

Introduction

The Repair Analysis Procedures section is used to isolate and identify problems to a faulty component or subassembly. It contains the Introduction, display message table, error code table and the Repair Analysis Procedures (RAPs).

Use the Display Messages and Error Codes tables when messages are displayed or error codes are printed in a report.

The Repair Analysis Procedures (RAPs) are accessed from Section 1, system checks or additional checks. There are two types of RAPs: Status Indicator (SI) RAPs, contained in this section, and Image Quality (IQ) RAPs, located in Section 3.

RAPs will normally isolate a problem to a specific component or subassembly, excluding the wire harnesses.

In the Y/N (Yes/No) steps of the RAPs, a Yes/No response will either lead you to the next step or will indicate a corrective action. When the indicated corrective action has been completed, go to Section 1 and restart the System Check to verify that the problem has been corrected.

Measurements

Power and signal grounds are connected to frame ground, therefore all circuit troubleshooting can be performed using the metal frame (chassis) as the grounding point. If more information is needed to locate connectors or test points, refer to section 7.

Unless otherwise specified, the following voltage tolerances are used within this section: Table 1

Table 1 Voltage Measurements

Stated	Measured
+3.3 VDC	+3.0 to 3.6 VDC
+5.0 VDC	+4.8 to +5.2 VDC
+24.0 VDC	+21.6 to +26.4 VDC
0.0 VDC	Less than +0.5 VDC

Error Code Table

Table 1 Error Code Table

Comments	On Line Message	Fault History Entry	Diagnostic Message	Error Description	Action
	IOT NVM Fail Power Off/On	U6	U6: NVM Fail	<ol style="list-style-type: none"> 1. A read error is detected during power on. 2. A write error is detected during write to the Nonvolatile Memory. 	Power Off and On Go to RAP 19
	Motor Failure Power Off/On	U1	U1: Motor Fail	Motor Fail signal is declared 0.75 seconds after start of Main Motor.	Power Off and On Go to RAP 16
	Laser Failure Power Off/On	U2	U2: ROS Fail	<ol style="list-style-type: none"> 1. Laser Signal intervals are longer than the Ready time interval 20 seconds after the start of Laser warm up. 2. The laser power does not reach the value in NVM when the laser diode is switched on after the start of Laser warm up. 3. Laser signal intervals become longer than the Fail time interval after Laser warm up is completed. 	Power Off and On Go to RAP 17
	Fuser Failure Power Off/On		U4: Fuser Fail	<ol style="list-style-type: none"> 1. Fuser temperature drops below the set temperature after the Fuser warm up is complete. 2. Fuser warm up does not complete within 110 seconds. 3. Thermistor circuit is detected to be open. 4. Fuser temperature rises above the set temperature. 5. Heat rod is on for 10 seconds when the Main Drive Motor is stopped, after the Fuser warm up is completed. 	Power Off and On Go to RAP 18
	Fan Failure Power Off Now	U5	U5: Fan Fail	<ol style="list-style-type: none"> 1. Fuser Fan has failed. 2. LVPS Fan has failed. 	Check the Fuser Fan and the LVPS Fan. Power Off and On Go to RAP 20
	Close Offset Door		E5: OCT Rear Door	OCT rear door interlock switch is open.	Close OCT rear door Go to RAP 69
2000 Sheet Feeder installed as Tray 2	Close Tray 2 Rear		E5: HCF Cover	2000 Sheet Feeder rear cover interlock switch is open	Close 2000 sheet feeder rear cover Go to RAP 65
2000 Sheet Feeder installed as Tray 3	Close Tray 3 Rear		E5: HCF Cover	2000 Sheet Feeder rear cover interlock switch is open	Close 2000 sheet feeder rear cover Go to RAP 65

Table 1 Error Code Table

Comments	On Line Message	Fault History Entry	Diagnostic Message	Error Description	Action
	Close Covers		E5: Top/R Cover	<ol style="list-style-type: none"> 1. Top cover interlock is open. 2. Rear cover interlock is open. 	Close Top Cover Close Rear Cover Go to RAP 58
	Insert MBF		E5: MBF Extend	MBF Assy. is not closed.	Close MBF
	Install Print Cartridge		J3: EP Cartridge	<ol style="list-style-type: none"> 1. Print Cartridge is not installed 2. The installed Print Cartridge is not the correct one. 	Install the Print Cartridge, or replace with the correct Print Cartridge Go to RAP 13
	Duplex Jam Open Rear Cover Clear Paper Path	E7-1	E7: Duplex Jam	<ol style="list-style-type: none"> 1. Duplex Sensor is not actuated within the time after the start of the Duplex drive motor in reverse. 2. Duplex sensor is being actuated at power up. 3. Duplex Sensor is on when the interlock is closed. 	Open the Rear Cover and remove any paper. Go to RAP 57
	Exit Jam-Open Rear & Top Cover Remove Print Cartridge Clear Paper Path	E4-0	E-4: Exit Jam	<ol style="list-style-type: none"> 1. Exit sensor is not deactuated within time after it is actuated. 2. Exit sensor is being actuated at power up. 3. Exit Sensor is ON when the interlock is closed. 4. Exit Sensor turns from OFF to ON at Erase Cycle. 	Open Top Cover, remove EP Cartridge and remove any paper. Go to RAP 11
	Paper Jam Open Top Cover Remove Print Cartridge Clear Paper Path	E3-1	E3: Reg. Jam	Exit Sensor did not actuate within time after the Registration clutch is actuated.	Open Top Cover, remove EP Cartridge and remove any paper. Go to RAP 10
MBF misfeed	Paper Jam Open Top Cover Lift /Extend MBF Remove All Paper	E2-1M	E2-1 Misfeed Jam	<ol style="list-style-type: none"> 1. Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. 2. Printing from 2000 Sheet Feeder: Reg. Sensor is OFF when the timing is after receiving Feed_Run status. 	Open Top Cover or Feeder and remove the sheets. Then close the cover. Go to RAP 8
Tray 1 Misfeed	Tray 1 Jam Open Tray 1 Lift/Extend MBF Open Top Cover Remove Printery Clear Paper Path	E2-11	E2-1 Misfeed Jam	<ol style="list-style-type: none"> 1. Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. 2. Printing from 2000 Sheet Feeder: Reg. Sensor is OFF when the timing is after receiving Feed_Run status. 	Open Top Cover or Feeder and remove the sheets. Then close the cover. Go to RAP 8

Table 1 Error Code Table

Comments	On Line Message	Fault History Entry	Diagnostic Message	Error Description	Action
Tray 2 misfeed with 500 Sheet Feeder installed as Tray 2	Tray 2 Jam Open Tray 2 Lift/Extend MBF Open Top Cover Remove PrintCart Clear Paper Path	E2-12	E2-1 Misfeed Jam	<ol style="list-style-type: none"> 1. Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. 2. Printing from 2000 Sheet Feeder: Reg. Sensor is OFF when the timing is after receiving Feed_Run status. 	Open Top Cover or Feeder and remove the sheets. Then close the cover. Go to RAP 49
Tray 3 Misfeed with 500 Sheet Feeder installed as Tray 3	Tray 3 Jam Open Tray 3 Lift/Extend MBF Open Top Cover Remove PrintCart Clear Paper Path	E2-13	E2-1 Misfeed Jam	<ol style="list-style-type: none"> 1. Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. 2. Printing from 2000 Sheet Feeder: Reg. Sensor is OFF when the timing is after receiving Feed_Run status. 	Open Top Cover or Feeder and remove the sheets. Then close the cover. Go to RAP 49
Tray 2 misfeed with 2000 Sheet Feeder installed as Tray 2	Tray 2 Jam Open Tray 2 Open Rear Trader Clear Paper Path	E2-12	E2-1 Misfeed Jam	<ol style="list-style-type: none"> 1. Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. 2. Printing from 2000 Sheet Feeder: Reg. Sensor is OFF when the timing is after receiving Feed_Run status. 	Open Top Cover or Feeder and remove the sheets. Then close the cover. Go to RAP 62
Tray 3 misfeed with 2000 Sheet Feeder installed as Tray 3	Tray 3 Jam Open Tray 3 Open Rear TrayDr Clear Paper Path	E2-13	E2-1 Misfeed Jam	<ol style="list-style-type: none"> 1. Simplex printing: Reg. Sensor is OFF when the specified time has passed timing from Feed Roll ON. 2. Printing from 2000 Sheet Feeder: Reg. Sensor is OFF when the timing is after receiving Feed_Run status. 	Open Top Cover or Feeder and remove the sheets. Then close the cover. Go to RAP 62
	Duplex Jam Open Rear Cover Clear Paper Path	E2-D	E2-2: Misfeed Jam	Registration Sensor did not actuate within time after the actuation of the Duplex Motor in reverse.	Open Rear Cover and remove any paper. Go to RAP 9
Jam in the OCT	Offset Jam Open Rear Cover Open Offset Door Clear Paper Path	E8-1	E8-OCT Jam	<ol style="list-style-type: none"> 1. OCT sensor did not actuate within time after the actuation of the Exit sensor. 2. OCT sensor is not deactivated within time after actuation of OCT Sensor. 3. OCT sensor is actuated at power on. 	Open OCT rear door and remove any paper. Open Rear cover and remove any paper. Go to RAP 68
	Paper Jam Open Top Cover Lift/Extend MBF Remove PrintCart Clear Paper Path	E1-1	E1: Reg. Jam	<ol style="list-style-type: none"> 1. Registration Sensor did not deactivate within time after actuation of Registration sensor. 2. Registration sensor is actuated at power on. 3. Registration is actuated during warm up cycle or an erase cycle. 	Open Top Cover, remove EP Cartridge, Lift and Extend MBF assy and remove any paper. Go to RAP 7

Table 1 Error Code Table

Comments	On Line Message	Fault History Entry	Diagnostic Message	Error Description	Action
	Duplex Unit Fail or Removed	E9-1	E9:Duplex Fail	Duplex module removed while power is on.	Reinstall Duplex Module Go to RAP 60
	Offset Bin Fail Power Off/On	E9-2	E-9:OCT Fail	OCT removed while power is on.	Reinstall OCT Go to RAP 71
2000 Sheet Feeder installed as Tray 2	Tray 2 Failure Power Off/On	E9-3	E-9:HCF Fail	2000 Sheet Feeder removed while power is on.	Reinstall HCF Go to RAP 66
2000 Sheet Feeder installed as Tray 3	Tray 3 Failure Power Off/On	E9-3	E-9:HCF Fail	2000 Sheet Feeder removed while power is on.	Reinstall HCF Go to RAP 66
			EO:HCF Elevator	<ol style="list-style-type: none"> 2000 Sheet Feeder elevator did not reach home position within the prescribed time. Paper level sensor on when 2000 Sheet Feeder Tray is Opened. 	Open and close 2000 Sheet Feeder paper tray.
	Paper Size Jam Open Rear Cover	PSE-1	Paper Size Error	There is a conflict between the size of the paper, which is detected by the Size Switches, and the length of paper the printer detects by the length of time the Registration Sensor is actuated.	Correct the mismatch Go to RAP 22
	Insert Tray 1		C3:Tray 1 Error	Tray 1 is not detected in printer. (all paper size switches not actuated)	Install Tray 1 Go to RAP 4
	Insert Tray 2		C3: Tray 2 Error	Tray 2 is not detected in printer. (all paper size switches not actuated)	Install Tray 2 Go to RAP 4
	Insert Tray 3		C3: Tray 3 Error	Tray 3 is not detected in printer. (all paper size switches not actuated)	Install Tray 3 Go to RAP 4
	Load Tray 1		C5:Tray 1 Empty	Tray 1 is out of paper	Load paper into Tray 1 Go to RAP 5
	Load Tray 2		C5:Tray 2 Empty	Tray 2 is out of paper	Load paper into Tray 2 Go to RAP 5
	Load Tray 3		C5:Tray 3 Empty	Tray 3 is out of paper	Load paper into Tray 3 Go to RAP 5
	Load MBF		C5:MBF Empty	MBF is out of paper	Load paper into MBF Go to RAP 5
	Remove Output from St. Bin		C5: Top Tray Full	Top Tray is declared full when 5 prints are delivered to the top tray after the Full Stack sensor is actuated.	Empty Top Tray Go to RAP 6
	Remove Output from Offset Bin		C5:OCT Tray Full	5 prints are delivered to the top tray after the OCT Full Stack sensor is actuated.	Empty OCT Tray Go to RAP 67
	Toner Low		J5:Toner Low	Toner Low is detected after 10 prints while toner sensor is on.	Replace Print Cartridge Go to RAP 14 Go to RAP 23
	Memory Failure Power Off/On	ESS-M	N/A	Controller memory has failed (32 me on board).	Power Off/On Remove Options Replace System Controller PWB (REP 8.1) Go to RAP 12

Table 1 Error Code Table

Comments	On Line Message	Fault History Entry	Diagnostic Message	Error Description	Action
	NV Memory Fail Power Off/On	ESS-N	N/A	Controller NVM Failure	Power Off/On Replace System Controller PWB (REP 8.1)
	Disk Error Format Disk	D-1	N/A	Hard Drive error was detected.	Power Off/On Format Hard Drive (See Reset Menu GP 3.3) Replace Hard Drive (PL 9.1) Replace System Controller PWB (REP 8.1)
	Init Failed Disk Locked	D-2	N/A	Cannot format disk, disk locked via PJJ or SNMP Command.	Customer Unlock Disk Replace Hard Disk (PL 9.1)
	Format Failed Disk Locked	D-3	N/A	Cannot put disk in factory default attempt to initialize disk after it is locked.	Customer Unlock Disk Replace Hard Disk (PL 9.1)

Table 2 System Controller Error Code Table

Control Panel Message	LED # blinks Followed by 1 sec. off	Comment
0001 - System Controller	1	System Controller Board major failure. Go to RAP 12.
0001 - BASE RAM	2	System Controller Board RAM failure. Go to RAP 12.
0001 - BASE ROM	3	System Controller Board boot ROM. Go to RAP 12.
0001 - ASIC	4	System Controller Board ASIC failure. Go to RAP 12.
0001 - TIMER	4	System Controller Board Timer failure. Go to RAP 12.
0001 - PWPM	5	System Controller Board PWPM failure. Go to RAP 12.
0001 - DMA	5	System Controller DMA failure. Go to RAP 12.
0001 - COMM	6	System controller parallel port failure, USB port failure, E- Net Port Failure. Replace System Controller PWB (REP 8.1)
0001 - USB	6	Replace the System Controller PWB (REP 8.1)
1000 - IOT	8	System Controller - IOT handshake failure. Remove and reinstall the System Controller PWB (REP 8.1). Replace the System Controller PWB (REP 8.1). Replace the Print Engine Controller PWB (REP 8.5).
0010 - DISK	9	Hard disk failure. Format Hard Disk (see Reset Menu GP 3.3). Replace the Hard Disk (PL 9.1). Replace the System Controller PWB (REP 8.1).
0101 - DIMM1	10	DIMM board 1 failure. Go to RAP 45.
0102 - DIMM2	11	DIMM board 2 failure. Go to RAP 46.
0103 - DIMM3	12	DIMM board 3 failure. Go to RAP 47.
2000 - XIE RAM	15	System Controller Xerox Image Enhanced PWPM failure. Replace the System Controller PWB (REP 8.1).
2010 - XIE PWPM	15	System Controller Xerox Image Enhanced PWPM failure. Replace the System Controller PWB (REP 8.1).

Table 2 System Controller Error Code Table

Control Panel Message	LED # blinks Followed by 1 sec. off	Comment
2020 - XIE VDMA	15	System Controller Xerox Image Enhanced VDMA failure. Replace the System Controller PWB (REP 8.1).
3000 - Token Ring 3000 - Serial 3000 - E-Net (10 Base 2)	16	Replace the appropriate network card (PL 9.1). Replace System Controller PWB (REP 8.1).
5000 - Memory	None	Memory size not large enough to load the system software Download Data. Replace System Controller PWB (REP 8.1).

RAP 1 AC Power

Initial Actions

Disconnect the AC power cord from the wall outlet.

WARNING

Improper connection of the grounding conductor can result in the risk of electrical shock. The following must be observed:

- Never use a ground adapter plug to connect the machine to a power source.
- Never attempt any maintenance function which is not specifically called out in the service procedures.
- Never remove any covers which are fastened with screws, unless so instructed in the service procedures.

CAUTION

If any of the voltage measurements are not as specified in the following steps, the cause must be corrected. Caution the customer **NOT** to connect the machine to the wall outlet. Advise the customer that a licensed electrician must correct the wiring. Do not attempt to correct the wiring yourself. If you later find the condition has not been corrected, inform your manager in writing of the improper wiring.

Procedure

Perform one of the following line voltage checks:

US, XCI, and AO (115 VAC) Figure 1. Perform the following: Measure the AC voltage between AC Line and Neutral, between AC Line and Ground, and between AC Neutral and Ground. The voltage between Line and Neutral and between Line and Ground is 104 to 127 VAC and the voltage between Neutral and Ground less than 3 VAC.

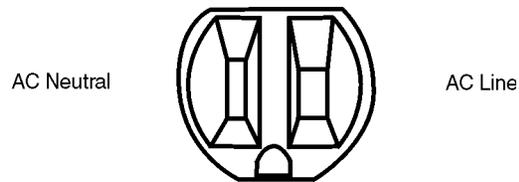


Figure 1 US, XCI, and AO (115 VAC) Outlet.

XL, UK and AO (220 VAC) Figure 2. Perform the following: Measure the AC voltage between Line and Neutral, between Line and Earth/Ground, and between Neutral and Earth/Ground. The voltage between Line and Neutral and between Line and Earth/Ground is 216 to 264 VAC and between Neutral and Earth/Ground is less than 3 VAC.

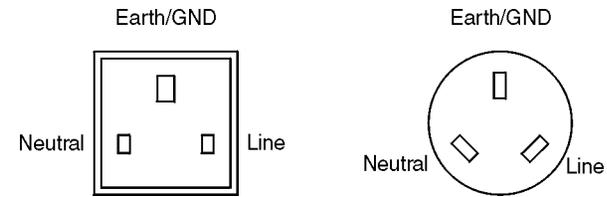


Figure 2 XL, UK, and AO (220 VAC) Outlet.

XL, Europe (220 VAC) Figure 3. Perform the following: Measure the AC voltage between the supply pins, then between a supply pin and earth, then between the other supply pin and earth. The voltage is 196 to 244 VAC between the supply pins and between one of the supply pins and earth. Between the other supply pin and earth is less than 3 VAC.

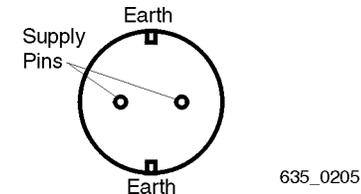


Figure 3 XL, Europe (220 VAC) Outlet.

The voltage measured is correct.

Y N

Inform the customer of insufficient voltage or improper wiring.

Check the continuity through all connections of the power cord. The measurement is less than 10 ohms for each connection.

Y N

Replace the power cord (PL 9.2) as applicable.

Perform RAP 2.

RAP 2 DC Power

This procedure is used to troubleshoot the Low Voltage Power Supply.

Procedure

Perform RAP 1 before starting this RAP. If RAP 1 checks out OK, switch the main power off and disconnect the printer power. Remove the Lower Rear Cover (REP 1.7). Connect printer power. Switch the printer power on. Measure the voltage on the LVPS between P/J167 pins 1 and 3.

The voltage matches the line voltage.

Y N
Replace the AC Input Assembly (REP 8.8).

