN13

3 GRY 3

+5 VDC

1 PNK 1

CN11

+24 VDC

Registration Roll Solenoid
Energized (L) +24 VDC

REGISTRATION
ROLL SOLENOID
SOL3
PL 2.2

Fuser Jam Sensor Q3

P/J6
P/J7
P/J8

Registration Roll
Solenoid SOL2

CN13

MAIN PWB

CN11

NOTES:

⟨1⟩ A PAPER JAM WILL OCCUR (PAPER JAM LAMP FLASHING) IF:
A.   THE PAPER FEED SENSOR IS ACTUATED AT POWER ON
B.   THE PAPER FEED SENSOR DOES NOT DEACTUATE IN TIME.

⟨2⟩ A FLASHING "P" STATUS CODE WILL BE DISPLAYED IF THE PAPER
FEED SENSOR Q1 IS NOT ACTUATED IN TIME AFTER START IS
PRESSED.

PAPER REGISTRATION
CHAIN 8 LEVEL 2
SHEET 1 OF 1
SKY-8002

Figure 15 : 8.2 Paper Registration

Figure 16 : 8.3 Paper Tray Interlocks

NOTES:

⬡1 TRAY LEDs WILL FLASH WHEN THE TRAY IS
SELCETED AND OPEN.

PAPER SUPPLY
CHAIN 8 LEVEL 2
SHEET 1 OF1
SF-8003

8.4 Pro 16fx Paper Size Detect Interlocks

FAX CONTROL PANEL ASSEMBLY
PL 9.2A

MAIN PWB
PL 7.1

FAX PWB
PL 7.1

CN5

CN601

CN501

P/JX

CN701

FAX CONTROL
PWB

+5 VDC

Tray 1 Paper Size
Switch S11
PL 5.1

Tray 1 Closed
(H) +5VDC   [30-1]   CN10

DC COM

DC COM

+5 VDC

Tray 2 Paper Size
Switch S12
PL 5.8

P/J10

Paper Size
Less Than A4
(L) +5VDC   [30-1]   CN6

DC COM

DC COM

MESSAGE DISPLAY

**PAPER SIZE ERROR SET XXX
SIZE PAPER**

MAIN PWB

CN20

CN10

CN6

CN5

NOTES:

1. This error message is displayed when an
incoming Fax is too large to fit on the paper in
selected tray if the paper is smaller than A4.

PAPER SIZE
CHAIN 8 LEVEL 2
SHEET 1 OF1
SF-8004

Figure 17 Paper Sixe detection

Figure 18 : 9.1 Charge, Transfer and Detack

9.2 Development

	A	B	C	D	E	F	G	H	J

TONER CARTRIDGE
PL 8.2

LOW TONER SENSOR

P/J9

6 — Low Toner (H) +5 VDC — 3
BRN

2 — Cartridge Installed (L) — 2
VIO

5 — DC COM — 4
GRY

1 — +24 VDC — 1
RED

MAIN PWB
PL7.1

+5 VDC
CN17
+5 VDC
RED

TONER CONTROL CIRCUIT

CN9
1 — [10] Toner Dispense Clock — ⟨1⟩ ⟨3⟩

2 — Toner Dispense Clock

GND   +24 VDC

TONER MOTOR
MOT4
PL 2.1

MOT 4

TONER CARTRIDGE
PL 8.2

⟨2⟩   DEVELOPER BIAS   9.1

P/J9
8

MAIN PWB
PL 7.1

BIAS CONTROL   CN3
9

[8-1]
Bias On (L) 24 VDC
BRN

CN6
4

POWER SUPPLY PWB PS1
PL 7.1

BIAS CIRCUIT

VR201

CN10
1 — ⟨2⟩ DEVELOPER BIAS
RED

2 — GRY

9.1

MAIN PWB

CN17

CN9

CN3

TONER CARTRIDGE
P/J9

① ⑤
② ⑥
③ ⑦
④ ⑧

REAR VIEW

P/J9

XEROGRAPHICS
CHAIN 9 LEVEL 2
SHEET 2 OF 2
SF-9002

NOTES: ⟨1⟩ THE TONER MOTOR IS ACTUATED WHEN LOW TONER CONCENTRATION IS SENSED BY THE LOW TONER SENSOR. IF THE MOTOR RUNS FOR 120 SECONDS AND THE LOW TONER SIGNAL IS STILL HIGH, THE TONER CARTRIDGE LAMP WILL FLASH.

