2. STATUS INDICATOR RAPs

TROUBLESHOOTING TIPS

The following are some general trouble-shooting tips and hints which will help you locate components and test points.

1. The procedures for entering, exiting and using the C55/C55mp/[NC60] diagnostic programs can be found in Section 6, General Procedures. Refer to the Table of Contents found on page 6-1 for the specific program.
2. Figure 2-1 on the right is also located in Section 6 and shows the location of the input electrical components in the printer. It is especially helpful when using the Switch Scan program. Refer to this figure if you are unsure of input component location. The BSDs in Section 7 may also prove helpful when locating the various electrical components.
3. The Connectors can be located in Section 7. Refer to Section 7 Table of contents on page 7-1. The table below shows the location of the most common connectors:

Connector Numbers	Location	Figure
CN100's	PCU PWB/ESS PWB	7-1
CN200's	Cassette PWB	7-4
CN300's	Connector PWB	7-2
CN400's	Control Panel PWB	7-2
CN700's	LVPS PWB	7-2
CN800's	HVPS PWB	7-3

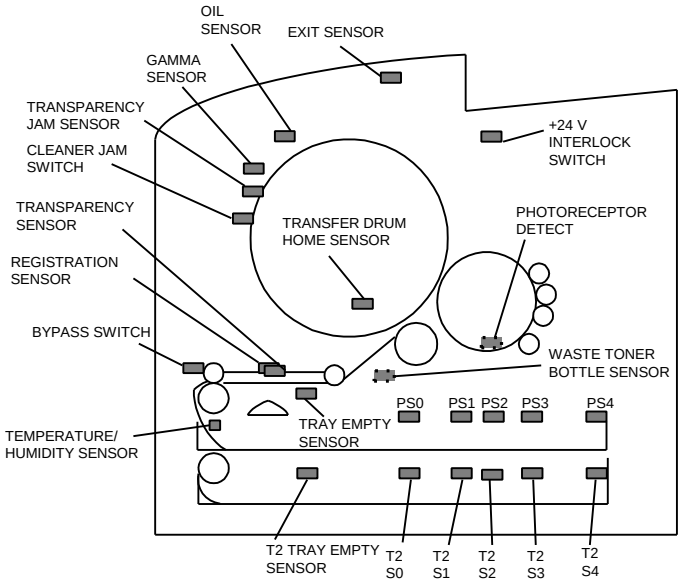


Figure 2-1. Input Component Location

C1 CHECK TRAY 1 RAP

Cassette 1 is not in the printer.

INITIAL ACTION

Load paper and insert Cassette 1 into the printer.

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 01, Press **Form Feed [1]**.

Remove Cassette 1. Manually make and break Paper Size Sensor 0 while observing the Cyan LED. (Sensor 0 is the first one on the left when viewed from the front of the printer.)

The Cyan LED switches on and off.

Y N

Go to BSD 7.2 in Section 7 and trouble-shoot the Paper Size 0 Sensor signal (CN107-8) for a short to ground.

If no short is found, replace the PCU PWB. If the problem still exists, replace the Cassette PWB.

Check for a broken Sensor Flag on the Tray 1 Cassette.

If the problem still exists, replace the PCU PWB. If the problem still exists, replace the Cassette PWB.

C2 CHECK TRAY 2 RAP

Cassette 2 is not in the printer.

INITIAL ACTION

Move the length stop to the 11 inch position (Figure 2-2), load paper, and insert Cassette 2 into the printer.

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 03. Press **Form Feed [1]**.

Remove Cassette 2. Manually make and break T2 Paper Size Sensor 0 while observing the Cyan LED.

The Cyan LED switches on and off.

Y N

Refer to BSD T2, 7.2 in Section 7 and check the following:

- T2 Paper Size 0 Sensor signal CN109-1 for an open.
- +5 VDC CN109-5

If no problem is found, replace the PCU PWB. If the problem still exists, replace the T2 Cassette PWB.

Check for a broken Sensor Flag on the Tray 2 Cassette.

If the problem still exists, replace the PCU PWB. If the problem still exists, replace the Cassette PWB.

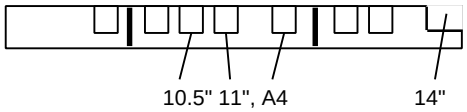


Figure 2-2. Length Stop Location

E1 TRAY 1 JAM RAP

Paper fed from Tray 1 did not reach the Registration Sensor.

INITIAL ACTION

Remove the cassette and check that the paper is loaded correctly and is in good condition.

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

PROCEDURE

Check the following:

- Obstructions in the paper path.
- Dirty Feed Rolls.
- Dirty Drive Rollers.
- Mechanical drive problem.

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 00. Press **Form Feed [1]**.

Open the Printer. Actuate and deactuate the Registration Sensor while observing the Magenta LED.

The Magenta LED switches on and off.

Y N

Go to BSD 8.1 in Section 7 and trouble-shoot the Registration Sensor signal, +5 VDC and GND (CN102-9, 7, 8) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the Registration Sensor.

Press **Media Server [2]**. Select Scan Row 01. Press **Form Feed [1]**.

Remove the cassette and actuate and deactuate the Tray Empty Sensor while observing the Black LED.

A

The Black LED switches on and off.

Y N

Go to BSD 7.1 in Section 7 and trouble-shoot the Tray Empty Sensor signal (CN102-6) for a short to ground.

If no short exists, replace the PCU PWB. If the problem still exists, replace the Tray Empty Sensor.

Exit from the SWITCH SCAN program.

Close the Printer.

Remove the paper cassette. Scroll to the MOTOR TEST program. Press **Form Feed [1]** to switch on the motors while observing the Paper Feed Motor.

The Paper Feed Motor is rotating normally.

Y N

Go to BSD 7.3 in Section 7 and trouble-shoot the +24 VDC Interlocked (CN111-5) and Paper Feed Motor for an open. If the motor was noisy, check the clock lines.

If the lines are OK, replace the PCU PWB. If the problem still exists, replace the Paper Feed Motor.

Exit from diagnostics.

Set up the meter to read +24 VDC. Measure between CN101-5 (+) and ground (–).

Make one print while monitoring the meter.

The meter swings from +24 VDC to 0.

Y N

Go to BSD 7.4 in Section 7 and trouble-shoot the Feed Solenoid signal, and +24 VDC Interlocked (CN101-5, 3) for an open.

B C

If no open exists, replace the PCU PWB. If the problem still exists, replace the Paper Feed Solenoid.

Check for a mechanical problem with the feed clutch.

E2 TRAY 2 JAM RAP

Paper fed from Tray 2 did not reach the Registration Sensor.

INITIAL ACTION

Remove the cassette and check that the paper is loaded correctly and is in good condition. Check the position of the rear stop.

Make sure that Tray 1 is pushed all the way in.

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

PROCEDURE

Try to run a print from Tray 1.

The print feeds OK from Tray 1.

Y N

Go to **E1** TRAY 1 JAM RAP.

Check the following:

- Obstructions in the paper path.
- Dirty Feed Rolls.
- Dirty Drive Rollers.
- Mechanical drive problem.

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 03. Press **Form Feed [1]**.

Remove cassette 2. Actuate and deactuate the Tray 2 Empty Sensor while observing the Black LED.

The Black LED switches on and off.

Y N

Go to BSD T2 7.1 in Section 7 and troubleshoot the T2 Tray Empty Sensor signal (CN109-4) for a short to ground.

If no short exists, replace the PCU PWB. If the problem still exists, replace the Tray 2 Empty Sensor.

A

Exit from diagnostics.

Set up the meter to read +24 VDC. Measure between CN109-8 (+) and ground (–).

Make one print while monitoring the meter.

The meter swings from +24 VDC to 0 and back to +24.

Y N

Go to BSD T2 7.3 in Section 7 and troubleshoot the T2 Feed Solenoid signal, and +24 VDC Interlocked (CN109-8, 7) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the T2 Feed Solenoid.

Measure between CN109-9 (+) and ground (–).

Make one print while monitoring the meter.

The meter swings from +24 VDC to 0 and back to +24.

Y N

Go to BSD T2 7.4 in Section 7 and troubleshoot the T2 Drive Clutch signal (CN109-9) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the T2 Drive Clutch.

Check for a mechanical problem with the Feed Clutch and Drive Clutch

E3 BYPASS JAM RAP

Paper fed from the Bypass Tray did not reach the Registration Sensor.

INITIAL ACTION

Carefully inspect the bypass opening for paper.

Switch the power off wait 10 seconds and switch the power on. Run another print and recheck for the fault.

PROCEDURE

If paper does not feed from the Bypass but does feed from Tray 1, check for an obstruction in the bypass slot.

Check to ensure that the switch is installed correctly and has not fallen out.

If no paper is loaded in the Bypass when the **E3** occurs, refer to BSD 7.5 in Section 7 and check the Bypass Switch signal (CN312-2) for a short to ground.

If no short exists, replace the PCU PWB. If the problem still exists, replace the Bypass Switch.

E4 INPUT JAM RAP

Paper was on the Registration Sensor too long.

INITIAL ACTION

Open the printer and check for any obstruction in the register roller area.

Switch the power off wait 10 seconds and switch the power on. Run another print to recheck for the fault.

Make sure the Grounding Roller is rotating freely.

Perform the Transfer Drum Nip Adjustment (ADJ 11.1)

PROCEDURE

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 00. Press **Form Feed [1]**.

Open the Printer. Actuate and deactuate the Registration Sensor while observing the Magenta LED.

The Magenta LED switches on and off.

Y N

Go to BSD 8.1 in Section 7 and trouble-shoot the Registration Sensor signal (CN102-9) for a short to ground.

If no short exists, replace the PCU PWB. If the problem still exists, replace the Registration Sensor.

Press **Media Server [2]**. Select Scan Row 04. Press **Form Feed [1]**.

Actuate and deactuate the Transparency Sensor while observing the Cyan LED.

A

The Cyan LED switches on and off.

Y N

Go to BSD 8.4 in Section 7 and trouble-shoot the Transparency Sensor signal (CN311-1) for a short to ground.

If no short exists, replace the PCU PWB. If the problem still exists, replace the Transparency Sensor.

Exit from the SWITCH SCAN program.

Close the Printer.

Remove the paper cassette. Scroll to the MOTOR TEST program and press **Form Feed [1]** to switch on the motors while observing the Paper Feed Motor.

The Paper Feed Motor is rotating normally.

Y N

Go to BSD 7.3 in Section 7 and trouble-shoot the Paper Feed Motor clock lines.

If the lines are OK, replace the PCU PWB. If the problem still exists, replace the Paper Feed Motor.

Exit from diagnostics.

Set up the meter to read +24 VDC. Measure between CN103-4 (+) and ground (–).

Make one print while monitoring the meter.

The meter swings from +24 VDC to 0 and back to +24.

Y N

Go to BSD 9.16 in Section 7 and trouble-shoot the Stripper Solenoid signal and +24 VDC Interlocked (CN103-4, CN303-2,1) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the Stripper Solenoid.

B

Set up the meter to read +24 VDC. Measure between CN101-5 (+) and ground (–).

Make one print while monitoring the meter.

