

## Section 5

# General Procedures and Information

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## 5.1 Precautions

The three subsections below focus on three kinds of precautions important to service persons:

- General safety precautions needed by everyone using or handling the printer.
- Precautions needed by anyone servicing the printer.
- Additional service precautions specifically related to Electrostatically Sensitive Devices (ESDs).

Read each of these precautions carefully.

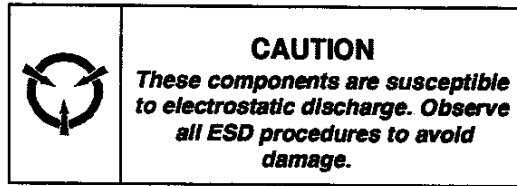
### 5.1.1 General Safety Precautions

- 1 Do not use this printer near water, or where any kind of liquid can spill on it, and do not expose it to inclement weather.
- 2 Make sure the printer is on a stable surface, and that the surface is large enough to keep the printer from being accidentally knocked to the floor.
- 3 The printer's ventilation slots are designed to prevent overheating. Make sure these slots are not covered or blocked. Don't put the printer in any enclosure that doesn't permit full ventilation.
- 4 Never insert objects of any kind into the printer through the ventilation slots. Such objects may touch dangerous high voltage points, causing electric shock, a short circuit, or a fire.
- 5 Use only a grounded power source. If you are not sure of the type of power available, consult your dealer or the local power company.
- 6 Make sure no one can trip on the power cord or communication cable, and that no weight is placed on them.
- 7 Avoid touching the surface of the photo-sensitive drum. The surface is easily marked, and any scratch or mark can affect print quality.
- 8 Don't expose the print cartridge to direct light for long periods.
- 9 Follow the directions in Section 2, "Paper Specifications," on the proper choice of paper.
- 10 Before cleaning, disconnect the AC power. Use only a damp cloth for cleaning. Do not use liquid cleaners or aerosol sprays.

### 5.1.2 Service Precautions

- 1 Before disassembly, disconnect the AC power.
- 2 Replace parts only with the correct Xerox parts.
- 3 Pay attention to the proper orientation of parts when mounting or inserting them.
- 4 Pay particular attention to the Electrostatically Sensitive Device (ESD) precautions, since failure to follow them can seriously damage the unit.

### 5.1.3 ESD Precautions



Semiconductor (solid state) devices that are easily damaged by static electricity are called Electrostatically Sensitive Devices. Examples are integrated circuits (ICs), large-scale integrated circuits (LSIs), semiconductor chip components, and some field-effect transistors.

The following techniques are designed to reduce the danger of damage to printer components as a result of static electricity.

- 1 Check and observe all the safety and servicing precautions.
- 2 Before handling any circuit board or wiring assembly, perform the ESD procedures.

*NOTE: To avoid the danger of shock, be sure to remove the wrist strap before powering up the unit under test.*

- 3 Place any sensitive assemblies on a conductive surface. This will prevent accumulation of static electricity.
- 4 Do not use freon-propelled chemicals. These can generate enough static charge to damage sensitive components.
- 5 Do not remove a replacement component from its protective package until you are ready to install it. Most replacement components are packaged with leads that are electrically shorted together by conductive foam, aluminum foil, or other conductive material.
- 6 Immediately before removing the protective material from the component, touch the protective material to the printer chassis or the circuit assembly in which the device will be installed.
- 7 Minimize body motions when handling unpackaged replacement components. Even such simple motions as clothes brushing together or a foot being lifted from a carpet can generate enough static electricity to cause damage.

### 5.1.4 Laser Safety

The DocuPrint 4512 laser printer contains a Class I laser. All laser safety information is contained on pages iii and iv in the front of this manual.

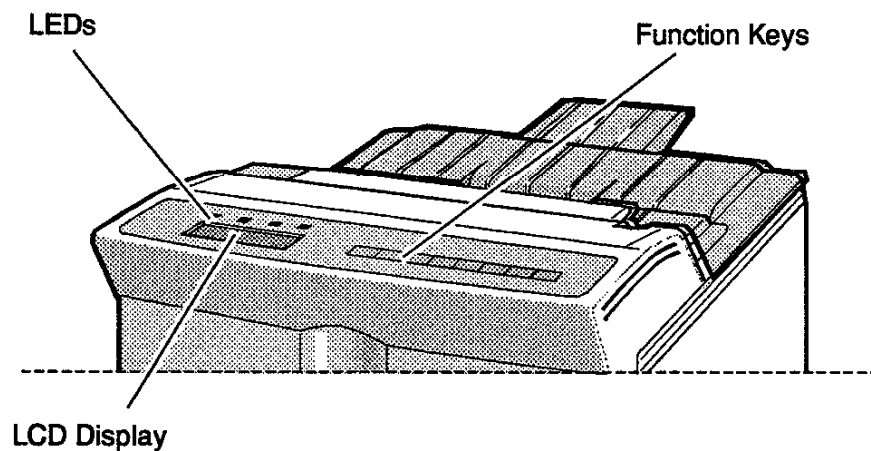
## 5.2 Printer Control

### 5.2.1 Key Panel

The Key Panel (Figure 5.2.1a) includes four indicator LEDs, a 16-character LCD display, and 8 function keys.

The four Indicator LEDs, two yellow (Error and Supply), two green (Data and Online) indicate the printer status.

Figure 5.2.1a Key Panel.











5\_01

The table below shows the relationship between printer mode, printer status, and LED signals

Light	Description
Fault (Yellow)	Glow to show that an error has occurred. It flashes when the selected paper tray has run out of paper.
Toner/Drum (Yellow)	Begins to glow when the toner is low or when the Photoconductor/Drum is near the end of its life.
Data (Green)	Glow when the printer is processing data normally. It goes off when the final page of a print job has finished printing. It flashes if data for a page is in the printer memory and the end of page cannot be determined.
On Line (Green)	Glow when the printer is ready to receive print data from the computer. It flashes when the printer is receiving and/or processing data.

There are eight keys; On Line, FormFeed, Data Clear, Menu, Item, Up, Down, and Enter. Their functions are as shown in the table below.

Key	Description
<b>On Line</b> 	Sets the printer on-line and off-line. When on-line, the printer is ready to receive, or has already accepted, data for printing. You must take the printer off-line to set menus, perform off-line print tests, and do other manual tasks. The other keys do not function when the printer is on-line.
<b>Menu</b> 	Cycles the display through the menus.
<b>Item</b> 	Cycles the display through the items in each menu.
<b>Up</b> 	Cycles the display backward through the values for each menu item. The current setting is indicated by an asterisk (*) at the right edge of the display.
<b>Down</b> 	Cycles the display forward through the values for each menu item. The current setting is indicated by an asterisk (*) at the right edge of the display.
<b>Enter</b> 	Sets the displayed value of the currently displayed menu item, or executes the currently displayed off-line print test.
<b>Form Feed</b> 	Prints the data which is left in printer memory when the printer is taken off-line. This key has no effect when the printer is on-line.
<b>Data Clear</b> 	Clears printer memory of print job data.

A 16-character liquid crystal display is used to indicate:

- Status messages
- Menu settings
- Error conditions
- Service message

## The Menu System

The table below shows the Key Panel Menu structure. The menu name appears at the top of the column, with the menu items below each heading. See Printer Operation (5.8) for detailed information on the menu items.

Printing Menu	Job Menu	Configuration Menu	Serial Menu*	Test Menu	Miscellaneous Menu
Copies	Resolution	Warning Message	Baud Rate*	Configuration Sheet	Print Screen
Font Number	Page P	Manual Set	Data Bit*	PCL 5e Font List	Message
Duplex	St Saving	High Speed	Parity*	PS2 Font List**	
Bind***	Emulation	Advanced Functions	Robust XON*	PCL 5e Demo Page	
			DTR Polarity*	PS2 Demo Page**	

\* Appears when the Serial Interface option is installed.

\*\* Appears when the PostScript option is installed.

\*\*\* Appears when the Printing Menu's Duplex item is set to On.



## 5.3 Printer Modes (Overview)

The Xerox 4512 has four modes of operation, each with its own set of options.