⟨2⟩ BIAS VOLTAGE -380 +/- 20VDC

⟨3⟩ TONER DISPENSE CLOCK = 22 VAC

Figure 19 : 9.2 Development

Figure 20 : 10.1 Fusing

10.2 Copy Exit

	A	B	C	D	E	F	G	H	J

1

MAIN PWB
PL 7.1

+5 VDC

MAIN PWB
PL 7.1

+5 VDC

E2

2

CN22

1

PNK

PAPER EXIT SENSOR Q4
PL 6.3

⬡ 1

Paper At Exit
Sensor
(L) +5 VDC
LT BLU

[30-1]

CN22

2

3

GRY

GND

3

Paper Exit Sensor Q4

4

(Pro 16P Only)

CN 19

5

[25-1]

RED

/DMT 3

EXIT DRIVE MOTOR
MOT5
PL 2.1

4

YEL

/DMT 2

3

BRN

/DMT 1

MOT
5

2

BLU

/DMT O

1

WHT

+24 VDC

Main PWB

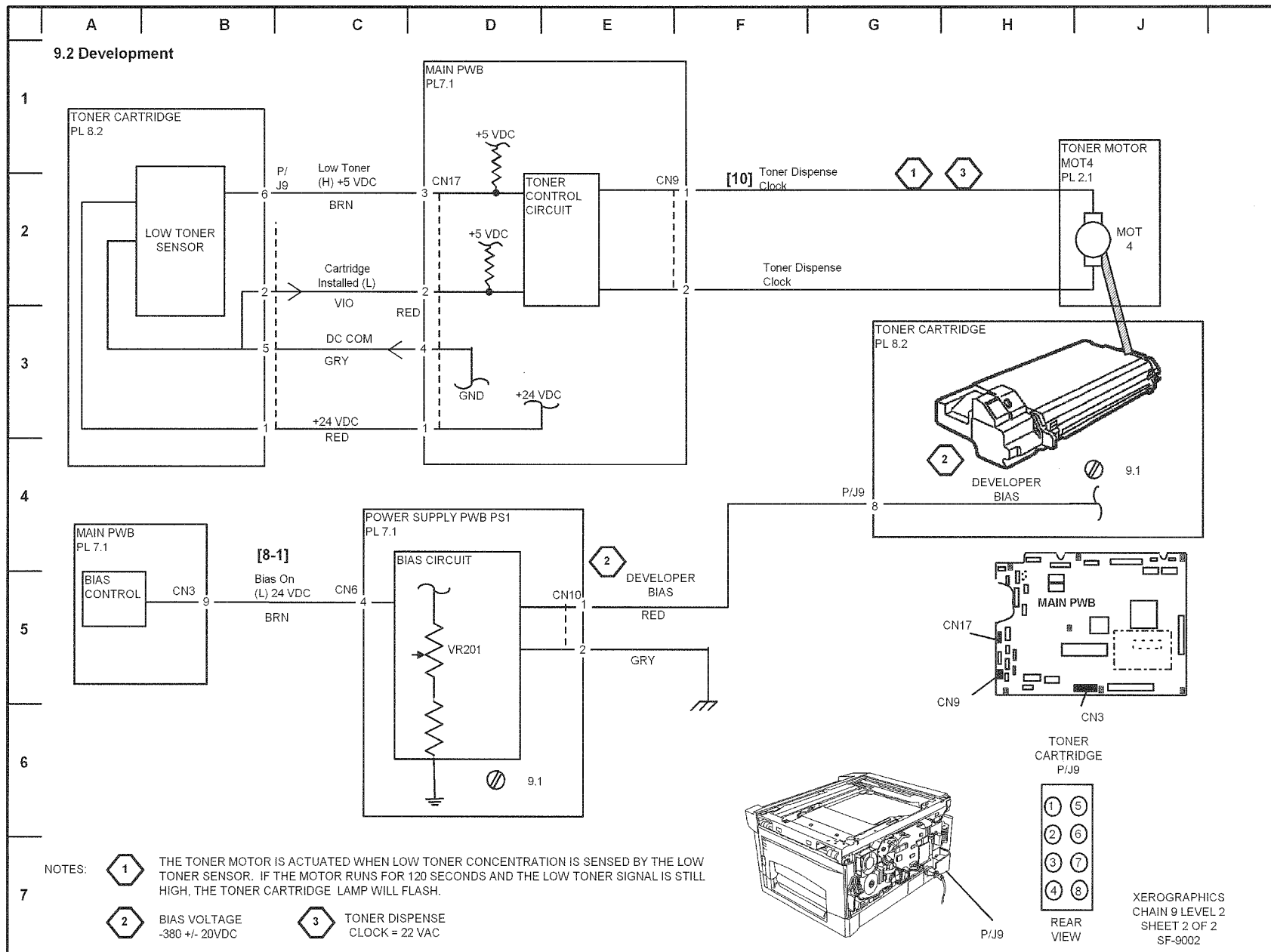Exit Drive
Motor MOT5

5

+24 VDC

6

CN22

CN19   MAIN PWB

NOTES:

⬡ 1

A PAPER JAM WILL OCCUR (PAPER JAM LAMP FLASHING) IF:
A.   EXIT SENSOR Q4 IS ACTUATED AT POWER ON.
B.   PAPER LEAD EDGE DOES NOT ACTUATE THE EXIT SENSOR Q4 IN TIME.
C.   EXIT SENSOR Q4 REMAINS ACTUATED TOO LONG AFTER THE COPY CYCLE.

7

COPY EXIT
CHAIN 1 0 L LEVEL 2
SF-1013

Figure 21 : 10.2 Copy Exit