The meter swings from +24 VDC to 0 and back to +24.

Y N

Go to BSD 7.4 in Section 7 and trouble-shoot the Feed Solenoid signal (CN101-5) for a short to ground.

If no short exists, replace the PCU PWB. If the problem still exists, replace the Feed Solenoid.

Set up the meter to read +24 VDC. Measure between CN101-4 (+) and ground (–).

Make one print while monitoring the meter.

The meter swings from +24 VDC to 0 and back to +24.

Y N

Go to BSD 8.2 in Section 7 and trouble-shoot the Registration Clutch signal and +24 VDC Interlocked (CN101-4, 1) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the Registration Clutch.

Check the following:

- Obstructions torn paper etc. in the paper path.
- Mechanical drive problem.

E5 FUSER JAM RAP

Paper did not reach the Exit Sensor.

INITIAL ACTION

Open the Printer and remove the Fuser Assembly. Check for any obstructions in the fuser paper path.

Switch the power off wait 10 seconds and switch the power on. Run another print to recheck for the fault.

PROCEDURE

Check the following:

- Obstructions in the paper path.
- Defective stripper fingers.
- Mechanical drive problem.

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 00. Press **Form Feed [1]**.

Open the Printer, then open the Fuser cover. Actuate and deactuate the Exit Sensor while observing the Yellow LED.

The Yellow LED switches on and off.

Y N

With SCAN ROW 00 still selected, actuate and deactuate the Bypass Switch while observing the Cyan LED.

The Cyan LED switches on and off.

Y N

Go to BSD 10.2 and troubleshoot the Strobe 2 signal CN103-18 for an open.

If no open exists replace the PCU PWB.

A B

A B

Go to BSD 10.2 in Section 7 and troubleshoot the Exit Sensor signal, +5 VDC and GND (CN308-1, 3, 2) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the Exit Sensor.

Exit from the SWITCH SCAN program.

Remove the Front Cover and then close the Printer.

Scroll to the MOTOR TEST program and press **Form Feed [1]** to switch on the motors while observing the Fuser Drive Motor.

The Fuser Drive Motor is rotating normally.

Y N

Go to BSD 10.1 in Section 7 and troubleshoot the Fuser Drive Motor clock lines.

If the lines are OK, replace the PCU PWB. If the problem still exists, replace the Fuser Drive Motor.

- Make sure the Fuser Cover fits correctly.
- Check for a Mechanical problem.

E6 DRUM JAM RAP

Paper is jammed on the Transfer Drum and could be caused by one of the following:

- Transfer Drum Cleaner not cleaning the Transfer Drum or resting on the Transfer Drum during the Print cycle.
- Paper did not reach the Gamma Sensor.
- Paper did not tack to the Transfer Drum and actuated the Transparency Jam Sensor.
- Paper did not tack to the Transfer Drum and actuated the Cleaner Jam Switch.
- Arcing between the Charge Scorotron connectors and the Print Drum.

INITIAL ACTION

Open the Printer and check for torn paper or an obstruction in the paper path. Check for a sheet of paper or a transparency actuating the Transparency Jam Sensor or the Cleaner Jam Switch.

Check the Toner Collector for “layered” toner (sand-art effect). If layered toner is present, refer to OF8 Arcing RAP.

If the problem only occurs when running color prints, check the Stripper Fingers for binding or interference.

Open the Printer and position the Transfer Drum Home Position Sensor flag at the 3 o’clock position. The Lead edge of the white patch should be at the tips of the stripper fingers. If not, replace the Transfer Drum.

PROCEDURE

Switch the Printer off. Remove the front cover and tape the Control Panel up so that you can view the operation of the Transfer Drum Cleaning Solenoid.

Switch the Printer on. Observe the Transfer Drum Cleaning Solenoid and the Cleaner Assembly.

If you see solid development during the copy quality setup, go the OF8 Arcing RAP.

The Transfer Drum Cleaning Solenoid should energize and move the Cleaner Assembly against the Transfer Drum while the patches are generated during the Copy Quality Setup.

When the Copy Quality Setup is complete the Transfer Drum Cleaning Solenoid should deenergize and move the Cleaner Assembly away from the Transfer Drum.

If the **E6** jam occurs before paper is fed and the patches are not being cleaned the Transfer Drum Cleaner assembly is not camming into the cleaning position.

If the machine prints OK when printing black only but jams (**E6**) when printing color, it is an indication that the Transfer Drum Cleaner assembly is staying cammed against the Transfer Drum.

The Transfer Drum Cleaning Solenoid and Transfer Drum Cleaner Assembly are operating correctly.

Y N

Check that when the solenoid energizes the camshaft turns 180 degrees and is stopped by the outer tab on the cleaner clutch sleeve. Ensure that the solenoid is tight and the actuator catches the inner tab when de-energized, and stops the outer tab when energized. Check for flashing on the plastic assembly, a bent solenoid actuator or other things that could interfere with proper operation. Clean the cams and the cam followers with film remover to minimize friction. Do not attempt to lubricate these cams. Observe the operation several times and look for smooth, consistent operation. Do not attempt to disassemble and adjust the clutch. If the clutch is defective order the new Cleaner Clutch Shaft Assembly.

A B

A B

Set up the meter to read +24 VDC. Measure between CN103-3 (+) and ground (–).

Switch the power off wait 10 seconds and switch the power on while monitoring the meter.

The meter swings from +24 VDC to 0 and back to +24.

Y N

Go to BSD 9.14 in Section 7 and troubleshoot the Transfer Drum Cleaning Solenoid signal and +24 VDC Interlocked (CN103-3, CN316-2, 1) for an open or a short.

If 24 VDC is not available at 316-1 on the Connector PWB, go to BSD 1 and troubleshoot the 24 VDC Interlocked (CN114-1, CN103-1).

Check the Transfer Drum Cleaning Solenoid and the cleaner assembly for binding.

If the sheet appears to be stopping at the Transfer Drum to Print Drum Nip, check the Transfer Drum Nip Adjustment (ADJ 11.1).

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 05. Press **Form Feed [1]**.

Open the Printer. Actuate and deactuate the Transparency Jam Sensor while observing the Black LED.

The Black LED switches on and off.

Y N

Check for an obstruction that is keeping the Transparency Jam Sensor actuator raised.

C D

C D

If OK, refer to BSD 9.17 and check the Transparency Jam Sensor signal CN314-2 for a short to ground.

If no short exists, replace the PCU PWB. If the problem still exists, replace the Transparency Jam Sensor.

Open the printer and remove the Transfer Discharge Corotron from the left side of the printer. You will need to squeeze the corotron handle to release the corotron.

With Scan Row 05 still selected, actuate and deactuate the Cleaner Jam Switch while observing the Magenta LED.

The Magenta LED switches on and off.

Y N

Check for an obstruction that is keeping the Cleaner Jam Switch actuated.

If OK, refer to BSD 9.18 and check the Cleaner Jam Switch signal CN318-2 for a short to ground.

If no short exists, replace the PCU PWB. If the problem still exists, replace the Cleaner Jam Switch.

Exit from the Switch Scan Program.

Scroll to the MOTOR TEST program and switch on the motors while observing the Fuser Drive Motor

The Fuser Drive Motor is rotating normally.

Y N

Go to BSD 10.1 in Section 7 and troubleshoot the Fuser Drive Motor for an open. If the motor was noisy, check the clock lines for an open or short

If the lines are OK, replace the PCU PWB. If the problem still exists, replace the Fuser Drive Motor.

E

Set up the meter to read +24 VDC. Measure between CN103-4 (+) and ground (–).

Make one print while monitoring the meter.

The meter swings from +24 VDC to 0 and back to +24.

Y N

Go to BSD 9.16 in Section 7 and troubleshoot the Stripper Solenoid signal and +24 VDC Interlocked (CN103-4, CN303-2, 1) for an open or a short.

If no short or open can be found, replace the PCU PWB. If the problem still exists, replace the Stripper Solenoid.

Set up the meter to read +5 VDC. Measure between CN103-11 (+) and ground (–).

Switch the power off wait 10 seconds and switch the power on.

The meter swings from 3.8 VDC to .5 when the white patch passes in front of the Gamma Sensor.

Y N

Go to BSD 8.5 in Section 7 and troubleshoot the Gamma Sensor, all lines, for an open.

If the lines are OK, replace the PCU PWB. If the problem still exists, replace the Gamma Sensor.

Refer to Section 6, GP 9.3 and perform the Transfer Voltage Check.

The Transfer voltage is within specification.

F

F

Y N

Go to BSD 9.1 in Section 7 and troubleshoot the following for an open or short.

- Black Transfer Lead from the Power Supply.
- Transfer On Signal (CN106-3).
- Transfer Control Signal (CN106-5).
- Bias Control Signal (CN106-6).
- +24 VDC to Power Supply (CN106-1).

If no wiring problem can be found, replace the PCU PWB. If the problem still exists, replace the High voltage Power Supply.

Refer to BSD 9.1 in Section 7 and check the Charge On Signal (CN106-2) for an open.

Check the following:

- Obstructions in the paper path.
- Dirty Feed Rolls.
- Mechanical drive problem.

E7 PRINT DRUM JAM RAP

INITIAL ACTION

Open the Printer and clear the jam.

If problem reoccurs refer to E4 RAP.

E8 OUTPUT JAM RAP

Paper was on the Exit Sensor too long.

INITIAL ACTION

We have seen some machines where the actuator for the Exit Sensor has become stuck during shipping. When this happens, the sensor does not change state, and the **E8** jam occurs. If you remove the sensor cover (PL 2.1) by removing the two screws that secure it, you can ensure that the actuator is free and that the sensor is secured in the proper position in the sensor cover.

Open the Printer and remove the Fuser Assembly. Check for any obstructions in the fuser paper path.

Switch the power off wait 10 seconds and switch the power on. Run another print to recheck for the fault.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 00. Press **Form Feed [1]**.

Open the Printer, then open the Fuser Cover. Actuate and deactuate the Exit Sensor while observing the Yellow LED.

The Yellow LED switches on and off.

Y N

Go to BSD 10.2 in Section 7 and trouble-shoot the Exit Sensor signal (CN308-1) for a short to ground.

If no short exists, replace the PCU PWB. If the problem still exists, replace the Exit Sensor.

Check the following:

- Obstructions in the paper path.
- Mechanical drive problem in the feedout area.

E9 CLOSE PRINTER RAP

The Printer is open.

INITIAL ACTION

Open and reclose the printer.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 00. Press **Form Feed [1]**.

Open and close the Printer while observing the Black LED.

The Black LED switches on and off.

Y N

Go to BSD 1 (G1) in Section 7 and troubleshoot the 24 VDC Interlock Switch.

If no open exists, replace the PCU PWB. If the problem still exists, replace the 24 VDC Interlock Switch.

Replace the PCU PWB.

EA COLOR DEV. MISINSTALLED RAP

The Color Developer Module was installed incorrectly or overtoning has occurred.

INITIAL ACTION

Enter IOT normal diagnostics. Scroll to the TEST PRINT program and press **Form Feed [1]** to run a test print. While the print is running, observe the KT=__, CT=__, MT=__, YT=__ values.