- 1 Online Mode
- 2 Diagnostic Mode
- 3 Power Saver Mode
- 4 Printer Operation

### Online Mode

Online is the printer's normal operating mode. In this mode the printer is online and ready to print. Online Mode occurs automatically when the printer is connected to AC power and the power ON/OFF switch is switched ON. If the printer goes out of the Online Mode during operation, Online may be restored by pressing the On Line key on the Key Panel.

When the printer is in Online Mode, the "Online" LED on the Key Panel is lit. When the "Online" LED is blinking, the printer is receiving or processing data, or printing. When the "Online" LED is on steady, it indicates data reception, transmission, analysis, and printing are allowed.

### Diagnostic Mode

The Diagnostic Mode enables the individual testing of seven different printer functions. Specific instructions for entering and initiating diagnostic tests can be found in 5.6.3 Diagnostic Mode.

### Power Saver Mode

The printer has the Power Saver Mode as a default setting to reduce power consumption by reducing the temperature of the fusing unit. If no data is supplied from the computer or no key operation is performed for a certain amount of time, the printer enters the power saver state. However when the printer is in the power saver state, it takes longer to start printing the first page because it takes some time to raise the temperature of the fusing unit.

### Printer Operation

Printer Operation utilizes the Key Panel to set various printer operations and to print test sheets. Specific instructions for entering and initiating Printer Operations and entry tables can be found in 5.8 Printer Operation.

## 5.4 Charge Corotron Cleaning Procedure

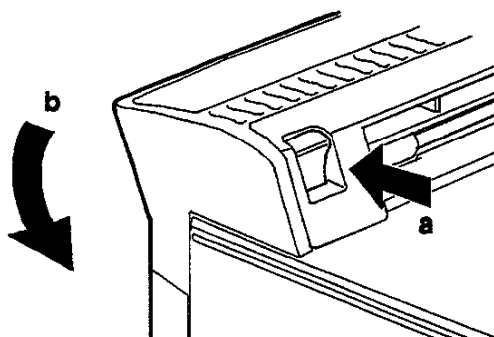
This procedure is used to clean any contamination present on the Charge Corotron.

**NOTE:** Use this procedure prior to entering *RAP 7.8 Image Quality Problems*.

To initiate this procedure:

- 1 Switch OFF the AC power.
- 2 Open the Front Panel Assembly. (Figure 5.4a).
  - a Push the panel release lever.
  - b Open the cover by holding both sides.

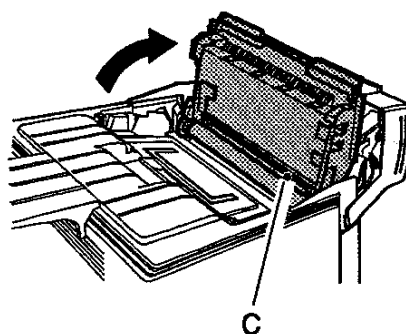
Figure 5.4a Front Cover.



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- 3 Position the Photoconductor/Drum Cartridge vertically. (Figure 5.4b).
  - a Insert your hand into the opening between the face down tray and the photoconductor cartridge.
  - b Pull the lever at the back of the Photoconductor/Drum Cartridge with your fingers and then rotate the cartridge until it is positioned vertically.
  - c The Charge corotron is next to the Photoconductor/Drum (Figure 5.4b).

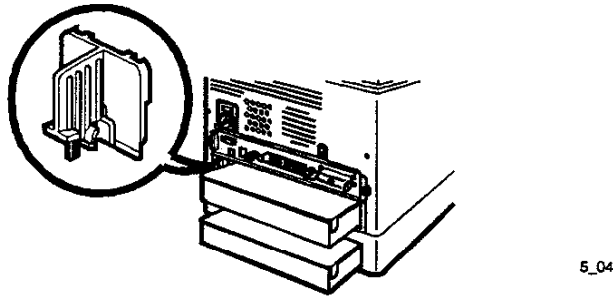
Figure 5.4b Photoconductor/Drum Cartridge



5\_03

- 4 Remove the Corotron Cleaner from the rear cover. (Figure 5.4c).

**Figure 5.4c Corotron Cleaner.**

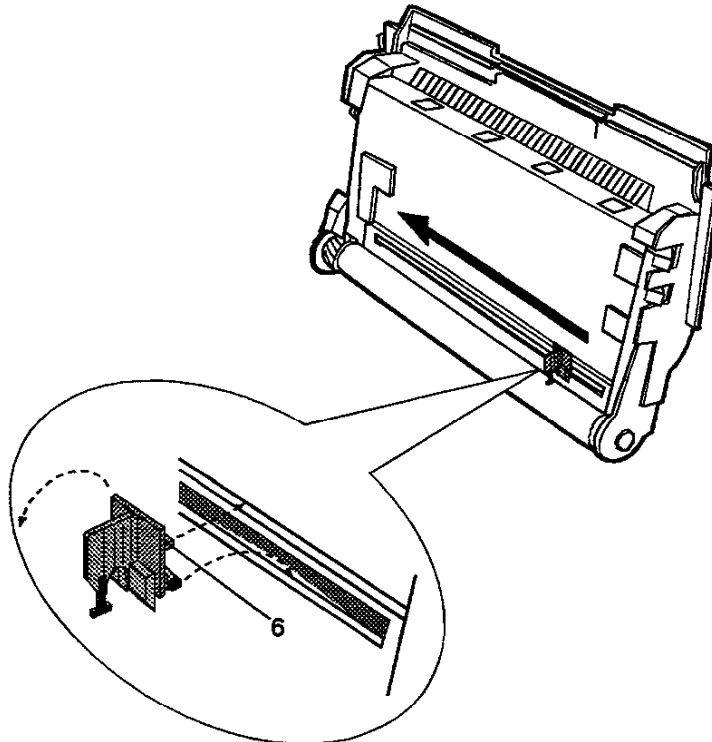


5\_04

**NOTE:** In the next step you will be inserting the Corotron Cleaner into the Charge Corotron. The access to the corotron is through a slot that is covered by a sheet of plastic. The plastic will deflect to allow the Corotron Cleaner Brush to access the corotron wire.

- 5 Carefully insert the Corotron Cleaner Brush into the corotron at one end (Figure 5.4d).
- 6 The two tabs on the Corotron Cleaner fit into the slot between the Charge Corotron and the cartridge frame. The Corotron Cleaner should lay flat against the Charge Corotron.
- 7 Slide the cleaner to the opposite end and remove (Figure 5.4d).

**Figure 5.4d Charge Corotron Cleaning.**



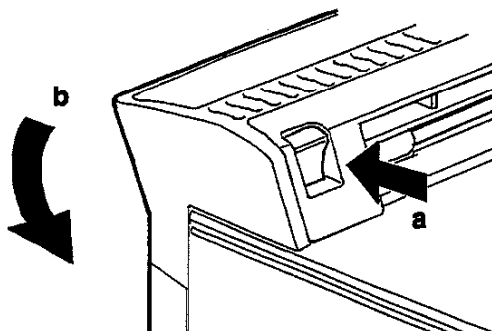
5\_16

- 8 Reinstall all components.

## 5.5 Transfer Corotron Cleaning Procedure

- 1 Switch OFF the AC power.
- 2 Open the front cover. (Figure 5.5a).
  - a Push the cover release lever and open the Front Panel Assembly.

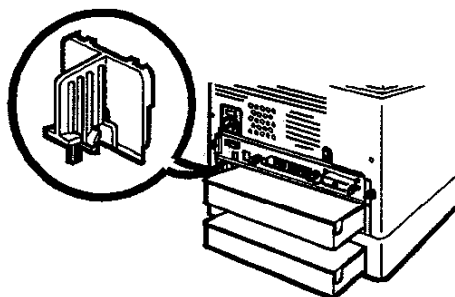
Figure 5.5a Open Front Cover.



5\_06

- 3 Remove the Corotron Cleaner from the rear cover. (Figure 5.5b).

Figure 5.5b Corotron Cleaner.



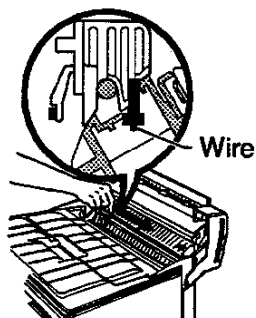
5\_07

- 4 Insert the cleaner into the Transfer Corotron at the right end and clean the wire by sliding the cleaner to the left. (Figure 5.5c).