Measure the voltage between the bottom of Fuse F101 and P/J167 pin 3. **The voltage matches the line voltage.**

Y N
Switch the main power off. Replace fuse F101. Switch the main power on. Measure the voltage between the bottom of Fuse F101 and P/J167 pin 3. **The voltage matches the line voltage.**

Y N
Replace the LVPS (REP 8.6).

Problem Solved.

Measure the voltage between LVPS P/J162 pin 3 and frame ground. **The voltage is +24VDC.**

Y N
On the LVPS, measure the voltage between P/J162 pin 1 and frame ground. **The voltage is +24VDC**

Y N
Replace the LVPS (REP 8.6).

Check the Top Cover and the printer Upper Rear Cover. **Both covers are properly closed and actuating the interlock switches.**

Y N
Repair or replace the defective cover/interlock switch as necessary.

Check the continuity through the interlock switches. Replace if necessary (REP 7.5/REP 10.13).

Check the voltages listed in Table 1.

Table 1 LVPS

Red Lead	Black Lead	Voltage
P/J161 pin 10	Frame Ground	+5.0VDC
P/J161 pin 11	Frame Ground	+3.3VDC
P/J161 pin 3	Frame Ground	+24.0VDC

All voltages in Table 1 are correct.

Y N
Go to RAP 3.

A

Status Indicator Repair Analysis Procedures

RAP 2

02/2000

2-12

Initial Issue

DocuPrint N2025/N2825

A

Return to Initial Actions or to the procedure that sent you here.

RAP 3 DC Power Loading

Initial Actions

Perform RAP 2 DC Power before starting this RAP.

WARNING

AC input voltages can be lethal. Use extreme care while checking the voltages on the LVPS.

Disconnect the power cord while checking the continuity of fuses and while removing or reinstalling the components.

Procedure

Switch the printer power off. Remove the Lower Rear Cover (REP 1.7). Disconnect the following from the LVPS:

- P/J161 (Print Engine Controller PWB)
- P/J163 (System Controller PWB)
- P/J164 (Main Motor)
- P/J165 (Main Fan)
- P/J166 (LVPS Fan)
- P/J168 (5VDC Power Supply)

Switch the printer power on and measure the voltages listed in Table 1 on the LVPS.

Table 1 LVPS

Red Lead	Black Lead	Voltage
P/J161 pin 10	Frame Ground	+5.0VDC
P/J161 pin 11	Frame Ground	+3.3VDC
P/J161 pin 3	Frame Ground	+24.0VDC

All voltages are correct.

Y N
Replace the LVPS (REP 8.6).

Switch the printer power off. Reconnect P/J161 to the LVPS. Switch the printer power on and measure the voltages listed in Table 1. **All the voltages are correct**

Y N
Switch the printer power off. Remove the Left Side Cover and the Print Engine Controller PWB Cover. Reconnect all the P/Js to the LVPS. Disconnect the following from the Print Engine Controller PWB:

- P/J11 (Laser)
- P/J21 (Print Cartridge Sensor)
- P/J14 (Toner Sensor)
- P/J12 (Tray 1 Feed head components/Tray 1 Low Paper Sensor)
- P/J22 (Registration Clutch)
- P/J13 (Feeder 2/3)
- P/J17 (Fuser Control PWB / Fuser)
- P/J19 (Duplex Assembly/OCT)
- P/J18 (HVPS/Registration Sensor)

A

- P/J20 (Tray 1 Size Sensor/MBF Home Sensor)

Switch the printer power on and measure the voltages listed in Table 1. **All voltages are correct.**

Y N
Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect one of the disconnected plugs. Switch the printer power on. Measure the voltages listed in Table 1. **All the voltages are correct.**

Y N
Replace the component just connected to the Print Engine Controller PWB.

Repeat the step with the next disconnected plug.

Switch the printer power off. Reconnect one of the disconnected plugs. Switch the printer power on. Measure the voltages listed in Table 1. **All the voltages are correct.**

Y N
Replace the component just connected to the LVPS.

Repeat the step with the next disconnected plug.

A

RAP 4 C3: Tray Error / Insert Tray 1,2,3

Tray Assembly (Tray 1, Tray 2, or Tray 3) are not in place.

Procedure

Enter Diagnostics and select Test Print. Run a test print from every tray (see section 6). **The Error Code specifies Tray 2 or Tray 3.**

Y N

Remove and reinstall Tray 1. **The C3 error code still appears.**

Y N

Problem solved.

Inspect the Paper Stack End Guide position in the tray. **The End Guide is snug against the paper stack.**

Y N

Adjust the End Guide to contact the paper stack.

Enter Component Test, select Tray 1 Size. Press the Enter Key (key 4). **The paper size indicated on the LCD matches the paper size actually in Tray 1.**

Y N

Remove Tray 1. Enter Component Test - Sensor Input test. One at a time, press and release each of the Tray 1 size actuators. **The number on the LCD increments each time you press and release one of the actuators.**

Y N

Go to RAP 37

Check the size cam on the left side of the paper tray. **The cams are in good condition (not broken) and rotate freely as the paper tray end guide is moved.**

Y N

Replace Tray 1 (PL 2.1/ PL 2.2).

Remove the Left Side Cover (REP 1.1). As you insert Tray 1, watch the size actuators (visible under the Print Engine Controller PWB metal cover) move depending on the setting of tray 1. See Table 1.

Table 1 Paper Size Actuators

Actuator	8.5 LEF	A4 LEF	B5 LEF	A5 LEF	14" SEF	8.5" SEF	A4 SEF	B4 SEF
4 Top	x			x	x	x	x	
3	x	x	x			x	x	
2			x	x	x			x
1 Bottom	x	x	x	x				

The Tray 1 Size Cams contact the Paper Size Actuators correctly for each size of paper.

Y N

Replace Tray 1 (PL 2.1/ PL 2.2). If the problem persists, replace the Tray 1 Left Guide Assembly (REP 3.6).

Replace the Tray 1 Left Guide Assembly (REP 3.6).

A B

Replace the Print Engine Controller PWB (REP 8.5). If the problem persists, replace the System Controller (REP 8.1).

Go to RAP 45 (for 500 Sheet Feeder) or RAP 64 (for 2000 Sheet Feeder).

A B

RAP 5 C5: Add Paper To MBF, Tray 1, 2 or 3)

Procedure

The problem appears when using Tray 2 or 3.

Y N
Check the paper level in Tray 1. **There is at least 100 sheets of paper in Tray 1.**

Y N
Load paper into Tray 1.

Check the paper level in the MBF. **There is paper in the MBF.**

Y N
Load paper into the MBF.

Enter Diagnostics and select Test Print. Run a test print from the MBF Tray (see section 6). **The C5 error code appears when you feed paper from MBF.**

Y N
Run a test print from the Tray 1. **The C5 error code appears when you feed paper from Tray 1.**

Y N
Return to Initial Actions and restart.

Remove Tray 1 from the printer. Remove the Tray Cover, if installed, and all paper from the tray. Insert Tray 1 into the printer and inspect the Bottom Plate. **The Bottom Plate is raised fully and evenly.**

Y N
Replace the Tray 1 Assembly (PL 2.1/ PL 2.2).

Remove Tray 1. Manually actuate the Tray 1 No Paper and Low Paper sensors. **The No Paper and Low Paper Actuators move smoothly.**

Y N
Replace the Tray 1 No Paper Actuator (REP 2.6) or Low Paper Actuator (PL 3.1).

NOTE: When checking the Low Paper Sensor using the Sensor Test, at least one Paper Size switch and the Low Paper Sensor must be actuated.

Enter Diagnostics and select Component Test. Scroll to Sensor Input Test and press Enter. Manually actuate the Tray 1 No Paper and Low Paper Sensors. **The number on the LCD increments each time you press and release one of the actuators.**

Y N
Go to RAP 34.

Replace the Print Engine Controller PWB (REP 8.5).

Insert then remove a piece of paper into the MBF. **The MBF No Paper Actuator moves smoothly when paper is inserted then removed.**

Y N
Repair or replace the actuator, as necessary.

Enter Diagnostics and select Component Test. Scroll to Sensor Input Test and press Enter. Manually actuate the MBF No Paper Sensor. **The number on the LCD increments each time you press and release the actuator.**

A

Y

N

Go to RAP 33.

Replace the Print Engine Controller PWB (REP 8.5).

Go to RAP 47.

A

RAP 6 C5: Top Tray Full

Error code indicates the Top Tray is full.

Procedure

There is a paper stack on the Top Cover close to the Stack Full Actuator.

Y N
The paper is curled.
Y N
Open the Rear Cover. Press and release the Stack Full Actuator. **The flag of the Stack Full Actuator alternately clears and obscures the detecting points of the sensor when the actuator is moved.**
Y N
Replace Stack Full Actuator (REP 5.3) or Sensor (REP 5.2) as necessary.
Enter Diagnostics and select Component Test. Scroll to Sensor Input Test and press Enter. Manually actuate the MBF Stack Full Actuator. **The number on the LCD increments each time you press and release the actuator (the count may have a short delay because of the sensor circuit).**
Y N
Go to RAP 35.
Replace Print Engine Controller PWB (REP 8.5).
Replace paper in paper tray with fresh dry paper. Run test prints. **The error code reappears.**
Y N
Problem solved.
Open the Rear Cover. Press and release the Stack Full Actuator. **The flag of the Stack Full Actuator alternately clears and obscures the detecting points of the sensor when the actuator is moved.**
Y N
Replace Stack Full Actuator (REP 5.3) or Sensor (REP 5.2) as necessary.
Enter Diagnostics and select Component Test. Scroll to Sensor Input Test and press Enter. Manually actuate the Stack Full Actuator. **The number on the LCD increments each time you press and release the actuator.**
Y N
Go to RAP 35.
Replace Print Engine Controller PWB (REP 8.5).
Remove the paper stack.

RAP 7 E1: Paper Jam / Tray To Registration.

There is a paper jam between the Paper Tray / Paper Handler Assembly and the Registration Sensor.

Procedure

Inspect the Registration Actuator. **There is foreign material blocking the Registration Actuator.**
Y N
Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter [4]. Manually actuate the Registration Sensor Actuator. **The number on the LCD increments each time you press and release the actuator.**
Y N
Go to RAP 32.
Replace Print Engine Controller PWB (REP 8.5).
Remove foreign material.

RAP 8 E2-1: Paper Jam / Misfeed

There is a paper jam between the Tray 1, 2, 3 or MBF and the Registration Sensor.

Procedure

Enter Diagnostics and select Test Print. Run 10 prints from every paper tray. **The problem appears when feeding from Tray 1.**

Y N

The paper is curled, damaged, or damp.

Y N

The paper size is within specifications.

Y N

Replace with paper within size specifications.

Open MBF door and run a test print from MBF tray. Observe the MBF feed rolls.

The MBF Feed Rolls rotate one complete turn.

Y N

Remove the MBF Assembly (REP 2.1). Remove MBF Gear Cover and inspect the gears for cracks, broken or missing teeth. Also inspect the return spring for the MBF Feed Roll Shaft Gear. **The gears and spring are OK.**

Y N

Replace defective gears or spring

Go to RAP 41.

Remove the MBF Assembly (REP 2.1). Inspect the paper tray for a broken, bent or missing spring. Check for a broken hinge pin, or any thing that would prevent the up and down movement of the paper tray. If the problem continues replace the MBF Assembly (REP 2.1).

Replace with fresh dry paper.

Remove Tray 1 and remove all paper. Open the printer Top Cover, remove the Print Cartridge, and extend the MBF to the paper load position. Insert the Tray Assembly into the printer and observe the bottom plate. **The bottom plate is raised.**

Y N

Replace Tray Assembly.

Close the MBF. Reinstall the Print Cartridge and close the Top Cover. Remove Tray 1. Enter Diagnostics and select Component Test. Scroll to Main Motor and press Enter [4]. Scroll to Tray 1 Feed Sol and press Enter [4] and observe the Tray 1 Feed Rolls. **The Feed Rolls rotate one complete turn.**

Y N

Remove the MBF Assembly (REP 2.1). Remove MBF Gear Cover and inspect the gears for cracks, broken or missing teeth. Also inspect the return spring for the Tray 1 Feed Roll Shaft Gear. **The gears and spring are OK.**

Y N

Replace defective gears or spring.

Go to RAP 40.

A

Remove the Retard Chute Assembly (REP 3.1). Inspect the retard holder and retard arm for damage. **The Retard Chute Assembly is OK.**

Y N

Replace the Retard Chute Assembly (REP 3.1) or the Tray 1 Retard Holder Assembly (REP 2.11) as necessary, If the problem persists, go to RAP 39.

Go to RAP 39.

A

Initial Issue

DocuPrint N2025/N2825

02/2000

2-17

Status Indicator Repair Analysis Procedures

RAP 8

RAP 9 E2-2: Paper Jam/ Misfeed Duplex

There is a paper jam between the Paper Handler Assembly and the Registration Sensor when the paper is referred to print a 2nd page.

Procedure

The paper is curled, damaged or damp.

Y N
The paper size is within specifications.
Y N
Replace with paper meeting size specifications.
Enter Diagnostics and select Test Print Menu. Set Duplex to on. Run 25 test prints. When the E2-2 error appears, open the Top Cover, remove the Print Cartridge and inspect the position of the paper. **The paper is touching the Registration Sensor Actuator.**
Y N
Select Component Test. Scroll to Dup Motor On Low and press the Enter key [4].
The Duplex Motor switches on.
Y N
Replace in the following order until problem is solved Duplex Assembly (REP 9.1), Print Engine Controller PWB (REP 8.5).
Inspect the Duplex Drive Belt for breakage, missing teeth, or wear. **The Drive Belt is in good condition.**
Y N
Replace Drive Belt.
Replace in the following order until problem is solved Duplex Assembly (REP 9.1), Print Engine Controller PWB (REP 8.5).
Enter Diagnostics and select Component Test. Scroll to Sensor Input Test and press Enter. Manually actuate the Registration Sensor Actuator. **The number on the LCD increments each time you press and release the actuator.**
Y N
Go to RAP 32.
Replace Print Engine Controller PWB (REP 8.5).
Replace with fresh, dry paper.

RAP 10 E3: Paper Jam / Registration To Fuser

There is a paper jam between the Registration Sensor and the Exit Sensor.

Procedure

The paper loaded in the paper tray wrinkled or damaged.

Y N
The paper size used is within specifications.
Y N
Replace with paper meeting size specifications.
Open the Rear Cover. Open the Rear Fuser Cover. Inspect the position of paper when the error code E3 is displayed. **The paper is touching the Exit Actuator.**
Y N
Open the Top Cover and remove Print Cartridge. Enter Diagnostics and select Component Test. Scroll to Main Motor. Cheat the Top Cover Interlock. Press Enter [4]. Observe Gear Assembly, H/R Idler Gear, and the MBF Assembly Drive Gears. **The Gears rotate smoothly.**
Y N
Replace the Main Gear Drive Assembly (REP 6.1) and/or the MBF Gears (REP 2.8).
Scroll to Reg. Clutch and press Enter [4]. **The Metal Registration Roll and Rubber Registration Roll rotated smoothly.**
Y N
Replace the Rubber Registration Roll (REP 4.5) or Metal Registration Roll (REP 4.4).
Inspect paper position when E3 is displayed. **The front edge of the paper passed between the Metal Registration Roll and the Rubber Registration Roll.**
Y N
Go to RAP 38.
Remove the Fuser Assembly (REP 5.1). As you install the Print Cartridge, insert paper between the BTR Assembly and the Print Cartridge Drum. **The BTR Assembly and the Print Cartridge Drum hold the paper evenly.**
Y N
Replace the Paper Transport Assembly (REP 4.1).
Remove the paper and reinstall the Print Cartridge. Run a test print. Inspect the position of front edge of the paper. **The front edge of the paper passes between the BTR and the Print Cartridge Drum.**
Y N
Replace the Paper Transport Assembly (REP 4.1).
The Detack Saw is clean and free of contamination.
Y N
Clean the Detack Saw or Replace the Paper Transport Assembly (REP 4.1).
Rotate the Heat Roll Idler Gear. **The Heat Roll Idler Gear rotates smoothly.**
Y N
Replace the Fuser Assembly (REP 5.1).

A | **B** | **C**
 Run a Test Print. Inspect paper path between Paper Transport Assembly and the pinch roll of the Fuser Assembly. **The paper passes through the Exit Roll Assembly and the pinch roll of the Fuser Assembly.**
Y | **N**
 | Replace the Fuser Assembly (REP 5.1).
 Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter [4]. Actuate and release the Fuser Exit Sensor. **The number on the LCD increments each time you actuate and release the Fuser Exit Sensor.**
Y | **N**
 | Go to RAP 48.
 Replace the Print Engine Controller PWB (REP 8.5).
 Run a Test Print. Inspect paper path between Registration Rolls and the pinch roll of the Fuser Assembly. **The paper passes through the Registration Rolls and the pinch roll of the Fuser Assembly.**
Y | **N**
 | Replace the Fuser Assembly (REP 5.1).
 Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter [4]. Actuate and release the Fuser Exit Sensor. **The number on the LCD increments each time you actuate and release the Fuser Exit Sensor.**
Y | **N**
 | Go to RAP 48.
 Replace the Print Engine Controller PWB (REP 8.5).

Replace with fresh, dry paper.

RAP 11 E4: Paper Jam / Exit

There is a paper jam at the Exit Sensor.

Procedure

Check the paper path for paper or other obstructions. Enter Diagnostics and select Test Print. Run 25 prints from Tray 1. **When the E4 Exit Jam is displayed, there is paper on the Exit Sensor.**

Y | **N**
 | Select Component Test and scroll to Sensor Input test. Press the Enter Key [4]. Actuate and deactivate the Exit Sensor. **The number on the LCD increments each time you press and release the actuator.**

Y | **N**
 | Go to RAP 48.

Replace Print Engine Controller PWB (REP 8.5).

The printer has the Duplex Option installed.

Y | **N**
 | Enter Diagnostics and select Component Test. Scroll to Main Motor and press Enter [4]. **The Exit Rollers and Pinch Rollers on the Rear Cover rotate smoothly.**

Y | **N**
 | Remove the Left Side Cover (REP 1.1), scroll to Main Motor and press Enter [4]. Observe the Exit and Fuser Drive Gears. **The gears rotate smoothly.**

Y | **N**
 | Replace the Fuser Assembly (REP 5.1).

Replace Rear Cover Assembly (REP 1.9).

Select Test Print and run test prints. **The Error Code reappears.**

Y | **N**
 | Problem solved

Check the Fuser Assembly for obstructions or contamination. **The Fuser assembly is clean and free of obstructions.**

Y | **N**
 | Clean or replace the Fuser Assembly (REP 5.1), as necessary.

Check the Exit Assembly. Clean or replace as necessary.

Enter Diagnostics and select Component Test. Scroll to Exit Motor Fwd L and press Enter [4]. **The Exit Rollers and Pinch Rollers on the Rear Cover rotate smoothly.**

Y | **N**
 | Remove the Left Side Cover (REP 1.1). Enter Diagnostics and select Component Test. Scroll to Exit Motor L press Enter [4]. Observe the Exit Drive Gears and Exit Motor L. **The gears rotate smoothly.**

Y | **N**
 | The Exit Motor L is rotating.

Y | **N**
 | Replace Duplex Assembly (REP 9.1).