If any of the three color (C, M, Y) toner concentration values are below 10, that color is overtoned. Refer to ADJ 9.1 **EA** "Tone Down" Procedure in Section 4.

If the values are NOT too low, continue with this RAP.

Remove the Color Developer Module.

Check the Developer Module connector to be sure it is clean.

Reinstall the Color Developer Module.

If the problem persists, check connector CN118 for a good connection or any loose wiring before replacing the Color Developer Module.

If the problem still exists, replace the PCU PWB.

EB BLACK DEV. MISINSTALLED RAP

The Black Developer Module was installed incorrectly or the contacts are dirty.

INITIAL ACTION

Remove the Black Developer Module.

Check for binding in the housing.

Check to be sure that the seal has been removed.

Check the Developer Module connector to be sure it is clean.

Reinstall the Black Developer Module.

If the problem persists, check connector CN107 for a good connection or any loose wiring before replacing the Black Developer Module.

If the problem still exists, replace the PCU PWB.

EC PRINT DRUM MISINSTALLED RAP

The Print Drum Module was installed incorrectly or is not making a good connection.

INITIAL ACTION

Remove then reinstall the Print Drum Module.

This problem is usually caused by a poor connection on the left side of the Print Drum Module. Three contacts are cammed out when the Print Drum Module is installed. These contacts make a connection with the Drum Link PWB located on the left side of the Print Drum Module. Check to make sure there is a good connection and the contacts cam out.

Refer to BSD 9.2 in Section 7 and check the Drum Detect (H) signal.

If the problem persists, replace the Print Drum Module.

If the problem still exists, replace the PCU PWB.

F1 DISK ERROR (FLOPPY) RAP

The Floppy Disk cannot be read.

INITIAL ACTION

Note: The Floppy Disk must be a DOS format.

Load a different floppy and try to read it.

If the floppy still cannot be read, check the following for a good connection:

- CN102 between the Floppy drive and the ESS. (BSD 13 in Section 7).
- CN103 the flat cable between the Floppy drive and the ESS. (BSD 13 in Section 7).

If the problem still exists, replace the Floppy Drive before replacing the ESS PWB.

F2 DISK I/O ERROR (FLOPPY) RAP

The Floppy Disk cannot be read.

INITIAL ACTION

Note: The Floppy Disk must be a DOS format.

Load a different floppy and try to read it.

If the floppy still cannot be read, check the following for a good connection:

- CN102 between the Floppy drive and the ESS. (BSD 13 in Section 7).
- CN103 the flat cable between the Floppy drive and the ESS. (BSD 13 in Section 7).

If the problem still exists, replace the Floppy Drive before replacing the ESS PWB.

F3 ACTION FAILED (FLOPPY) RAP

The Floppy Disk cannot be accessed.

INITIAL ACTION

Note: The Floppy Disk must be a DOS format.

Load a different floppy and try to read it.

If the floppy still cannot be read, check the following for a good connection:

- CN102 between the Floppy drive and the ESS. (BSD 13 in Section 7).
- CN103 the flat cable between the Floppy drive and the ESS. (BSD 13 in Section 7).

If the problem still exists, replace the Floppy Drive before replacing the ESS PWB.

H1 HARD DISK ERROR RAP

The Hard Disk cannot be read.

C55/C55mp

*NOTE: If no hard disk is installed on this printer, print a Settings page (**Off Line**, Print, Settings) to record the customer network settings. Tell the customer that you are going to do a factory reset and they will need to reinstall the printer on their network. Perform a Factory Reset (**Off Line**, Setup, Factory Reset).*

[NC60]

*NOTE: If no hard disk is installed on this printer, print a Config. sheet (**Menu Up** to Service Menu, **Item Up** to Config Sheet, **Enter**) to record the customer network settings. Tell the customer that you are going to do a factory reset and they will need to reinstall the printer on their network. Perform a Factory Reset. Power Off. Press and hold **On Line** and **Enter**. Switch the power on. Continue holding the **On Line** and **Enter** keys until the display indicates Power On Version X.XX, then release the keys. This will enable the Reset Menu. **Menu Up** until Reset Menu, **Item Up** until Factor Defaults, **Value Up** until Yes, then press **Enter**.*

INITIAL ACTION

Switch the power off wait 10 seconds and switch the power on. This will force the ESS to retry reading the Hard Disk.

If the Hard Disk still cannot be read, check the following:

- **(C55/C55mp)**
  Check the Hard Disk to ensure that the new Relay Interface PWB is installed. Look for a small PWB mounted to the left of the hard drive.
- All Printers, check for a good connection between the Hard Disk and the ESS (CN101). (BSD 13 in Section 7).

If the problem still exists, replace the Hard Disk before replacing the ESS PWB.

H2 HARD DISK CONTROLLER ERROR RAP

The Hard Disk Controller has failed.

INITIAL ACTION

Switch the power off wait 10 seconds and switch the power on. Retry reading the Hard Disk.

If the Hard Disk still cannot be read, check the following for a good connection :

- Between the Hard Disk and the ESS (CN101). (BSD 13 in Section 7).

If the problem still exists, replace the ESS PWB.

H3 HARD DISK FULL RAP

The Hard Disk is full.

INITIAL ACTION

Switch the power off wait 10 seconds and switch the power on. This will force the ESS to retry reading the Hard Disk.

If the Hard Disk still does not write, have the customer remove some of the files from the Hard Disk.

H4 REFORMAT HARD DISK RAP

The Hard Disk needs to be formatted.

INITIAL ACTION

Switch the power off wait 10 seconds and switch the power on to retry reading the Hard Disk.

If the **H4** occurs again, reformat the hard disk:

J1 ADD YELLOW TONER RAP

The yellow toner concentration sensor has detected low yellow toner in the yellow developer assembly. When this occurs, the Printer will display “Adjusting Print Quality” and attempt to tone up.

NOTE: If a new color developer housing has been installed, make sure the 3 seals have been removed from the left side of the housing.

INITIAL ACTION

Check with the customer to see if they have already added Yellow Dry Ink. Add Yellow Dry Ink, if required.

Adding too much toner can cause the toner to “cake” and not be dispensed.

(C55/C55mp)
Put the printer in the Off Line mode.

Select the SERVICE Menu and print a Diagnostic Test Sheet.

Determine the Engine Software version from the Diagnostic Test Sheet. If the Software level is Version 66, replace the PCU PWB.

All Printers, switch the power off wait 10 seconds and switch the power on. Allow the Printer to try to tone up to recheck for the fault.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the MOTOR TEST program and Press **Form Feed [1]** to switch on the motors while observing the Color Toner Motor.

The Color Toner Motor is rotating normally.

A

A

Y N

Refer to BSD 9.11 in Section 7 and troubleshoot the Color Toner Motor lines (CN116-1, 2) for an open or a short to ground.

If no wiring problem exists, replace the PCU PWB. If the problem still exists, replace the Color Toner Motor.

Exit from diagnostics .

Set up the meter to read +24 VDC. Measure between CN115-16 (+) and ground (–).

Switch the power off wait 10 seconds and switch the power on while monitoring the meter.

The meter swings from +24 VDC to 0.

Y N

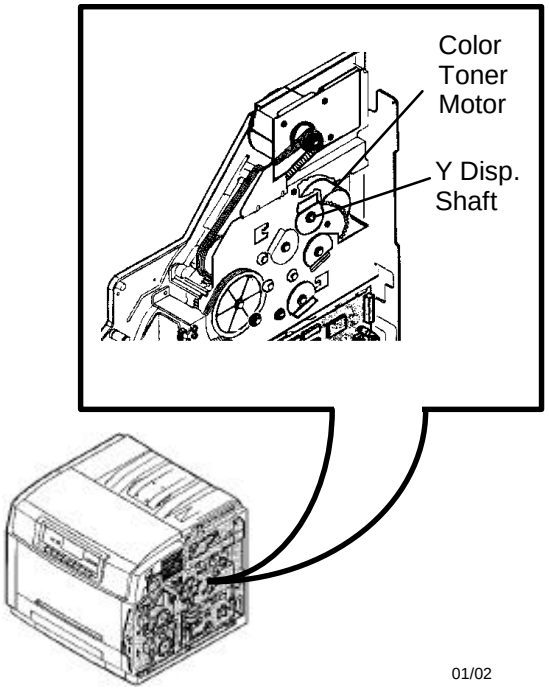
Go to BSD 9.10 in Section 7 and trouble-shoot the Yellow Toner Solenoid signal and +24 VDC Interlocked (CN115-16, 15) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the Yellow Toner Solenoid.

Check the Yellow Dispense Shaft to see if it rotates when the Solenoid energizes. If not, look for a mechanical problem (gears etc.).

Check the ground to the Yellow Toner Concentration Sensor (CN118-4 to CN1009-7) BSD 9.10.

If the ground is OK, replace the PCU PWB.



J2 ADD MAGENTA TONER RAP

The magenta toner concentration sensor has detected low magenta toner in the magenta developer assembly. When this occurs, the Printer will display “Adjusting Print Quality” and attempt to tone up.

NOTE: If a new color developer housing has been installed, make sure the 3 seals have been removed from the left side of the housing.

INITIAL ACTION

Check with the customer to see if they have already added Magenta Dry Ink. Add Magenta Dry Ink, if required.

Adding too much toner can cause the toner to “cake” and not be dispensed.

(C55/C55mp)
Put the printer in the Off Line mode.

Select the SERVICE Menu and print a Diagnostic Test Sheet.

Determine the Engine Software version from the Diagnostic Test Sheet. If the Software level is Version 66, replace the PCU PWB.

All Printers, switch the power off wait 10 seconds and switch the power on. Allow the Printer to try to tone up to recheck for the fault.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the MOTOR TEST program and Press **Form Feed [1]** to switch on the motors while observing the Color Toner Motor.

The Color Toner Motor is rotating normally.

A

A

Y N

Refer to BSD 9.11 in Section 7 and troubleshoot the Color Toner Motor lines (CN116-1, 2) for an open or a short to ground.

If no wiring problem exists, replace the PCU PWB. If the problem still exists, replace the Color Toner Motor.

Exit from diagnostics.

Set up the meter to read +24 VDC. Measure between CN115-14 (+) and ground (–).

Switch the power off wait 10 seconds and switch the power on while monitoring the meter.

The meter swings from +24 VDC to 0.

Y N

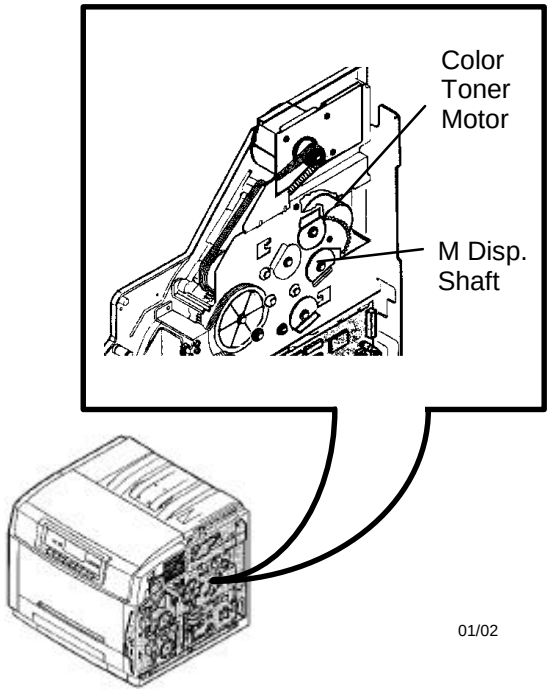
Go to BSD 9.10 in Section 7 and trouble-shoot the Magenta Toner Solenoid signal and +24 VDC Interlocked (CN115-14, 13) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the Magenta Toner Solenoid.