*NOTE: Be sure to move the cleaner all the way to the left before removing.*

*NOTE: Be sure to slide the cleaner in the direction shown. Sliding in the opposite direction may result in damage to the wire.*

Figure 5.5c Transfer Corotron Cleaning.



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## 5.6 Diagnostics

### 5.6.1 Diagnostic Mode (Test and Testprint)

Diagnostic Mode enables the individual testing of seven different printer functions:

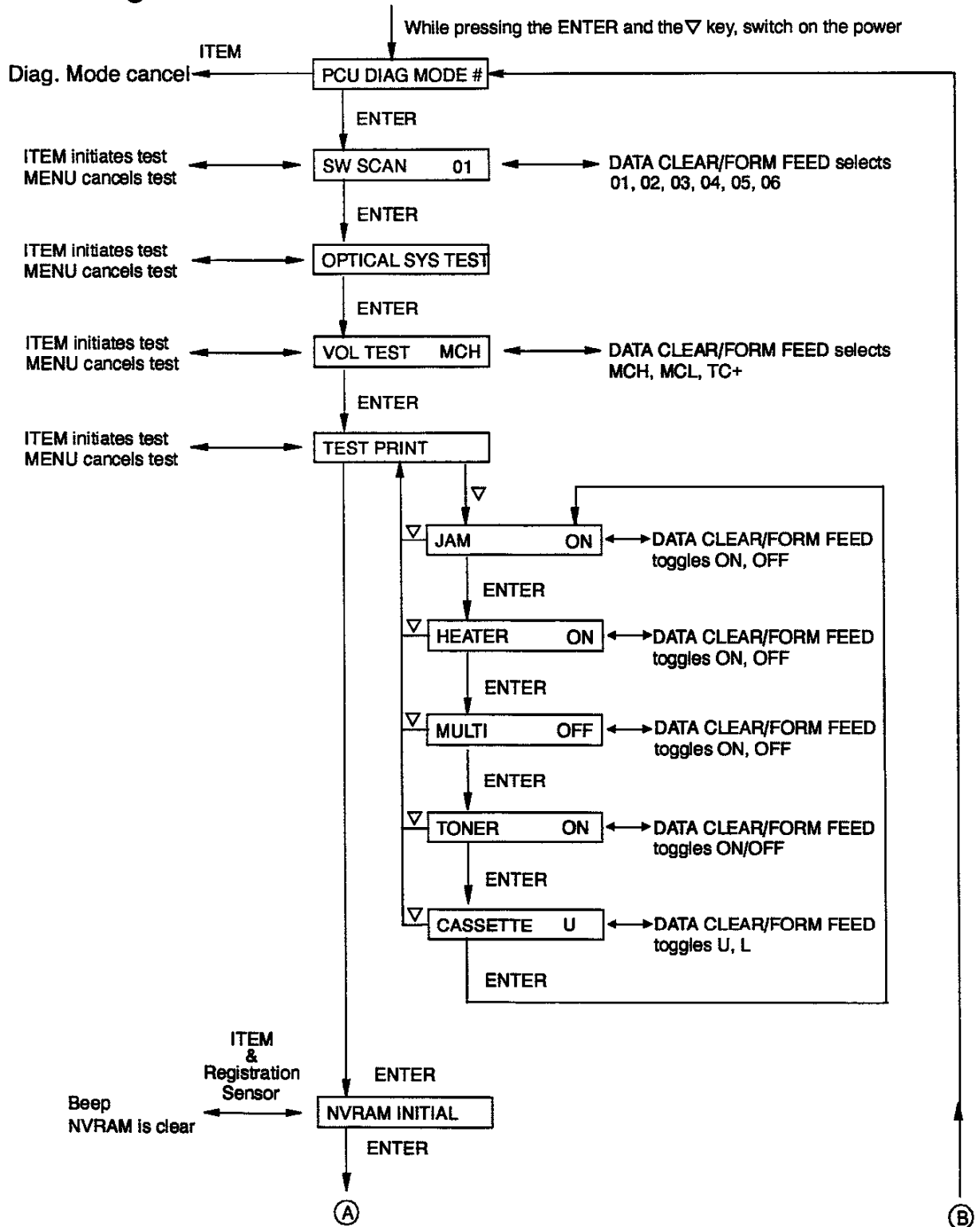
- ROM Version Display
- Sensor/Detector Operation Test
- Optical System (Laser) Operation Test
- High Voltage Power Supply Test
- Test Print
- NVRAM Initializing
- Counters Set

A diagram of the available tests and the interrelationship between the tests is contained on the next page.

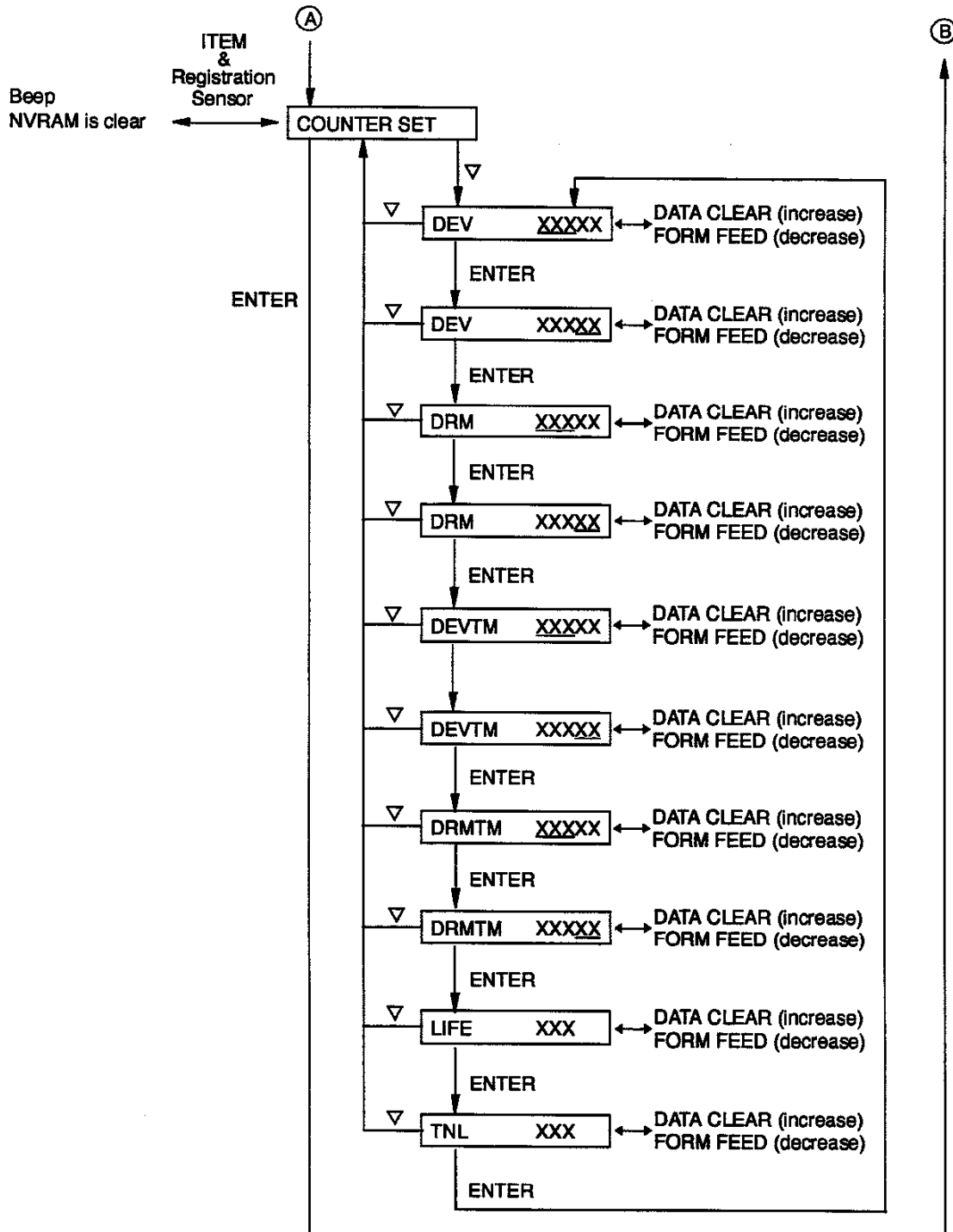
### 5.6.2 How to operate diagnostics

- 1 Diagnostic Mode is entered by simultaneously pressing the ENTER and ▼ (down) keys while switching the AC power ON.
- 2 When the machine enters into Diagnostic mode: All LEDs are lit for one-half second. "PCU DIAG MODE X" is then displayed on the LCD.
- 3 Follow the instructions with each test to execute the test function.