A | **B** | **C**
 | | |
 | | | Open the Rear Cover and cheat the Rear Cover Interlock Switch. Scroll to Exit Motor
 | | | Fwd L then press Enter [4]. After a few seconds press Offline [0]. Scroll to Exit Motor
 | | | Rev and press Enter [4]. **The Exit Motor rotates smoothly in both directions.**
 | | | **Y** | **N**
 | | | | Replace the Duplex Assembly (REP 9.1).
 | | | |
 | | | | Replace the Exit Assembly (PL 13.1).
 | | | |
 | | | | Check the Exit Assembly for obstructions. Clean all rollers in the Exit Assembly. Replace
 | | | | Rear Cover Assembly (PL 6.1), if necessary.
 | | | |
 | | | | Clean the Fuser Assembly. Replace the Fuser Assembly (REP 5.1), if necessary.

RAP 12 System Controller Isolation

Procedure

Switch the printer power off. Disconnect all cables connected to the rear of the System Controller PWB. Remove the Left Side Cover (REP 1.1). Remove all options from the System Controller PWB. Switch the printer power on. **The printer boots up correctly and Ready is displayed on the Control Panel (if no options are installed, follow the No path).**

Y | **N**
 | | Switch the printer power off. Remove then reinstall the System Controller PWB (REP 8.1) to reseal the connection with the Print Engine Controller PWB. Switch the printer power on. **The printer boots up correctly and Ready is displayed on the Control Panel.**

Y | **N**
 | | Replace the System Controller PWB (REP 8.1).

Problem Solved.

Switch the printer power off. Reinstall one of the removed options or cables. Switch the printer power on. **The printer boots up correctly and Ready is displayed on the Control Panel.**

Y | **N**
 | | Replace the option or cable just installed.

Repeat the last step with the next option or cable until the problem is found.

RAP 13 J3: Print Cartridge Not In Position - Install/reset Print Cartridge

The Print Cartridge is not in place or is installed incorrectly.

Procedure

Open the Top Cover and remove the Print Cartridge. Inspect the tab on the front left of the Print Cartridge that actuates the Print Cartridge Sensor Assembly. **The tab on the Print Cartridge is intact.**

Y N
| Replace the Print Cartridge (PL 8.1).

Press and release the Print Cartridge Sensor Assembly Actuator. **The Print Cartridge Sensor Assembly Actuator lever moves smoothly.**

Y N
| Replace the Print Cartridge Sensor Assembly (REP 7.4).

Enter diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Manually actuate the Print Cartridge Sensor Assembly Actuator. **The number on the LCD increments each time you press and release the actuator.**

Y N
| Switch the printer power off. Install the Print Cartridge. Leave the Top Cover open. Disconnect P/J21 from the Print Engine Controller PWB. Open and close the Top Cover. Check for continuity between J21-4 and J21-3, and J21-2 and J21-1 as you lift and lower the Print Cartridge. **There is continuity between J21-4 and J21-3, and J21-2 and J21-1 when you lower the cartridge and no continuity when you lift the cartridge.**

Y N
| Replace the Print Cartridge Sensor Assembly together with the harness (REP 7.4).

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 14 J5: Toner Low

The Print Cartridge is nearing end-of-life and should be replaced.

Procedure

Install a new Print Cartridge. **The J5 Error Code still appears.**

Y N
| Problem solved.

Remove Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J14 from the Print Engine Controller PWB and disconnect the Toner Sensor from P/J141. Check for continuity between J14 pin 1 and P141 pin 1, J14 pin 2 and P141 pin 2, J14 pin 3 and P141 pin 3. **The continuity check is good.**

Y N
| Repair or replace Toner Sensor Harness Assembly as necessary (PL 8.1).

Replace Toner Sensor Assembly (REP 7.3). If the problem continues replace the Print Engine Controller PWB (REP 8.5).

RAP 15 P1: Fuser Pause

Receiving PAUSE command from the Controller.

Procedure

Switch OFF the printer power. Remove the Fuser Assembly. Measure the resistance between pins A1 & A2 of P174 on the Fuser Assembly (Figure 1). **The resistance reads between 10K ohms and 350K ohms (see NOTE).**

Y N
|
Replace the Fuser Assembly (REP 5.1).

Replace the Print Engine Controller PWB (REP 8.5).

NOTE: The resistance measured will be determined by the actual temperature of the Fuser when the test is made. The acceptable range is between 10K ohms and 350K ohms.

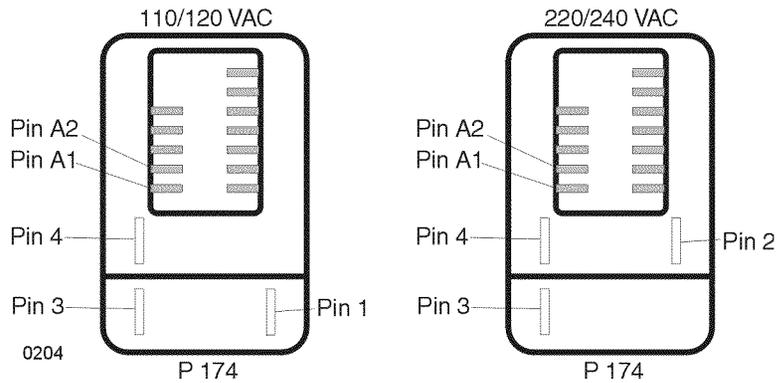


Figure 1 Fuser Connector

RAP 16 U1: Motor Fail / Power Off Then On

There is a problem with the Main Motor.

Procedure

Open the Rear Cover and, if installed, remove the Duplex Assembly. Rotate the rotor of the Main Motor counterclockwise (as viewed from the right side of the printer) manually. **The rotor of the Motor rotates smoothly.**

Y N
|
Open the Top Cover and remove Print Cartridge. Manually rotate the rotor of motor clockwise. **The rotor of Main Motor rotates smoothly.**

Y N
|
Remove the Fuser Assembly (REP 5.1). Manually rotate the rotor of the Motor clockwise. **The rotor of the Main Motor rotates smoothly.**

Y N
|
Replace the Main Motor (REP 6.2).

Replace the Fuser Assembly (REP 5.1).

Replace the Print Cartridge (PL 8.1).

Open the Top Cover. Remove the Print Cartridge. Rotate the Metal Registration Roll and Rubber Registration Roll manually. **The Metal Registration Roll and Rubber Registration Roll rotates smoothly.**

Y N
|
Replace the Registration Rolls (REP 4.4/ REP 4.5) or the paper, as necessary.

Open the Rear Cover. Manually rotate the Exit Assembly that is attached to the Rear Cover. **The Exit Assembly rotates smoothly.**

Y N
|
Replace components or the Exit Assembly as necessary (PL 6.1).

Close the Rear Cover. With the Top Cover still open, cheat the Top Cover Interlock. Enter diagnostics and select Component Test. Run the Main Motor. Visually inspect the Main Motor and Main Drive Gears. **The Main Motor and drive gears run smoothly and all drive gears are in good condition.**

Y N
|
Go to RAP 29.

Remove all paper from the MBF tray. With the Main Motor still running, select MBF Feed Solenoid. **The MBF Feed Roll Assembly rotates smoothly.**

Y N
|
Replace the MBF Feed Roll components as necessary (PL 4.1).

Select and run Tray 1 Feed Solenoid. **The Tray 1 Pick Up Gear rotates smoothly.**

Y N
|
Repair or replace the gears or assembly as necessary (PL 4.2).

Go to RAP 29.

RAP 17 U2: ROS Fail / Power Off Then On

There is a problem with the Laser Assembly.

Procedure

Enter Diagnostics and select NVM Config (password 0734). Check the value for Resolution and for Laser Density. **The value for Resolution is "D" and for Laser Power is "4".**

Y N
| Replace the Print Engine Controller PWB (REP 8.5).

Select Component Test then ROS Motor. **You can hear the Scanner Motor spin up.**

Y N
| Go to RAP 30.

Switch the printer power off. Remove the Left Side Cover (REP 1.1). Remove the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J11 from the Print Engine Controller PWB. Switch the printer power on. Check the voltage between P11-7 and P11-8 on the Print Engine Controller PWB. **There is +5.0 VDC between P11-7 and P11-8.**

Y N
| Check the voltage between P21-3 and P/J21-1 on the Print Engine Controller PWB.
There is +5.0 VDC between P21-3 and P/J21-1.

Y N
| Go to RAP 28.

Go to RAP 13.

Go to RAP 30.

RAP 18 U4: Fuser Failure / Power Off / On

There is a problem with the Fuser Assembly.

Procedure

Switch the printer power off. Wait a few minutes, then switch the printer power on. **The U4 Error Code reappears.** U4

Y N
| Run 25 to 30 test prints. **The U4 Error code reappears.**

Y N
| Problem solved

Go to RAP 31.

Go to RAP 31.

RAP 19 U6: NVM Fail / Power Off Then On

There is problem with Non-Volatile RAM on the Printer Engine Controller PWB.

Procedure

Switch the main power off then on. **The U6 Error Code appears.**

Y N
To ensure that the problem is solved, switch the Main Power off and on couple of times.
The U6 Error Code reappears.
Y N
Problem Solved.
Enter Diagnostics and select NVM Config (password 0734). **It is possible to enter into the NVM Menu.**
Y N
Replace the Print Engine Controller PWB (REP 8.5).
Check the NVM Data one by one referring to the Table of "Nonvolatile Memory Configuration Codes". **The data is set properly.**
Y N
The incorrect data is read only.
Y N
Set the data to the default value.
Replace the Print Engine Controller PWB (REP 8.5).
Go to RAP 44.

Enter Diagnostics and select NVM Config (password 0734). **It is possible to enter into the NVM Menu.**

Y N
Replace the Print Engine Controller PWB (REP 8.5).

Check the NVM Data one by one (Refer to NVM Menu under IDT Diagnostics). **The data is set properly.**

Y N
The incorrect data is read only.
Y N
Set the data to the default value.
Replace the Print Engine Controller PWB (REP 8.5).

Go to RAP 44.

RAP 20 Fan Abnormal

The printer is detecting incorrect fan rotation.

Procedure

Both Fans rotate when the main power is Switched ON.

Y N
Both of the fans are stopped.
Y N
Replace the fan that is not running (REP 8.4/ REP 8.7).
Switch OFF the main power. Remove the Lower Rear Cover (REP 1.7). Switch the main power ON. Check for 24VDC between P/J161-13 and frame ground, and 0.6VDC between P/J165-12 and frame ground. **Both voltages are correct.**
Y N
Replace the Print Engine Controller PWB (REP 8.5).
Replace the LVPS (REP 8.6).

Enter Diagnostics. Enter Component Test and scroll to "High Speed Fan" to test the Fan Fast Signal. **The Fans rotate at high speed.**

Y N
Switch the printer power OFF. Remove the Lower Rear Cover (REP 1.7). Switch the printer power ON. Enter Diagnostics. Enter Component Test and scroll to "High Speed Fan". Check for 24VDC between P/J161-13 and frame ground, and 0.6VDC between P/J165-12 and frame ground. **Both voltages are correct.**
Y N
Replace the Print Engine Controller PWB (REP 8.5).
Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 21 Low Paper Tray 1/2/3

Paper stack in the Paper Tray Assembly is below 50 sheets.

Procedure

Insert a full Tray Assembly in the affected position. **The Error Message reappears.**

Y N
| Problem solved.

Remove the affected tray Assembly. Push up the Low Paper Actuator (see PL 3.1) manually and then release. **The Low Paper Actuator returns to its normal position when released.**

Y N
| Repair or replace the Low Paper Sensor Assembly (REP 3.4) or Low Paper Actuator (PL 3.1) as necessary.

NOTE: When checking the Low Paper Sensor using the Sensor Test, at least one Paper Size switch and the Low Paper Sensor must be actuated.

Enter Diagnostics. Scroll to Component Test and Sensor Input to check the Low Paper Sensor. Push up the Low Paper Actuator manually and then release. **The Low Paper Sensor increments the counter each time you push and release the Actuator.**

Y N
| Check the wiring associated with the specific Low Paper Sensor. If ok, replace the Low Paper Sensor.

Replace the Print Engine Controller PWB (REP 8.5).

RAP 22 Paper Size Error

There is a conflict between the size of paper the printer senses in the paper tray and/or MBF and the size of paper that is actually loaded.

Procedure

The problem appears when using Tray 1, 2, or 3.

Y N
| Open the MBF and verify the size of paper currently in the MBF Tray. Enter the User Menus, select Tray Menu, then select MBF Size. **The paper size displayed on the LCD matches the size actually in the MBF.**

Y N
| Enter the User Menu and select Tray Menu. Scroll to MBF size. Set MBF size to the size of paper actually installed

Replace the Print Engine Controller PWB (REP 8.5).

The paper size in the problem tray is within printer specifications.

Y N
| Replace with paper that meets specifications.

Check the side guides and the Paper Stack End Guide in the problem tray. **All guides are properly set for the size of paper installed.**

Y N
| Properly set the guides.

Check the size cam on the left side of the paper tray. **The cams are in good condition (not broken) and rotate freely as the paper tray end guide is moved.**

Y N
| Replace the paper tray (PL 2.1/ PL 2.2).

Reinstall the paper tray. Enter Diagnostics and select Component Test. Scroll to Tray Size for the problem tray and press Enter. **The paper size displayed on the LCD matches the size of the paper actually loaded.**

Y N
| Scroll to Sensor Input test and press Enter. One at a time, press and release each of the problem tray size actuators. **The number on the LCD increments each time you press and release one of the actuators.**

Y N
| Go to RAP 37

Switch the printer power off. Remove the Left Side Cover (REP 1.1). As you insert the Tray, watch the size actuators move depending on the setting of paper tray. See Table 1. **The Tray Size Cams contact the Paper Size Actuators correctly for each size of paper.**

Y N
| Replace paper tray (PL 2.1/ PL 2.2). If the problem persists, replace the Tray 1 Left Guide Assembly (REP 3.6).

Replace the Print Engine Controller PWB (REP 8.5).

A

Replace the Print Engine Controller PWB (REP 8.5).

Table 1 Paper Size Actuators

Actuator	8.5 LEF	A4 LEF	B5 LEF	A5 LEF	14" SEF	8.5" SEF	A4 SEF	B4 SEF
4 Top	x			x	x	x	x	
3	x	x	x			x	x	
2			x	x	x			x
1 Bottom	x	x	x	x				

RAP 23 J5 Toner Low

J5 is not displayed when the Print Cartridge appears to be empty.

Procedure

Run a Test Print. Inspect the print quality. **The print is light.**

Y N

Problem does not exist. Return to Initial Actions.

Replace the Print Cartridge (PL 8.1). Run 5 test prints (Config Sheet or Demo Page) and inspect the print quality. **The print quality meets specifications.**

Y N

Go to IQ RAP 1.

Remove Tray 1. Remove the MBF (REP 2.1). Enter Diagnostics and select Component Test. Scroll to Sensor Input and press Enter [4]. Open the MBF Cover and carefully pull down then release the Toner Sensor. **The number on the LCD increments each time you pull down and release the Toner Sensor.**

Y N

Go to RAP 42.

Replace the Print Engine Controller PWB (REP 8.5).

RAP 24 Inoperative Printer

The main power cannot be switched on.

Procedure

Ensure the power cord is properly connected to the wall outlet and to the back of the printer.

The problem still exists.

Y N

Problem solved.

Perform RAP 1, then return here. **RAP 1 indicated that correct AC voltage is being supplied to the printer.**

Y N

Notify customer that the power is out of specification.

Perform RAP 2, then return here. **RAP 2 indicated that correct DC voltage is being supplied to the printer.**

Y N

Rap 2 instructed you to replace a component.

Y N

Perform RAP 3.

Replace component as necessary.

On the System Controller PWB, check the voltage on P/J3 between pins 1 and 2. **The voltage is 3.3VDC.**

Y N

Switch the printer power off. Disconnect P/J3 from the System Controller PWB. Switch the printer power on. Check the voltage between pins 1 and 2 on the disconnected plug. **The voltage is 3.3VDC.**

Y N

On the LVPS, check the voltage on P/J163 between pins 1 and 2. **The voltage is 3.3VDC.**

Y N

Replace the LVPS (REP 8.6).

Repair or replace the harness between the LVPS and the System Controller (PL 9.2).

Switch the printer power off. Remove any options connected to the System Controller PWB. Reconnect P/J3 to the System Controller PWB. Switch the printer power on. Check the voltage on P/J3 between pins 1 and 2 (if there are no options installed, follow the No path). **The voltage is 3.3VDC.**

Y N

Replace the System Controller PWB (REP 8.1).

Switch the printer power off. Reinstall the removed options one at a time, switching on the power and checking for 3.3VDC on P/J3 between pins 1 and 2 after each one is installed. Replace the option just installed when the voltage fails.

On the System Controller PWB, check the voltage on P/J13 between pins 1 and 2. **The voltage is 5.0VDC.**

Y N

Switch the printer power off. Disconnect P/J13 from the System Controller PWB. Switch the printer power on. Check the voltage between pins 1 and 2 on the disconnected plug.

The voltage is 5.0VDC.

Y N

On the LVPS, check the voltage between P/J168 pins 1 and 2. **The voltage is 24.0VDC.**

Y N

Replace the LVPS (REP 8.6).

Replace the System Controller +5.0VDC Power Supply (REP 8.9).

Switch the printer power off. Remove any options connected to the System Controller PWB. Reconnect P/J3 to the System Controller PWB. Switch the printer power on. Check the voltage on P/J3 between pins 1 and 2 (if there are no options installed, follow the No path). **The voltage is 3.3VDC.**

Y N

Replace the System Controller PWB (REP 8.1).

Switch the printer power off. Reinstall the removed options one at a time, switching on the power and checking for 3.3VDC on P/J3 between pins 1 and 2 after each one is installed. Replace the option just installed when the voltage fails.

Replace the System Controller PWB (REP 8.1). If the problem persists, replace the Print Engine Controller PWB (REP 8.5).

RAP 25 Malfunctioning LCD/LED

There is an erratic display on LCD/LED.

Procedure

Switch the printer power off. Remove any options connected to the System Controller PWB. Disconnect P/J18 from the System Controller PWB. Switch the printer power on. On the System Controller PWB, check the following voltages between P/J18 and frame ground.

Table 1

P18	With P/J18 Disconnected	With P/J18 Connected
Pin 1	3.3VDC	3.3VDC
Pin 2	0.0VDC	0.0VDC
Pin 3	1.3VDC	3.3VDC
Pin 4	0.0VDC	0.0VDC
Pin 5	3.3VDC	3.3VDC
Pin 6	1.3VDC	3.3VDC
Pin 7	3.3VDC	3.3VDC
Pin 8	0.0VDC	3.3VDC

All the voltages listed in the column "with P/J18 disconnected" are correct.

Y N
On the System Controller PWB, check the voltage on P/J3 between pins 1 and 2. **The voltage is 3.3VDC.**

Y N
Switch the printer power off. Disconnect P/J3 from the System Controller PWB. Switch the printer power on. Check the voltage between pins 1 and 2 on the disconnected plug. **The voltage is 3.3VDC.**

Y N
On the LVPS, check the voltage on P/J163 between pins 1 and 2. **The voltage is 3.3VDC.**

Y N
Replace the LVPS (REP 8.6).

Repair or replace the harness between the LVPS and the System Controller (PL 9.2).

Replace the System Controller PWB (REP 8.1).

On the System Controller PWB, check the voltage on P/J13 between pins 1 and 2. **The voltage is 5.0VDC.**

Y N
Switch the printer power off. Disconnect P/J13 from the System Controller PWB. Switch the printer power on. Check the voltage between pins 1 and 2 on the disconnected plug. **The voltage is 5.0VDC.**

Y N
On the LVPS, check the voltage between P/J168 pins 1 and 2. **The voltage is 24.0VDC.**

A B C
Y N
Replace the LVPS (REP 8.6).
Replace the System Controller +5.0VDC Power Supply (REP 8.9).
Replace the System Controller PWB (REP 8.1).

Switch the printer power off. Reconnect P/J18 to the System Controller PWB. Switch the printer power on. Check the voltages between the pins listed in Table 1 and frame ground. **All the voltages listed in the column "with P/J18 connected" are correct.**

Y N
Replace the Control Panel (PL 1.1).

Switch the printer power off. Reinstall the removed options one at a time, switching on the power and checking the voltages between the pins listed in Table 1 and frame ground after each component is installed. Replace the option just installed if the voltage fails. **After all the options are reinstalled, the LCD display is still erratic.**

Y N
Problem solved. Return to initial actions and restart.

Replace the Control Panel Assembly (PL 1.1). If the problem persists, replace the System Controller PWB (REP 8.1).

Switch the printer power off. Reconnect P/J18 to the System Controller PWB. Switch the printer power on. Check the voltages between the pins listed in Table 1 and frame ground. **All the voltages listed in the column "with P/J18 connected" are correct.**

Y N
Replace the Control Panel (REP 1.3).

Switch the printer power off. Reinstall the removed options one at a time, switching on the power and checking the voltages between the pins listed in Table 1 and frame ground after each component is installed. Replace the option just installed if the voltage fails. **After all the options are reinstalled, the LCD display is still erratic.**

Y N
Problem solved. Return to initial actions and restart.

Replace the Control Panel Assembly (PL 1.1). If the problem persists, replace the System Controller PWB (REP 8.1).

A B C

RAP 26 Inoperative Keypad

Control Panel is not operative.

Procedure

Enter Diagnostics and select the Component Test. Scroll to Sensor Input test and press Enter [4]. **The printer enters the Diagnostic Mode to the Sensor Input Level.**

Y N

Disconnect P/J18 on the System Controller PWB. Measure the voltages listed in Table 1 between P18 on the System Controller PWB and frame ground.

Table 1 Keypad

Pin	Voltage
1	3.3 VDC
2	0 VDC
3	1.3 VDC
4	0 VDC
5	3.3 VDC
6	1.3 VDC
7	3.3 VDC
8	0 VDC

All the voltages are correct.

Y N

Replace the System Controller PWB (REP 8.1).

Disconnect P/J421 from the Control Panel. Measure continuity on all wires between P/J421 and P/J18. **All checks are good.**

Y N

Replace the Wiring Harness (PL 9.1).

Replace the Control Panel Assembly (PL 1.1).

Keypad numbers (1-7) increment the counter. Keypad number [4] enters the test and (0) exits the test.

Y N

Replace the Control Panel Assembly (PL 1.1).

Replace the System Controller PWB (REP 8.1).

RAP 27 Erratic Printer Operation

Procedure

Enter diagnostics and select Test Print. Run 20 test prints. **The printer generates test prints.**

Y N

Switch the printer power off. Disconnect P/J168 from the LVPS Assembly. Switch the Main Power on. Check the voltage between P161 pin 10 and frame ground. **The voltage is +5.0VDC.**

Y N

Go to RAP 28.

Switch the printer power off. Reconnect P/J168 to the LVPS Assembly. Enter diagnostics and select Test Print. Run 20 test prints. **The printer RESETS while generating test prints.**

Y N

Replace the Print Engine Controller PWB (REP 8.5). **The problem still appears.**

Y N

Problem solved.

Replace the Interface Cable connecting host to printer. Run test prints from the host computer. **The problem still appears.**

Y N

Problem solved.

Notify customer the cause of the trouble seems to be a communication problem between the host computer and the printer. The customer should contact Customer Support.

Go to RAP 44.

The printer RESETS while generating test prints.

Y N

Replace the Print Engine Controller PWB (REP 8.5). **The problem still appears.**

Y N

Problem solved.

Notify customer the cause of the trouble seems to be a communication problem between the host computer and the printer. The customer should contact Customer Support.

Go to RAP 44.

RAP 28 Power Supply

Procedure

Switch the printer power off. Disconnect the power cord. Remove the Lower Rear Cover (REP 1.7). Disconnect the following from the LVPS:

- P/J161 (Print Engine Controller PWB)(REP 8.5)
- P/J163 (System Controller PWB)(REP 8.1)
- P/J164 (Main Motor)(REP 6.2)
- P/J165 (Main Fan)(REP 8.4)
- P/J166 (LVPS Fan)(REP 8.7)
- P/J168 (5VDC Power Supply)(REP 8.9)

Connect the power cord. Switch the printer power on and measure the voltages listed in Table 1 on the LVPS.

Table 1 LVPS

Red Lead	Black Lead	Voltage
P/J161 pin 10	Frame Ground	+5.0VDC
P/J161 pin 11	Frame Ground	+3.3VDC
P/J161 pin 3	Frame Ground	+24.0VDC

All voltages are correct.

Y N
Replace the LVPS (REP 8.6).

Switch the printer power off. Reconnect P/J161 to the LVPS. Switch the printer power on and measure the voltages listed in Table 1. All the voltages are correct

Y N
Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Reconnect all the P/Js to the LVPS. Disconnect the following from the Print Engine Controller PWB:

- P/J11 (Laser) (RAP 30)
- P/J21 (Print Cartridge Sensor) (RAP 13)
- P/J14 (Toner Sensor) (RAP 42)
- P/J12 (Tray 1 Feed head components/Tray 1 Low Paper Sensor) (RAP 21)
- P/J22 (Registration Clutch) (RAP 38)
- P/J13 (Feeder 2/3) (PL 11.1)
- P/J17 (Fuser Control PWB / Fuser) (RAP 31)
- P/J19 (Duplex Assembly /OCT) (PL 13.1)
- P/J18 (HVPS/Registration Sensor) (RAP 32)
- P/J20 (Tray 1 Size Sensor/MBF Home Sensor) (RAP 22)

Switch the printer power on and measure the voltages listed in Table 1. All voltages are correct.

Y N
Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect one of the disconnected plugs. Switch the printer power on. Measure the voltages listed in Table 1. All the voltages are correct.

A
Y N
Replace the component just connected to the Print Engine Controller PWB.
Repeat the step with the next disconnected plug.

Switch the printer power off. Reconnect one of the disconnected plugs. Switch the printer power on. Measure the voltages listed in Table 1. All the voltages are correct.

Y N
Replace the component just connected to the LVPS.
Repeat the step with the next disconnected plug.

RAP 29 Main Motor Assembly

Procedure

Open the Top Cover and remove the Print Cartridge. Cheat the Top Cover Interlock. Enter Diagnostics and select the Component Test. Scroll to Main Motor and press Enter. **The Main Motor rotates.**

Y N

Switch the printer power off. Remove the Lower Rear Cover (REP 1.7). Switch the printer power on. Measure the voltages listed in Table 1 on the LVPS.

Table 1 Main Motor Harness

From	To	Voltage
P/J164 - Pin 1	Frame Ground	24 VDC
P/J164 - Pin 2	Frame Ground	24 VDC
P/J164 - Pin 5	Frame Ground	3.2 VDC
P/J164 - Pin 6	Frame Ground	7.0 VDC
P/J164 - Pin 7	Frame Ground	6.3 VDC
This voltage valid if printer set for 1200 DPI		

All voltages are correct.

Y N

The voltages on pin 1 and pin 2 are correct.

Y N

Replace the LVPS (REP 8.6).

The voltage on pin 6 is correct.

Y N

Replace the Print Engine Controller PWB (REP 8.5).

The voltage on pin 5 is correct.

Y N

Check the voltage on P/J161 pin 11. **The voltage is 3.3VDC.**

Y N

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Replace the LVPS (REP 8.6).

With the Top Cover Interlock still cheated. Enter Diagnostics and select the Component Test. Scroll to Main Motor. Measure the voltage between P/J164 pin 6 and frame ground. Press the Enter key. **The voltage drops from 7.0 VDC to 0 VDC.**

Y N

Remove the cheater from the Top Cover Interlock, then reinstall the cheater. With Main Motor still selected, Measure the voltage on the LVPS between P/J161 pin 8 and frame ground. Press the Enter key. **The voltage drops from 7.0 VDC to 0 VDC.**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

A

B

C

Replace the LVPS (REP 8.6).

Replace the Main Motor Assembly (REP 6.2).

Problem solved.

A B C

Initial Issue

DocuPrint N2025/N2825

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Status Indicator Repair Analysis Procedures

RAP 29

RAP 30 Laser Assembly

Procedure

Enter Diagnostics and select Component Test. Scroll to ROS Motor and press Enter. **You can hear the ROS Motor spin up.**

Y N

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and remove the Print Engine Controller PWB Cover (REP 8.5). Switch the printer power on. Measure the voltage between P/J11 pin 11 on the Print Engine Controller PWB and frame ground. **The voltage is 24.0 VDC.**

Y N

Measure the voltage between P/J16 pin 9 on the Print Engine Controller PWB and frame ground. **The voltage is 24.0 VDC.**

Y N

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Enter Diagnostics and select Component Test. Scroll to ROS Motor. Measure the voltage between P/J11 pin 13 and frame ground. Press the Enter key. **The voltage drops from 5.8 VDC to 0.6 VDC.**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Laser Assembly (REP 7.1).

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Switch the printer power on. Check the voltage between P11 pin 8 and frame ground. **There is +5.0VDC between P11 pin 8 and frame ground.**

Y N

Measure the voltage between P/J21 pin 4 and frame ground. **There is +5.0VDC between P/J21 pin 4 and frame ground.**

Y N

Measure the voltage between P/J21 pin 3 and frame ground. **There is +5.0VDC between P/J21 pin 3 and frame ground.**

Y N

Switch the printer power off. Remove the Lower Rear Cover (REP 1.7). Disconnect P/J16 from the Print Engine Controller PWB. Measure the resistance between pin 5 of the disconnected plug and P/J161 pin 10 on the LVPS. **There is continuity between P16 pin 5 and P/J161 pin 10.**

Y N

Replace the Print Engine Controller Harness (PL 9.2).

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Measure the voltage between P/J21 pin 3 and frame ground. **There is +5.0VDC between P/J21 pin 3 and frame ground.**

Y N

A B

Open the Top Cover and remove the Print Cartridge. Inspect the tab on the left upper portion of the Electronic Printing Cartridge that actuates the Print Cartridge Sensor Assembly. **The tab on the Print Cartridge is intact.**

Y N

Replace the Print Cartridge (PL 8.1).

Press and release the Print Cartridge Sensor Assembly Actuator. **The Print Cartridge Sensor Assembly Actuator lever moves smoothly.**

Y N

Replace the Print Cartridge Sensor Assembly (REP 7.4).

Enter diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Manually actuate the Print Cartridge Sensor Assembly Actuator. **The number on the LCD increments each time you press and release the actuator.**

Y N

Replace the Print Cartridge Sensor Assembly together with the harness (REP 7.4).

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Print Engine Controller PWB (REP 8.5).

Run a test print. On the Print Engine Controller PWB, measure the voltage between P/J11 pin 5 and frame ground and between P/J11 pin 6 and frame ground. **The voltage on both pins change from 0.0VDC to +1.1VDC then back to 0.0VDC.**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Laser Assembly (REP 7.1). **The problem still appears.**

Y N

Problem solved.

Go to RAP 44.

A B

RAP 31 Fuser Assembly

Procedure

WARNING

If the printer has been switched on, the fuser may be hot.

Switch the printer power off. Remove the Fuser Assembly (REP 5.1). Measure the resistance between pins A1 & A2 and between pins 2 and 4 or 1 and 4 of P174 on the Fuser Assembly (Figure 1). **The resistance between A1 and A2 reads between 10K and 350K ohms (depending on the temperature of the fuser) and the resistance between pins 1 and 4 reads less than 5 ohms.**

Y N
Replace the Fuser Assembly (REP 5.1).

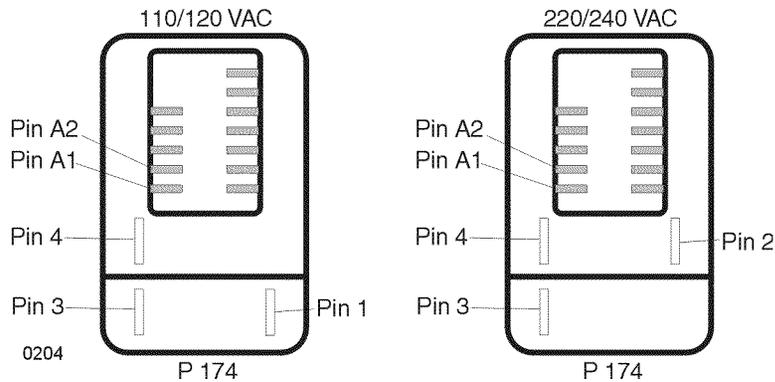


Figure 1 Fuser Connector (P174)

Reinstall the Fuser Assembly. Remove the Lower Rear Cover (REP 1.7). Disconnect P/J172 from the Fuser PWB. Ensure that the Rear Cover is closed. Check the continuity between P172 pin 1 and P172 pin 3. **There is continuity between P172 pin 1 and P172 pin 3.**

Y N
Remove the Right Side Cover (REP 1.2). Ensure that the Rear Cover is closed. Check continuity between P/J172 pin 3 and both sides of the Rear Cover Interlock Switch. **There is continuity between P/J172 pin 3 and both sides of the Rear Cover Interlock Switch.**

Y N
Repair or replace the Fuser Wiring Harness (PL 9.2) or replace the Rear Cover Interlock Switch as necessary (PL 9.2).

Replace the Fuser Harness Assembly (PL 9.2).

Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J17 from the Print Engine Controller PWB. Check for continuity between P17 pin 7 and P17 pin 8. **There is continuity between P17 pin 7 and P17 pin 8.**

Y N
Replace the Fuser Harness Assembly (PL 9.2).

A
Disconnect P/J171 from the Fuser PWB. Check for continuity between P17 pin 3 and P171 pin 1, P17 pin 2 and P171 pin 2 and P17 pin 1 and P171 pin 3. **There is continuity between all pins measured.**

Y N
Replace the Fuser Harness Assembly (PL 9.2).

Reconnect P/J171, P/J172, and P/J17. Switch the printer power on. Measure the voltage between J17 pin 2 on the Print Engine Controller PWB and frame ground. **The voltage in 3.3 VDC.**

Y N
Measure the voltage between P/J16 pin 4 on the Print Engine Controller PWB and frame ground. **The voltage in 3.3 VDC.**

Y N
Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Fuser PWB (REP 8.8). If the problem persists, replace the Print Engine Controller PWB (REP 8.5).

RAP 32 Registration Sensor

Procedure

Open the Top Cover and extend the MBF and remove the Print Cartridge. Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Actuate and deactivate the Registration Sensor. **The number on the LCD increments each time you press and release the actuator.**

Y N

Open the MBF Door and visually inspect the Registration Actuator. **The actuator moves freely and is in good condition (not broken or damaged).**

Y N

Replace the Registration Actuator (REP 4.2).

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J18 from the Print Engine Controller PWB. Switch the printer power on. On the Print Engine Controller PWB, measure the voltage between P18 pin 11 and frame ground and between P18 pin 13 and frame ground. **There is +3.3VDC between P18 pin 11 and frame ground and 3.3VDC between P18 pin 13 and frame ground.**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J18 to the Print Engine Controller PWB. Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. On the Print Engine Controller PWB, measure the voltage between P/J18 pin 13 and frame ground. **There is +3.3VDC between P18 pin 13 and frame ground when the Registration Sensor is deactivated and 0.1VDC when actuated.**

Y N

Replace the Registration Sensor (REP 4.6).

Replace the Print Engine Controller PWB (REP 8.5).

It appears that the Registration Sensor is working correctly. If a problem persists, replace the Print Engine Controller PWB (REP 8.5).

RAP 33 MBF No Paper Sensor

Procedure

Open the MBF Door and remove all paper from the MBF. Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter [4]. Actuate and deactivate the MBF No Paper Sensor Actuator. **The number on the LCD increments each time you press and release the actuator.**

Y N

Visually inspect the MBF No Paper Sensor Actuator. **The actuator moves freely and is in good condition (not broken or damaged).**

Y N

Replace the MBF No Paper Sensor Actuator (REP 2.7).

WARNING

P12 pin 10 is a +24VDC supply line, if accidentally shorted to pin 9 you will destroy the Print Engine Controller PWB.

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J12 from the Print Engine Controller PWB. Switch the printer power on. On the Print Engine Controller PWB, measure the voltage between P12 pin 7 and frame ground and between P12 pin 9 and frame ground. **Both voltages are +3.28VDC.**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J12 to the Print Engine Controller PWB. Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. On the Print Engine Controller PWB, measure the voltage between P/J12 pin 9 and frame ground. **There is +3.28VDC between P12 pin 9 and frame ground when the MBF No Paper Sensor is deactivated and 0.0VDC when actuated.**

Y N

Switch the printer power off. Disconnect P/J121 from the MBF Assembly and P/J12 from the Print Engine Controller PWB. Check the continuity between P/J121 and P/J12 as follows.

- J121-9 and J12-7
- J121-8 and J12-8
- J121-7 and J12-9

There is continuity between each of the wires.

Y N

Replace the MBF Combo Harness (PL 4.2).

Remove the MBF Assembly and disconnect P/J125 from the MBF No Paper Sensor. Check the continuity between P/J125 and P/J121 as follows.

- J125-3 and J121-4
- J125-2 and J121-5
- J125-1 and J121-6

There is continuity between each of the wires.

Y N

Replace the MBF Combo Harness (PL 4.2).

Replace the MBF No Paper Sensor Assembly (REP 2.7).

A **B**
Replace the Print Engine Controller PWB (REP 8.5).

It appears that the MBF No Paper Sensor is working correctly. If a problem persists, replace the Print Engine Controller PWB (REP 8.5).

RAP 34 Tray 1 No Paper Sensor

Procedure

Remove Tray 1. Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Actuate and deactuate the Tray 1 No Paper Sensor Actuator. **The number on the LCD increments each time you press and release the actuator.**

Y **N**

Visually inspect the Tray 1 No Paper Sensor Actuator. **The actuator moves freely and is in good condition (not broken or damaged).**

Y **N**

Replace the Tray 1 No Paper Sensor Actuator (PL 4.2).

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J12 from the Print Engine Controller PWB. Switch the printer power on. On the Print Engine Controller PWB, measure the voltage between P12 pin 4 and frame ground and between P12 pin 6 and frame ground. **Both voltages are +3.28VDC.**

Y **N**

Replace the Print Engine Controller PWB (REP 8.5).

WARNING

P12 pin 10 is a +24VDC supply line, if accidentally shorted to pin 9 you will destroy the Print Engine Controller PWB.

Switch the printer power off. Reconnect P/J12 to the Print Engine Controller PWB. Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. On the Print Engine Controller PWB, measure the voltage between P/J12 pin 6 and frame ground. **There is +3.28VDC between P12 pin 9 and frame ground when the Tray 1 No Paper Sensor is deactuated and 0.0VDC when actuated.**

Y **N**

Switch the printer power off. Disconnect P/J121 from the MBF Assembly and P/J12 from the Print Engine Controller PWB. Check the continuity between P/J121 and P/J12 as follows.

- J121-12 and J12-4
- J121-11 and J12-5
- J121-10 and J12-6

There is continuity between each of the wires.

Y **N**

Replace the MBF Harness Assembly (PL 4.2).

Remove the MBF Assembly and disconnect P/J126 from the MBF No Paper Sensor. Check the continuity between P/J126 and P/J121 as follows.

- J126-3 and J121-1
- J126-2 and J121-2
- J126-1 and J121-3

There is continuity between each of the wires.

Y **N**

Replace the MBF Combo Harness (PL 4.2).

Replace the Tray 1 No Paper Sensor Assembly (REP 2.7).

A **B**
Replace the Print Engine Controller PWB (REP 8.5).

It appears that the Tray 1 No Paper Sensor is working correctly. If a problem persists, replace the Print Engine Controller PWB (REP 8.5).

RAP 35 Stack Full Sensor

Procedure

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Actuate and deactuate the Stack Full Sensor Actuator. **The number on the LCD increments each time you press and release the actuator.**

Y **N**

Visually inspect the Stack Full Sensor Actuator. **The actuator moves freely and is in good condition (not broken or damaged).**

Y **N**

Replace the Stack Full Actuator (REP 5.3).

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J19 from the Print Engine Controller PWB. Switch the printer power on. On the Print Engine Controller PWB, measure the voltage between P19 pin 11 and frame ground and between P19 pin 13 and frame ground. **Both voltages are +3.3VDC.**

Y **N**

Measure the voltage between P/J16 pin 4 and frame ground. **The voltage is +3.3VDC.**

Y **N**

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J19 to the Print Engine Controller PWB. Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. On the Print Engine Controller PWB, measure the voltage between P/J19 pin 13 and frame ground. **There is +3.3VDC between P19 pin 13 and frame ground when the Stack Full Sensor is deactuated and 0.0VDC when actuated.**

Y **N**

Switch the printer power off. Open the Rear Cover. Disconnect P/J527 (3-pin connector on HVPS Cover). Switch the printer power on. Measure the voltage between P/J527 pin 3 and frame ground and between P/J527 pin 1 and frame ground. **Both voltages are +3.3VDC.**

Y **N**

Switch the printer power off. Remove the HVPS Cover (REP 8.2). Measure the resistance between P/J502 and P/J527 as follows:

- J527-1 and J502-1
- J527-2 and J502-2
- J527-3 and J502-3

There is continuity between each of the pins.

Y **N**

Repair or replace the harness, as necessary (PL 9.1).

Disconnect P/J501 from the Duplex Interface PWB and P/J19 from the Print Engine Controller PWB. Measure the resistance between P/J501 and P/J19 as follows:

- J501-1 and J19-13
- J501-2 and J19-12
- J501-3 and J19-11

A **B** **C**

A B C

There is continuity between each of the pins.

Y N

Repair or replace the harness, as necessary (PL 9.1).

Replace the Duplex Interface PWB (REP 8.3).

Switch the printer power off. Disconnect P/J507 from the Stack Full Sensor. Check the continuity between P/J507 and P/J527 as follows.

- J507-1 and J527-3
- J507-2 and J527-2
- J507-3 and J527-1

There is continuity between each of the pins.

Y N

Repair or replace the Stack Full Sensor Harness (PL 6.1), as necessary.

Replace the Stack Full Sensor (REP 5.2).

Replace the Print Engine Controller PWB (REP 8.5).

It appears that the Stack Full Sensor is working correctly. If a problem persists, replace the Print Engine Controller PWB (REP 8.5).

RAP 36 E5: MBF Extended / Insert MBF

MBF is extended and is not in the home position.

Procedure

Extend and close the MBF. **The error code reappears.**

Y N

Problem solved.

Extend the MBF and inspect the MBF Home Switch. **The MBF Home Switch is in good condition and the actuator moves freely.**

Y N

Replace the MBF Home Switch (REP 3.7).

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press 4. Actuate and deactuate the MBF Home Switch. **The number on the LCD increments each time you press and release the actuator.**

Y N

Switch the power off. Remove the Left Side Cover (REP 1.1). Remove the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J20 from the Print Engine Controller PWB. Switch the printer power on. Measure the voltage between P20 pin 1 and frame ground. **The voltage is 3.2VDC**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J20 to the Print Engine Controller PWB. Switch the printer power off. Measure the voltage between P20 pin 2 and frame ground as you actuate and deactuate the switch. **The voltage is 3.2VDC when the switch is deactuated and 0.0VDC when the switch is actuated.**

Y N

Replace the MBF Home Switch (REP 3.7).

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 37 Size Switch

Procedure

The problem is with a 2000 Sheet Feeder

Y N
Remove the tray from the problem feeder. Inspect the Size Cams on the left side of the paper tray. **The Size Cams are intact and in good condition (no broken surfaces).**

Y N
Replace the paper tray (PL 2.1/ PL 2.2).

Visually inspect the Size Switch Actuators. **The actuators move smoothly and are in good condition (not broken or damaged).**

Y N
Replace the Left Guide Assembly (REP 3.6()/REP 11.14).

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. One at a time, press and release each of the size actuators. **The number on the LCD increments each time you press and release one of the actuators.**

Y N
The problem is with Tray 1 Size Sensor.

Y N
Switch the printer power off. Remove the Left Cover from the 500 Sheet Feeder (REP 11.3). Disconnect P/J138 from the Feeder PWB. Check the continuity between the following pins, of the disconnected plug, while pressing the switches:

- P138-1 and P138-3 when pressing SW1 Bottom
- P138-2 and P138-3 when pressing SW2
- P138-4 and P138-3 when pressing SW3
- P138-5 and P138-3 when pressing SW4 Top

There is continuity in each case.

Y N
Check for pin to pin continuity of the Size Sensor Harness. Repair or replace as necessary. If the harness is OK, replace the Size Sensor Switch (PL 3.1).

Reconnect P/J138 to the feeder PWB. Switch the printer power on. Measure the following voltages on P/J132 pin 5 as you actuate the switches (see Table 1).

Table 1 Size Switch Voltages

Press Actuator	Voltage	Press Actuators	Voltage	Press Actuators	Voltage
4 (top)	1.4VDC	4 & 3	0.4VDC	4, 3, & 2	0.0VDC
3	2.3VDC	4 & 2	0.9VDC	None	3.3VDC
2	2.8VDC	3 & 2	1.8VDC		

All voltages are correct.

Y N
Replace the Feeder PWB (REP 11.8).

A B C D
Switch the printer power off. Remove the printer Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Switch the printer power on. Measure the voltages on P/J13 pin 5 as you actuate the switches (see Table 1). **All voltages are correct.**

Y N
Check for continuity between P/J13 pin 5 (Print Engine Controller PWB) and P/J131 pin 5 and between P/J131 pin 5 and P/J132 pin 5 (Feeder PWB). (P/J131 is the connector between the printer and the 500 sheet feeder). Repair or replace the harness as necessary.

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Remove the Left Side Cover (REP 1.1) from the printer. Disconnect P/J20 from the Print Engine Controller PWB. Check the continuity between the following pins, of the disconnected plug, while pressing the switches:

- P20-7 and P138-3 when pressing SW1 Bottom
- P20-6 and P138-3 when pressing SW2
- P20-4 and P138-3 when pressing SW3
- P20-3 and P138-3 when pressing SW4 Top

There is continuity in each case.

Y N
Check for pin to pin continuity of the Size Sensor Harness. Repair or replace as necessary. If the harness is OK, replace the Size Sensor Switch (PL 3.1).

Replace the Print Engine Controller PWB (REP 8.5).

The size sensors appear to be working correctly. If the problem persists, replace the Print Engine Controller PWB (REP 8.5).

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter [4]. Press and release the 2000 Sheet Feeder A4 Paper Sensor. **The number on the LCD increments each time you press and release the sensor actuator.**

Y N
Switch the printer power off. Disconnect P/J604 from the 2000 Sheet Feeder PWB. Check the resistance between pins 5 and 6 as you actuate and deactuate the Paper Size Sensor. **The resistance is zero when the sensor is actuated and infinite when deactuated.**

Y N
Replace the 2000 Sheet Feeder A4 Paper Sensor (PL 12.2).

Replace the 2000 Sheet Feeder PWB (REP 12.10).

Replace the Print Engine Controller PWB (REP 8.5).

A B C D

RAP 38 Registration Clutch

Procedure

Enter Diagnostics and select Component Test. Scroll to Reg. Clutch and press Enter. **You can hear the Registration Clutch energize.**

Y N

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J22 on the Print Engine Controller PWB. Measure the resistance between pins 1 and 2 on the disconnected plug. **The resistance is approximately 170 to 185 ohms.**

Y N

Remove the Print Cartridge and the MBF Assembly (REP 2.1). Disconnect P/J222 from the Registration Clutch. Check for pin to pin continuity between P22 and P222. **There is continuity between both pins.**

Y N

Repair or replace the Registration Clutch Harness as necessary (PL 9.1).

Replace the Registration Clutch (REP 4.3).

Switch the printer power on. Check the voltage between P/J22 pin 1 and frame ground. **The voltage is +24VDC.**

Y N

Check the voltage between P/J16 pin 9 and frame ground. **The voltage is +24VDC.**

Y N

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J22. Enter Diagnostics and select Component Test. Scroll to Reg. Clutch. Measure the voltage between P/J22 pin 2 and frame ground. Press the Enter key. **The voltage drops from +24VDC to 0.0VDC.**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Open the Top Cover and remove the Print Cartridge. With the Top Cover open, cheat the Top Cover Interlock. Enter Diagnostics and select Component Test. Scroll to Main Motor and press Enter. Scroll to Reg. Clutch and press Enter. **The Registration Rolls rotate smoothly without stalling or jerking.**

Y N

Replace the Registration Clutch (REP 4.3) or Registration Rolls (Metal - REP 4.4) (Rubber - REP 4.5) as necessary.

Problem Solved.

Switch the printer power off. Open the Top Cover and remove the Print Cartridge. With the Top Cover open, cheat the Top Cover Interlock. Enter Diagnostics and select Component Test. Scroll to Main Motor and press Enter. Scroll to Reg. Clutch and press Enter. **The Registration Rolls rotate smoothly without stalling or jerking.**

Y N

Replace the Registration Clutch (REP 4.3) or Registration Rolls (Metal - REP 4.4) (Rubber - REP 4.5) as necessary.

A

Initial Issue

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RAP 38

RAP 39 Turn Roll Clutch Assembly

Procedure

Enter Diagnostics and select Component Test. Scroll to Turn Roll Clutch Assembly and press Enter. **You can hear the Turn Roll Clutch Assembly energize.**

Y N
Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J12 on the Print Engine Controller PWB. Measure the resistance between pins 10 and 11 on the disconnected plug. **The resistance is approximately 170 to 185 ohms.**

Y N
Remove the MBF Assembly. On the MBF assembly measure the resistance between P121 pin 7 and pin 8. **The resistance is approximately 170 to 185 ohms.**

Y N
Remove the MBF Gear Cover. Disconnect the Turn Roll Clutch Assembly inline connector (P/J124). Measure the resistance of the clutch. **The resistance is approximately 170 to 185 ohms.**

Y N
Replace the Turn Roll Clutch Assembly (REP 2.3).

Repair or replace the MBF Combo Harness (PL 4.2).

Repair or replace the MBF Harness (P/J12 to P/J121) (PL 9.1).

Switch the printer power on. Measure the voltage between P/J12 pin 10 on the Print Engine Controller PWB and frame ground. **The voltage is +24VDC.**

Y N
Measure the voltage between P/J16 pin 9 and frame ground. **The voltage is +24VDC.**

Y N
Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J12. Enter Diagnostics and select Component Test. Scroll to Turn Roll Clutch Assembly. Measure the voltage between P/J12 pin 11 and frame ground. Press the Enter key. **The voltage drops from +24VDC to 0.0VDC.**

Y N
Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Open the Top Cover and remove the Print Cartridge. With the Top Cover open, cheat the Top Cover Interlock. Enter Diagnostics and select Component Test. Scroll to Main Motor and press Enter. Scroll to Turn Roll Clutch Assembly and press Enter. **The Turn Rolls rotate smoothly without stalling or jerking.**

Y N
Replace the Registration Clutch (REP 4.3) or Turn Roll Assembly (REP 2.4) as necessary.

Problem Solved.

A
Switch the printer power off. Open the Top Cover and remove the Print Cartridge. With the Top Cover open, cheat the Top Cover Interlock. Enter Diagnostics and select Component Test. Scroll to Main Motor and press Enter. Scroll to Turn Roll Clutch Assembly and press Enter.

The Turn Rolls rotate smoothly without stalling or jerking.

Y N
Replace the Turn Roll Clutch Assembly (REP 2.3) or Turn Roll Assembly (REP 2.4) as necessary.

Problem Solved.

RAP 40 Tray 1 Feed Solenoid

Procedure

Enter Diagnostics and select Component Test. Scroll to Tray 1 Feed Sol and press Enter. **You can hear the solenoid energize.**

Y N
Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J12 on the Print Engine Controller PWB. Measure the resistance between pins 12 and 13 on the disconnected plug. **The resistance is approximately 90 ohms.**

Y N
Remove the MBF Assembly. On the MBF assembly, measure the resistance between P121 pin 9 and pin 10. **The resistance is approximately 90 ohms.**

Y N
Remove the MBF Gear Cover. Disconnect the Tray 1 Feed Solenoid inline connector (P/J123). Measure the resistance of the solenoid. **The resistance is approximately 90 ohms.**

Y N
Replace the Tray 1 Feed Solenoid (REP 2.9).

Repair or replace the MBF Combo Harness (PL 4.2).

Repair or replace the MBF Harness (P/J12 to P/J121) (PL 9.1).

Switch the printer power on. Measure the voltage between P/J12 pin 12 on the Print Engine Controller PWB and frame ground. **The voltage is +24VDC.**

Y N
Measure the voltage between P/J16 pin 9 and frame ground. **The voltage is +24VDC.**

Y N
Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J12. Enter Diagnostics and select Component Test. Scroll to Tray 1 Feed Sol. Measure the voltage between P/J12 pin 13 and frame ground. Press the Enter key. **The voltage drops from +24VDC to 0.0VDC.**

Y N
Replace the Print Engine Controller PWB (REP 8.5).

Check for mechanical binding of the solenoid or a defective spring. If the problem persists, replace the Tray 1 Feed Solenoid (REP 2.9).

Scroll to Main Motor and press Enter. The Tray 1 Feed Rolls will rotate one revolution and feed a sheet of paper to the Tray 1 Turn Rolls. Open and close the Top Cover to stop the Main Motor. Open Tray 1 and remove the sheet of paper. Scroll to Main Motor and press Enter. Scroll to Turn Roll Clutch and press Enter. Scroll to Tray 1 Feed Sol and press Enter. **A sheet of paper is fed from Tray 1 to the Registration Rolls.**

Y N
Replace the Tray 1 Feed Solenoid (REP 2.9).

Problem solved.

RAP 41 MBF Feed Solenoid

Procedure

Enter Diagnostics and select Component Test. Scroll to MBF Feed Sol and press Enter. **You can hear the solenoid energize.**

Y N
Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J12 on the Print Engine Controller PWB. Measure the resistance between pins 14 and 15 on the disconnected plug. **The resistance is approximately 90 ohms.**

Y N
Remove the MBF Assembly. On the MBF assembly, measure the resistance between P121 pin 9 and pin 10. **The resistance is approximately 90 ohms.**

Y N
Remove the MBF Gear Cover. Disconnect the MBF Feed Solenoid inline connector (P/J122). Measure the resistance of the solenoid. **The resistance is approximately 90 ohms.**

Y N
Replace the MBF Feed Solenoid (REP 2.8).

Repair or replace the MBF Combo Harness (PL 4.2).

Repair or replace the MBF Harness (P/J12 to P/J121) (PL 9.1).

Switch the printer power on. Measure the voltage between P/J12 pin 14 on the Print Engine Controller PWB and frame ground. **The voltage is +24VDC.**

Y N
Measure the voltage between P/J16 pin 9 and frame ground. **The voltage is +24VDC.**

Y N
Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J12. Enter Diagnostics and select Component Test. Scroll to MBF Feed Sol. Measure the voltage between P/J12 pin 15 and frame ground. Press the Enter key. **The voltage drops from +24VDC to 0.0VDC.**

Y N
Replace the Print Engine Controller PWB (REP 8.5).

Check for mechanical binding of the solenoid or a defective spring. If the problem persists, replace the MBF Feed Solenoid (REP 2.9).

Open the Top Cover and cheat the Top Cover Interlock. Remove the Print Cartridge. Add paper to the MBF. Scroll to Main Motor and press Enter. The MBF Feed Rolls will rotate one revolution and feed a sheet of paper to the Registration Rolls. Open and close the Top Cover to stop the Main Motor. **A sheet of paper is fed from the MBF to the Registration Rolls.**

Y N
Replace the MBF Feed Solenoid (REP 2.8).

Problem solved.

RAP 42 Toner Sensor Assembly

Procedure

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Open the Top Cover and remove the Print Cartridge. Cheat the Top Cover Interlock. Disconnect P/J14 from the Print Engine Controller PWB. Measure the voltage between P14 pin 1 on the Print Engine Controller PWB and frame ground. **The voltage is +24.0VDC.**

Y N

Measure the voltage between P/J16 pin 9 on the Print Engine Controller PWB and frame ground. **The voltage is +24.0VDC.**

Y N

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Measure the voltage between P14 pin 3 and frame ground. **The voltage is +5.0VDC.**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J14. Switch the printer power on. Raise and lower the Print Cartridge approximately 2 inches (50.8mm) while measuring the voltage between P/J14 pin 3 and frame ground. **The voltage is 5.0VDC when the cartridge is in place and 0.0VDC when the cartridge is raised.**

Y N

Check the continuity between P/J14 and P/J141. **There is continuity between all the pins tested.**

Y N

Repair or replace the Toner Sensor Harness (PL 8.1).

Replace the Toner Sensor Assembly (REP 7.3).

Problem Solved.

RAP 43 HVPS Assembly

Procedure

Open the Top Cover. Remove the Print Cartridge. Inspect all contacts on the Right Print Cartridge Guide Assembly and the terminals on the Print Cartridge. **The terminals are in good condition and contacting properly when the cartridge is installed.**

Y N

Replace the Right Print Cartridge Guide Assembly (REP 7.2) or the Print Cartridge (PL 8.1) as necessary.

Inspect the Seal Guide on the rear end of the Right Print Cartridge Guide Assembly. **The Seal Guide is intact, free of contamination, deformation or damage.**

Y N

Replace the Right Print Cartridge Guide Assembly (REP 7.2).

Enter Diagnostics and select Component Test. Scroll to Charge Roll AC. Insert a cheater into the Top Cover Interlock Switch. Press Enter [4]. Measure the voltage between the Right Side Guide Charge Terminal (connector nearest the front of the machine) and frame ground, press Enter. **The reading is 1150 VAC.**

Y N

Scroll to "Dev Bias AC". Measure the voltage between the Right Side Guide Developer Bias Terminal (connector nearest the back of the machine) and frame ground, press Enter. **The voltage reading is 620 VAC.**

Y N

Scroll to "BTR-". Place the probe on the left end of the BTR shaft. Press Enter. **The voltage reading is 915 VDC.**

Y N

Switch the printer power OFF. Remove the Lower Rear Cover (REP 1.7), Duplex Assembly (REP 9.1) if installed, and the HVPS Cover (REP 1.6). Switch the machine power on. Check the voltage between P/J181 pin 10 and frame ground. **The voltage is +24 VDC.**

Y N

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Switch the printer power on. Check the voltage between P/J18 pin 1 on the Print Engine Controller PWB and frame ground. **The voltage is +24 VDC.**

Y N

Check the voltage between P/J16 pin 9 on the Print Engine Controller PWB and frame ground. **The voltage is +24 VDC.**

Y N

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Check the wires for continuity between P/J181 and P/J18. Repair or replace the harness as necessary.