Check the Magenta Dispense Shaft to see if it rotates when the Solenoid energizes. If not, look for a mechanical problem (gears etc.).

Check the ground to the Magenta Toner Concentration Sensor (CN118-5 to CN1009-21) BSD 9.10.

If the ground is OK, replace the PCU PWB.



J3 ADD CYAN TONER RAP

The cyan toner concentration sensor has detected low cyan toner in the cyan developer assembly. When this occurs, the Printer will display “Adjusting Print Quality” and attempt to tone up.

NOTE: If a new color developer housing has been installed, make sure the 3 seals have been removed from the left side of the housing.

INITIAL ACTION

Check with the customer to see if they have already added Cyan Dry Ink. Add Cyan Dry Ink, if required.

Adding too much toner can cause the toner to “cake” and not be dispensed.

(C55/C55mp)
Put the printer in the Off Line mode.

Select the SERVICE Menu and print a Diagnostic Test Sheet.

Determine the Engine Software version from the Diagnostic Test Sheet. If the Software level is Version 66, replace the PCU PWB.

All Printers, switch the power off wait 10 seconds and switch the power on. Allow the Printer to try to tone up to recheck for the fault.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the MOTOR TEST program and Press **Form Feed [1]** to switch on the motors while observing the Color Toner Motor.

The Color Toner Motor is rotating normally.

A

A

Y N

Refer to BSD 9.11 in Section 7 and troubleshoot the Color Toner Motor lines (CN116-1, 2) for an open or a short to ground.

If no wiring problem exists, replace the PCU PWB. If the problem still exists, replace the Color Toner Motor.

Exit from diagnostics.

Set up the meter to read +24 VDC. Measure between CN115-12 (+) and ground (–).

Switch the power off wait 10 seconds and switch the power on while monitoring the meter.

The meter swings from +24 VDC to 0.

Y N

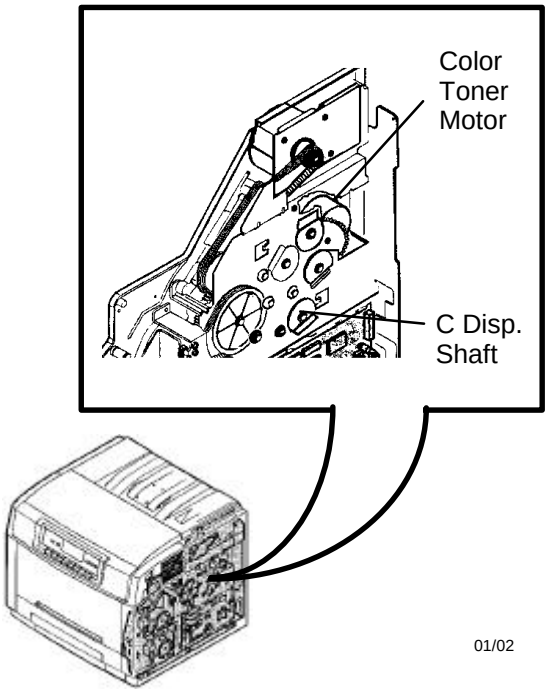
Go to BSD 9.10 in Section 7 and trouble-shoot the Cyan Toner Solenoid signal and +24 VDC Interlocked (CN115-12, 11) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the Cyan Toner Solenoid.

Check the Cyan Dispense Shaft to see if it rotates when the Solenoid energizes. If not, look for a mechanical problem (gears etc.).

Check the ground to the Cyan Toner Concentration Sensor (CN118-6 to CN1009-17) BSD 9.10.

If the ground is OK, replace the PCU PWB.



01/02

J4 ADD BLACK TONER RAP

The black toner concentration sensor has detected low black toner in the black developer assembly. When this occurs, the Printer will dead cycle and attempt to tone up.

NOTE: If a new black developer housing has been installed, make sure the packing material has been removed.

INITIAL ACTION

Check with the customer to see if they have already added Black Dry Ink. Add Black Dry Ink, if required.

Adding too much toner can cause the toner to "cake" and not be dispensed.

Check the Black toner hopper to ensure that it is latched closed and is opening the shutter to the developer housing.

(C55/C55mp)
Put the printer in the Off Line mode.

Select the SERVICE Menu and print a Diagnostic Test Sheet.

Determine the Engine Software version from the Diagnostic Test Sheet. If the Software level is Version 66, replace the PCU PWB.

All Printers, switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

PROCEDURE

Remove the Printer Rear Cover. There is a hole located at the left rear of the printer. This hole is used to view the gears for the Toner motor.

NOTE: In the following steps, we will be operating the Black Toner Motor. Do not allow the motor to run for over 2 seconds or overtoning can result.

A

Enter IOT normal diagnostics. Scroll to the MOTOR TEST program and press **Form Feed [1]** to switch on the motors. Look through the hole and switch on the Black Toner Motor by pressing **On Line [0]**. Release **On Line [0]** to stop the motor. Press **Media Server [2]** to stop the test.

The Motor Runs.

Y N

Set up the meter to read +24 VDC. Measure between CN107-13 (+) and ground (–). Press **Form Feed [1]** to switch on the motors. Press **On Line [0]** to switch on the Black Toner Motor. Release **On Line [0]** to stop the motor. Press **Media Server [2]** to stop the test.

The meter reads approximately 12 VDC when **On Line [0]** was pressed.

Y N

Go to BSD 9.8 in Section 7 and troubleshoot the Black Toner Motor lines (CN107-13, 14) for an open.

If the lines are OK, replace the Black Toner Motor

Check the Black toner box for auger binding.

Check the ground to the Black Toner Concentration Sensor (CN107-2 to CN1001-4) BSD 9.7.

If the ground is OK, replace the PCU PWB.

Toner should be dispensed, check the Black toner box for auger binding.

Check the ground to the Black Toner Concentration Sensor (CN107-2 to CN1001-4) BSD 9.7.

If the ground is OK, replace the PCU PWB.

J5 REPLACE COLOR DEVELOPER CARTRIDGE RAP

NOTE: This code is normally preceded by a W1 code.

The Color Developer Cartridge is at end of life.

INITIAL ACTION

Check the Color Developer Cartridge life.

(C55/C55mp)
Press **On Line**, then press **Menu**, use **Next** to scroll to the MAINTENANCE menu, press **Enter**. Use **Next** to scroll to COLOR DEV CART, press **Enter**.

[NC60]
Press **Menu Up** until Service, **Item Down** until CRU Usage. Press **Value Up** to scroll to the Color Dev. Cart.

Check the % remaining on the Color Developer Cartridge. If the cartridge is at end of life, notify the customer and have them install a new Color Developer Cartridge.

PROCEDURE

Check the developer drive motor, belts and gears to ensure that they are rotating.

If the **J5** code does not clear when a new Color Developer Cartridge is install, go to BSD 9.10 and check the New Developer Sense signal (CN118-7) for an open or short to ground.

If the **J5** code exists even though the Color Cartridge has not reached end of life refer to BSD 9.10 and check the following:

- Cyan Toner Sense signal for an open or a short to ground (CN118-10).
- Cyan Toner +5 VDC for an open (CN118-3).
- Magenta Toner Sense signal for an open or a short to ground (CN118-9).
- Magenta Toner +5 VDC for an open (CN118-2).

A

- Yellow Toner Sense signal for an open or a short to ground (CN118-8).
- Yellow Toner +5 VDC for an open (CN118-1).

If all of the above check OK, replace the Color Developer Cartridge. If the problem still exists, replace the PCU PWB.

J6 REPLACE BLACK DEVELOPER CARTRIDGE RAP

NOTE: This code is normally preceded by a W2 code.

The Black Developer Cartridge is at end of life.

INITIAL ACTION

Check the Black Developer Cartridge life.

(C55/C55mp)
Press **On Line**, then press **Menu**, use **Next** to scroll to the MAINTENANCE menu, press **Enter**. Use **Next** to scroll to BLACK DEV CART, press **Enter**.

[NC60]
Press **Menu Up** until Service, **Item Down** until CRU Usage. Press **Value Up** to scroll to the Black Dev. Cart.

Check the % remaining on the Black Developer Cartridge. If the cartridge is at end of life, notify the customer and have them install a new Black Developer Cartridge.

PROCEDURE

If the **J6** code does not clear when a new Black Developer Cartridge is install, go to BSD 9.7 and check the New Developer Sense signal (CN107-3) for an open or short.

If the **J6** code exists even though the Black Cartridge has not reached end of life refer to BSD 9.7 and check the following:

- Black Toner Sense signal for an open or a short to ground (CN107-4).
- Black Toner +5 VDC for an open (CN107-1).

If all of the above check OK, replace the Black Developer Cartridge. If the problem still exists, replace the PCU PWB.

J7 TONER COLLECTOR FULL RAP

The Toner Collector is full or not installed correctly.

INITIAL ACTION

Remove the Toner Collector and ensure that it is not full.

Check to ensure that the channel that the sensor “looks” through is not blocked with toner.

Reinstall the Toner Collector.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 02. Press **Form Feed [1]**.

Open the Printer. Remove and reinstall the Toner Collector while observing the Yellow LED.

The Yellow LED switches on and off

Y N

Go to BSD 9.21 in Section 7 and trouble-shoot the Waste Toner Sensor signal, +5 VDC, and GND (CN102-3, 1, 2) for an open.

If no open exists, replace the PCU PWB. If the problem still, exists replace the Waste Toner Sensor.

Install a new Toner Collector.

J8 REPLACE PRINT DRUM RAP

The Print Drum is at end of life, is not in place, or is not installed correctly.

NOTE: This code is normally preceded by a W3 code.

INITIAL ACTION

Check the Print Drum Cartridge life.

(C55/C55mp)
Press **On Line**, then press **Menu**, use **Next** to scroll to the MAINTENANCE menu, press **Enter**. Use **Next** to scroll to PRINT DRUM, press **Enter**.

[NC60]
Press **Menu Up** until Service, **Item Down** until CRU Usage. Press **Value Up** to scroll to the Print Drum.

Check the % remaining on the Print Drum Cartridge. If the cartridge is at end of life, notify the customer and have them install a new Print Drum Cartridge.

PROCEDURE

If the **J8** code does not clear when a new Print Drum Cartridge is installed, go to BSD 9.2 and check the New Drum Detect signal (CN107-15) for an open or short to ground. Also check +5 VDC (CN107-17) for an open.

If the **J8** code exists even though the Print Drum Cartridge has not reached end of life, refer to BSD 9.2 and check the Drum Detect signal (CN107-19).