### 5.6.3 Diagnostic Mode



## Diagnostic Mode (continued)



## 5.6.4 Diagnostic Tests

### 5.6.4.1 ROM Version Display:

While pressing ENTER key and ▼ key, switch on the power

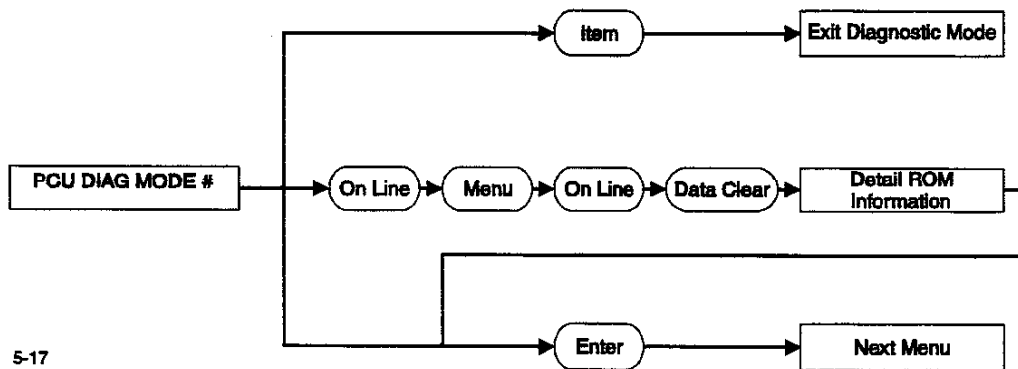
The LCD displays: PCU DIAG MODE # (where # is the ROM version)

This menu displays the ROM version only and performs no other operation.

Press the ITEM key to terminate the diagnostics.

Press the ON LINE, MENU, ON LINE, and DATA CLEAR keys in sequence to display detail ROM Information

Press the ENTER key to go to the next menu.



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### 5.6.4.2 Sensor/detector Operation Test

The LCD displays: SW SCANXX

"XX" is Test number 01-06. (selected with the DATA CLEAR key or the FORM FEED key). The tests are as shown in the tables below. All tests use the LEDs to display the internal sensor state. During the operation, the Test number (01-06) on the LCD blinks.

Press the ITEM key to execute the operation.

Press the MENU key to cancel.

Press the ENTER key to go to the next menu.

LED turns on/off according to each switch state.

#### Test 01

Sensor	Fault LED ON	Toner/Drum LED ON	DATA LED ON	ONLINE LED ON
Door Open	Duplex Access Cover open Front Panel Assembly open Drum Cartridge removed			
Registration Sensor		Sensor Actuated		
Paper Exit Sensor			Sensor Actuated	



**Test 02**

Sensor	Fault LED ON	Toner/Drum LED ON	DATA LED ON	ONLINE LED ON
Paper Empty (upper tray)	Actuated			
Size Detection (upper tray)				
Top Actuator		Actuated		
Middle Actuator			Actuated	
Lower Actuator				Actuated

**Test 03**

Sensor	Fault LED ON	Toner/Drum LED ON	DATA LED ON	ONLINE LED ON
Paper Empty (lower tray)	Actuated			
Size Detection (lower tray)				
Top Actuator		Actuated		
Middle Actuator			Actuated	
Lower Actuator				Actuated

**Test 04**

Press the following in sequence:	Result
Paper Empty (upper tray)	
Size Detection (upper tray) Top Actuator	
Size Detection (upper tray) Middle Actuator	
Size Detection (upper tray) Lower Actuator	Toner/Drum LED lights

### Test 05

<b>Press the following in sequence:</b>	<b>Result</b>
Paper Empty (lower tray)	
Size Detection (lower tray) Top Actuator	
Size Detection (lower tray) Middle Actuator	
Size Detection (upper tray) Lower Actuator	Fault LED lights

### Test 06

<b>Press the following in sequence:</b>	<b>Result</b>
Paper Empty (upper tray)	
Size Detection (upper tray) Top Actuator	
Size Detection (upper tray) Middle Actuator	
Size Detection (upper tray) Lower Actuator	Toner/Drum LED lights
Paper Empty (lower tray)	
Size Detection (lower tray) Top Actuator	
Size Detection (lower tray) Middle Actuator	
Size Detection (lower tray) Lower Actuator	Fault LED lights

### 5.6.4.3 Optical System (Laser Assembly) Operation Test

The LCD displays: OPTICAL SYS TEST

used to perform the laser test.

Press the ITEM key to execute the test. During execution, the DATA LED blinks.

The ON-LINE LED is lit if SYNC\_ is detected.

Press the MENU key to cancel.

Press the ENTER key to go to the next menu.

### 5.6.4.4 High Voltage Unit Operation Test

The LCD displays: VOL TESTXXX

Used to perform the high voltage system test.

"XXX" is MCH, MCL, or TC+ (see Table below).

They are displayed in sequence by pressing the

DATA CLEAR or the FORM FEED keys. Press

the ITEM key to execute the displayed test.

During the test, the DATA LED blinks. During

execution, the DATA CLEAR and the FORM

FEED key are disabled. Each test is

automatically cancelled after 30 seconds.

Pressing the MENU key also cancels the

operation.

1 Open Front Panel.

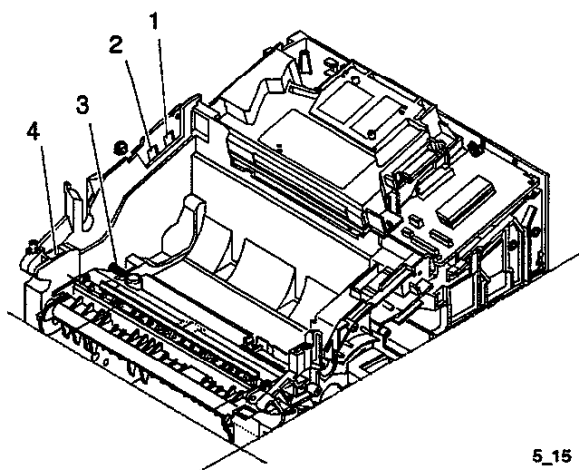
2 Remove Photoconductor/Drum Cartridge.

3 Remove Developer Cartridge.

4 Cheat the Safety Switch.

5 Execute the VOL TEST.

6 Measure the voltages listed in the following table at the test points illustrated in the figure.



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**NOTE:** The high voltage probe must be used when measuring the charge voltage.

XXX	Charge (1) (Use High Voltage Probe)	Grid Bias (GB) (2)	Bias (BS) (3) (Voltage Varies with Toner Density Knob)	Transfer (4)
Machine Charge High (MCH)	-580 VDC	.8 VAC	-240 to -380 VDC	---
Machine Charge Low (MCL)	-580 VDC	.8 VAC	-240 to -380 VDC	---
Transfer Corotron (TC+)	-580 VDC	3.4 VAC	-240 to -380 VDC	+590 VDC

Press the ENTER key to go to the next menu.

## 5.6.4.5 Test Print

### Menu Selection And Operating Procedure

The LCD displays: TEST PRINT

Used to generate test prints. Press the ITEM key to execute the test. During execution, the DATA LED blinks. During execution, the number of prints, fusing temperature, and the analog value of toner concentration level are displayed in decimal. Press the MENU key to cancel. Pressing the MENU key during printing cancels the operation after printing.

Press the ▼ key to toggle between Test Print and Jam On.

Press the ENTER key to go to the next menu.

### Paper Jam Detection Setting

The LCD displays: JAM      XXX

Press the DATA CLEAR key and the FORM FEED key to change the value of "XXX."

Press the ENTER key to go to the next menu.

Press the ▼ key to return to the test print menu.

XXX	Operation
ON	Paper jam detection is performed during printing.
OFF	Paper jam detection is not performed during printing.

### Fusing Temperature Control Setting

The LCD displays: HEATER    XXX

Used to select temperature control ON/OFF.

Press the DATA CLEAR key and the FORM FEED key to change the value of "XXX."

Press the ENTER key to go to the next menu.

Press the ▼ key to return to the next menu of the test print.

XXX	Meaning
ON	Temperature control is performed.
OFF	Temperature control is not performed.

### Multi Print/Single Print Setting

The LCD displays: MULTI XXX

Press the DATA CLEAR key and the FORM FEED key to change the value of "XXX."

Press the ENTER key to go to the next menu.

Press the ▼ key to return to the next menu of the test print

XXX	Meaning
ON	Printing is continued until the MENU key is pressed.
OFF	Only one sheet is printed.

### Toner Empty Detection Setting

The LCD displays: TONER XXX

Used to select toner empty detection ON/OFF.

Press the DATA CLEAR key and the FORM FEED key to change the value of "XXX."

Press the ENTER key to go to the next menu.

Press the ▼ key to return to the next menu of the test print

XXX	Meaning
ON	Toner empty detection is performed.
OFF	Toner empty detection is not performed.

### Paper Feed Cassette Setting

The LCD displays: CASSETTEXXX

Used to select the tray cassette which is fed in the test print.

Press the DATA CLEAR key and the FORM FEED key to change the value of "XXX" and select UPPER or LOWER.

Press the ENTER key to return to the JAM menu.

Press the ▼ key to return to the next menu of the test print

XXX	Meaning
U	Paper is fed from the upper tray.
L	Paper is fed from the lower tray.

### 5.6.4.6 NVRAM Initializing

Used to initialize the NVRAM by resetting the counters to 00000.

The LCD displays: NVRAM INITIAL

While pressing the Registration Switch, press the ITEM key. When the settings are stored, a completion beep sounds.

After initializing the NVRAM, the values of the counters are as follows:

DEV	00000
DRM	00000
DEVTM	00000
DRMTM	00000
LIFE	000
TNL	024

*NOTE: By initializing the NVRAM, the toner density level (TNL) is set to 024. Under this state, printing cannot be performed. Use the Counters Set menu to set TNL to between 070 and 080.*

Press the ENTER key to go to the next menu.

### 5.6.4.7 Counters Set

The LCD displays: COUNTER SET

Used to set each counter value.

Once the desired setting is made, you must store the setting in NVRAM. To store the values in NVRAM, the LCD must display COUNTER SET, you must actuate the Registration Switch and press the ITEM key. When the settings are stored, a completion beep sounds. If you are changing more than one counter, you may complete all the settings then store them to NVRAM before you exit the Counters Set Menu.

Press the ▼ key to go to the first counter set menu.

#### Developer Counter Value Display And Setting

The LCD displays: DEV XXXXX

Used to set the upper three digits of the print count for the developer cartridge.

Press the DATA CLEAR key to count up.

Press the FORM FEED key to count down.

Press the ENTER key to go to the next menu

The LCD displays: DEV     XXXXX

Used to set the lower two digits of the print count for the developer cartridge.

Press the DATA CLEAR key to count up.

Press the FORM FEED key to count down.

Press the ENTER key to go to the next menu.

#### **Photoconductor Drum Counter Value Display And Setting**

The LCD displays: DRM     XXXXX

Used to set the upper three digits of the print count for the drum cartridge.

Press the DATA CLEAR key to count up.

Press the FORM FEED key to count down.

Press the ENTER key to go to the next menu.

The LCD displays: DRM     XXXXX

Used to set the lower two digits of the print count for the drum cartridge.

Press the DATA CLEAR key to count up.

Press the FORM FEED key to count down.

Press the ENTER key to go to the next menu.

#### **Toner Motor Rotation Counter Value Display And Setting For Developer Unit.**

The LCD displays: DEVTM   XXXXX

Used to set the upper three digits of the toner motor rotation count for the developer cartridge.

Press the DATA CLEAR key to count up.

Press the FORM FEED key to count down.

Press the ENTER key to go to the next menu.

The LCD displays: DEVTM   XXXXX

Used to set the lower two digits of the toner motor rotation count for the developer cartridge.

Press the DATA CLEAR key to count up.

Press the FORM FEED key to count down.

Press the ENTER key to go to the next menu.

### **Toner Motor Rotation Counter Value Display And Setting For Photoconductor Drum Unit.**

The LCD displays: DRMTM XXXXX

Used to set the upper three digits of the toner motor rotation count for the drum cartridge.

Press the DATA CLEAR key to count up.

Press the FORM FEED key to count down.

Press the ENTER key to go to the next menu.

The LCD displays: DRMTM XXXXX

Used to set the lower two digits of the toner motor rotation count for the drum cartridge.

Press the DATA CLEAR key to count up.

Press the FORM FEED key to count down.

Press the ENTER key to go to the next menu.

### **Photoconductor Drum Unit Life Counter Value display And Setting**

The LCD displays: LIFE XXX

Used to set the life counter.

When the drum cartridge is replaced, the value rounded from the drum cartridge print number in the unit of 1024 is entered.

Press the DATA CLEAR key to count up.

Press the FORM FEED key to count down.

Press the ENTER key to go to the next menu.

### **Toner Density Level Display And Setting.**

TNL XXX

Used to set the toner level.

Press the DATA CLEAR key to count up.

Press the FORM FEED key to count down.

Press the ENTER key to go to return to the first menu item.

Press the ▼ key to return to COUNTERS SET.

Actuate the Registration Switch and press the ITEM key to store all changes to NVRAM.



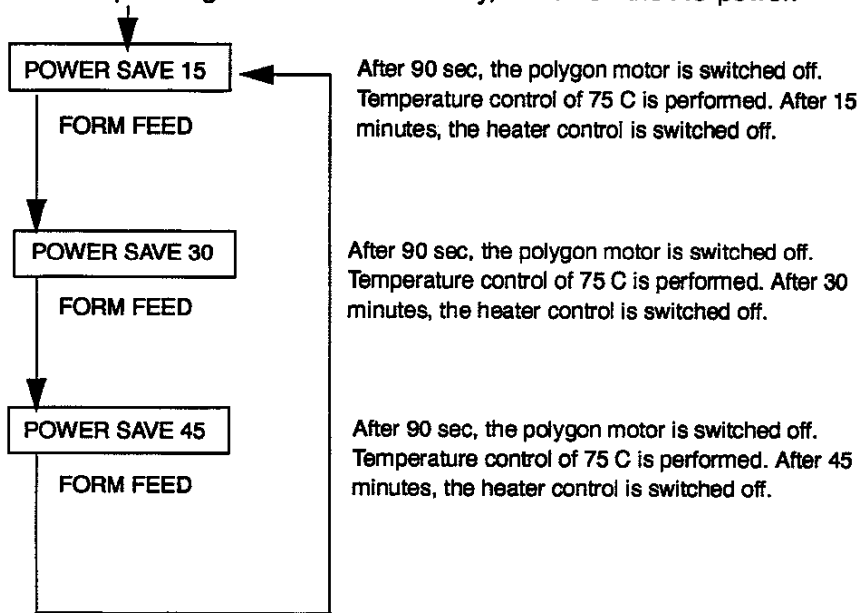
## 5.7 Power Saver Mode Setting

While pressing the DATA CLEAR key, switch on the AC power to go to the POWER SAVER MODE setting.

Press the DATA CLEAR key or the FORM FEED key to set the time for entering the POWER SAVER mode.

There are three selectable time modes; 15, 30, and 45 minutes. Once the machine goes into this menu, it cannot go out unless the power is switched off.

While pressing the DATA CLEAR key, switch on the AC power.



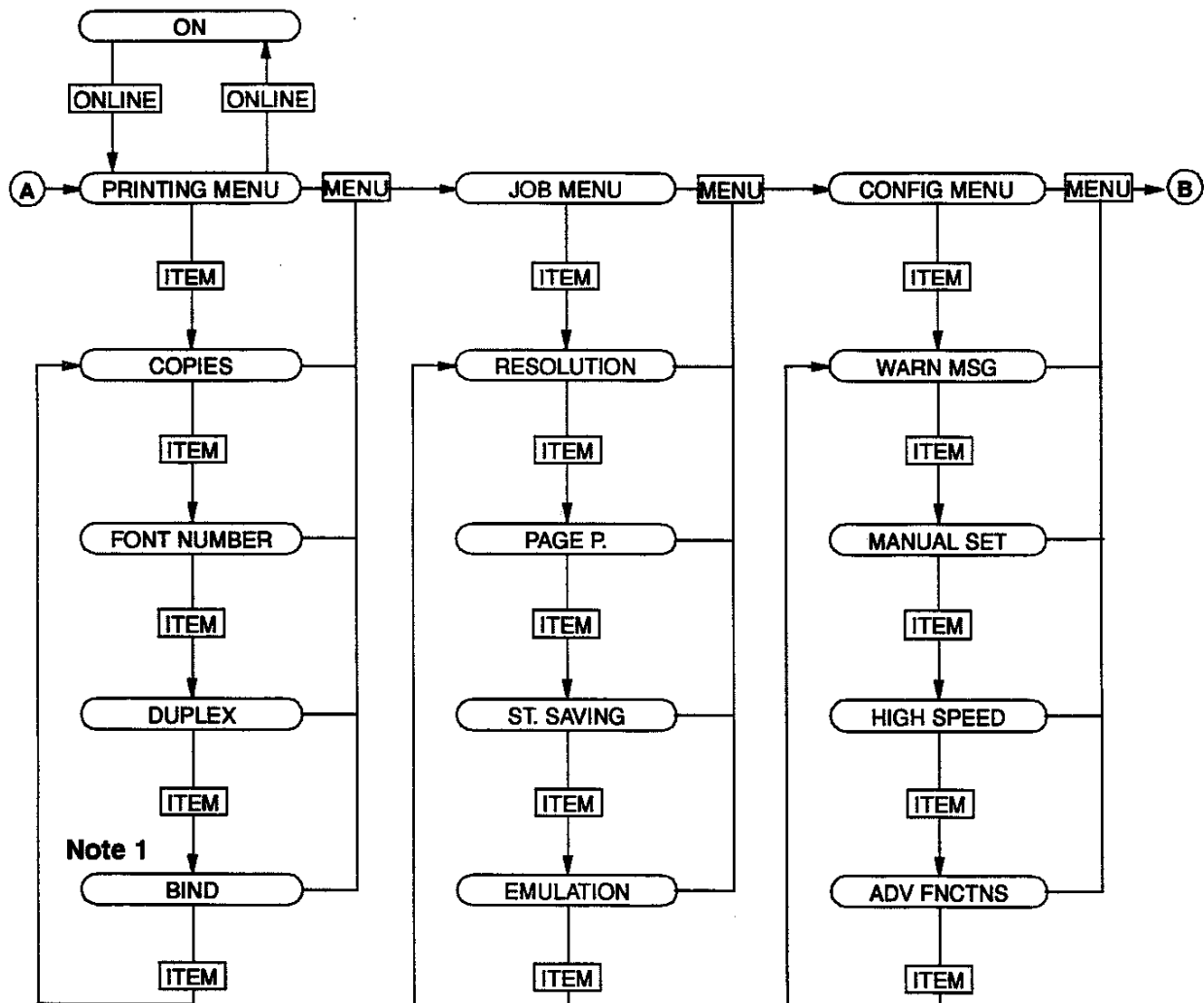
Switch the printer power OFF to exit .

## 5.8 Printer Operation

### Using the Key Panel

The Key Panel is used to set various printer operations and to print test sheets. The tables that follow include the most common printer setting tasks, organized by menu and menu item.

#### Printer Key Menu Setting Diagram

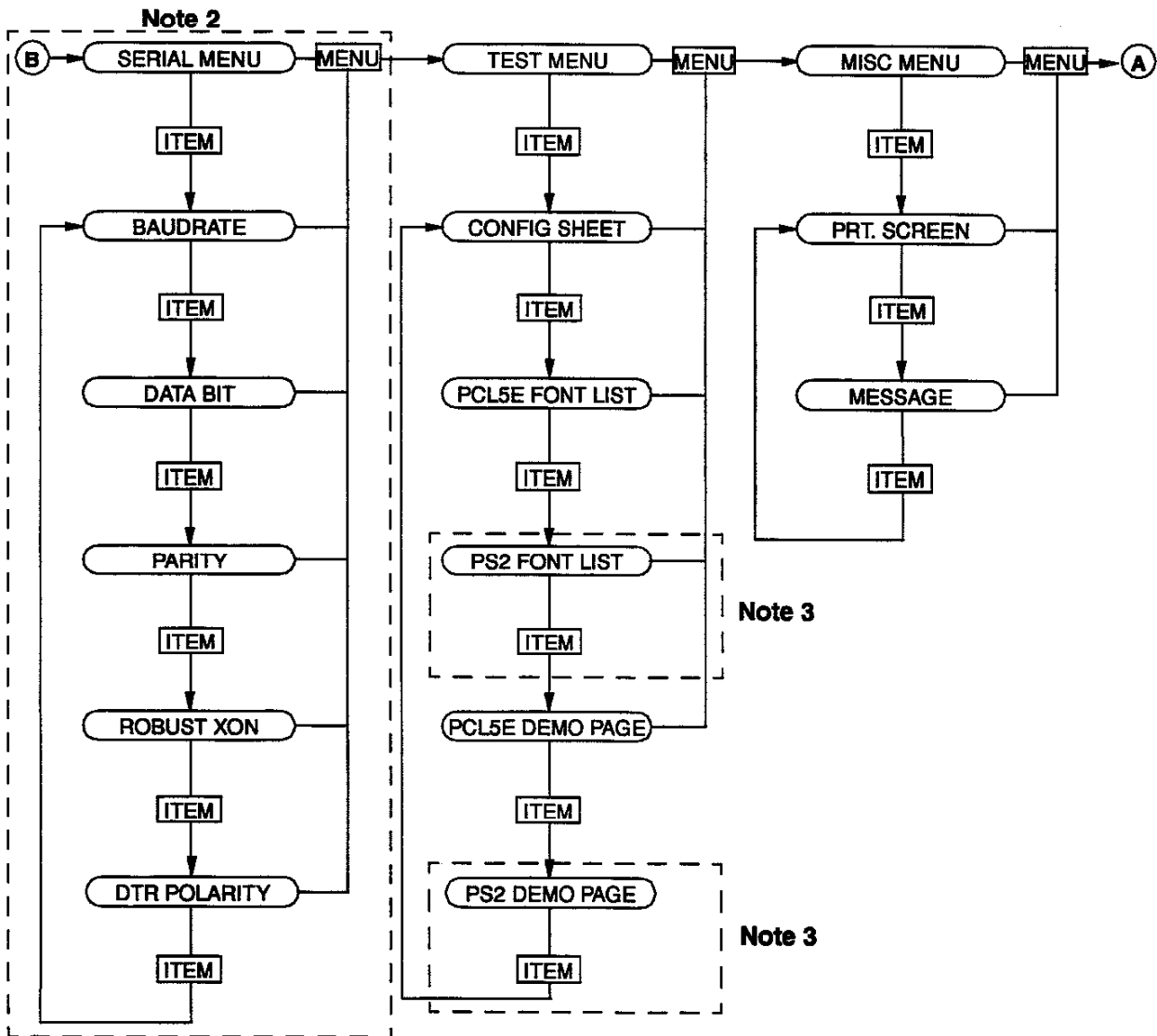


**NOTE 1:** The BINDING setting is displayed only at DUPLEX = ON and not at DUPLEX = OFF.

**NOTE 2:** Displayed when the Serial Interface PWB is installed.

**NOTE 3:** Displayed when the PS PWB is installed.

## Printer Key Menu Setting Diagram



For each of the following tasks you will find:

- All possible choices for the item to be set. The choice shown in **bold** is the **factory default setting**.
- The key press sequence to complete the task.
- For each key press, the action/response, along with the message displayed. “=X” indicates the current setting, “=N” indicates a new setting, and the asterisk (\*) indicates that the new setting has been entered.