Replace the HVPS (REP 8.2).

Replace the HVPS (REP 8.2).

A B

A B
Check the wiring connections and continuity between the charge contact on the Right Side Guide and P186 on the HVPS. Repair or replace as necessary. If wiring is ok, replace the HVPS (REP 8.2).

Scroll to Charge Roll DC. Measure the voltage between the Right Side Guide Charge Terminal and frame ground, press Enter. **The reading is 485 VDC.**

Y N
Replace the HVPS (REP 8.2).

Scroll to Dev Bias AC. Measure the voltage between the Right Side Guide Developer Bias Terminal (connector nearest the back of the machine) and frame ground, press Enter. **The voltage reading is 620 VAC.**

Y N
Replace the HVPS PWB Assembly (REP 8.2).

Remove the Right Print Cartridge Guide Assembly (REP 7.2). Remove the screws that secure the Developer Wire Assembly (PL 8.1) and P/J186 of the Xero Wire Assembly (PL 8.1). Disconnect P/J187 and P/J186 from the HVPS Assembly. Check the continuity between both ends of the Developer Wire Assembly and Xero Wire Assembly. **There is continuity respectively through the Developer Wire Assembly and Xero Wire Assembly.**

Y N
Replace the Developer Wire Assembly and/or Xero Wire Assembly (PL 8.1).

Replace the Print Engine Controller PWB (REP 8.5). **The problem still appears.**

Y N
Problem solved.

Replace the HVPS PWB Assembly (REP 8.2).

RAP 44 Electrical Noise

Procedure

Check if there is other electrical equipment, such as electrical generators, radio transmitters, or devices using electrical motors, within ten feet of the printer. Shut off the other electrical equipment, or relocate the printer at least twenty feet away from other devices. **The Electrical Noise problem is still present.**

Y N
Problem solved.

Check the AC wall outlet and power cord (see RAP 1). **The AC wall outlet is correctly wired and grounded.**

Y N
Inform the customer of insufficient voltage or improper wiring. A licensed electrician must correct the wiring.

Open the Top Cover. Remove the Print Cartridge. Inspect all contacts on the Right Print Cartridge Guide Assembly and the terminals on the Print Cartridge. **The terminals are in good condition and contacting properly when the cartridge is installed.**

Y N
Replace the Right Print Cartridge Guide Assembly (REP 7.2) or the Print Cartridge (PL 8.1) as necessary.

Remove the Lower Rear Cover (REP 1.7). Inspect the grounding screw for the cable connected to the Main Power Switch. **The cable is grounded properly.**

Y N
Attach the grounding screw properly.

Replace the Print Cartridge (PL 8.1). **The Electrical Noise problem is still present.**

Y N
Problem solved.

Remove the Print Cartridge. Remove the Right Print Cartridge Guide Assembly (REP 7.2). Inspect the Seal Guide on the rear end of the Right Print Cartridge Guide Assembly. **The Seal Guide is intact, free of contamination, obstructions, and deformities.**

Y N
Clean the Seal Guide or replace the Right Print Cartridge Guide Assembly (REP 7.2).

Remove the Paper Transport Assembly (REP 4.1). Check the continuity of all the wires in the Paper Transport Assembly. **There is continuity on all the wires.**

Y N
Replace the Paper Transport Assembly (REP 4.1).

Inspect the Developer Wire Assembly. **The wires are connected properly.**

Y N
Connect the wires properly.

Inspect the cables of P174-1 and P174-4 and the right end of the Heater Rod. **The cables are attached properly.**

Y N
Attach the cables properly or replace the Fuser Assembly (REP 5.1).

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Disconnect the HVPS (P/J18) from the Print Engine Controller PWB (REP 8.5). Run Test Prints (continuously; approximately twenty sheets). **The Test Prints run normally.**

Y N

Replace the Print Engine Controller PWB (REP 8.5). **The problem is still present.**

Y N

Problem solved.

Inspect all of the grounds in the printer. **All the grounds are securely connected.**

Y N

Repair the bad grounds.

Replace the following components one at a time until the cause of the problem is found.

- HVPS PWB Assembly (REP 8.2).
- Right Print Cartridge Guide Assembly (REP 7.2).
- Print Engine Controller PWB (REP 8.5).
- Inlet Assembly (PL 9.2).
- Print Cartridge (PL 8.1).
- Fuser Assembly (REP 5.1).
- Paper Transport Assembly (REP 4.1).
- HVPS Harness Assembly (PL 9.2).

Replace the HVPS PWB Assembly (REP 8.2).

RAP 45 0101 - DIMM 1

Procedure

Switch off the printer power. Remove the Left Side Cover (REP 1.1) and the Shield Cover. Remove the DIMM installed in Slot 1 (J4). Switch the printer power on. **"0101 - DIMM 1" error message is displayed on the Control Panel.**

Y N

Switch the printer power off. Install the removed DIMM into Slot 2 (J5). Switch the printer power on. **"0102 - DIMM 2 error message is displayed on the Control Panel.**

Y N

Switch the printer power off. Remove the DIMM from Slot 2 (J5) and reinstall it into Slot 1 (J4). Switch the printer power on. **"0101 - DIMM 1" error message is displayed on the Control Panel.**

Y N

Attribute problem to a poor connection of the DIMM on the System Controller PWB and go to Final Actions.

Replace the System Controller PWB (REP 8.1).

Replace the DIMM (PL 9.1).

Replace the System Controller PWB (REP 8.1).

RAP 46 0102 - DIMM 2

Procedure

Switch off the printer power. Remove the Left Side Cover (REP 1.1) and the Shield Cover. Remove the DIMM installed in Slot 2 (J5). Switch the printer power on. **"0102 - DIMM 2" error message is displayed on the Control Panel.**

Y N
Switch the printer power off. Install the removed DIMM into Slot 1 (J4). Switch the printer power on. **"0101 - DIMM 1" error message is displayed on the Control Panel.**

Y N
Switch the printer power off. Remove the DIMM from Slot 1 (J4) and reinstall it into Slot 2 (J5). Switch the printer power on. **"0101 - DIMM 1" error message is displayed on the Control Panel.**

Y N
Attribute problem to a poor connection of the DIMM on the System Controller PWB and go to Final Actions.

Replace the System Controller PWB (REP 8.1).

Replace the DIMM (PL 9.1).

Replace the System Controller PWB (REP 8.1).

RAP 47 0101 - DIMM 3

Procedure

Switch off the printer power. Remove the Left Side cover (REP 1.1) and the shield cover. Remove the DIMM installed in Slot 3 (J6). Switch the printer power on. **"0103 - DIMM 3" error message is displayed on the Control Panel.**

Y N
Switch the printer power off. Install the removed DIMM into Slot 1 (J4). Switch the printer power on. **"0101 - DIMM 1" error message is displayed on the Control Panel.**

Y N
Switch the printer power off. Remove the DIMM from Slot 1 (J4) and reinstall it into Slot 3 (J6). Switch the printer power on. **"0101 - DIMM 1" error message is displayed on the Control Panel.**

Y N
Attribute problem to a poor connection of the DIMM on the System Controller PWB and go to Final Actions.

Replace the System Controller PWB (REP 8.1).

Replace the DIMM (PL 9.1).

Replace the System Controller PWB (REP 8.1).

RAP 48 Exit Sensor

Procedure

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter [4]. Open the rear cover and open the Fuser Exit Door. Actuate and deactuate the Fuser Exit Sensor. **The number on the LCD increments each time you actuate and deactuate the sensor.**

Y N

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J17 from the Print Engine Controller PWB. Switch the printer power on. Check the voltage between P/J17 pin 6 and frame ground. **The voltage is 3.2VDC.**

Y N

Check the voltage between P/J16 pin 4 and frame ground. **The voltage is 3.2VDC.**

Y N

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J17 to the Print Engine Controller PWB. Measure the voltage between P/J17 pin 6 and frame ground as you actuate and deactuate the Fuser Exit Sensor. **The voltage is 3.2VDC when the Fuser Exit Sensor is deactuated and 0.0VDC when actuated.**

Y N

Replace the Fuser Assembly (REP 5.1).

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 49 E2-1: Paper Jam / Misfeed 500 Sheet Feeder

Misfeed jam. There is a paper jam between a 500 Sheet Feeder Assembly and the Registration Sensor.

Procedure

Remove all of the paper from problem paper tray and reinstall the paper tray. Enter Diagnostics and select Test Print and run a test print from the problem Tray. **The LCD displays a C5 error code.**

Y N

Go to RAP 5.

The paper is curled, damaged or damp.

Y N

The paper size is within specifications.

Y N

Replace with paper within size specifications

Remove problem paper tray and install Tray 1 paper tray into problem feeder. Enter Diagnostics and select Test Print. Print 20 test prints from the problem feeder. **E2-1 Code is displayed.**

Y N

Replace Tray Assembly (PL 2.1/ PL 2.2).

Remove Tray from problem feeder. Enter Diagnostics and select Component Test. Scroll to Main Motor and press Enter. Scroll to Turn Roll Clutch and press Enter. Scroll to Tray 2 or Tray 3 Feed Sol and press Enter. Observe the problem Tray Feed Rolls. **The Feed Rolls rotate one complete turn.**

Y N

Remove the Left Cover (REP 11.3) of the 500 Sheet Feeder. Enter Diagnostics and select Component Test. Scroll to Turn Roll Clutch and press Enter. **The Feeder Motor is rotating.**

Y N

Go to RAP 51.

Remove the 500 Sheet Feeder Feed Head Assembly (REP 11.9). Inspect the gears for cracks, broken or missing teeth. Also inspect the return spring for the Feed Roll Shaft Gear. **The gears and spring are in good condition.**

Y N

Replace defective gears or springs (PL 11.2).

Go to RAP 51.

Open the rear door of the 500 Sheet Feeder. Enter Diagnostics and select Component Test. Scroll to Turn Roll Clutch and press Enter. **The Turn Roll Shaft is rotating.**

Y N

Remove the 500 Sheet Feeder Feed head Assembly (REP 11.9). Inspect the gears for cracks, broken or missing teeth. Replace defective parts (PL 11.2).

Remove the 500 Sheet Feeder Retard Chute Assembly (REP 11.13). Inspect the retard holder and retard arm for damage. **The Retard Chute Assembly is OK.**

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Y N

Replace the Retard Chute Assembly (REP 11.13).

Remove the Rear Chute Assembly (REP 11.13). Inspect the Rear Chute Assembly for damaged missing or broken Idler Rollers and Springs.

Replace with fresh, dry paper.

RAP 50 Low Paper Tray 2 (or Tray 3) 500 Sheet Feeder

Tray 2 and/or Tray 3 have low paper.

Procedure

Fill the affected paper tray with fresh paper. **The Error Code is still displayed.**

Y N

Problem solved.

Remove the paper tray from the 500 Sheet Feeder Assembly. Manually push up and release the low paper actuator. **The low paper actuator moves smoothly up and down.**

Y N

Replace the Low Paper Actuator (PL 11.3) or the Tray 2/3 Left Guide Assembly (REP 11.14) as necessary.

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Press and release the Low Paper Actuator. **The number on the LCD increments each time you press and release the actuator.**

Y N

Switch the printer power off. Remove the 500 Sheet Feeder Left Cover (REP 11.3). Disconnect P/J133 from the Feeder PWB. Switch the printer power on. Measure the voltage between P133 pin 1 and frame ground and between P133 pin 3 and frame ground. **Both readings are +3.2VDC.**

Y N

Replace the Feeder PWB (REP 11.8).

Switch the printer power off. Reconnect P/J133. Switch the printer power on. Measure the voltage between P/J133 pin 3 and frame ground as you actuate and deactuate the Low Paper Sensor. **The voltage is 0.0VDC when deactuated and +3.2VDC when actuated.**

Y N

Switch the printer power off. Remove the 500 Sheet Feeder Left Tray Guide. Check for continuity between P/J133 and P/J137. Repair or replace as necessary. If the harness checks good, replace the Low Paper Sensor (PL 11.3).

Measure the voltage between P/J132 pin 7 and frame ground as you actuate and deactuate the Low Paper Sensor. **The voltage is +0.9VDC when deactuated and 0.0VDC when actuated.**

Y N

Replace the Feeder PWB (REP 11.8).

Switch the printer power off. Remove the printer Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Switch the printer power on. Measure the voltage between P/J13 pin 7 and frame ground as you actuate and deactuate the Low Paper Sensor. **The voltage is +0.9VDC when deactuated and 0.0VDC when actuated.**

Y N

Check for continuity between P/J132 and P/J131 and between P/J131 and P/J13. Repair or replace as necessary.

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 51 500 Sheet Feeder Feed Solenoid

The 500 Sheet Feeder is not feeding paper or not feeding paper at the correct time.

Procedure

Enter Diagnostics and select Component Test. Scroll to Tray 2 Feed Sol or Tray 3 Feed Sol and press Enter. **You can hear the solenoid energize.**

Y N

Switch the printer power off. Remove the 500 Sheet Feeder Left Cover (REP 11.3). Disconnect P/J133 on the Feeder PWB. Measure the resistance between pins 10 and 11 on the disconnected plug. **The resistance is approximately 90 ohms.**

Y N

Disconnect P/J135 from the Feed Head Assembly. On the Feed Head Assembly, measure the resistance between P135 pin 1 and pin 2. **The resistance is approximately 90 ohms.**

Y N

Replace the Tray 2 or 3 Feed Solenoid (REP 11.11).

Repair or replace the Feed Head Harness (P/J133 to P/J135) (PL 11.3).

Switch the printer power on. Measure the voltage between P/J133 pin 10 on the Feeder PWB and frame ground. **The voltage is +24VDC.**

Y N

Measure the voltage between P/J132 pin 3 and frame ground. **The voltage is +24VDC.**

Y N

Switch the printer power off. Remove the printer Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Switch the printer power on. Measure the voltage between P/J13 pin 3 and frame ground. **The voltage is +24VDC.**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

Check the continuity of the Feeder Harnesses (P/J132 to P/J131 and P/J131 to P/J13). Repair or replace as necessary (PL 11.3).

Replace the Feeder PWB (REP 11.8).

Switch the printer power off. Reconnect P/J133. Enter Diagnostics and select Component Test. Scroll to Tray 2 Feed Sol or Tray 3 Feed Sol. Measure the voltage between P/J133 pin 11 and frame ground. Press the Enter key. **The voltage drops from +24VDC to 0.0VDC.**

Y N

Measure the voltage between P/J132 pin 4 and frame ground. Press the Enter key. **The voltage changes from 0.0VDC to 3.2VDC.**

Y N

Switch the printer power off. Remove the printer Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Switch the printer power on. Measure the voltage between P/J13 pin 4 and frame ground. **The voltage changes from 0.0VDC to 3.2VDC.**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

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Check the continuity of the Feeder Harnesses (P/J132 to P/J131 and P/J131 to P/J13). Repair or replace as necessary (PL 11.3).

Replace the Tray 2/3 Feeder PWB (REP 11.8).

Check for mechanical binding of the solenoid or a defective spring. If the problem persists, replace the Tray 2/3 Feed Solenoid (REP 11.11).

Scroll to Main Motor and press Enter. The Tray 2/3 Feed Rolls will rotate one revolution and feed a sheet of paper. Open and close the Top Cover to stop the Main Motor. Open the printer and remove the sheet of paper. Scroll to Main Motor and press Enter. Scroll to Turn Roll Clutch and press Enter. Scroll to Tray 2 Feed Sol or Tray 2 Feed Sol and press Enter. **A sheet of paper is fed from Tray 2/3 to the Registration Rolls.**

Y N

Replace the Tray 2/3 Feed Solenoid (REP 11.11).

Problem solved.

A B C D

Initial Issue

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Status Indicator Repair Analysis Procedures

RAP 51

RAP 52 500 Sheet Feeder Assembly Not Recognized

Controller does not recognize the Feeder Assembly.

Procedure

Check the alignment of the printer to the 500 Sheet Feeder and the alignment of the top 500 Sheet Feeder to the second 500 Sheet Feeder, if installed. Ensure that the connectors are properly aligned and properly connected. **All connectors are properly aligned and connected.**

Y N

Reseat the feeders and printer to obtain proper alignment and connection.

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J13 from the Print Engine Controller PWB. Switch the printer power on. Check the voltage between P13 pin 10 on the Print Engine Controller PWB and frame ground. **The voltage is 1.0VDC.**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

The printer contains only one 500 Sheet Feeder.

Y N

Switch the printer power off. Remove the Left Side Cover (REP 11.3) from the top 500 Sheet Feeder. Disconnect P/J136 from the Feeder PWB. Reconnect P/J13 to the Print Engine Controller PWB. Switch the printer power on. Check the voltage between P13 pin 10 on the Print Engine Controller PWB and frame ground. **The voltage is 1.9VDC.**

Y N

Switch the printer power off. Disconnect P/J13 from the Print Engine Controller PWB and P/J132 from the Feeder PWB. Check for the continuity between each of the Pins on P13 and P132 as follows:

- P13-1 and P132-1
- P13-2 and P132-2
- P13-3 and P132-3
- P13-4 and P132-4
- P13-5 and P132-5
- P13-6 and P132-6
- P13-7 and P132-7
- P13-9 and P132-8
- P13-10 and P132-9
- P13-11 and P132-10
- P13-12 and P132-11
- P13-13 and P132-12
- P13-14 and P132-13
- P13-15 and P132-14

There is continuity between all pins measured.

Y N

Repair or replace the harness between P/J13 and P/J131 (PL 9.1) or between P/J131 and P/J132 (PL 11.2).

Replace the Feeder PWB (REP 11.8) in the top 500 Sheet Feeder.

A B

Switch the printer power off. Reconnect P/J136 to the top 500 Sheet Feeder. Switch the printer power on. Check the voltage between P13 pin 10 on the Print Engine Controller PWB and frame ground. **The voltage is 0.68VDC.**

Y N

Switch the printer power off. Remove the Left Cover (REP 11.3) from the lower 500 Sheet Feeder. Disconnect P/J136 from the top Feeder PWB and P/J132 from the lower Feeder PWB. Check for the continuity between each of the Pins on P136 and P132 as follows:

- P136-1 and P132-1
- P136-2 and P132-2
- P136-3 and P132-3
- P136-4 and P132-4
- P136-5 and P132-5
- P136-6 and P132-6
- P136-7 and P132-7
- P136-8 and P132-9
- P136-9 and P132-10
- P136-10 and P132-11
- P136-11 and P132-12
- P136-12 and P132-13
- P136-13 and P132-14

There is continuity between all pins measured.

Y N

Repair or replace the harness between P/J13 and P/J131 (PL 9.1) or between P/J131 and P/J132 (PL 11.2).

Replace the Feeder PWB (REP 11.8).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J13 to the Print Engine Controller PWB. Switch the printer power on. Check the voltage between P13 pin 10 on the Print Engine Controller PWB and frame ground. **The voltage is 1.6VDC.**

Y N

Switch the printer power off. Remove the 500 Sheet Feeder Left Cover (REP 11.3). Disconnect P/J13 from the Print Engine Controller PWB and P/J132 from the Feeder PWB. Check for the continuity between each of the Pins on P13 and P132 as follows:

- P13-1 and P132-1
- P13-2 and P132-2
- P13-3 and P132-3
- P13-4 and P132-4
- P13-5 and P132-5
- P13-6 and P132-6
- P13-7 and P132-7
- P13-9 and P132-8
- P13-10 and P132-9
- P13-11 and P132-10

A B

C

C

- P13-12 and P132-11
- P13-13 and P132-12
- P13-14 and P132-13
- P13-15 and P132-14

There is continuity between all pins measured.

Y N

Repair or replace the harness between P/J13 and P/J131 (PL 9.1) or between P/J131 and P/J132 (PL 11.2).

Replace the Feeder PWB (REP 11.8).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 53 500 Sheet Feeder Feed Motor

Procedure

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter [4]. Open the rear cover and open the Fuser Exit Door. Actuate and deactuate the Fuser Exit Sensor. **The number on the LCD increments each time you actuate and deactuate the sensor.**

Y N

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J17 from the Print Engine Controller PWB. Switch the printer power on. Check the voltage between P/J17 pin 6 and frame ground. **The voltage is 3.2VDC.**

Y N

Check the voltage between P/J16 pin 4 and frame ground. **The voltage is 3.2VDC.**

Y N

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J17 to the Print Engine Controller PWB. Measure the voltage between P/J17 pin 6 and frame ground as you actuate and deactuate the Fuser Exit Sensor. **The voltage is 3.2VDC when the Fuser Exit Sensor is deactuated and 0.0VDC when actuated.**

Y N

Replace the Fuser Assembly (REP 5.1).

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 54 C3: Tray Out / Install Tray 2 (or Tray 3)

Tray 2, Tray 3.

Procedure

Remove and reinstall the paper Tray. Enter Diagnostics and Select Test Print. Run Test Print from problem tray. **The C3 error code still appears.**

Y N
 | Problem solved.

Inspect the Paper Stack End Guide position in the tray. **The End Guide is snug against the paper stack.**

Y N
 | Adjust the position of the End Guide.

Enter Diagnostics and select Component Test. Scroll to Tray 2 Size or Tray 3 Size. Press the Enter Key (key 4). **The paper size indicated on the LCD matches the paper size actually in Tray 1.**

Y N
 | Remove the paper tray. Scroll to Sensor Input test. One at a time, press and release each of the size actuators for the problem tray. **The number on the LCD increments each time you press and release one of the actuators.**

Y N
 | Go to RAP 37

Check the size cam on the left side of the paper tray. **The cams are in good condition (not broken) and rotate freely as the paper tray end guide is moved.**

Y N
 | Replace Tray 1 (PL 2.1/ PL 2.2).

Remove the 500 Sheet Feeder Left Cover (REP 11.3). As you insert the paper tray, watch the size actuators move depending on the setting of paper tray. See Table 1.

Table 1 Paper Size Actuators

Actuator	8.5 LEF	A4 LEF	B5 LEF	A5 LEF	14" SEF	8.5" SEF	A4 SEF	B4 SEF
4 Top	x			x	x	x	x	
3	x	x	x			x	x	
2			x	x	x			x
1 Bottom	x	x	x	x				

The Tray 1 Size Cams contact the Paper Size Actuators correctly for each size of paper.

Y N
 | Replace the paper tray (PL 2.1/ PL 2.2). If the problem persists, replace the Tray 1 Left Guide Assembly (REP 3.6).

Replace the Tray 1 Left Guide Assembly (REP 3.6).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 55 Pre-Registration Sensor

Procedure

Open the 500 Sheet Feeder Rear Cover. Manually actuate and deactuate the Pre-Registration Actuator. **The Pre-Registration Actuator moves smoothly.**

Y N
 | Replace the Pre-Registration Actuator (PL 11.2).

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Press and release the Pre-Registration Actuator. **The number on the LCD increments each time you press and release the actuator.**

Y N
 | Switch the printer power off. Remove the 500 Sheet Feeder Left Cover (REP 11.3). Disconnect P/J133 from the Feeder PWB. Switch the printer power on. Measure the voltage between P133 pin 7 and frame ground and between P133 pin 9 and frame ground. **Both readings are +3.2VDC.**

Y N
 | Replace the Feeder PWB (REP 11.8).

Switch the printer power off. Reconnect P/J133. Switch the printer power on. Measure the voltage between P/J133 pin 6 and frame ground as you actuate and deactuate the Pre-Registration Sensor Actuator. **The voltage is +3.2VDC when deactuated and 0.0VDC when actuated.**

Y N
 | Check for continuity between P/J133 and P/J13P and between P/J13P and P/J13C. Repair or replace as necessary. If the harness checks good, replace the Pre-Registration Sensor (REP 11.22).

With paper in the tray and the tray inserted into the 500 Sheet Feeder. measure the voltage between P/J132 pin 7 and frame ground as you actuate and deactuate the Pre-Registration Sensor. **The voltage is +2.76VDC when deactuated and 3.2VDC when actuated.**

Y N
 | Replace the Feeder PWB (REP 11.8).

Switch the printer power off. Remove the printer Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Switch the printer power on. Measure the voltage between P/J13 pin 7 and frame ground as you actuate and deactuate the Pre-Registration Sensor. **The voltage is +2.76VDC when deactuated and 3.2VDC when actuated.**

Y N
 | Check for continuity between P/J132 and P/J131 and between P/J131 and P/J13. Repair or replace as necessary.

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 56 C5: Add Paper To Tray 2 (or Tray 3)

Tray 2 or Tray 3 are out of paper.

Procedure

Check the paper level in the indicated Tray Assembly. **There is paper in the indicated Tray.**

Y N
| Load paper into the Tray.

Remove the Tray from the 500 Sheet Feeder Assembly. Remove the Tray Cover and all paper from the tray. Insert the Tray into the 500 Sheet Feeder Assembly and inspect the Bottom Plate. **The Bottom Plate is raised.**

Y N
| Replace the Tray 1 (PL 2.1/ PL 2.2).

Remove the Paper Tray. Manually actuate the No Paper Actuator. **The No Paper Actuator moves smoothly.**

Y N
| Replace the No Paper Actuator (REP 11.21).

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Press and release the No Paper Actuator. **The number on the LCD increments each time you press and release the actuator.**

Y N
| Switch the printer power off. Remove the 500 Sheet Feeder Left Cover (REP 11.3). Disconnect P/J133 from the Feeder PWB. Switch the printer power on. Measure the voltage between P133 pin 4 and frame ground and between P133 pin 6 and frame ground. **Both readings are +3.2VDC.**

Y N
| Replace the Feeder PWB (REP 11.8).

Switch the printer power off. Reconnect P/J133. Switch the printer power on. Measure the voltage between P/J133 pin 6 and frame ground as you actuate and deactuate the No Paper Sensor. **The voltage is +3.2VDC when deactuated and 0.0VDC when actuated.**

Y N
| Check for continuity between P/J133 and P/J13A and between P/J13A and P/J134. Repair or replace as necessary. If the harness checks good, replace the No Paper Sensor (REP 11.20).

Measure the voltage between P/J132 pin 7 and frame ground as you actuate and deactuate the No Paper Sensor. **The voltage is +0.9VDC when deactuated and 2.76VDC when actuated.**

Y N
| Replace the Feeder PWB (REP 11.8).

Switch the printer power off. Remove the printer Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Switch the printer power on. Measure the voltage between P/J13 pin 7 and frame ground as you actuate and deactuate the No Paper Sensor. **The voltage is +0.9VDC when deactuated and 2.76VDC when actuated.**

Y N
| Check for continuity between P/J132 and P/J131 and between P/J131 and P/J13. Repair or replace as necessary.

A B
| Replace the Print Engine Controller PWB (REP 8.5).
| Replace the Print Engine Controller PWB (REP 8.5).

RAP 57 E7: Duplex Jam

There is a paper jam between the Exit Assembly and the Duplex Sensor.

Procedure

Open the printer and check for paper or other obstructions in the paper path. **The printer is free of jammed paper, paper scraps, or other obstructions.**

Y N
Clear all jammed paper, paper scraps, and obstructions from the printer.

Run 15 to 20 duplex test prints. **The error code reappears.**

Y N
Problem Solved.

Open the Rear Cover and cheat the Rear Cover Interlock. Enter Diagnostics and select Component Test. Scroll to Dup Motor On Low and press Enter. **The Duplex Motor and rollers turn smoothly at low speed.**

Y N
Replace Duplex components as necessary (PL 13.1).

Scroll to Dup Motor On Hi and press Enter. **The Duplex Motor and rollers turn smoothly at high speed.**

Y N
Replace Duplex components as necessary (PL 13.1).

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Open the Rear Cover. Actuate and deactuate the Duplex Sensor Actuator. **The number on the LCD increments each time you press and release the actuator.**

Y N
Switch the printer power off. Remove the printer Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J19 from the Print Engine Controller PWB. Switch the printer power on. Check the voltage between P/J19 pin 5 and frame ground. **The voltage is 3.3VDC.**

Y N
Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J19 to the Print Engine Controller PWB. Switch the printer power on. Check the voltage between P/J19 pin 5 and frame ground as you actuate and deactuate the Duplex Sensor Actuator. **The voltage is 3.3VDC when the sensor is deactuated and 0.0VDC when the sensor is actuated.**

Y N
Switch the printer power off. Disconnect P/J19 from the Print Engine Controller PWB and P/J501 from the Duplex Interface PWB. Check the continuity between the pins as follows:

- P501-1 and P19-13
- P501-2 and P19-12
- P501-3 and P19-11
- P501-4 and P19-10
- P501-5 and P19-9
- P501-6 and P19-8

A B

- P501-7 and P19-7
- P501-8 and P19-6
- P501-9 and P19-5
- P501-10 and P19-4
- P501-11 and P19-3
- P501-12 and P19-2
- P501-13 and P19-1

There is continuity between all pins measured.

Y N
Repair or replace the Duplex Interface Harness (PL 9.1).

Replace the Duplex PWB (REP 9.7). If the problem still exists, replace the Duplex Interface PWB (REP 8.3).

Replace the Print Engine Controller PWB (REP 8.5).

Remove the Duplex Assembly. Check the Duplex Assembly rollers for contamination and wear.

The rollers are clean and in good condition.

Y N
Clean or replace the rollers as necessary (PL 13.1).

Replace the Duplex Assembly. Run duplex test prints. **The error Code reappears.**

Y N
Problem solved.

Replace the Print Engine Controller PWB (REP 8.5).

A B

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Status Indicator Repair Analysis Procedures

RAP 57

RAP 58 E5: Top/R Cover

The Top Cover or Rear Cover is open.

Procedure

Open and close the Rear Cover and the Top Cover. **The error message is still displayed.**

Y N
| Problem solved.

Open the Rear Cover. Slowly close the Rear Cover checking to ensure that the cover is actuating the Rear Cover Interlock Switch. **The Rear Cover is actuating the interlock switch.**

Y N
| Realign or replace the Rear Cover (REP 1.9).

Open the Top Cover. Slowly close the Top Cover checking to ensure that the cover is actuating the Top Cover Interlock Switch. **The Top Cover is actuating the interlock switch.**

Y N
| Replace the Top Cover (REP 1.3).

Switch the printer power off. Remove the Lower Rear Cover (REP 1.7). Switch the printer power on. Check the voltage between P/J162 pin 1 and frame ground. **The voltage is +24VDC.**

Y N
| Replace the LVPS Assembly (REP 8.6).

Check the voltage between P/J162 pin 2 and frame ground. **The voltage is +24VDC.**

Y N
| Switch the printer power off. Remove the Right Side Cover (REP 1.2). Switch the printer power on. Check the voltage between the Top Cover Interlock Switch, both terminals, (P/J623) and frame ground. **Both voltages are +24VDC.**

Y N
| Check the wiring between the Top Cover Interlock Switch and P/J162 on the LVPS. If the wiring is ok, replace the Top Cover Interlock Switch (REP 7.5).

Check the voltage between the Rear Cover Interlock Switch, both terminals orange wires, (P/J621/P/J622) and frame ground. **Both voltages are +24VDC.**

Y N
| Check the wiring between the Top Cover Interlock Switch and Rear Cover Interlock Switch. If the wiring is ok, replace the Rear Cover Interlock Switch (PL 8.1).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 59 C5: Output Tray Full

Error code indicates that the Output Tray is full.

Procedure

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Actuate and deactivate the Stack Full Sensor Actuator. **The number on the LCD increments each time you press and release the actuator.**

Y N
| Visually inspect the Stack Full Sensor Actuator. **The actuator moves freely and is in good condition (not broken or damaged).**

Y N
| Replace the Stack Full Actuator (REP 5.3).

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J19 from the Print Engine Controller PWB. Switch the printer power on. On the Print Engine Controller PWB, measure the voltage between P19 pin 11 and frame ground and between P19 pin 13 and frame ground. **Both voltages are +3.3VDC.**

Y N
| Measure the voltage between P/J16 pin 4 and frame ground. **The voltage is +3.3VDC.**

Y N
| Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J19 to the Print Engine Controller PWB. Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. On the Print Engine Controller PWB, measure the voltage between P/J19 pin 13 and frame ground. **There is +3.3VDC between P19 pin 13 and frame ground when the Stack Full Sensor is deactivated and 0.0VDC when actuated.**

Y N
| Switch the printer power off. Open the Rear Cover. Disconnect P/J527 (3-pin connector on HVPS Cover). Switch the printer power on. Measure the voltage between P/J527 pin 3 and frame ground and between P/J527 pin 1 and frame ground. **Both voltages are +3.3VDC.**

Y N
| Switch the printer power off. Remove the HVPS Cover (REP 8.2). Measure the resistance between P/J502 and P/J527 as follows:

- J527-1 and J502-1
- J527-2 and J502-2
- J527-3 and J502-3

There is continuity between each of the pins.

Y N
| Repair or replace the OCT Stack Full Sensor Harness (PL 10.2) or Duplex Interface Harness (PL 9.1) as necessary.

Disconnect P/J501 from the Duplex Interface PWB and P/J19 from the Print Engine Controller PWB. Measure the resistance between P/J501 and P/J19 as follows:

A B C

A B C

- J501-1 and J19-13
- J501-2 and J19-12
- J501-3 and J19-11

There is continuity between each of the pins.

Y N

Repair or replace the Duplex Interface Harness, as necessary (PL 9.1).

Replace the Duplex Interface PWB (REP 8.3).

Switch the printer power off. Disconnect P/J507 from the OCT Stack Full Sensor. Check the continuity between P/J507 and P/J527 as follows.

- J507-1 and J527-3
- J507-2 and J527-2
- J507-3 and J527-1

There is continuity between each of the pins.

Y N

Repair or replace the OCT Stack Full Sensor Harness (PL 10.2), as necessary.

Replace the OCT Stack Full Sensor (REP 10.7).

Replace the Print Engine Controller PWB (REP 8.5).

It appears that the OCT Stack Full Sensor is working correctly. If a problem persists, replace the Print Engine Controller PWB (REP 8.5).

RAP 60 Duplex Fail

Procedure

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J19 from the Print Engine Controller PWB. Switch the main power on. Measure the voltage between P19 pin 4 on the Print Engine Controller PWB and frame ground. **The voltage is 3.3VDC.**

Y N

Replace the Print Engine Controller PWB (REP 8.5).

Switch the Main Power off. Reconnect P/J19 to the Print Engine Controller PWB. Remove the OCT, if installed. Switch the main power on. Measure the voltage between P/J19 pin 4 and frame ground. **The voltage is 1.6VDC.**

Y N

Switch the printer power off. Open the Rear Cover and remove the Duplex Assembly (REP 9.1). Remove the HVPS Cover (REP 8.2). Disconnect P/J501 from the Duplex Interface PWB and P/J19 from the Print Engine Controller PWB. Check for the continuity between the following pins:

- J501-1 and J19-13
- J501-2 and J19-12
- J501-3 and J19-11
- J501-4 and J19-10
- J501-5 and J19-9
- J501-6 and J19-8
- J501-7 and J19-7
- J501-8 and J19-6
- J501-9 and J19-5
- J501-10 and J19-4
- J501-11 and J19-3
- J501-12 and J19-2
- J501-13 and J19-1

There is continuity on all pins measured.

Y N

Replace the Duplex Interface PWB Harness (PL 9.1).

Replace the Duplex PWB (REP 9.7). If the problem persists, replace the Duplex Interface PWB (REP 8.3).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 61 C5: Wrong Size For Duplex

The size of paper the printer senses in the Tray and/or MBF is not supported by the Duplex Assembly.

Procedure

The problem appears when using Tray 1, 2, or 3.

- Y N
| The paper size in the MBF is within specifications.
Y N
| Replace with paper that is within specifications for Duplex Operation.
Press Offline (key 0), select Tray Menu then scroll to MBF Size. **The MBF Size setting matches the paper actually in the MBF Tray.**
Y N
| Correct the MBF Size setting to match the paper actually installed in the MBF Tray.
Replace the Print Engine Controller PWB (REP 8.5).

The paper size in the problem tray is within specifications.

- Y N
| Replace with paper that is within specifications for Duplex Operation.

Go to RAP 22.

RAP 62 E2-1: Paper Jam/Misfeed 2000 Sheet Feeder

A paper jam has occurred in the 2000 Sheet Feeder.

Procedure

Open the 2000 Sheet Feeder Upper Rear Cover Assembly. Remove the jammed paper. Run a test print. **The error still occurs.**

- Y N
| Problem solved.

Pull out the 2000 Sheet Feeder Tray Assembly. Check the paper condition and size. **The paper is dry and the size is within specifications.**

- Y N
| Replace with fresh paper of the proper size from an unopened ream.

Switch the printer power off. Remove the 2000 Sheet Feeder Right Side Cover (REP 12.5). Open the Upper Rear Cover. Manually rotate the top gear clockwise. Inspect the rotation of the 2000 Sheet Feeder Motor Assembly. **The Feed Motor Assembly rotates smoothly.**

- Y N
| Replace the 2000 Sheet Feeder Feed Motor Assembly (REP 12.18) or gears (REP 12.18) as necessary.

Manually rotate the top gear counterclockwise. **The 2000 Sheet Feeder Assembly rotates smoothly and feeds a sheet of paper from the Feeder Tray Assembly.**

- Y N
| Replace the Feeder Assembly (PL 12.3), if it doesn't rotate smoothly, or Replace the Feed Roll Assembly (REP 12.16), if it slips on the paper.

Remove the 2000 Sheet Feeder Tray Assembly (REP 12.7). Rotate the gears of the Turn Drive Assembly. **The gears of the Turn Drive Assembly rotate smoothly.**

- Y N
| Replace the Turn Drive Assembly (REP 12.5).

Run a test print. **The E2-1 Error Code cleared.**

- Y N
| Replace the 2000 Sheet Feeder PWB (REP 12.10).

Problem solved.

RAP 63 C3: 2000 Sheet Feeder Carriage Not In Position

The 2000 Sheet Feeder Tray Assembly has not been set.

Procedure

Open and close the 2000 Sheet Feeder Tray Assembly. **The C3 Error Code is still displayed.**

Y N
| Problem solved.

Open the 2000 Sheet Feeder Tray Assembly. Manually push the actuator of the Stopper Link (REP 12.19). Make sure that the front side of the Nudger Support Assembly of the lowers slightly each time you press the Stopper Link. **The Nudger Support Assembly lowers each time you press the Stopper Link.**

Y N
| Replace the Stopper Link (REP 12.19).

Enter Diagnostics and select Component Test. Scroll to Sensor Input and press Enter [4]. Manually push the actuator of the Stopper Link (REP 12.19). **The number on the LCD increments each time you press the Stopper Link.**

Y N
| Switch the printer power off. Open the 2000 Sheet Feeder Tray Assembly. Remove the Lower Rear Cover. Disconnect P/J603 from the 2000 Sheet Feeder PWB. Switch the printer power on. Check the voltage between P/J603 pin 3 and frame ground. **The voltage is 3.2VDC.**

Y N
| Check the voltage between P601 pin 1 and frame ground. **The voltage is 3.2VDC.**

Y N
| Check for continuity between P/J13 pin 1 and P601 pin 1. **There is continuity between the pins.**

Y N
| Replace the 2000 Sheet Feeder Harness (PL 12.2) or Feeder Harness (PL 9.1) as necessary.

Replace the Print Engine Controller PWB (REP 8.5).

Replace the 2000 Sheet Feeder PWB (REP 12.10).

Switch the printer power off. Reconnect P/J603 to the Feeder PWB. Switch the printer power on. Check the voltage between P/J603 pin 3 and frame ground. Press and release the Stopper Link. **The voltage is 3.2VDC when the link is released and 0.0VDC when the link is pressed.**

Y N
| Replace the Paper Height Sensor (REP 12.17).

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 64 C5: Add Paper To 2000 Sheet Feeder

The last sheet of paper was fed.

Procedure

Open the 2000 Sheet Feeder paper tray. **There is paper in the tray.**

Y N
| Add paper to the tray and close.

Open the 2000 Sheet Feeder Tray Assembly. Inspect the No Paper Sensor Actuator. **The Actuator is in good condition and moves freely.**

Y N
| Replace the No Paper Sensor Actuator (REP 12.21).

Enter Diagnostics and select Component Test. Scroll to Sensor Input and press Enter [4]. Manually push the No Paper Actuator up and release. **The number on the LCD increments each time you press and release the No Paper Actuator.**

Y N
| Switch the printer power off. Open the 2000 Sheet Feeder Tray Assembly. Remove the Lower Rear Cover. Disconnect P/J602 from the 2000 Sheet Feeder PWB. Switch the printer power on. Check the voltage between P/J602 pin 3 and frame ground. **The voltage is 3.2VDC.**

Y N
| Check the voltage between P601 pin 1 and frame ground. **The voltage is 3.2VDC.**

Y N
| Check for continuity between P/J13 pin 1 and P601 pin 1. **There is continuity between the pins.**

Y N
| Replace the 2000 Sheet Feeder Harness (PL 12.2) or Feeder Harness (PL 9.1) as necessary.

Replace the Print Engine Controller PWB (REP 8.5).

Replace the 2000 Sheet Feeder PWB (REP 12.10).

Switch the printer power off. Reconnect P/J602 to the Feeder PWB. Switch the printer power on. Check the voltage between P/J602 pin 3 and frame ground. Press and release the No Paper Sensor Actuator. **The voltage is 3.2VDC when the actuator is released and 0.0VDC when the actuator is pressed.**

Y N
| Replace the No Paper Sensor (REP 12.17).

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 65 E5: 2000 Sheet Feeder CVR Open / Please Close CVR

The 2000 Sheet Feeder Rear Cover Assembly is open.

Procedure

Manually open/close the 2000 Sheet Feeder Upper Rear Cover Assembly. Make sure the Upper Rear Cover actuates the Switch. **The 2000 Sheet Feeder Upper Rear Cover Assembly actuates the Switch.**

Y N

Reinstall the Switch. If the bracket is deformed, reshape the bracket.

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Open and close the 2000 Sheet Feeder Upper Rear Cover. **The number on the LCD increments each time you open and close the cover.**

Y N

Switch the printer power off. Remove the 2000 Sheet Feeder Lower Rear Cover (REP 12.4). Switch the printer power on. Check the voltage between P/J604 pin 3 and frame ground as you open and close the Upper Rear Cover. **The voltage is 3.2VDC when the cover is open and 0.0VDC when the cover is closed.**

Y N

Replace the Upper Rear Cover Interlock Switch (PL 12.2).

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J13 from the Print Engine Controller PWB and P/J604 from the 2000 Sheet Feeder PWB. Check continuity between the following pins:

- P601-1 to P13-1
- P601-2 to P13-2
- P601-3 to P13-3
- P601-4 to P13-13
- P601-5 to P13-10
- P601-6 to P13-14
- P601-7 to P13-15

There is continuity between all pins measured.

Y N

Replace the appropriate harness.

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 66 E9:HCF Fail (2000 Sheet Feeder)

Procedure

Switch the printer power off. Remove the Lower Rear Cover. Check the connection at both ends of the 2000 Sheet Feeder Harness Assembly (P/J601 on the Feeder PWB and P/J131 Feeder Interface Harness). **The 2000 Sheet Feeder interface Harness is properly connected to the 2000 Sheet Feeder PWB.**

Y N

Properly connect the 2000 Sheet Feeder Harness Assembly (J131,J601).

Replace the 2000 Sheet Feeder PWB (REP 12.10). **This problem still occurs.**

Y N

Problem solved.

Remove the 2000 Sheet Feeder Harness Assembly. Check the continuity of the pins indicated:

- J601-1 and J131-7
- J601-2 and J131-6
- J601-3 and J131-5
- J601-4 and J131-10
- J601-5 and J601-13
- J601-6 and J131-9
- J601-7 and J601-8

There is the continuity between all pins measured.

Y N

Replace the 2000 Sheet Feeder Harness Assembly (PL 12.2).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 67 C5: OCT Tray Full

Error code indicates that the OCT Output Tray is full.

Procedure

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Actuate and deactuate the Stack Full Sensor Actuator. **The number on the LCD increments each time you press and release the actuator.**

Y N

Visually inspect the Stack Full Sensor Actuator. **The actuator moves freely and is in good condition (not broken or damaged).**

Y N

Replace the Stack Full Actuator (REP 5.3).

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J19 from the Print Engine Controller PWB. Switch the printer power on. On the Print Engine Controller PWB, measure the voltage between P19 pin 11 and frame ground and between P19 pin 13 and frame ground.

Both voltages are +3.3VDC.

Y N

Measure the voltage between P/J16 pin 4 and frame ground. **The voltage is +3.3VDC.**

Y N

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J19 to the Print Engine Controller PWB. Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. On the Print Engine Controller PWB, measure the voltage between P/J19 pin 13 and frame ground. **There is +3.3VDC between P19 pin 13 and frame ground when the Stack Full Sensor is deactuated and 0.0VDC when actuated.**

Y N

Switch the printer power off. Open the Rear Cover. Disconnect P/J527 (3-pin connector on HVPS Cover). Switch the printer power on. Measure the voltage between P/J527 pin 3 and frame ground and between P/J527 pin 1 and frame ground. **Both voltages are +3.3VDC.**

Y N

Switch the printer power off. Remove the HVPS Cover (REP 8.2). Measure the resistance between P/J502 and P/J527 as follows:

- J527-1 and J502-1
- J527-2 and J502-2
- J527-3 and J502-3

There is continuity between each of the pins.

Y N

Repair or replace the Stack Full Sensor Harness, as necessary (PL 6.1).

Disconnect P/J501 from the Duplex Interface PWB and P/J19 from the Print Engine Controller PWB. Measure the resistance between P/J501 and P/J19 as follows:

- J501-1 and J19-13

A B C

- J501-2 and J19-12
- J501-3 and J19-11

There is continuity between each of the pins.

Y N

Repair or replace the Duplex Interface Harness, as necessary (PL 9.1).

Replace the Duplex Interface PWB (REP 8.3).

Switch the printer power off. Disconnect P/J507 from the Stack Full Sensor. Check the continuity between P/J507 and P/J527 as follows.

- J507-1 and J527-3
- J507-2 and J527-2
- J507-3 and J527-1

There is continuity between each of the pins.

Y N

Repair or replace the Stack Full Sensor(REP 5.2) or Stack Full Sensor Harness (PL 6.1), as necessary.

Replace the Stack Full Sensor (REP 5.2).

Replace the Print Engine Controller PWB (REP 8.5).

It appears that the Stack Full Sensor is working correctly. If a problem persists, replace the Print Engine Controller PWB (REP 8.5).

A B C

RAP 68 E8: OCT Jam

There is a paper jam at the OCT Sensor.

Procedure

The front edge of the paper is located within the Exit Assembly.

Y N
Remove and reinstall the OCT Assembly (REP 10.1). Run a Test Print for simplex print.
The Error Code E4 still appears.

Y N
Problem solved.

The paper is discharged from the top of the OCT Assembly.

Y N
Rotate the 14/33 Idler Gear counter clockwise manually. Observe the correct contact between the 14/33 Idler Gear and the 29 Gear and Offset Gear. **All of the gears rotate smoothly.**

Y N
Replace parts as necessary (PL 13.1).

Run a Test print. Observe the rotation of the Inlet Roll and Offset Roll (REP 10.12). **The Inlet Roll and Offset Roll rotates in the same direction smoothly.**

Y N
Replace the OCT Motor Assembly (REP 10.10).

Press and release the actuator of the Duplex Sensor (REP 9.6). **The Duplex Sensor actuates by lifting up the actuator and deactuates by releasing the actuator.**

Y N
Replace the OCT Sensor (REP 9.6).

Replace the Print Engine Controller PWB (REP 8.5).

Remove the Top Cover (REP 1.3). Remove the Rear Cover Assembly (REP 1.9). Rotate the Inlet Roll counterclockwise manually. **The Inlet Roll rotates smoothly.**

Y N
Replace the OCT Assembly (REP 10.1).

Rotate the 14/33 Idler Gear counter clockwise manually. Observe the correct contact between the 14/33 Idler Gear and the 29 Gear and Offset Gear. **All of the gears rotate smoothly.**

Y N
Replace parts as necessary (PL 13.1).

Run a Test print. Observe the rotation of the Inlet Roll and Offset Roll. **The Inlet Roll and Offset Roll rotates in the same direction smoothly.**

Y N
Replace the OCT Motor Assembly (REP 10.10).

Press and release the actuator of the OCT Sensor (REP 9.6). **The OCT Sensor actuates by lifting up the actuator and deactuates by releasing the actuator.**

A

Y N
Replace the OCT Sensor (REP 9.6).

Replace the Print Engine Controller PWB (REP 8.5).

Remove the Top Cover (REP 1.3). Remove the Rear Cover Assembly (REP 1.9). Rotate the Inlet Roll counterclockwise manually. **The Inlet Roll rotates smoothly.**

Y N
Replace the OCT Assembly (REP 10.1).

Rotate the 14/33 Idler Gear counter clockwise manually. Observe the correct contact between the 14/33 Idler Gear and the 29 Gear and Offset Gear. **All of the gears rotate smoothly.**

Y N
Replace parts as necessary (PL 13.1).

Run a Test print. Observe the rotation of the Inlet Roll and Offset Roll. **The Inlet Roll and Offset Roll rotates in the same direction smoothly.**

Y N
Replace the OCT Motor Assembly (REP 10.10).

Press and release the actuator of the OCT Sensor. **The OCT Sensor actuates by lifting up the actuator and deactuates by releasing the actuator.**

Y N
Replace the OCT Sensor (REP 9.6).

Replace the Print Engine Controller PWB (REP 8.5).

A

RAP 69 E5: OCT CVR Open / Please Close CVR

The Rear Cover Assembly is open.

Procedure

Open and close the OCT Rear Cover. **The error code reappears.**

Y N
| Problem solved.

Open the OCT Rear Cover and check the Rear Cover Interlock Switch. **The Rear Cover Interlock Switch is in good condition and the actuator moves freely.**

Y N
| Replace the OCT Rear Cover Interlock Switch (REP 10.13).

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter [4]. Actuate and deactuate the Rear Cover Interlock Switch. **The number on the LCD increments each time you press and release the actuator.**

Y N
| Switch the printer power off. Remove the OCT Front Cover (REP 10.4). Disconnect P/J524 from the OCT PWB. Switch the printer power on. Measure the voltage between P524 pin 1 and frame ground. **The voltage is 3.2VDC.**

Y N
| Measure the voltage between P/J514 pin 6 and frame ground. **The voltage is 3.2VDC.**

Y N
| Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Measure the voltage between P/J19 pin 11 and frame ground. **The voltage is 3.2VDC.**

Y N
| Replace the Print Engine Controller PWB (REP 8.5).

Check for continuity between P/J19 pin 11 and P/J501 pin 3 and between P/J504 pin 6 and P/J514 pin 6. **There is continuity between both sets of pins.**

Y N
| Repair or replace the OCT Harness (PL 10.2) or the Duplex interface Harness (PL 9.2).

Replace the Duplex Interface PWB (REP 8.3).

Replace the OCT PWB (REP 10.14).

Switch the printer power off. Reconnect P/J524 to the OCT PWB. Switch the printer power on. Measure the voltage between P524 pin 1 and frame ground as you actuate and deactuate the interlock switch. **The voltage is 3.2VDC when the switch is deactuated and 0.0VDC when the switch is actuated.**

Y N
| Replace the OCT Rear Cover Interlock Switch (REP 10.13).

Replace the Print Engine Controller PWB (REP 8.5).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 70 OCT Motor Assembly

Procedure

Switch the printer power off. Remove the HVPS Cover (REP 1.6). On the Duplex Interface PWB, disconnect P/J506 and measure the voltage between J506 pin 1 and frame ground. **There is 24VDC between J506 pin 1 and frame ground.**

Y N
| Replace the LVPS (REP 8.6).

Switch the printer Power off. Reconnect P/J506. Remove the OCT Front Cover (REP 10.4). Disconnect P/J514 on the OCT PWB. Measure the voltage between J514 pin 8 and frame ground. **There is 24VDC between J514 pin 8 and frame ground.**

Y N
| Switch the printer power off. Measure the resistance between P/J504 and P/J514 as follows:

- J504 - 1 and J514 - 1
- J504 - 2 and J514 - 2
- J504 - 3 and J514 - 3
- J504 - 4 and J514 - 4
- J504 - 5 No Connection
- J504 - 6 and J514 - 6
- J504 - 7 and J514 - 7
- J504 - 8 and J514 - 8
- J504 - 9 and J514 - 9

There is continuity between each of the pins.

Y N
| Repair or replace the STK-O-Harness Assembly (PL 10.2) and the SK-1 Harness Assembly (PL 9.1).

Replace the Duplex Interface Harness PWB (REP 8.3).

Switch printer power off. Reconnect P/J515. On the OCT PWB, measure the voltage between P/J517 pin 3 and frame ground and P/J517 pin 4 and frame ground. **Both voltages are 24VDC.**

Y N
| Replace the OCT PWB (PL 10.2).

Replace the OCT Motor Assembly (PL 10.2).

RAP 71 E9: OCT Fail

Procedure

Switch the printer power off. Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J19 from the Print Engine Controller PWB. Switch the main power on. Measure the voltage between P/J19-11 and frame ground. **The voltage is 3.2VDC.**

Y N

Check the voltage between P/J16 pin 4 and frame ground. **The voltage is 3.2VDC.**

Y N

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the Main Power off. Remove the OCT Front Cover (REP 10.4). Disconnect P/J514 from the OCT PWB. Check for continuity between the following pins:

- P514-2 and P19-2
- P514-3 and P19-3
- P514-4 and P19-4
- P514-6 and P19-11
- P514-7 and P19-12

There is continuity between all pins measured.

Y N

Repair or replace the OCT Harness (PL 10.2) or the Duplex interface Harness (PL 9.2).

Replace the OCT PWB (REP 10.14).

RAP 72 Offset Operation Not Performed

Procedure

Manually move the Offset Assembly from one side to the other. **The Offset Assembly moves smoothly.**

Y N

Replace the Offset Assembly (PL 10.2).

Enter Diagnostics and select Component Test. Scroll to OCT Offset Motor and press Enter [4].

The Offset Assembly shifts left then returns right.

Y N

Switch the printer power off. Remove the OCT Front Cover (REP 10.4). Disconnect P/J515 from the OCT PWB. Measure the resistance between pins 1 and 2 of the disconnected plug. **The resistance is approximately 90 ohms.**

Y N

Replace the OCT Offset Motor (REP 10.9).

Remove the Left Side Cover (REP 1.1) and the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J19 from the Print Engine Controller PWB. Disconnect P/J514 from the OCT PWB. Check for continuity between the following pins:

- P514-2 and P19-2
- P514-3 and P19-3
- P514-4 and P19-4
- P514-6 and P19-11
- P514-7 and P19-12

There is continuity between all pins measured.

Y N

Repair or replace the OCT Harness (PL 10.2) or the Duplex interface Harness (PL 9.2).

Replace the OCT PWB (REP 10.14).

Replace the Print Engine Controller PWB (REP 8.5).

RAP 73 OCT Sensor

Procedure

Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. Actuate and deactivate the OCT Sensor **The Number on the LCD increments each time you press and release the actuator.**

Y N

Switch the power off. Remove the Left Side Cover (REP 1.1). Remove the Print Engine Controller PWB Cover (REP 8.5). Disconnect P/J19 from the Print Engine Controller PWB. Switch the printer power on. Measure the voltage between P19 pin 11 and frame ground and P19 pin 4 and frame ground. **Both voltages are 3.2VDC.**

Y N

Measure the voltage between P/J16 pin 4 on the Print Engine Controller PWB and frame ground. **The voltage is 3.3VDC.**

Y N

Replace the LVPS (REP 8.6).

Replace the Print Engine Controller PWB (REP 8.5).

Switch the printer power off. Reconnect P/J19 to the Print Engine Controller PWB. Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. On the Print Engine Controller PWB, measure the voltage between P19 pin 4 and frame ground. **There is +3.3VDC between P19 pin 4 and frame ground when the OCT Sensor is deactivated and 0.0VDC when actuated.**

Y N

Switch the printer power off. Remove the HVPS Cover (REP 1.6). Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. On the Duplex Interface PWB, measure the voltage between P/J504 pin 4 and frame ground. **There is 3.3VDC between P/J504 pin 4 and frame ground when the OCT Sensor is deactivated and 0.0VDC when actuated.**

Y N

Switch the power off. Remove the OCT Front Cover (REP 10.4). Enter Diagnostics and select Component Test. Scroll to Sensor Input test and press Enter. On the OCT PWB, measure the voltage between P/J514 pin 4 and frame ground. **There is 3.3VDC between P/J514 pin 4 and frame ground when the OCT Sensor is deactivated and 0.0VDC when actuated.**

Y N

Switch the printer power off. Measure the resistance between P/J504 and P/J514 as follows:

- J504 - 1 and J514 - 1
- J504 - 2 and J514 - 2
- J504 - 3 and J514 - 3
- J504 - 4 and J514 - 4
- J504 - 5 No Connection
- J504 - 6 and J514 - 6
- J504 - 7 and J514 - 7
- J504 - 8 and J514 - 8
- J504 - 9 and J514 - 9

There is continuity between each of the pins.

A

B

C

D

Y

N

Repair or replace the STK-O-Harness Assembly (PL 10.2) and the SK-1 Harness Assembly (PL 9.1).

On the OCT PWB, measure the voltage between P/J520 pin 2 and frame ground. **There is 3.3VDC between P/J520 pin 2 and frame ground when the OCT Sensor is deactivated and 0.0VDC when actuated.**

Y

N

Replace the OCT Sensor (PL 10.2).

Replace the OCT PWB (PL 10.2).

Replace the Duplex Interface PWB (PL 13.1).

Replace the Duplex Interface PWB (PL 13.1).

Replace the Print Engine Controller PWB (REP 8.5).

It appears that the OCT Sensor is working correctly. If the problem persists, replace the Print Engine Controller PWB (REP 8.5).

A B C D