If all of the above check OK, replace the Print Drum Cartridge. If the problem still exists, replace the PCU PWB.

J9 REPLACE FUSER MODULE RAP

The Fuser is at end of life.

NOTE: This code is normally preceded by a W4 code.

INITIAL ACTION

Check the Fuser Cartridge life.

(C55/C55mp)
Press **On Line**, then press **Menu**, use **Next** to scroll to the MAINTENANCE menu, press **Enter**. Use **Next** to scroll to FUSER MODULE, press **Enter**.

[NC60]
Press **Menu Up** until Service, **Item Down** until CRU Usage. Press **Value Up** to scroll to the Fuser Module.

Check the % remaining on the Fuser Module. If the module is at end of life, notify the customer and install a new Fuser Module.

PROCEDURE

If the **J9** code does not clear when a new Fuser Module is install, go to BSD 10.5 and check the New Fuser Detect signal (CN103-8, CN306-4) for an open or short to ground. Also check +5 VDC (CN306-1) for an open.

If all of the above check OK, replace the Fuser Module. If the problem still exists, replace the PCU PWB.

JA REPLACE OIL/PAD RAP

The Oil/Pad needs to be replaced.

INITIAL ACTION

Check the Oil Bottle and sump. If required, replace the Wiper Roll and Oil Bottle. If this code persists after a new Oil Bottle is installed or the Oil is OK, continue with this RAP.

Paper dust and other contaminants can cause the fuser oil to get cloudy and solidify causing the ball that triggers the Low Oil Sensor to stick. When low oil is detected, the printer will stop and the fuser will be powered off after 50 prints to prevent Fuser damage. If the fuser has the contamination described above, the ball could be stuck in a position that will prevent the fuser from warming up.

Check to ensure the fuser sump has oil in it. There have been some reported instances of defective oil bottles failing to dispense oil into the sump.

Ensure that the valve stem on the oil bottle is not bent or off center. A bent stem will not engage the plunger in the sump correctly.

If the sump is full, check to see if the ball is stuck in the bottom of the channel. If it is, you may be able to correct the problem by removing the rubber stopper in the tank above the ball and using a scribe or screwdriver to loosen the ball.

NOTE: This is only a temporary fix. You should have the customer order a new fuser assembly. If in your judgment this is a premature failure, follow the applicable warranty replacement procedures.

If the problem still exists continue with this RAP.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 05. Press **Form Feed [1]**.

Open the Printer and remove the Fuser Assembly.

Actuate and deactuate the Oil Sensor while observing the Cyan LED.

The Cyan, LED switches off and on.

Y N

With Scan Row 05 still selected, actuate and deactuate the Cleaner Jam Switch while observing the Magenta LED.

The Magenta, LED switches off and on.

Y N

Refer to BSD 10.4 and check the Strobe 1 signal CN103-19 for an open.

If no open exists replace the PCU PWB.

Refer to BSD 10.4 and check the Oil Low signal, +5 VDC and GND CN309-2, 1, 3 for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the Oil Sensor.

Check the ball that actuates the Oil Sensor to ensure that it is moving freely. Reinstall the Fuser Assembly and close the printer to see if the fault clears.

If the problem still exists replace the Wiper Roll and Oil Bottle. If the problem still exists, replace the PCU PWB.

T0 THERMISTOR ERROR RAP

The Fuser Thermistor readings are out of range, the Fuser is missing, or the Fuser is not seated correctly.

INITIAL ACTION

NOTE: During the following check be careful not to tip the Fuser.

Remove the Fuser Module and check the condition of the Fuser Connectors.

Check the operation of the shutter that covers the fuser connectors.

Reinstall the Fuser Module.

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

PROCEDURE

Set up the meter to read +5 VDC. Measure between CN103-9 (+) and ground (–).

When the fuser is cold, the reading should be around 0.1 VDC. When the fuse is hot, the reading should be approximately 3.5 VDC.

The readings are OK.

Y N

Go to BSD 10.5 in Section 7 and trouble-shoot the Fuser Thermistor signal and +5 VDC for an open or a short to ground (CN103-9, CN306-3, 2).

If the wiring is OK, replace the Fuser Assembly. If the problem still exists, replace the PCU PWB.

Replace the PCU PWB.

T1 UNDER TEMPERATURE RAP

NOTE: This RAP applies to both 115 and 220 volt printers. The 220 volt readings will be in parenthesis.

After the proper warm up time has elapsed, the fuser temperature is less than 85°C.

INITIAL ACTION

Remove the Fuser Module and check the condition of the Fuser Connectors. Also check to ensure that the ball which actuates the Low Oil Sensor is moving freely. The ball could be stuck in the down position which will prevent the fuser from warming up. If the ball is not free, you may be able to correct the problem by removing the rubber stopper in the tank above the ball and using a scribe or screwdriver to loosen the ball.

NOTE: This is only a temporary fix. You should have the customer order a new fuser assembly. If in your judgment this is a premature failure, follow the applicable warranty replacement procedures.

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

PROCEDURE

Switch the power off.

Locate connector CN1004/CN1008. This is a two-wire (black and white wires, heavy gauge) connector that provides AC power to the fuser. The connector is located just to the left of the PCU board (as you are looking at it).

Disconnect CN1004/CN1008.

Set up the meter to read Ohms. Connect the meter between pins 1 & 2 of CN1008 the Fuser side, (left connector) and measure the resistance.

The resistance is less than 10 Ohms.

Y N

A B

Go to BSD 10.5 in Section 7 and troubleshoot the Fuser connectors (CN1008, 1009) for an open circuit. If the wiring is OK, replace the Fuser Module.

CAUTION

Be careful during the following test, High Voltage AC may be present.

Set up the meter to measure 120 (220) VAC. Connect between CN1004-2 and CN1004-1, the LVPS side, (right connector).

Switch the Power on.

The reading is approximately 115 (220) VAC.

Y N

Switch the printer off. Reconnect CN1004/CN1008.

Set up the meter to read +24 VDC. Measure between CN107-20 (+) and ground (–).

Switch the printer on.

Open and close the Printer while observing the meter.

The meter reads 24 VDC with the Printer open and 0 VDC with the Printer closed.

Y N

Go to BSD 10.5 and troubleshoot the AC on (L) signal and +24 VDC Interlocked (CN107-20, 16) for an open.

If the wiring is OK, replace the PCU PWB. If the problem still exists, replace the Low Voltage Power Supply.

C D

Measure between CN107-18 (+) and ground (–).

The meter reads 0 VDC while the fuser is trying to warm up.

Y N

Go to BSD 10.5 and troubleshoot the Fuser on (L) signal (CN107-18) for an open.

If the wiring is OK, replace the PCU PWB. If the problem still exists, replace the Low Voltage Power Supply.

Measure between CN107-22 (+) and ground (–).

The meter reads 0 VDC while the fuser is trying to warm up.

Y N

Go to BSD 10.5 and troubleshoot the Heat Rod Sense (L) signal (CN107-22) for a short to ground.

If the wiring is OK, replace the PCU PWB. If the problem still exists, replace the Low Voltage Power Supply.

Replace the Low voltage power supply.

Go to BSD 10.5 in Section 7 and troubleshoot the Fuser connectors (CN1004, 1008, 1009) for an open circuit. If OK, replace the Fuser Module.

T2 OVER TEMPERATURE RAP

The fuser temperature is greater than 240°C.

INITIAL ACTION

Remove the Fuser Module and check the condition of the Fuser Connectors. Reinstall the Fuser Module.

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

PROCEDURE

Allow the fuser to cool. Set up the meter to read +24 VDC. Measure between CN107-18 (+) and ground (–).

When the fuser is cold, the reading should be around 0 VDC. When the fuse warms up, the reading should switch to approximately 22 VDC.

The readings are OK.

Y N

Go to BSD 10.5 in Section 7 and trouble-shoot the Fuser on (L) signal for a short to ground CN107-18).

If the wiring is OK, replace the PCU PWB. If the problem still exists, replace the Low Voltage Power Supply.

Triac shorted, replace the Low Voltage Power Supply.

U0 IOT ROM ERROR RAP

A ROM error was detected.

INITIAL ACTION

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

If the problem still exists, replace the PCU PWB.

U1 IOT RAM ERROR RAP

A RAM error was detected.

INITIAL ACTION

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

If the problem still exists, replace the PCU PWB.

U2 IOT NVM RAM ERROR RAP

A NVM error was detected.

Many xerographic parameters and other values are written to the NVM on the PCU PWB every time the machine is powered off. These values can be corrupted when the printer is powered off and on too quickly, or when there is an irregularity in the power to the printer. This can produce a **U2** error code.

If the NVM is initialized without following the proper procedures the toner concentration setpoints will not match those for the developer housings in the printer. The printer will then attempt to adjust the toner concentration to values that may be out of range for the housings. The can result in incorrect toner concentration values, or the machine may hang-up with the “Adjusting Print Quality” message.

When taking a **U2** service call, you must carefully follow the steps in ADJ 3.3 and determine the current Toner Concentration Setpoints before you actual “Initialize the NVM”.

INITIAL ACTION

Switch the power off wait 10 seconds and switch the power on. Recheck for the **U2** fault.

If the problem still exists, refer to ADJ 3.3 NVM Initialization (**U2**) in section 4.

U3 IOT/ESS COMMUNICATION ERROR RAP

A communication error between the ESS and the IOT was detected.

INITIAL ACTION

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

If the problem still exists, replace the PCU PWB.

If the problem still exists, replace the ESS PWB.

U4 OPTICS FAULT

A ROS problem was detected. The laser did not come on.

INITIAL ACTION

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

Check to ensure that the printer covers are closed. Inspect the Laser Interlock (smaller of the two switches) to ensure that it is actuated.

PROCEDURE

Locate connector 1007. This is a small DC, two wire connector located above and to the right of the PCU PWB.

Set up the meter to read +5 VDC. Connect the meter to CN1007-2 (+) (this pin goes to the ROS assembly harness) and ground (–).

Open and close the Printer while monitoring the meter.

The meter reads 0 VDC when the Printer is open and switches to +5 VDC when the Printer is closed.

Y N

Go to BSD 6 in Section 7 and troubleshoot the Laser Interlock Switch circuit (CN113-12) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the Laser Interlock Switch

Go to BSD 6 in Section 7 Connector CN113 and check the following pins for a good connection:

A

- (CN113-11) GND.
- (CN113-10) SYNC.
- (CN113-8) VIDEO DATA.
- (CN113-7) LASER DIODE ON (L) +5 VDC.

If the wiring appears OK, replace the PCU PWB.

If the problem still exists, replace the ROS.

U5 POLYGON MOTOR FAULT

A ROS problem was detected. The Polygon Motor did not come up to the proper speed.

INITIAL ACTION

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

PROCEDURE

Go to BSD 6 in Section 7 Connector CN113 and check the following pins for a good connection:

- (CN113-5) LASER LOCK.
- (CN113-4) POLYGON MOTOR LOCK (L) +5 VDC.
- (CN113-3) POLYGON MOTOR ON (L) +5 VDC.
- (CN113-2) GND.
- (CN113-1) +24 VDC INTERLOCKED.

If the wiring appears OK, replace the PCU PWB.