## 5.8.1 Printing Menu

*NOTE: The examples show a printer set for PCL 5e emulation with A4 paper in both upper and lower tray (PCL 5e A4/A4). Your settings may be different.*

### 5.8.1.1 Copies Setting

Sets how many copies to print. Choices: 1-999.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Item	Displays the Copies item.	Copies=X *
▲ or ▼	Changes the number of copies.	Copies=N
Enter	Sets the new value.	Copies=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.1.2 Font Number Setting

Sets the printer's base font. Choices: 0-45.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Item	Displays the Copies item.	Copies=X *
Item	Displays the Font Number item.	Font Number=X *
▲ or ▼	Changes the Font Number	Font Number=N
Enter	Saves the new value.	Font Number=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.1.3 Duplex Setting

Controls duplex (two-sided) printing. Choices: **Off**, **On**.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line	Printing Menu
Item	Displays the Copies item.	Copies=X *
Item	Displays the Font Number item.	Font Number=X *
Item	Displays the Duplex item.	Duplex=X *
▲ or ▼	Toggles the Duplex setting.	Duplex=N
Enter	Saves the new value.	Duplex=N *
On Line	Returns the printer on-line	PCL 5e A4/A4

### 5.8.1.4 Bind Setting\*

\* When the Duplex item is set to **On**.

Controls print orientation for duplex (two-sided) printing. Choices: **Long Edge**, **Short Edge**.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Item	Displays the Copies item.	Copies=X *
Item	Displays the Font Number item.	Font Number=X *
Item	Displays the Duplex item.	Duplex=On *
Item	Displays the Bind item.	Bind=X *
▲ or ▼	Toggles the Binding Setting.	Bind=N
Enter	Saves the new value.	Bind=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

## 5.8.2 Job Menu

### 5.8.2.1 Resolution Setting

Sets the print resolution in dpi. Choices: **600**, 300.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Item	Displays the Resolution item.	Resolution=X *
▲ or ▼	Toggles the Resolution Setting.	Resolution=N
Enter	Saves the new value.	Resolution=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.2.2 Page Protection Setting

Controls how the printer completes a job that is causing a data loss error. Choices: **AUTO**, On.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Item	Displays the Resolution item.	Resolution=X *
Item	Displays the Page P item.	Page P=X *
▲ or ▼	Toggles the Page Protection setting.	Page P=N
Enter	Saves the new value.	Page P=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.2.3 State Saving Setting

Controls whether or not the printer saves data in memory when switching between PCL 5e and Postscript emulation. Choices: **Off**, **On**.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Item	Displays the Resolution item.	Resolution=X *
Item	Displays the Page P item.	Page P=X *
Item	Displays the State Saving item.	St Saving=X *
▲ or ▼	Toggles the state saving setting.	St Saving=N
Enter	Saves the new value.	St Saving=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.2.4 Emulation Setting

Sets the base printer emulation. Choices: **PCL 5e**, **PS2**, **AUTO**, **HEX**.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Item	Displays the Resolution item.	Resolution=X *
Item	Displays the Page P item.	Page P=X *
Item	Displays the State Saving item.	St Saving=X *
Item	Displays the Emulation item.	Emulation=X *
▲ or ▼	Changes the Emulation setting	Emulation=N
Enter	Saves the new value.	Emulation=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

## 5.8.3 Config Menu

### 5.8.3.1 Warning Message Setting

Controls the display of memory-related warning messages. Choices: **On**, **Off**.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Menu	Displays the Configuration menu.	Config Menu
Item	Displays the Warning Message Item.	Warn Msg=X *
▲ or ▼	Toggles the warning messages setting.	Warn Msg=N
Enter	Saves the new value.	Warn Msg=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.3.2 Manual Feed Setting

Controls the override of manual paper feed requests from computer applications. Choices: **On**, **Off**.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Menu	Displays the Configuration menu.	Config Menu
Item	Displays the Warning Message item.	Warn Msg=X *
Item	Displays the Manual Set item.	Manual Set=X *
▲ or ▼	Toggles the Manual Feed setting.	Manual Set=N
Enter	Saves the new value.	Manual Set=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4



### 5.8.3.3 High Speed Setting

Controls data transfer speed to slower or older computers. Choices: On, Off.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Menu	Displays the Configuration menu.	Config Menu
Item	Displays the Warning Message item.	Warn Msg=X *
Item	Displays the Manual Set item.	Manual Set=X *
Item	Displays the High Speed item.	High Speed=X *
▲ or ▼	Toggles the High Speed setting.	High Speed=N
Enter	Saves the new value.	High Speed=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.3.4 Advanced Functions Setting

Controls whether or not the printer will send messages to the computer. Choices: On, Off.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Menu	Displays the Configuration menu.	Config Menu
Item	Displays the Warning Message item.	Warn Msg=X *
Item	Displays the Manual Set item.	Manual Set=X *
Item	Displays the High Speed item.	High Speed=X *
Item	Displays the Advanced Functions item.	Adv Fcnctns=X *
▲ or ▼	Toggles the Advanced Functions setting.	Adv Fcnctns=N
Enter	Saves the new value.	Adv Fcnctns=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

## 5.8.4 Serial Menu (displayed only if serial option is installed)

### 5.8.4.1 Baud Rate Setting (displayed only if serial option is installed)

Controls the rate at which data is transferred between the computer and the printer through the optional serial interface. Choices: 300, 600, 1200, 2400, 4800, **9600**, 19200, 38400, 57600.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Menu	Displays the Configuration menu.	Config Menu
Menu	Displays the Serial Menu (if present).	Serial Menu
Item	Displays the Baud Rate item.	Baud Rate=X *
▲ or ▼	Changes the Baud Rate Setting.	Baud Rate=N
Enter	Saves the new value.	Baud Rate=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.4.2 Data Bit Setting (displayed only if serial option is installed)

Controls a communications parameter for the optional serial interface. Choices: **8**, 7.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Menu	Displays the Configuration menu.	Config Menu
Menu	Displays the Serial Menu (if present).	Serial Menu
Item	Displays the Baud Rate item.	Baud Rate=X *
Item	Displays the Data Bit item.	Data Bit=X *
▲ or ▼	Changes the Data Bit setting.	Data Bit=N
Enter	Saves the new value.	Data Bit=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.4.3 Parity Setting (displayed only if serial option is installed)

Controls a communications parameter for the optional serial interface. Choices: **None**, Even, Odd.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Menu	Displays the Configuration menu.	Config Menu
Menu	Displays the Serial Menu (if present).	Serial Menu
Item	Displays the Baud Rate item.	Baud Rate=X *
Item	Displays the Data Bit item.	Data Bit=X *
Item	Displays the Parity item.	Parity=X *
▲ or ▼	Changes the Parity setting.	Parity=N
Enter	Saves the new value.	Parity=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

#### 5.8.4.4 Robust XON Setting (displayed only if serial option is installed)

Controls a data stream handshaking protocol for the optional serial interface. Choices: On, Off.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Menu	Displays the Configuration menu.	Config Menu
Menu	Displays the Serial Menu (if present).	Serial Menu
Item	Displays the Baud Rate item.	Baud Rate=X *
Item	Displays the Data Bit item.	Data Bit=X *
Item	Displays the Parity item.	Parity=X *
Item	Displays the Robust XON item.	Robust XON=X *
▲ or ▼	Changes the Robust XON setting.	Robust XON=N
Enter	Saves the new value.	Robust XON=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.4.5 DTR Polarity Setting (displayed only if serial option is installed)

Controls the configuration of Data Terminal Ready polarity for the optional serial interface. Choices: High, Low.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays the Job Menu.	Job Menu
Menu	Displays the Configuration menu.	Config Menu
Menu	Displays the Serial Menu (if present).	Serial Menu
Item	Displays the Baud Rate item.	Baud Rate=X *
Item	Displays the Data Bit item.	Data Bit=X *
Item	Displays the Parity item.	Parity=X *
Item	Displays the Robust XON item.	Robust XON=X *
Item	Displays the DTR Polarity item.	DTR Polarity=X *
▲ or ▼	Changes the DTR Polarity setting.	DTR Polarity=N
Enter	Saves the new value.	DTR Polarity=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

## 5.8.5 Test Menu

### 5.8.5.1 Print the Config Sheet

Lists the options you have installed and the current settings for each option in the Key Panel's menu system.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays Job Menu.	Job Menu
Menu	Displays Configuration menu.	Config Menu
Menu	Displays Serial Menu (if present).	Serial Menu
Menu	Displays Test menu.	Test Menu
Item	Displays the Config Sheet item.	Config Sheet
Enter	Prints the Config Sheet.	Config Sheet
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.5.2 Print the PCL 5e Font List

Shows which PCL fonts are available. The list includes resident fonts and downloaded fonts.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays Job Menu.	Job Menu
Menu	Displays Configuration menu.	Config Menu
Menu	Displays Serial Menu (if present).	Serial Menu
Menu	Displays Test menu.	Test Menu
Item	Displays the Config Sheet item.	Config Sheet
Item	Displays the PCL5e Font List item.	PCL 5e Font List
Enter	Prints PCL5e Font List.	PCL 5e Font List
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.5.3 Print the PS2 Font List

Shows which PostScript fonts are currently available (if the PostScript option has been installed). The list includes resident fonts and downloaded fonts.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays Job Menu.	Job Menu
Menu	Displays Configuration menu.	Config Menu
Menu	Displays Serial Menu (if present).	Serial Menu
Menu	Displays Test menu.	Test Menu
Item	Displays the Config Sheet item.	Config Sheet
Item	Displays the PCL 5e Font List item.	PCL 5e Font List
Item	Displays the PS2 Font List item (if present).	PS2 Font List
Enter	Prints PS2 Font List.	PS2 Font List
On Line	Returns the printer on-line.	PCL 5e A4/A4



### 5.8.5.4 Print the PCL 5e Demo Page

Provides a sample of the printer's capabilities and lists the printer's key features.

<b>Key Press Sequence</b>	<b>Action/Response</b>	<b>Display Shows</b>
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays Job Menu.	Job Menu
Menu	Displays Configuration menu.	Config Menu
Menu	Displays Serial Menu (if present).	Serial Menu
Menu	Displays Test menu.	Test Menu
Item	Displays the Config Sheet item.	Config Sheet
Item	Displays the PCL 5e Font List item.	PCL 5e Font List
Item	Displays the PS2 Font List item (if present).	PS2 Font List
Item	Displays the PCL 5e Demo Page item.	PCL 5e Demo Page
Enter	Prints PCL 5e Demo Page.	PCL 5e Demo Page
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.5.5 Print the PS2 Demo Page

Provides a sample of the printer's PostScript capabilities (if the PostScript option has been installed).

<b>Key Press Sequence</b>	<b>Action/Response</b>	<b>Display Shows</b>
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays Job Menu.	Job Menu
Menu	Displays Configuration menu.	Config Menu
Menu	Displays Serial Menu (if present).	Serial Menu
Menu	Displays Test menu.	Test Menu
Item	Displays the Config Sheet item.	Config Sheet
Item	Displays the PCL 5e Font List item.	PCL 5e Font List
Item	Displays the PS2 Font List item.	PS2 Font List
Item	Displays the PCL 5e Demo Page item.	PCL 5e Demo Page
Item	Displays the PS2 Demo Page item.	PS2 Demo Page
Enter	Prints PS2 Demo Page.	PS2 Demo Page
On Line	Returns the printer on-line.	PCL 5e A4/A4

## 5.8.6 Misc. Menu

### 5.8.6.1 Print Screen Setting

Controls the default symbol set to allow 80 characters per line on A4 paper. Choices: **OFF**, 850, 852.

Key Press Sequence	Action/Response	Display Shows
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays Job Menu.	Job Menu
Menu	Displays Configuration menu.	Config Menu
Menu	Displays Serial Menu (if present).	Serial Menu
Menu	Displays Test menu.	Test Menu
Menu	Displays Miscellaneous menu.	Misc Menu
Item	Displays Print Screen item.	Prt Screen=X *
▲ or ▼	Changes the Screen Dump setting.	Prt Screen=N
Enter	Saves the new value.	Prt Screen=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

### 5.8.6.2 Message Setting

Sets the language of display panel messages. Choices: **English, FRENCH, GERMAN, ITALIAN, PORTUG, RUSSIAN, SPANISH.**

<b>Key Press Sequence</b>	<b>Action/Response</b>	<b>Display Shows</b>
On Line	Takes the printer off-line.	Printing Menu
Menu	Displays Job Menu.	Job Menu
Menu	Displays Configuration menu.	Config Menu
Menu	Displays Serial Menu (if present).	Serial Menu
Menu	Displays Test menu.	Test Menu
Menu	Displays Miscellaneous menu.	Misc Menu
Item	Displays Print Screen item.	Prt Screen=X *
Item	Displays Message item.	Message=X *
▲ or ▼	Changes the Message Language setting.	Message=N
Enter	Saves the new value.	Message=N *
On Line	Returns the printer on-line.	PCL 5e A4/A4

## 5.9 Tools and Supplies

### 5.9.1 Tools

#### Basic Tool Kit

<u>Item</u>	<u>Part Number</u>
Solder	99P3044
Batteries (AA); 4/Pkg	105P787
Pin Punch; 1/16 x 4 inch	600T67
Retaining Ring Pliers (Universal/Str.)	600T83
Ignition Pliers	600T106
Pin Punch; 3/32 x 4 inch	600T109
Parts Tube	600T178
Safety Glasses	600T563
Pin Extractor Body	600T618
Socket Driver	600T1751
Weller Soldering Iron Kit	600T1798
Mini-Maglite (Flashlight)	600T1824
Screwdriver Blade; 1/4 x 4 inch	600T40201
Screwdriver Blade; 3/16 x 6 inch	600T40203
1/8 Inch Screwdriver (Pocket)	600T40205
Number 2 Phillips Head Stubby Screwdriver	600T40210
Slot/Cross-slot Screw Starter	600T40211
Handle	600T40212
Ball Peen Hammer	600T40302
Socket Ratchet; 1/4 inch drive	600T40801
Socket Extension (2 inch)	600T40802
Socket Extension (6 inch)	600T40803
Long Nose Pliers	600T40901
Diagonal Pliers	600T40903
Pump Pliers	600T40904
Crimpers	600T40906
Wire Strippers	600T40907
Ext. Retaining Ring Pliers (Straight)	600T41401
6 inch rule	600T41502
Shim Stock (0.002 inch - 0.030 inch)	600T41512
Flat File, No. 2 cut (6 inch)	600T41802

Oval Brush	600T41901
Scribing Tool	600T41903
Telescoping Inspection Mirror/Mag. Pickup	600T41911
High Voltage Probe	600T1653

### **Metric Tool Kit**

<u>Item</u>	<u>Part Number</u>
Number 2 Magnetic Cross-Slot Screwdriver	499T355
Ping Extractor; 3.7 mm diameter	66T1085
5.5 mm Combination Wrench	600T40501
7 mm Combination Wrench	600T40502
8 mm Combination Wrench	600T40503
10 mm Combination Wrench	600T40504
13 mm Combination Wrench	600T40505
5.0 mm Combination Wrench	600T40506
5.5 mm Socket (1/4 inch drive)	600T40701
7 mm Socket (1/4 inch drive)	600T40702
8 mm Socket (1/4 inch drive)	600T40703
10 mm Socket (1/4 inch drive)	600T40704
13 mm Socket (1/4 inch drive)	600T40705
5.0 mm Socket (1/4 inch drive)	600T40706
2 mm Hexagon Key	600T41102
3 mm Hexagon Key	600T41103
4 mm Hexagon Key	600T41104
5 mm Hexagon Key	600T41105
6 mm Hexagon Key	600T41106
2.5 mm Hexagon Key	600T41108
150 mm Rule	600T41503
Metric Feeler Gauge Set	600T41509
Level	600T41510
Interlock Cheaters	600T91616
Metric Chapman Set	600T41219

**Other tools available on an optional basis are:**

<u>Item</u>	<u>Part Number</u>
TORX Tool Kit	600T41300
Digital Meter	600T1616
Leads Kit	600T1923
5.5 mm Magnetic Socket Driver	499T1423
Mag tip "Plus Screw" Xcelite Driver Insert	600T1989
Optics Blue Cloth (Lint Free Cleaning Cloth)	499T90417

## **5.9.2 Supplies**

<u>Item</u>	<u>Part Number</u>
Cleaning Cloth (treated)	35P1538
Cleaning Pads	600S4372
Cotton Swabs	35P2162
Disposable Gloves	99P3082
Disposable Plastic Bags	99P3023
Drop Cloth	5P1737
Film Remover	43P45
Formula A Cleaner	43P48
Glue Capsule	63P560
Polyurethane Pads	600S4653
Towel (heavy duty)	35P3191

### **Xerox**

Cleaner	8R90175
Cleaning Pad Kit	600S4372
Cloth	8R90019
Fuser Cleaning Solvent Pads	43P83
General Cleaning Solvent	8R90176
Lens Cleaner	8R90177

## Notes