If the problem still exists, replace the ROS.

U6 MOTOR FAULT (DEVELOPER) RAP

The Developer Drive motor is not running.

*NOTE: This problem can be caused by arcing at the Print Drum Module spring contacts. If the **U6** code is intermittent and occasionally accompanied by a high pitch squeal, clean and reform the spring contacts. It the problem persists replace the Print Drum Module.*

INITIAL ACTION.

Remove and inspect both developer modules.

Check to ensure no foreign material is wedged in the drive gears and the gears on both modules rotate freely.

Reinstall both developer modules.

Check the Toner Collector for “layered” toner (sand-art effect). If layered toner is present, refer to OF8 Arcing RAP.

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

PROCEDURE

Set up the meter to read +5 VDC. Connect the meter to CN117-2 and ground (–).

Enter IOT normal diagnostics. Scroll to the MOTOR TEST program and press **Form Feed [1]** to switch on the motors while observing the meter.

The meter reads + 5 VDC before the motor program starts and 0 VDC when the motor program is running.

Y N

Set up the meter to read +24 VDC. Connect the meter to CN117-3 and ground (–).

A B

The meter reads + 24 VDC.

Y N

Go to BSD 9.5 in Section 7 and troubleshoot the +24 VDC (CN117-3) for an open.

If no open exists, replace the PCU PWB.

Go to BSD 9.5 in Section 7 and troubleshoot the Developer Motor On signal (CN117-2) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the Developer Drive Motor.

Press **Media Server [2]** to stop the MOTOR TEST program.

Set up the meter to read +5 VDC. Connect the meter to CN117-1 and ground (–).

Press **Form Feed [1]** to switch on the motors while observing the meter.

The meter reads + 5 VDC before the motor program starts and 0 VDC when the motor program is running.

Y N

Go to BSD 9.5 in Section 7 and troubleshoot the Developer Motor Lock signal (CN117-1) for an open.

If no open exists, replace the PCU PWB. If the problem still exists, replace the Developer Drive Motor.

Go to BSD 9.5 in Section 7 and troubleshoot the GND (CN117-4) for an open.

If OK, replace the PCU PWB. If the problem still exists, replace the Developer Drive Motor.

U7 MOTOR FAULT (MAIN) RAP

The Transfer Drum Home Position Sensor did not detect Transfer Drum rotation.

(C55/C55mp)
Mechanical bind is the most common cause of this fault, specifically binding of the auger in the Print Drum. This is usually (but not always) accompanied by a clicking noise from the top of the machine.

If a clicking noise is heard, enter “Normal Diagnostics” (General Procedures) and attempt to run the **Motor Test**. Note the sounds of the machine. Stop the test, remove the print drum, close the printer, and run the **Motor Test** again. Note any changes in the sounds. If there is a noticeable change in the sound, examine the Print Drum by opening the Waste Toner trap door and probing with a small screwdriver. If this area is clogged, you can remove the left side cover by removing the trap door and removing 4 screws. This area can then be vacuumed out before reassembly.

All Printers, if a thumping noise is heard, check to see if the Main Drive Motor Belt is slipping.

INITIAL ACTION

Remove and inspect the Print Drum Module.

Check to ensure that no foreign material is wedged in the Print Drum Module drive gears.

Rotate the Transfer Drum by hand to ensure that it moves. Check for any binding caused by a tucked over Transfer Drum Cleaner Brush Blade

Reinstall the Print Drum Module.

Switch the power off wait 10 seconds and switch the power on. Recheck for the fault.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the MOTOR TEST program and press **Form Feed [1]** to switch on the motors while observing the Main Drive Motor.

The Main Drive Motor is rotating.

Y N

The Main Motor is noisy.

Y N

Go to BSD 9.3 in Section 7 and troubleshoot the +24 VDC Interlocked (CN112-5).

If OK, replace the PCU PWB. If the problem still exists, replace the Main Drive Motor.

Go to BSD 9.3 in Section 7 and check (CN112) to ensure it is plugged in.

If the problem still exists replace the PCU PWB. If the problem still exists, replace the Main Drive Motor.

Press **Media Server [2]** to stop the MOTOR TEST program.

Scroll to the SWITCH SCAN program and select Scan Row 04. Press **Form Feed [1]**.

Open the Printer. Slowly rotate the Transfer Drum while observing the Magenta LED.

The Magenta LED switches on and off.

Y N

A B

A B

Go to BSD 9.13 in Section 7 and trouble-shoot the Transfer Drum Home Position signal, +5 VDC, and ground (CN103-17, CN313-2, 1, 3) for an open or a short to ground.

If the wiring is OK, replace the PCU PWB. If the Problem still exists replace the Transfer Drum Home Position Sensor.

Replace the PCU PWB.

W1 COLOR DEV MOD RAP

This code indicates that the Color Developer module is near the end of life (10% remaining).

When a J5 occurs the customer should install a new Color Developer Module.

When the new Color Developer Module is installed, the J5 and W1 codes will no longer appear.

If the J5 code still exists, refer to the J5 RAP

W2 BLACK DEV MOD RAP

This code indicates that the Black Developer module is near the end of life (10% remaining).

When a J6 occurs the customer should install a new Black Developer Module.

When a new Black Developer Module is installed, the J6 and W2 codes will no longer appear.

If the J6 code still exists, refer to the J6 RAP

W3 PRINT DRUM MOD RAP

This code indicates that the Photoreceptor module is near the end of life (10% remaining).

When a J8 occurs the customer should install a new Print Drum Module.

When a new Print Drum Module is installed, the J8 and W3 codes will no longer appear.

If the J8 code still exists, refer to the J8 RAP

W4 FUSER MOD RAP

This code indicates that the Fuser module is near the end of life (10% remaining).

When a J9 occurs the customer should install a new Fuser Module.

When the new Fuser Module is installed, the J9 and W4 codes will no longer appear.

If the J9 code still exists, refer to the J9 RAP

W5 FUSER OIL BOTTLE/PAD RAP

This code indicates that the Oil Bottle and Pad are near the end of use.

When a JA occurs the customer should install a new Fuser Oil Bottle and Pad.

When a new Oil Bottle is installed, the JA and W5 codes should no longer appear.

If the JA code still exists, refer to the JA RAP

OF1 DEAD PRINTER RAP

This RAP is used when the Printer is dead. There is no display, no Control Panel LEDs are on, and no motors or fans are heard when the printer is switched on.

NOTE: A description of the C55 and NC60 IOT and ESS boot routines can be found in Section 6 of this manual. Refer to the Section 6 Table of Contents.

INITIAL ACTION

Remove the power cord and check for AC power at the wall outlet. If there is no power at the wall outlet, ask the customer to call an electrician to restore the AC power.

If power is available at the wall outlet, disconnect the power cord from the printer. Plug the cord into the wall and check for AC power at the printer end of the power cord. If power is available at the wall outlet but not available at the printer end, replace the power cord.

PROCEDURE

WARNING

Disconnect all network, and workstation inputs to the printer.

A

A

Switch the printer off wait 10 seconds and switch the printer on while listening to the IOT and observing the Message Display.

The IOT runs when the printer is switched on.

Y N

Set up the meter to measure +5 VDC. Measure between CN108-1 (+) and CN108-2 (–).

The meter indicates +5 VDC.

Y N

Go to OF1.1 + 5 VDC RAP

Set up the meter to measure +5 VDC. Measure between CN310-11 (+) and CN310-10 (–).

The meter indicates +5 VDC.

Y N

Replace the Connector PWB.

Go to OF2 CONTROL PANEL RAP.

Switch the printer off wait 10 seconds and switch the power on while observing the LEDs on the ESS PWB.

The ESS appears to boot normally and the Control Panel is blank.

Y N

Check CN104, the ESS to IOT connector. If OK, go to OF6A (C55/C55mp) or OF6B [NC60].

Go to OF2 CONTROL PANEL RAP

OF1.1 +5 VDC RAP

This RAP is used when the +5 VDC is not present at the PCU PWB. The printer is dead, the display and LEDs are off. No motors or fans are heard when the printer is switched on.

INITIAL ACTION

Switch the Printer off.

WARNING

Disconnect all network, and workstation inputs to the printer.

PROCEDURE

Loosen the two thumb screws on the rear of the ESS and slide the ESS about half-way out of the printer. Switch the printer on.

The printer is still dead, the display and LEDs are off. No motors or fans are heard when the printer is switched on.

Y N

The printer booted when it was switched on. The display is now a circling asterisk.

Switch the printer off. If the printer does NOT have a NIC, replace the ESS.

If the printer does have a NIC, slide the ESS back into the printer and remove the NIC. Switch the Printer on.

The Printer is still dead, the display and LEDs are off. No motors or fans are heard when the printer is switched on.

Y N

The printer booted when it was switched on. The display is now a circling asterisk.

Replace the NIC

A B

A B

Replace the ESS.

Switch the printer off. Disconnect CN104 from the ESS Interface PWB. Switch the printer on.

The printer is still dead, the display and LEDs are off. No motors or fans are heard when the printer is switched on.

Y N

The printer booted when it was switched on. The display is now a circling asterisk.

Switch the printer off. Reconnect CN104. Disconnect CN102 and CN103 from the Floppy Drive. Switch the printer on.

The printer is still dead, the display and LEDs are off. No motors or fans are heard when the printer is switched on.

Y N

The printer booted when it was switched on. The display is now a circling asterisk.

Replace the Floppy Drive.

If the printer does NOT have a hard drive, replace the ESS Interface PWB.

If the printer has a Hard Drive, switch the printer off. Reconnect CN102 and CN103. Disconnect CN101 from the Hard Drive. Switch the printer on.

The printer is still dead, the display and LEDs are off. No motors or fans are heard when the printer is switched on.

Y N

C D E

C D E

The printer booted when it was switched on. The display is now a circling asterisk.

Replace the Hard Drive.

Replace the ESS PWB.

Switch the printer off. Disconnect CN108 from the PCU PWB.

Connect the meter between CN108-1 (+) and CN108-2 (–). The meter should be connected to the connector side NOT the PWB side.

Switch the printer on.

The meter indicates +5 VDC.

Y N

Refer to BSD 1.2 and Check CN108 to CN707 for an open.

If no open is found, remove the Low Voltage Power Supply (REP. 3.1).

Remove Fuses F701, F702, and F703. Use the Ohmmeter to check these fuses.

If any of the fuses test bad, install a new fuse reassemble the printer and recheck.

If all fuses check OK, replace the Low Voltage Power Supply.

Replace the PCU PWB. If the problem still exists replace the Connector PWB.

OF2 CONTROL PANEL RAP

This RAP is used when the Control Panel Message Display, LEDs, or Buttons do not work.

INITIAL ACTION

Switch the power off wait 10 seconds and switch the power on and recheck for the fault.

Enter IOT normal diagnostics (**Menu [3]**, **Enter [7]** + Power On) and check the operation of the Control Panel. If the Control Panel works OK in diagnostics, refer to BSD 6 and check the PCU to ESS connectors CN104. If the connections are OK, replace the ESS PWB.

PROCEDURE

Classify the problem into one of the following categories, then go to the appropriate subsection of the RAP.

OF2.1 The Message Display top row consists of ■'s. The bottom row is blank.

OF2.2 The Message Display is blank (no * during IOT Boot).

OF2.3 The message display is flickering off and on, or displaying random characters.

OF2.4 Message display works OK, LEDs do not work correctly.

OF2.5 Message display works OK, Switches do not work correctly.

OF2.6 * Circles Continuously.

OF2.7 Rebooting message never clears.

OF2.1 The Message Display top row consists of ■'s. The bottom row is blank.

PROCEDURE

Switch the power off wait 10 seconds and switch the power on, while listening to the IOT.

The IOT runs (boots up) when the printer is switched on.

Y N

Refer to BSD 6 and check the RES signal (CN104-8) for a short to ground.

Refer to BSD 2.1 and check the D3 signal (CN103-25) for a short to ground.

It the wiring is OK, replace the PCU PWB. If the problem still exists, replace the Control Panel PWB.

Refer to BSD 2.1 and check the following signals:

- CN103-22 Read/Write for an open.
- CN103-23 Register Select for an open or a short to ground.
- CN103-24 Display Enable for an open or a short to ground.
- CN103-25 Data 3 for an open.
- CN103-26 Data 2 for an open.
- Refer to BSD 10.2 and check CN103-18 Strobe 2 for a short to ground.
- Refer to BSD 10.4 and check CN103-19 Strobe 1 for a short to ground.

If all appear OK, replace the Control Panel PWB.

If the problem still exists, replace the PCU PWB.

OF2.2 The Message Display is blank (no * during IOT Boot).

PROCEDURE

Switch the power off wait 10 seconds and switch the power on, while listening to the IOT.

The IOT runs (boots up) when the printer is switched on.

Y N

Set up the meter to measure +5 VDC. Measure between CN310-10 (+) and CN310-11 (–).

The meter indicates +5 VDC.

Y N

Go to OF1.1 +5 VDC RAP.

Refer to BSD 2.1 and check the +5 VDC CN310-11 and DC COM CN310-10 from the Connector PWB to the Control Panel. If OK, replace the Control Panel PWB.

Refer to BSD 2.1 and check the following signals:

- CN103-22 Read/Write for a short to ground.
- CN103-26 Data 2 for a short to ground.
- CN103-27 Data 1 for an open.
- CN103-28 Data 0 for an open.

Refer to BSD 6 and check the following signals:

- CN104-1 STS (Status) for an open or a short to ground.
- CN104-5 SRDY (Status Ready) for an open.

If all appear OK, replace the Control Panel PWB.

If the problem still exists, replace the PCU PWB.

OF2.3 The message display is flickering off and on, or displaying random characters.

PROCEDURE

Refer to BSD 2.1 and check the following signals:

- If the Message is flickering off and on, check CN103-27 (DATA 1) for an open.
- If the Message is illegible, and the K LED is on all the time, check CN103-25 (DATA 3) for a short to ground.
- If the Message is illegible, and the M LED is on all the time, check CN103-27 (DATA 1) for a short to ground.
- If the Message is illegible, and the Y LED is on all the time, check CN103-28 (DATA 0) for a short to ground.

If all appear OK, replace the Control Panel PWB,

If the problem still exists, replace the PCU PWB.

OF2.4 Message display works OK, LEDs do not work correctly.

PROCEDURE

If the On Line LED never comes on, refer to BSD 6 and check the following:

- CN104-6 CRDY (Command Ready) for an open.
- CN104-2 CMD (Command) for an open or a short.

If the LEDs are flickering off and on, refer to BSD 2.1 and check the following:

- CN103-21 LED Enable for a short to ground.

If the LEDs are off, refer to BSD 2.1 and check the following:

- CN103-21 LED Enable for an open.

If all appear OK, replace the Control Panel PWB.

If the problem still exists, replace the PCU PWB.

OF2.5 Message display works OK, Switches do not work correctly.

PROCEDURE

When the switches do not work properly, refer to BSD 2.1 and check the following:

- CN103-20 Switch Enable for an open or a short.

If OK, replace the Control Panel PWB.

If the problem still exists, replace the PCU PWB.

OF2.6 * Circles Continuously.

PROCEDURE

When the * is circling continuously, it is not receiving messages from the ESS PWB.

Perform the following checks. Retry between each check.

1. Remove and reseat the ESS PWB. (you may want to remove the left side cover and the EME shield to ensure that the PWB is seated.
2. Disconnect the NIC, if one is present.
3. Remove and reseat the DRAM SIMM's on the ESS.
   (C55/C55mp) If there are more than two SIMM's check to ensure that the larger value SIMM's are installed in J8 and J9
4. **(C55/C55mp)** Check the version of the ESS PWB. The number is written in yellow ink, parallel to the ESS face plate near the bottom of the ESS. The bottom of the ESS is the point FURTHEST away from the DRAM SIMM's. If the ESS PWB number is **160K43690 or 160K49680** Replace the ESS PWB.
5. **(C55/C55mp)** Reconfigure the ESS PWB to the original RAM configuration (2-8 MB SIMM's) this will verify if this is a DRAM problem. If the printer works in the original configuration but not with customers memory, replace the ESS PWB.
6. **(C55/C55mp)** If the ESS IF PWB (PL 3.1 #6, 160K32850) has been replaced, check to see that it has a plastic insulating washer at each mounting hole. Some of the spare 160K32850 were manufactured without these washers. (A purge is under way to fix this problem. In the meantime, contact your Technical Support Organization)
7. Check CN104 harness (between PCU PWB and IF PWB).
8. Replace PCU PWB.
9. Replace ESS IF PWB (160K32850).

OF2.7 Rebooting message never clears.

When the Rebooting message is displayed the ESS is booting and waiting for a ready message from the IOT. The rebooting message usually lasts for approximately 1 minute and is followed by the Initializing message.

PROCEDURE

Switch the power off wait 10 seconds and switch the power on and recheck for the fault.

1. Switch the power off and unplug the ESS by sliding it out about 6 inches.
2. Run the IOT Test Print.
   a. Hold **Menu [3]** and **Enter [7]** and switch the power on.
   b. User **Menu [3]** to scroll to Test Print.
   c. Press **Form Feed [1]**.
4. If you cannot enter diagnostics or the test print does not run, replace the PCU PWB.
5. If the Test Print is produced, replace the ESS PWB.

OF3 TRAY 1 PAPER SIZE SENSING RAP

This RAP is used to troubleshoot the paper size sensing for Tray 1. Use this RAP when the paper size that is loaded is not the same size that is being sensed.

INITIAL ACTION

Remove Tray 1 and check the movable length stop. Make sure the tab which actuates the sensors is not broken.

Carefully load the paper size which is not being detected correctly.

Switch the power off wait 10 seconds and switch the power on. Make a print of the paper size which is loaded to recheck for the fault.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 01. Press **Form Feed [1]**.

Remove Cassette 1. Observe the LED's.

The Cyan, Magenta and Yellow LEDs are all off.

Y N

Refer to BSD 7.2 and check the following:

- If all three LEDs are on, check the +5 VDC, CN107-7 for an open.
- Cyan LED on, check Paper size 0, CN107-8 for an open.
- Magenta LED on, check Paper Size 1, CN107-9 for an open.
- Yellow LED on, check Paper Size 2, CN107-10 for an open.

If wiring is OK, replace the PCU PWB. If the problem still exists, replace the Cassette PWB.

A

Press **Media Server [2]**, select Scan Row 02. Press **Form Feed [1]**. Observe the LED's.

The Black and Cyan LEDs are off.

Y N

Refer to BSD 7.2 and check the following:

- Black LED on, check Paper size 3, CN107-11 for an open.
- Cyan LED on, check Paper Size 4, CN107-12 for an open.

If wiring is OK, replace the PCU PWB. If the problem still exists, replace the Cassette PWB.

With Scan Row 02 still selected move the length stop to the Legal (14") position (Figure 2-3).

Insert the cassette. Observe the LED's.

The Cyan LED goes on when the cassette is inserted.

Y N

Refer To BSD 7.2 and check Paper Size 4, CN107-12 for a short to ground.

If wiring is OK, replace the PCU PWB. If the problem still exists, replace the Cassette PWB.

Remove the cassette and move the length stop to the A4 (11.7")"position.

Insert the cassette. Observe the LED's.

The Black LED goes on when the cassette is inserted.

Y N

Refer To BSD 7.2 and check Paper Size 3, CN107-11 for a short to ground.

B C

B C

If wiring is OK, replace the PCU PWB. If the problem still exists, replace the Cassette PWB.

Press **Media Server [2]**, select Scan Row 01. Press **Form Feed [1]**.

Remove the cassette and move the length stop to the Letter (11")"position.

Insert the cassette. Observe the LED's.

The Yellow LED goes on when the cassette is inserted.

Y N

Refer To BSD 7.2 and check Paper Size 2, CN107-10 for a short to ground.

If wiring is OK, replace the PCU PWB. If the problem still exists, replace the Cassette PWB.

Remove the cassette and move the length stop to the Executive (10.5")"position.

Insert the cassette. Observe the LED's.

The Magenta LED goes on when the cassette is inserted.

Y N

Refer To BSD 7.2 and check Paper Size 1, CN107-9 for a short to ground.

If wiring is OK, replace the PCU PWB. If the problem still exists, replace the Cassette PWB.

Replace the PCU PWB. If the problem still exists, replace the ESS PWB.

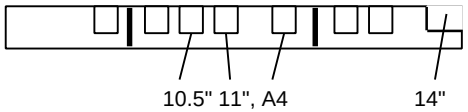


Figure 2-3 Length Stop Location

OF4 TRAY 2 PAPER SIZE SENSING RAP

This RAP is used to troubleshoot the paper size sensing for Tray 2. Use this RAP when the paper size that is loaded is not the same size that is being sensed.

INITIAL ACTION

Remove Tray 2 and check the movable length stop. Make sure the tab which actuates the sensors is not broken.

Carefully load the paper size which is not being detected correctly.

Switch the power off wait 10 seconds and switch the power on. Make a print of the paper size which is loaded to recheck for the fault.

PROCEDURE

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 03. Press **Form Feed [1]**.

Remove Cassette 2. Remove the Length Stop and re-insert Cassette 2 without the stop. Observe the LEDs.

Cyan, Magenta, and Yellow are all On.

Y N

Refer to BSD T2 7.2 and check the following:

- Cyan is Off. Check the T2 Paper Size 0 signal, CN109-1 for a short to ground.
- Magenta is Off. Check the T2 Paper Size 1 signal, CN109-2 for a short to ground.
- Yellow is Off. Check the T2 Paper Size 2 signal, CN109-3 for a short to ground.

A B

If OK, replace the T2 Cassette PWB. If problem still exists, replace the PCU PWB.

With Scan Row 03 still selected remove the cassette and put the Length Stop in the Executive (10.5") position (Figure 2-4).

Insert the cassette and observe the LEDs.

Cyan is On, Magenta is Off, and Yellow is ON.

Y N

Refer to BSD T2 7.2 and check the T2 Paper Size 1 signal, CN109-2 for an open.

If OK, replace the T2 Cassette PWB. If problem still exists, replace the PCU PWB.

Remove the cassette and put the Length Stop in the Letter (11") position.

Insert the cassette and observe the LEDs.

Cyan is On, Magenta is Off, and Yellow is On.

Y N

Refer to BSD T2 7.2 and check the T2 Paper Size 1 signal, CN109-2 for an open.

If OK, replace the T2 Cassette PWB. If problem still exists, replace the PCU PWB.

Remove the cassette and put the Length Stop in the (A4) position.

Insert the cassette and observe the LEDs.

C

Cyan is On, Magenta is On, and Yellow is Off.

Y N

Refer to BSD T2 7.2 and check the T2 Paper Size 2 signal, CN109-3 for an open.

If OK, replace the T2 Cassette PWB. If problem still exists, replace the PCU PWB.

Remove the cassette and put the Length Stop in the Legal (14") position.

Insert the cassette and observe the LEDs.

Cyan is Off, Magenta is On, and Yellow is Off.

Y N

Replace the T2 Cassette PWB.

Replace the PCU PWB.

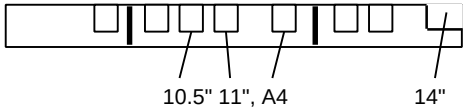


Figure 2-4. Length Stop Location

OF5 LOAD PAPER RAP

This RAP is used to troubleshoot a constant load paper message.

INITIAL ACTION

Remove the cassette and check the actuator for the Tray Empty Sensor to ensure it is not broken.

Switch the power off wait 10 seconds and switch the power on to recheck for the fault.

PROCEDURE

Refer to OF5.1 for Tray 1 Load Paper problems.

Refer to OF5.2 for Tray 2 Load Paper problems.

OF5.1 Constant Tray 1 Load Paper message.

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 01. Press **Form Feed [1]**.

Remove Cassette 1. Observe the Black LED while actuating and deactuating the Tray 1 Empty Sensor.

The Black LED switches off and on.

Y N

Refer to BSD 7.1 and check the Tray Empty Sensor circuit CN102-6, 4, 5 for an open.

If OK, replace the Tray Empty Sensor. If the problem still exists, replace the PCU PWB.

Replace the PCU PWB. If the problem still exists, replace the ESS PWB.

OF5.2 Constant Tray 2 Load Paper message.

Enter IOT normal diagnostics. Scroll to the SWITCH SCAN program and select Scan Row 03. Press **Form Feed [1]**.

Remove Cassette 2. Observe the Black LED while actuating and deactuating the Tray 2 Empty Sensor.

The Black LED switches off and on.

Y N

Refer to BSD T2 7.1 and check the T2 Tray Empty Sensor circuit CN109-4, 5, 6 for an open.

If OK, replace the T2 Tray Empty Sensor. If the problem still exists, replace the PCU PWB.

Replace the PCU PWB. If the problem still exists, replace the ESS PWB.

OF6A ESS RAP (C55/C55mp)

This RAP is used when you suspect a problem with the (C55/C55mp) ESS.

PROCEDURE

Switch the Printer off. Enter IOT normal diagnostics (**Menu** + **Enter**, then Power On). Scroll to TEST PRINT and press **Form Feed** to run an IOT test print.

The Test Print is produced.

Y N

Refer to Section 2 Table of contents and fix the IOT Problem.

Switch the printer off.

WARNING

Have the customer disconnect all network and workstation inputs to the printer.

Remove the Left Cover. If the Printer has a NIC card, remove it.

Locate the five LEDs (CR1~CR5) on the rear of the ESS PWB. They are just below the parallel port.

When the printer is switched on, you should see the LEDs light in the following sequence.

CR5 on,
All LEDs on.
CR5 and CR3 on.

Switch the Printer on while observing the LEDs. If you need to do it several times, be sure to wait 10 seconds after power off before switching the Printer back on.

The LEDs operated normally.

Y N

A B

A B

CR5 came on.

Y N

Refer to BSD 1.2 and check the +5 VDC to the ESS PWB (CN104-16~20). If OK, replace the ESS PWB.

Replace the ESS PWB

Enter the Off Line mode and make a test print.

A Test Print was produced.

Y N

Replace the ESS PWB.

Determine the Port being used then select from one of the following:

- Customer is using SLIC
  - Check the connector from the PC to ensure it is seated properly.
  - Check for any bent or deformed pins.
  - Replace the SLIC PWB. If the problem still exists replace the ESS PWB.
- Customer is using Parallel
  - Check the connector from the PC to ensure it is seated properly.
  - Check for any bent or deformed pins.
  - If the problem still exists replace the ESS PWB.
- Customer is using NIC

Examine the NIC card for any obvious problems. Look for bent or deformed pins.

Set up the meter to measure +5 VDC and check for +5 VDC between pins 1 and 2 (top 2 pins) of the NIC connector.

+5 Volts is available.

Y N

Replace the ESS PWB.

Replace the NIC PWB.

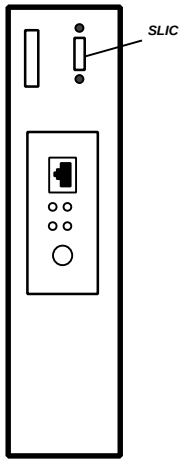


Figure 1. ESS PWB

OF6B ESS RAP [NC60]

This RAP is used when you suspect a problem with the [NC60] ESS.

PROCEDURE

Switch the Printer off. Enter IOT normal diagnostics **[3]** + **[7]**, then Power On. Use **[3]** to scroll to TEST PRINT and press **[1]** to run an IOT test print.

The Test Print is produced.

Y N

Refer to Section 2 Table of contents and fix the IOT Problem.

Switch the printer off, wait 10 seconds then switch the printer on.

Refer to Figure 1 and Locate the POWER and FAIL LEDs on the rear of the ESS PWB. Observe these two LEDs through the two cutouts.

The POWER LED is on.

Y N

Refer to BSD 1.2 and check the +5 VDC to the ESS PWB (CN104-16~20). If OK, replace the ESS PWB.

The FAIL LED is <u>off</u>.

Y N

When the Fail LED is on, it indicates a ESS boot failure, replace the ESS.

Power on Version number was displayed.

Y N

Replace the ESS.

The Control Panel displayed *'s, then displayed Initializing and the copyright statement.**

Y N

A B

A B

Check the plug in RAM to ensure it is seated properly and is at least 32 MB.

If the problem still exists replace the ESS.

Press **[2]** until Service Menu is displayed. Press **[5]** until Config Sheet is displayed, then press **[1]** to make a test print.

A Test Print was produced.

Y N

Replace the ESS PWB.

Determine the Port being used then select from one of the following:

- Customer is using the Serial interface.
  - Check the connector from the PC to ensure it is seated properly.
  - Check for any bent or deformed pins.
  - If the problem still exists, replace the ESS PWB.
- Customer is using the Parallel interface.
  - Check the connector from the PC to ensure it is seated properly.
  - Check for any bent or deformed pins.
  - If the problem still exists replace the ESS PWB.
- Customer is using 10 MB NIC (No Optional NIC Card).
  - Check the NIC connector to ensure it is seated properly.
  - Check for any bent or deformed pins.
  - If the problem still exists replace the ESS PWB.
- Customer is using 100 MB NIC or Token Ring (Optional NIC Card).
- Examine the NIC card for any obvious problems. Look for bent or deformed pins.
- Set up the meter to measure +5 VDC and check for +5 VDC between pins 1 and 2 (top 2 pins) of the NIC connector.

+5 Volts is available.

Y N

Replace the ESS PWB.

Replace the NIC PWB.

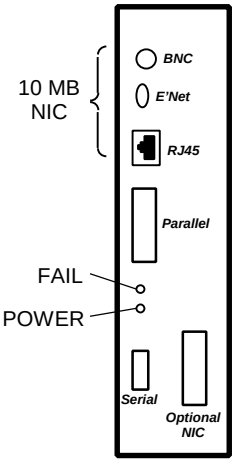


Figure 1. ESS PWB

OF7 ESS BOOT FAILURE ERROR CODES [NC60]

During the ESS Boot process several tests and checks are performed.

If a failure occurs, and the ESS can communicate with the Control Panel, an error code will be displayed.

If the ESS failure prevents communication with the Control Panel, the error will be indicated by a flashing Fail LED on the ESS PWB. There will be a one second pause then a number of flashes which represents the failure.

If partial communication has been established, you may also see a flashing Magenta LED on the Control Panel.

Table 1 Boot Error Codes

Message	LED Flash Rate	Description	Action
0001-ESS	1	Major ESS failure.	Replace ESS.
0001-BASE RAM	2	Base Ram failure.	Replace ESS.
0001-BASE ROM	3	Rom failure.	Replace ESS.
0001-ASIC	4	ASIC Interrupt Controller failure.	Replace ESS.
0001-DMA	5	DMA Controller failure.	Replace ESS.
0001-COMM	6	Parallel or Serial Port failure.	Replace ESS.
1000-IOT	8	ESS - IOT Communication failure.	Check CN104 on PCU PWB. If OK, replace the ESS.
0010-DISK	9	Hard Disk failure.	Check Hard Disk connectors. If OK, replace the Hard Disk.
0101-SIMM1	10	Simm 1 board failure.	Check connection. If OK, replace Simm 1.
0102-SIMM2	11	Simm 2 board failure.	Check connection. If OK, replace Simm 2.
0103-SIMM3	12	Simm 3 board failure.	Check connection. If OK, replace Simm 3.
0104-SIMM4	13	Simm 4 board failure.	Check connection. If OK, replace Simm 4.
2000-XIE RAM	15	Image Enhancement RAM failure.	Replace ESS.
3000-TOKENRING	16	Token Ring Card failure.	Check NIC connection. If OK, replace Simm.
4000-NIC	17	Ethernet Card failure.	Check NIC connection. If OK, replace Simm.
0040-ROM BOARD	18	Flash ROM failure.	Replace ESS.
6000 FLOPPY	19	Floppy Drive failure.	Check Floppy connection. If OK, replace Floppy Drive.
7000-DPTEK	20	DP-TEK Chip failure	Replace ESS.
5000-MEMORY	None	Memory not large enough	Replace ESS.
********** **********	None	Screen full of (Asterisks)	Refer to OF6B

OF8 ARCING RAP

This RAP is used when Arcing is occurring between the Print Drum and the contacts which supply the Charge voltage.

INITIAL ACTION

Inspect the Toner Collector for layers of color and black toner in the toner collector. This is sometimes referred to as the “sand-art” effect. It is caused by solid development during the copy quality setup process.

If the Charge Scorotron or Charge Grid connection is faulty, it can result in no or very low charge. Since this is a “write black” printer,” the print drum will develop a solid image when there is no charge.

PROCEDURE

Check and clean the Charge and Grid contacts located on the right side of the Print Drum. Check and clean the Charge and Grid contact points on the frame side of the printer.

Remove the Fuser Module. Clean the bracket that holds the Erase Lamp assembly. Look for fibers from the exit discharge brush.

If the problem persists, refer to BSD 9.4 in Section 7 and check the Red leads to the Print Drum Module for an open.

Replace the Print Drum Module.

NOTES: