Service Tests and Utilities

4

Introduction

This chapter explains how to use the built-in Service Tests and Service Utilities and what to do if any of the Service Tests fail. If possible, always perform a Service Test on the component that you are about to replace, just to make sure that is the component that has failed. If the test on that component passes, there is no need to replace it.

Phone Support

PHONE SUPPORT

In certain circumstances, a Call Agent can try and troubleshoot the Printer by requesting the Customer to perform a Service Test via the phone. Using this process, it can be determined whether the Printer requires any on-site maintenance.

Diagnostics - Self Test

Initialization Sequences

Whenever the Printer is switched ON, it automatically performs a series of internal self tests and mechanical initialization sequences. If any of the parts fail, a system error will appear and you should consult Chapter 2 - *System Error Codes*.

Entering Service Menu at Power Up - Only for Onsite Repair

If the Printer fails to initialize completely because of a System Error and you need to use the Service Menu (Service Tests and Utilities), the Printer can be powered up in Service Mode by pressing the **Up** and **Enter** keys while switching the Printer ON. This will give you access to some of the Service Tests and Utilities without having to complete the System Initialization (if you perform some of the tests, they will need to initialize the relevant part of the System).

Service Tests (Diagnostics)

The following is a list of all internal Service Tests available in the Printer. Instructions for entering the Service Tests menu are given on Page *4-4*.

1 Ink Supply Station ⇒ Page *4-6*

The purpose of this test is to verify the operation of the Ink Supply Station. A failure of the out-of-ink sensors or the springs in the Ink Supply Station will eventually damage the Printheads because the Printer will try to pump ink from an empty Ink Cartridge stall, which will cause the Printhead to dry-fire.

2 Carriage Movement ⇒ Page *4-8*

The purpose of this test is to verify the movement of the scan-axis components at several speeds. This test checks for the following problems:

- Friction problems with worn out slider rod or Carriage Bushings.
- Blockage due to problems with the Service Station.
- Problems with encoder sensing.

3 Paper Advance ⇒ Page *4-11*

The purpose of this test is to identify whether there is too much friction in the paper-axis drive system which is caused by defects with the Transmission Gears, Drive Roller or the Paper-Axis Motor.

4 Troubleshooting ⇒ Page *6-4*

The Printer contains an internal **Troubleshooting** procedure which helps you to diagnose and resolve the possible source of any Image Quality or Line Quality defects. If Print Quality is poor **at anytime**, the **Troubleshooting** procedure should be performed which will determine whether the Printhead needs replacing (by marking it with an exclamation mark) or not after performing various levels of recovery actions.
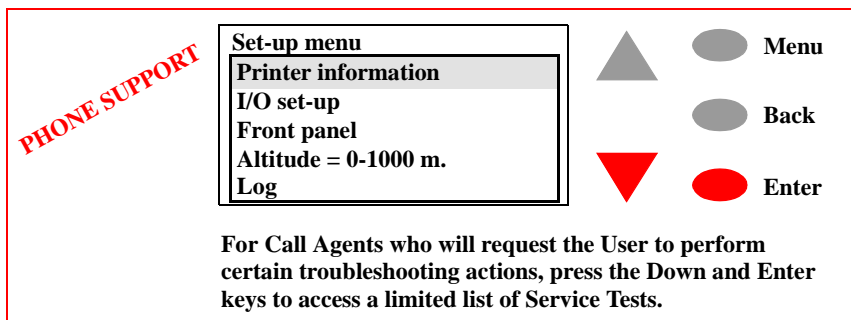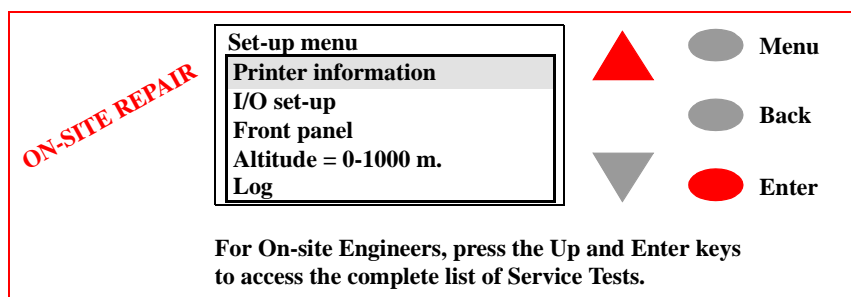
Entering the Service Tests Menu

**NOTE**   **In order to enter the Service Utility Menu, please refer to the instructions on Page *4-15*.**

1 Press the ↑ or ↓ key until the front panel displays the Setup Menu and then press **Enter**.
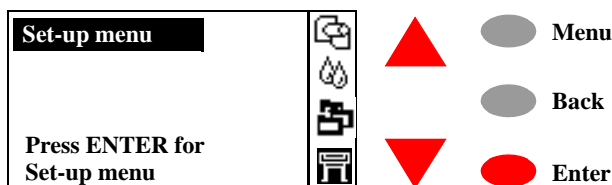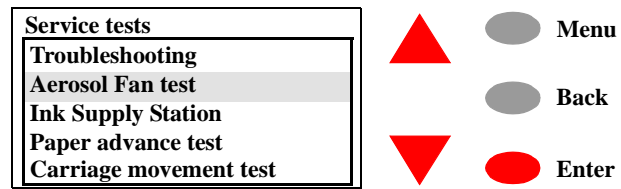
```
Set-up menu



Press ENTER for
Set-up menu
```
Menu

Back

Enter

2 Once inside the Setup Menu, Press the following key combination to access the special Service Menu.

ON-SITE REPAIR
```
Set-up menu
Printer information
I/O set-up
Front panel
Altitude = 0-1000 m.
Log
```
Menu

Back

Enter

For On-site Engineers, press the Up and Enter keys to access the complete list of Service Tests.

PHONE SUPPORT
```
Set-up menu
Printer information
I/O set-up
Front panel
Altitude = 0-1000 m.
Log
```
Menu

Back

Enter

For Call Agents who will request the User to perform certain troubleshooting actions, press the Down and Enter keys to access a limited list of Service Tests.

3 Once inside the Service Tools Menu, press the ↑ or ↓ key until the front panel displays **Service Tests** and then press **Enter**.

```
Service tools



Service tests
Service calibrations
Service utilities
```
Menu

Back
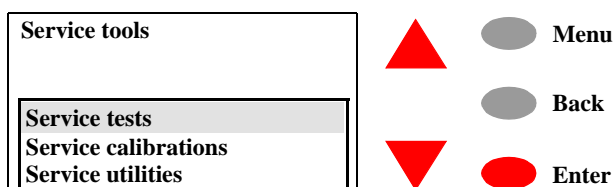
Enter

4 Press the **Enter** key to begin a specific test when the required Service Test is highlighted.

Service tests	
Troubleshooting	
Aerosol Fan test	
Ink Supply Station	
Paper advance test	
Carriage movement test	

Menu

Back

Enter

PHONE SUPPORT

Ink Supply Station

The purpose of this test is to verify the operation of the Ink Supply Station. A failure of the out-of-ink sensors or the springs in the Ink Supply Station will eventually damage the Printheads because the Printer will try to pump ink from an empty Ink Cartridge stall, which will cause the Printhead to dry-fire.
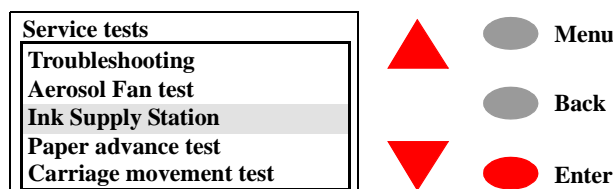
NOTE   **This Service Test can be performed by the End User with the guidance of a HP Support person via the phone.**

WARNING   **IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING THE INK SUPPLY STATION. IF THIS TEST PASSES, DO NOT REPLACE THE INK SUPPLY STATION.**

Perform the Ink Supply Station test as follows:

1 In the Service Tests submenu, scroll to "Ink Supply Station" and press **Enter**.

Service tests
Troubleshooting
Aerosol Fan test
Ink Supply Station
Paper advance test
Carriage movement test

▲ ⬭ Menu

⬭ Back

▼ ⬤ Enter

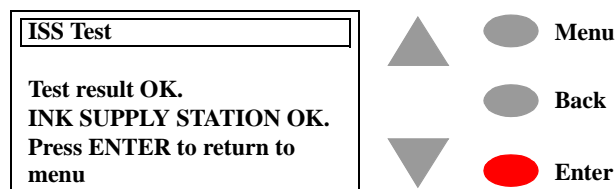**2** Once the test starts, the following message will appear on the Front Panel. Open the Ink Cartridge door and remove ALL the Ink Cartridges:

ISS Test
Remove all the ink cartridges
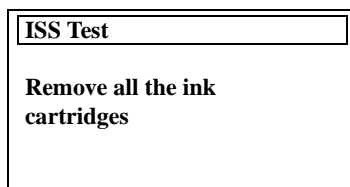
3 Once all the Ink Cartridges are removed the Printer will check the Ink Supply Station. During this short period, the following message will be displayed:

```
ISS Test

Please wait.


Checking
```
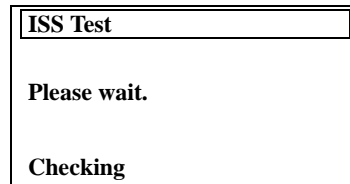
4 If the Printer detects **all** the out-of-ink signals, the Ink Supply Station has passed the test and the following message will appear on the Front Panel:

```
ISS Test                          ▲       Menu

Test result OK.
INK SUPPLY STATION OK.                    Back
Press ENTER to return to
menu                              ▼       Enter
```

WARNING   **IF THIS TEST PASSES, DO NOT REPLACE THE INK SUPPLY STATION.**

5 If the Printer does not detect all the out-of-ink signals then the Ink Supply Station must be faulty and the following message will appear on the Front Panel:

```
ISS Test

Test result 22:10
Faulty INK SUPPLY
STATION
Call HP representative
```
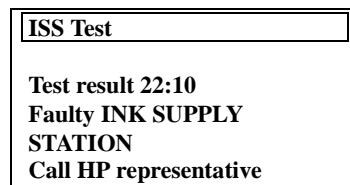
In this case, to resolve the problem, try the following:

1 *Replace the Ink Supply Station Assembly ⇒ Page 8-48.*

Carriage Movement

PHONE SUPPORT

The purpose of this test is to verify the movement of the scan-axis components at several speeds. This test checks for the following problems:

- Friction problems with worn out slider rod or Carriage Bushings.
- Blockage due to problems with the Service Station.
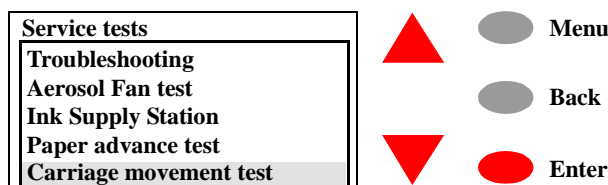- Problems with encoder sensing.

NOTE **This Service Test can be performed by the End User with the guidance of a HP Support person via the phone.**

WARNING **IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING THE CARRIAGE ASSEMBLY. IF THIS TEST PASSES, DO NOT REPLACE THE CARRIAGE ASSEMBLY.**

Perform the Carriage Movement test as follows:

1 In the Service Tests submenu, scroll to "Carriage movement" and press **Enter**.
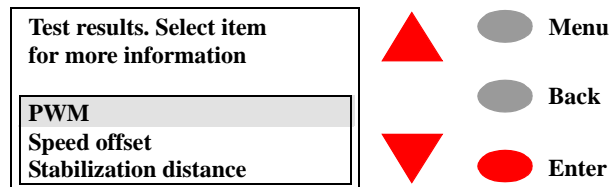
```
Service tests
Troubleshooting
Aerosol Fan test
Ink Supply Station
Paper advance test
Carriage movement test
```
▲ Menu
▼ Back
Enter

2 The test will start and the following message will appear on the Front Panel:

```
Carriage movement

Carriage movement test

Moving Carriage.
Please wait
```
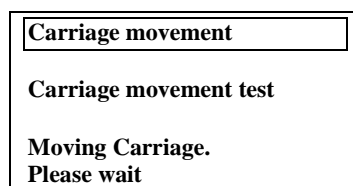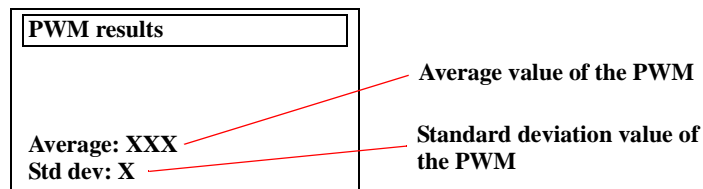
3 Once the Printer has completed the test it will analyze the data received while performing the test. Once the data has been analyzed, the following message will appear on the Front Panel:
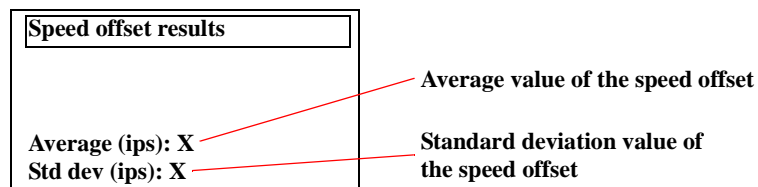
```
Carriage movement

Carriage movement test

Ready to display results.
Press ENTER
```
▲ Menu
▼ Back
Enter
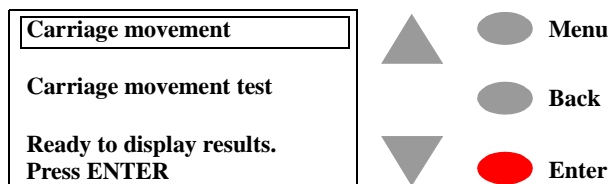
4 If you press **Enter**, the Front Panel will display a list of the different results you can view. You can make your selection using the arrow keys and press **Enter** to view the selection.

Test results. Select item
for more information

PWM
Speed offset
Stabilization distance

Menu

Back

Enter

5 If you selected **PWM**, the Front Panel will display the results of the PWM test:

PWM results

Average: XXX
Std dev: X

Average value of the PWM

Standard deviation value of
the PWM

6 If you selected **Speed offset**, the Front Panel will display the results of the Speed offset:

Speed offset results

Average (ips): X
Std dev (ips): X

Average value of the speed offset

Standard deviation value of
the speed offset

7 If you selected **Stabilization distance**, the Front Panel will display the results of the Stabilization distance:

Stabilization distance
results

Stabilizat. dist. (mm): XX
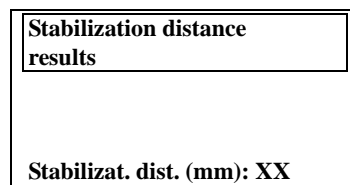
To check if the values displayed after the test are within the limits, refer to the following table:

	Normal Values	**Acceptable Values**
PWM Average	Between 95 and 115	< 150
PWM Std dev	< 10	< 15
Speed Offset Average	0	0

	Normal Values	Acceptable Values
Sped Offset Std dev	0	< 5
Stabilization Distance	45 mm	<65 mm

If the values obtained in the test are more than the acceptable values listed in the above table, then the test has failed. In this case, to resolve the problem, try the following:

1 *Check that there are no obstacles restricting the movement of the Carriage Assembly.*

2 *Clean the Slider Rod and apply Oil along the complete axis of the Slider Rod.*

3 *Check that the Encoder Strip is clean. If necessary, clean the Encoder Strip using a damp cloth*

4 *Check that when the Carriage Assembly is moving, there is no noise coming from the transmission components (Motor, Belt, Idler Pulley). If there is noise from these components, replace them.*

5 *Replace the Encoder Strip ⇒ Page 8-76.*

6 *Replace the Belt and the Idler Pulley ⇒ Page 8-74.*

7 *Replace the Scan-Axis Motor Assembly ⇒ Page 8-29.*

8 *Replace the Carriage Assembly ⇒ Page 8-78.*

Paper Advance Test

PHONE SUPPORT

The purpose of this test is to identify whether there is too much friction in the paper-axis drive system which is caused by defects with the Transmission Gears, Drive Roller or the Paper-Axis Motor. This test should be performed when a Paper-Axis shutdown occurs which is not caused by a paper jam.

The Paper Advance test will perform the following tests:

- Paper-Axis Motor test.
- Drive Roller Encoder-Sensor test.
- Drive Roller test.

NOTE **This Service Test can be performed by the End User with the guidance of a HP Support person via the phone.**
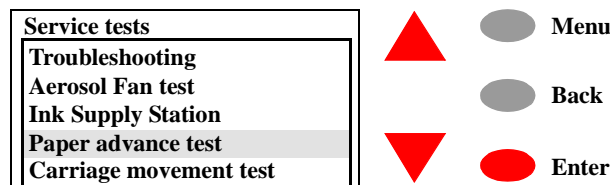
WARNING **IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING PAPER-AXIS COMPONENTS. IF THIS TEST PASSES, DO NOT REPLACE ANY PAPER-AXIS COMPONENTS.**

Perform the Paper Advance test as follows:

NOTE **Remove any media loaded and make sure that Pinch-Arms are lowered before performing this test.**

1 In the Service Tests submenu, scroll to "Paper Advance test" and press **Enter**.

| Service tests |
|---|
| Troubleshooting |
| Aerosol Fan test |
| Ink Supply Station |
| **Paper advance test** |
| Carriage movement test |

▲   ⬤ Menu

     ⬤ Back

▼   🔴 Enter

2 The test will first check if the Paper-Axis Motor is working by moving it slightly backwards and forwards. If this test passes, the following message will be displayed (press **Enter** to continue to the next stage of the test):

| Paper Advance test |
|---|
| |
| Paper-axis motor test passed. |
| Press ENTER to continue |

△   ⬤ Menu

     ⬤ Back

▽   🔴 Enter
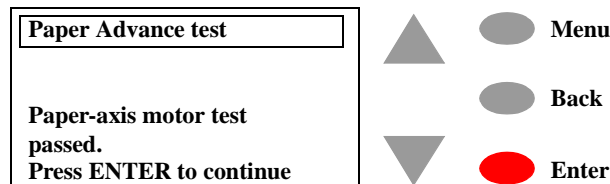
WARNING **IF THIS TEST PASSES, DO NOT REPLACE THE PAPER-AXIS MOTOR.**

3 If the test fails while checking the Paper-Axis Motor, then the following message will be displayed:

```
Paper Advance test

System error 41:10

Paper-axis motor failed
```
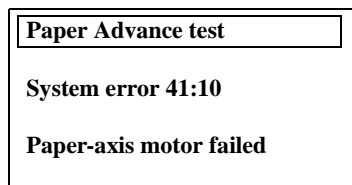
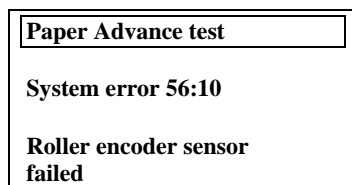In this case, to resolve the problem, replace the Paper-Axis Motor ⇒ *Page 8-84*.

4 If the Paper-Axis Motor test passes, the Printer will try to read the Drive Roller Encoder-Sensor while moving the Paper-Axis Motor. If the Printer can read the signals from the Encoder-Sensor, then the test has passed and the following message will be displayed (press **Enter** to continue to the next stage of the test):

```
Paper Advance test


Roller encoder sensor
test passed.
Press ENTER to continue
```

▲ ⬭ Menu

⬭ Back

▼ 🔴 Enter
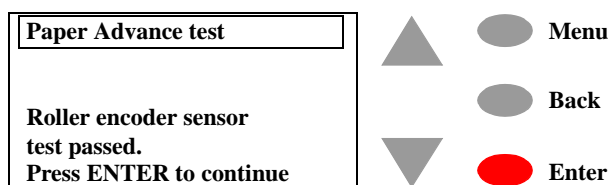
WARNING **IF THIS TEST PASSES, DO NOT REPLACE THE DRIVE ROLLER ENCODER-SENSOR.**

5 If the Printer has problems reading the signal from the Drive Roller Encoder-Sensor, then the test has failed and the following message will be displayed:

```
Paper Advance test

System error 56:10

Roller encoder sensor
failed
```

In this case, to resolve the problem, replace the Drive Roller Encoder Sensor ⇒ *Page 8-38*. But if the problem persists, replace the Encoder Disk Assembly.

6 It is possible that while performing this test, a Paper-Axis shutdown occurs, in which case the following message will be displayed:

```
Paper Advance test

System error 81:11

Paper-axis shutdown
```
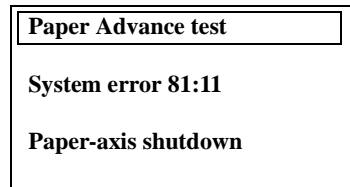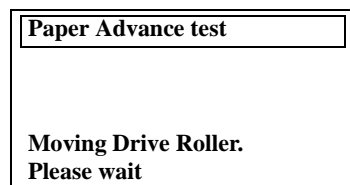
In this case, to resolve the problem, try the following:

1 *Open the Window and check for any visible obstacles that could be restricting the movement of the Drive Roller.*

2 *Try cleaning the Drive Roller using the Turn Drive Roller service utility ⇒ Page 4-22. Also try cleaning the Drive Roller Gears.*

3 *Replace the Drive Roller ⇒ Page 8-86.*

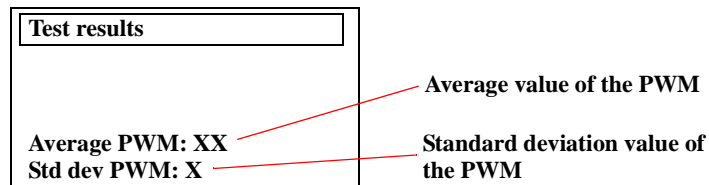**4** *Replace the Gear Assemblies ⇒ Page 8-92.*

WARNING **Only replace one component at a time and try the Service Test again before replacing another component. Using this procedure you will be able to determine exactly which component failed.**

5 If the Drive Roller Encoder-Sensor test passes, the Printer will try turning the Drive Roller and the following message will appear on the Front Panel:

```
Paper Advance test




Moving Drive Roller.
Please wait
```

6 Once the test is completed, the results will be displayed on the front panel:

```
Test results



Average PWM: XX
Std dev PWM: X
```

Average value of the PWM

Standard deviation value of the PWM

Service Utilities

The following is a list of all internal Service Utilities available in the Printers. Instructions for entering the Service Utilities menu are given on Page *4-15*.

1 EEROM Setup ⇒ Page *4-17*

The purpose of this Service Utility is to modify identification parameters such as serial numbers, as well as the Font Type. This only needs to be performed when EEROM failures cannot be recovered where both the current EEROM (located in the Main PCA) and the backup EEROM (located in the Ink Supply Station) contain false values or because both of them have failed.

2 Turn Drive Roller ⇒ Page *4-22*

The purpose of this Service Utility is to rotate the Drive Roller in order to clean it.

3 Unlock Carriage ⇒ Page *4-23*

The purpose of this Service Utility is to unlock the Carriage Assembly which is normally locked by the Service Station in order to cap the Printheads. Once unlocked, the Carriage Assembly can then be moved freely along the Printer by hand.

4 Prime Tubes ⇒ Page *4-24*

The purpose of this Service Utility is to prime the Ink Supply Tubes after they have been replaced (or if a situation arises where you need to force the priming procedure).

5 Change Cutter ⇒ Page *4-25*

The purpose of this Service Utility is to move the Cutter Assembly to a position where it can be replaced.

6 Change Ink Tubes ⇒ Page *4-26*

The purpose of this Service Utility is to move the Carriage Assembly to a position where it makes the removal of the Ink Supply Tubes much easier.
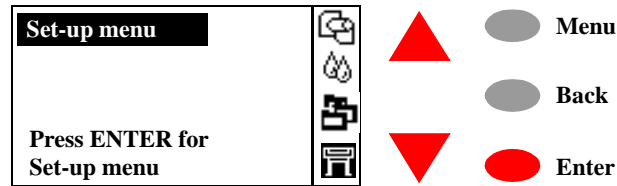
7 Printer Information ⇒ Page *4-27*

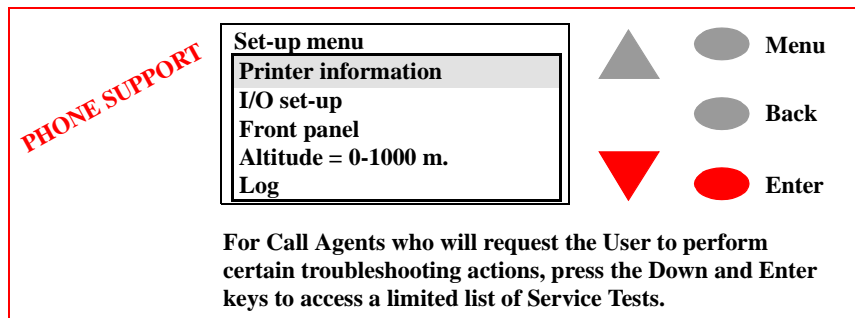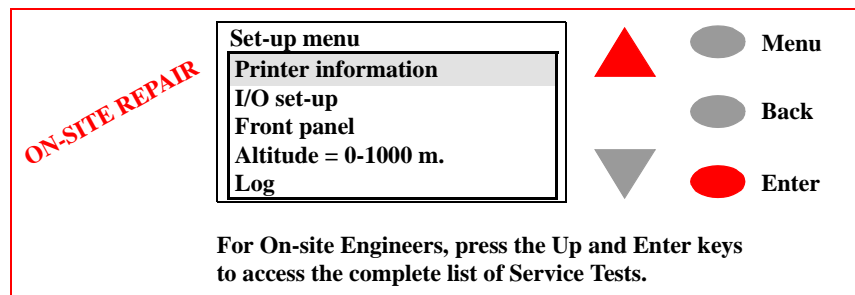The purpose of this Utility is the following:

■ Report basic parameters for call qualification.

■ Identify potential problems.

Entering the Service Utilities Menu

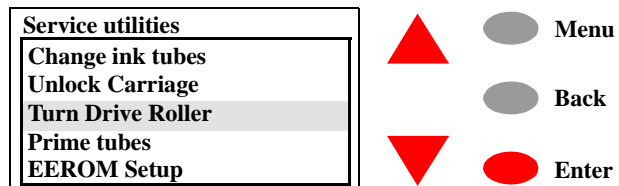**1** Press the ↑ or ↓ key until the front panel displays the Setup Menu and then press **Enter**.

Set-up menu		Menu
		Back
Press ENTER for Set-up menu		Enter

2 Once inside the Setup Menu, Press the following key combination to access the special Service Menu**.**

ON-SITE REPAIR

Set-up menu		Menu
Printer information		
I/O set-up		Back
Front panel		
Altitude = 0-1000 m.		Enter
Log		

For On-site Engineers, press the Up and Enter keys to access the complete list of Service Tests.

PHONE SUPPORT

Set-up menu		Menu
Printer information		
I/O set-up		Back
Front panel		
Altitude = 0-1000 m.		Enter
Log		

For Call Agents who will request the User to perform certain troubleshooting actions, press the Down and Enter keys to access a limited list of Service Tests.

3 Once inside the Service Tools Menu, press the ↑ or ↓ key until the front panel displays **Service Utilities** and then press **Enter**.

Service Menu		Menu
		Back
Service tests		
Service calibrations		
Service utilities		Enter
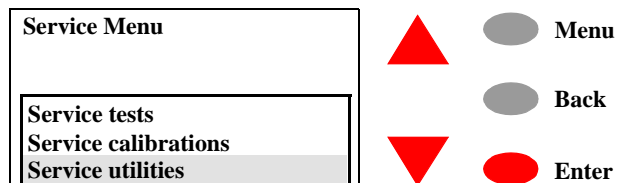
4 Press the **Enter** key to begin a specific utility when the required Service Utility is highlighted.

Service utilities
Change ink tubes
Unlock Carriage
Turn Drive Roller
Prime tubes
EEROM Setup

Menu

Back

Enter

EEROM Setup

The purpose of this Service Utility is to modify identification parameters such as serial numbers, as well as the Font Type. This only needs to be performed when EEROM failures cannot be recovered where both the current EEROM (located in the Main PCA) and the backup EEROM (located in the Ink Supply Station) contain false values or because both of them have failed.
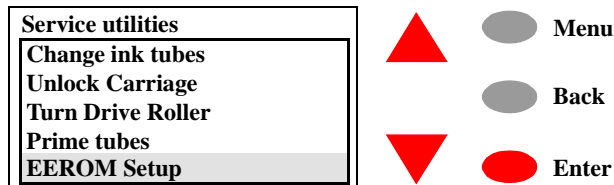
Also, you can use this utility to reset the usage counters for parts that have been replaced in order to correctly reflect the true usage of the relevant parts.

WARNING   **After any change in the EEROM, switch the Printer OFF and ON again in order to ensure that the change takes effect in all the subsystems of the Printer.**

Perform the EEROM Setup as follows:

1 In the Service Utilities submenu, scroll to "EEROM Setup" and press **Enter**.

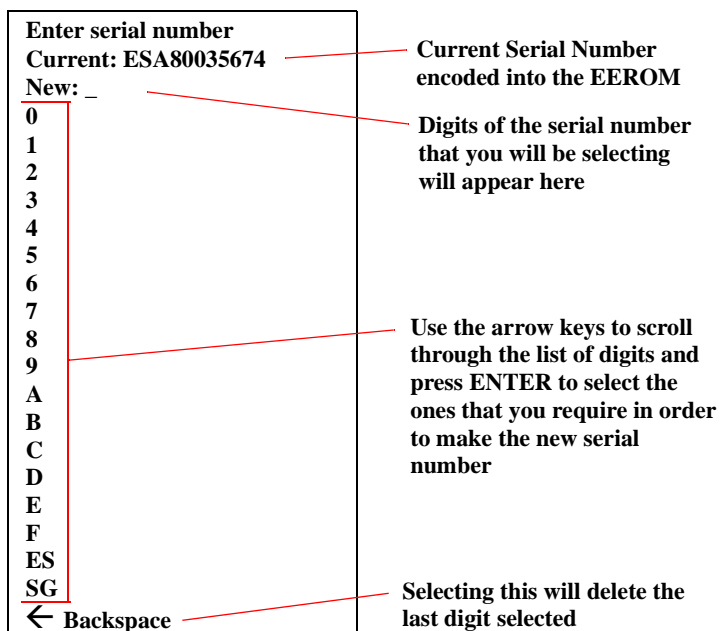| Service utilities	
Change ink tubes	
Unlock Carriage	
Turn Drive Roller	
Prime tubes	
EEROM Setup	

▲   ⬤ Menu
     ⬤ Back
▼   ⬤ Enter

2 The Printer will display a list of EEROM Setup options. You can make your selection using the arrow keys and press **Enter** to view the selection.
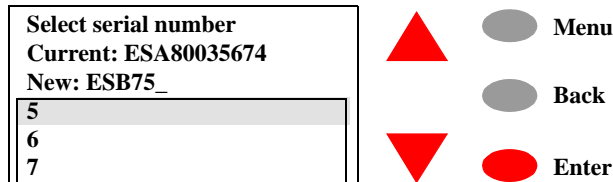
EEROM Setup options	
Serial number	
Font type	
Reset usage counter	
Reset to default	

▲   ⬤ Menu
     ⬤ Back
▼   ⬤ Enter
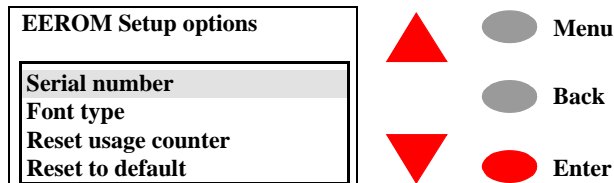
If you want to select the Serial Number

a If you want to select the Serial number, then you should select "Serial number" and press **Enter**. The following information will be displayed on the front panel. You will need to use the arrow

keys to scroll through the complete list because the front panel only allows 6 lines to be displayed at one time.

```
Enter serial number
Current: ESA80035674          Current Serial Number
New: _                        encoded into the EEROM
0
1                             Digits of the serial number
2                             that you will be selecting
3                             will appear here
4
5
6
7
8                             Use the arrow keys to scroll
9                             through the list of digits and
A                             press ENTER to select the
B                             ones that you require in order
C                             to make the new serial
D                             number
E
F
ES
SG                            Selecting this will delete the
← Backspace                   last digit selected
```

b Use the arrow keys to scroll through the list of digits. Once the digit that you require is highlighted, press **Enter** to select it and it will appear in the **New** line.

```
Select serial number              ▲    Menu
Current: ESA80035674
New: ESB75_                        Back
5
6                                 ▼    Enter
7
```

c Once you have entered the last digit of the new serial number, the front panel will display the following message:

```
Serial number                     ▲    Menu

Serial number entered is               Back
ESB7531008
Press ENTER to confirm            ▼    Enter
or BACK to correct
```

d If you press **Enter**, the new serial number will be stored in the EEROM and the Printer will return to the EEROM setup options menu. If you press **Back**, the previous screen will be displayed and the last digit of the new serial number will be deleted. You now have the opportunity to modify the new serial number.

```
Enter serial number
Current: ESA80035674
New: ESB753100_
0
1
2
```
▲ ⬤ Menu

⬤ Back

▼ ⬤ Enter

If you want to change the Font Type

a If you want to change the Font Type to Japanese, then you should select "Font type" and press **Enter**. The following message will be displayed on the front panel asking you to confirm whether you want to change the font to Japanese. Select YES and press **Enter** if you want to change to Japanese. Select NO and press **Enter** if you don't want to change the font type to Japanese.

```
Do you want to set font
type to Japanese?


YES                    √
NO
```
▲ ⬤ Menu

⬤ Back

▼ ⬤ Enter

NOTE **If the Printer is not a DesignJet 800PS, or if the Printer does not detect a formatter, the Printer will not allow you to enter this utility and will display the following message on the front panel.**
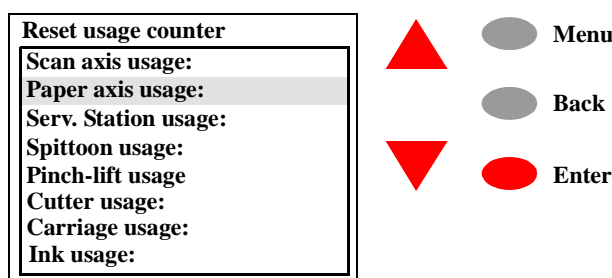
```
Font type setting is not
available for this type of
printer

Press BACK or ENTER to
return to menu
```
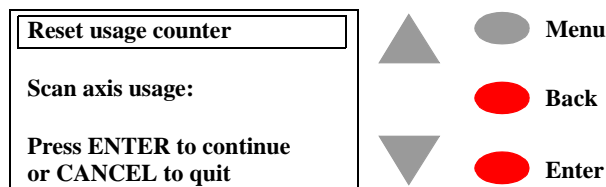
If you want to Reset the Usage Counter

NOTE   **You should only reset the usage counter for a certain component when it has been replaced by a new one. Never reset the usage counter for a component when it has not been replaced.**

a If you want to reset some of the parameters of the usage counter (to consult the usage counters ⇒ Page *4-27*), then you should select "Reset usage counter" and press **ENTER**. The following information will be displayed on the front panel. You will need to use the arrow keys to scroll through the complete list because the front panel only allows 6 lines to be displayed at one time. Select the usage counter that you want to reset and then press **Enter**.

Reset usage counter	
Scan axis usage:	▲ ⬭ Menu
Paper axis usage:	
Serv. Station usage:	⬭ Back
Spittoon usage:	
Pinch-lift usage	▼ 🔴 Enter
Cutter usage:	
Carriage usage:	
Ink usage:	

b Once you make a selection (for example Scan axis usage), the following message will appear on the Front Panel. Press **Enter** if you want to proceed with resetting the counter or press **Cancel** if you want to exit without resetting the counter:

| Reset usage counter	
	▲ ⬭ Menu
Scan axis usage:	
	🔴 Back
Press ENTER to continue	
or CANCEL to quit	▼ 🔴 Enter

c To check if the relevant usage counter has been reset, enter the Printer Information utility ⇒ Page *4-27*.

If you want to Reset the EEROM to the Default Values

NOTE   **The EEROM should only be reset if there is a major problem or if the Electronics Module has been replaced by a reused one and you need to reset the EEROM configuration. Also reset the EEROM if the Printer does not have the correct Serial Number after powering up.**

a If you want to reset the EEROM to the default values, then you should select "Reset to defaults" and press **Enter**. The following message will appear on the Front Panel. Press **Enter** if you want to proceed with resetting the EEROM or press **Cancel** if you want to exit without resetting the EEROM:

Reset to defaults	▲	⬭ Menu
		🔴 Back
Press ENTER to continue or CANCEL to quit	▼	🔴 Enter
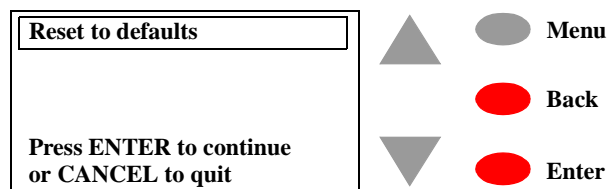
NOTE   **After resetting the EEROM to the default values, you will need to re-enter the Serial Number, Model Number and the Font Type (without re-entering this information, the Printer will NOT work). DO NOT SWITCH THE PRINTER OFF AND ON AGAIN BEFORE RE-ENTERING THESE VALUES. Also you will need to perform the Factory Advance Calibration.**
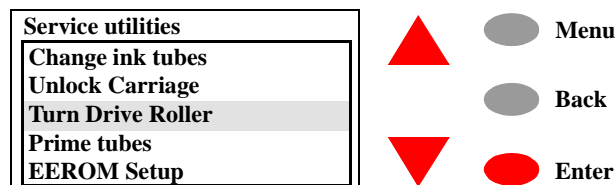
Turn Drive Roller

The purpose of this Service Utility is to rotate the Drive Roller in order to clean it.

NOTE   **REMOVE THE MEDIA BEFORE PERFORMING THIS OPERATION.**

Perform the Turn Drive Roller utility as follows:

1 In the Service Utilities submenu, scroll to "Turn Drive Roller" and press **Enter**.

Service utilities
Change ink tubes
Unlock Carriage
Turn Drive Roller
Prime tubes
EEROM Setup

▲ ⬤ Menu

⬤ Back

▼ ⬤ Enter

2 Once the utility starts, the Drive Roller will begin to turn slowly and the following message will be displayed. Everytime the Drive Roller completes a turn, the counter will increase by one.

Turning Drive Roller
turns 2
Press CANCEL to stop
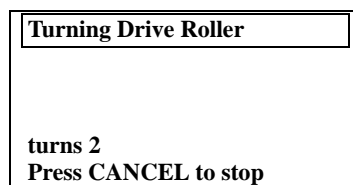
3 If you want to stop the Drive Roller from turning, press **Cancel** and the following message will appear on the front panel. Press **Enter** if you want to return to the Service Utility menu or press **Back** if you want to continue turning the Drive Roller.

| Turning Drive Roller |
|---|
| Turning Drive Roller stopped. Press ENTER to finish or BACK to resume |
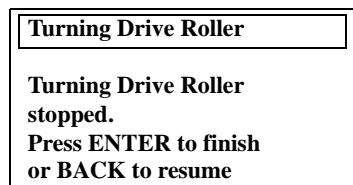
Unlock Carriage

The purpose of this Service Utility is to unlock the Carriage Assembly which is normally locked by the Service Station in order to cap the Printheads. Once unlocked, the Carriage Assembly can then be moved freely along the Printer by hand.

Perform the Unlock Carriage utility as follows:

1 In the Service Utilities submenu, scroll to "Unlock Carriage" and press **Enter**.

Service utilities		Menu
Change ink tubes		
Unlock Carriage		Back
Turn Drive Roller		
Prime tubes		Enter
EEROM Setup		
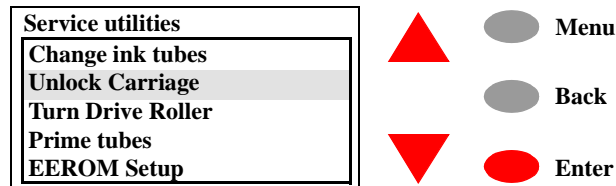
2 Once the utility starts, the printer will begin to unlock the Carriage Assembly and the following message will be displayed on the front panel.

```
Unlock Carriage



Unlocking Carriage
Please wait...
```
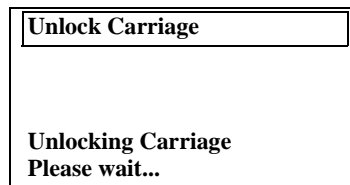
3 Once the Carriage is unlocked (Printheads have been uncapped) the following message will appear on the front panel:

```
Unlock Carriage


Carriage unlocked
Power off the printer
to start the repair
```
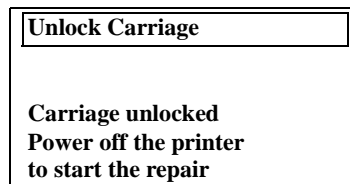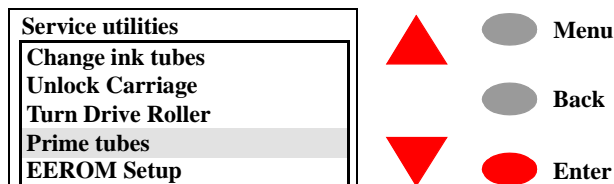
NOTE   **The Carriage will remain uncapped until another action (e.g. loading paper or replacing Printheads) is selected which returns the Printer to normal operation. Make sure you leave the Carriage in a locked position once the repair is completed.**

Prime Tubes

This purpose of this Service Utility is to prime the Ink Supply Tubes after they have been replaced (or if a situation arises where you need to force the priming procedure).

Prime the tubes as follows:

1 In the Service Utilities submenu, scroll to "Prime tubes" and press **Enter**.

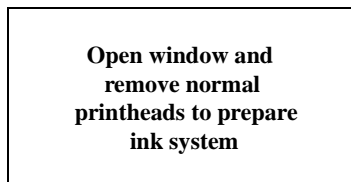| Service utilities |
|---|
| Change ink tubes |
| Unlock Carriage |
| Turn Drive Roller |
| Prime tubes |
| EEROM Setup |

▲ ⬤ Menu

⬤ Back

▼ 🔴 Enter

2 Once the utility starts, the printer will display the following message on the front panel. If you want to abort the Prime Tubes utility, press **Cancel** and you will return to the Service Utility menu.

Prime tubes
Press ENTER to force tube priming at next power up. CANCEL to abort
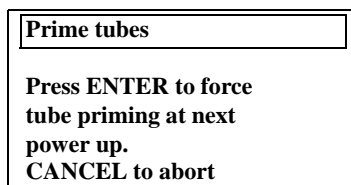
3 If you press **Enter**, the following message will be displayed on the Front Panel. You should switch the Printer ON and OFF in order to start the priming process.

Prime tubes
Power off/on machine to start tube priming
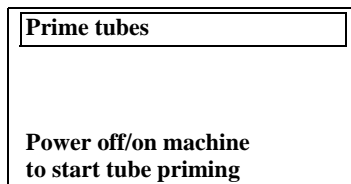
4 When you power On the Printer, the Printer will initialize and then display the following message. You will need to remove the normal Printheads and replace them with Start-up Printheads.

Open window and remove normal printheads to prepare ink system

Change Cutter

The purpose of this Service Utility is to move the Cutter Assembly to a position where it can be replaced.

NOTE   **In order to actually replace the Cutter Assembly, refer to Page *8-32*.**

Perform the Change Cutter utility as follows:

1   In the Service Utilities submenu, scroll to "Change cutter" and press **Enter**.

Service utilities	
Change Cutter	▲ Menu
Change ink tubes	
Unlock Carriage	▲ Back
Turn Drive Roller	
Prime tubes	▼ ● Enter
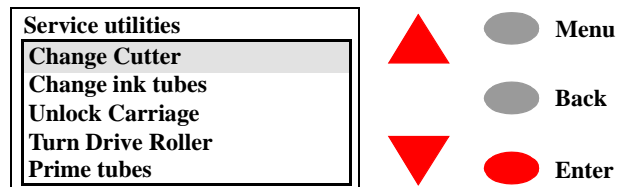
2   The Carriage will move to the left hand side of the Printer, pick up the Cutter and move it to a position where the Cutter can be replaced.

Change Ink Tubes
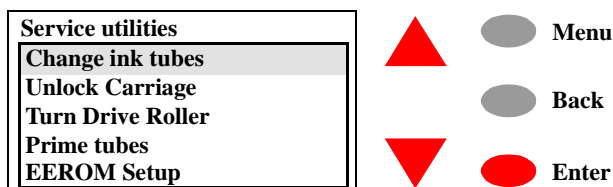
The purpose of this Service Utility is to move the Carriage Assembly to a position where it makes the removal of the Ink Supply Tubes much easier.

NOTE   **In order to actually replace the Ink Supply Tubes, refer to Page *8-60*.**

Perform the Change Ink Tubes utility as follows:

1 In the Service Utilities submenu, scroll to "Change Ink Tubes" and press **Enter**.

```
Service utilities
Change ink tubes
Unlock Carriage
Turn Drive Roller
Prime tubes
EEROM Setup
```
▲   ⬤ Menu

         ⬤ Back

▼   ⬤ Enter

2 Once the utility starts, the printer will display the following message on the front panel. If you want to abort the Change Ink Tubes utility, press **Cancel** and you will return to the Set-up menu.

```
Change ink tubes



Press ENTER to continue
or CANCEL to quit
```
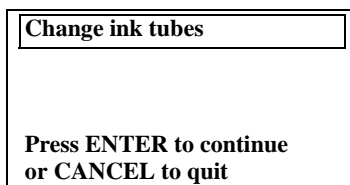
3 If you press **Enter**, the Carriage will move to a position where you change the Ink Supply Tubes and the following message will be displayed on the Front Panel. You should switch the Printer OFF before starting to change the Ink Supply Tubes.

```
1. Switch off the machine
2. Refer to the Service
    Manual to replace
        tubes
```
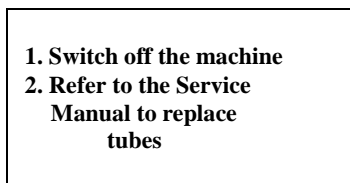
NOTE   **The next time the Printer is switched ON, it will automatically start the Priming process.**

Printer Information

The purpose of this Utility is the following:

- Report basic parameters for call qualification.
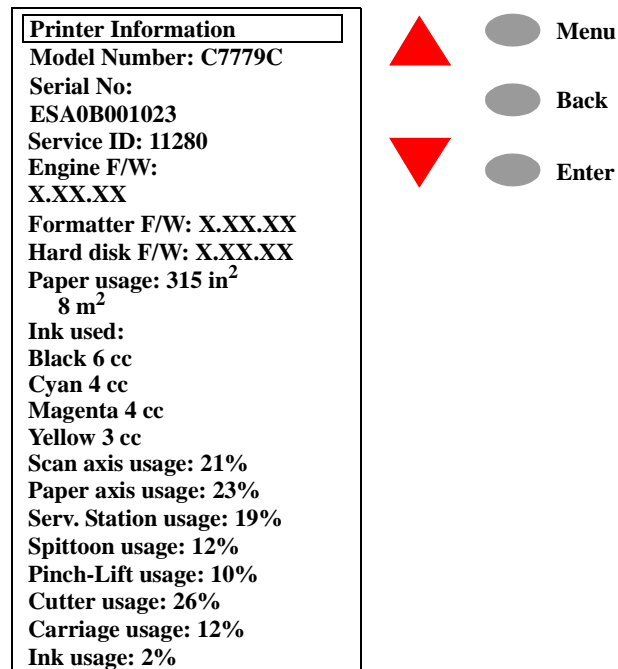- Identify potential problems.

NOTE   **Some of the parameters can be reset to zero by using the EEROM Setup utility ($\Rightarrow$ Page *4-17*).**

Check the Printer Information as follows:

1 In the Service Utilities submenu, scroll to "Printer Information" and press **Enter**.

Service utilities
Printer information
Printhead information
Error log
Printheads
Altitude = 0-1000 m.

▲ Menu
Back
▼ Enter
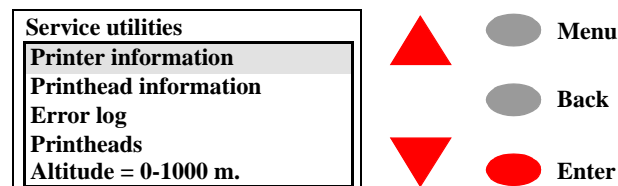
2 The Printer will display the following information on the front panel. You will need to use the arrow keys to scroll through the complete list because the front panel only allows 6 lines to be displayed at one time.

Printer Information
Model Number: C7779C
Serial No:
ESA0B001023
Service ID: 11280
Engine F/W:
X.XX.XX
Formatter F/W: X.XX.XX
Hard disk F/W: X.XX.XX
Paper usage: 315 in^2
    8 m^2
Ink used:
Black 6 cc
Cyan 4 cc
Magenta 4 cc
Yellow 3 cc
Scan axis usage: 21%
Paper axis usage: 23%
Serv. Station usage: 19%
Spittoon usage: 12%
Pinch-Lift usage: 10%
Cutter usage: 26%
Carriage usage: 12%
Ink usage: 2%

▲ Menu
Back
▼ Enter

Each parameter of the Printer Information is explained as follows:

■ **Model Number** - This identifies the model type of the Printer and should be the same number as printed on the Serial Number label (located at the back of the Printer). If the Model Number on the front panel does NOT match the number on the label, then use the EEROM setup ($\Rightarrow$ Page *4-17*) utility to set the correct model number.

■ **Serial Number** - The Serial Number should be the same number as printed on the Serial Number label (located at the back of the Printer). If the Model Number on the front panel does NOT match the number on the label, then use the EEROM setup utility ($\Rightarrow$ Page *4-17*) to set the correct model number.

■ **Service ID** - This number identifies the date when the Printer was bought since it encodes the date when the first print was sent to the Printer. This way the end of warranty period can easily be determined without needing a proof of purchase from the customer. The Service ID format is **YYDDD**, where **YY** is the actual year since 1990 and **DDD** is the number of actual days since January 1st.

How to calculate the Service ID from a calendar date:

YY = calendar year - 1990 (e.g.: 1998 = (1998 - 1990) = **08**; 2001 = (2001 - 1990) = **11**)

DDD = (Calendar month - 1) x 30 + Calendar day or 30 if the day is 31 (e.g.: Oct. 10th = (9 x 30 + 10) = **280**; Dec. 31st = (11 x 30 +30) = **360**

How to convert the Service ID into a calendar date:

Year = **YY** + 1990 (e.g.: **08** = (08 + 1990) = 1998; **11** = (11 + 1990) = 2001)

Date = **DDD** divided by 30, plus one if there is a remainder, gives you the month. The remainder gives you the day of the month (e.g. **280** (280/30 = 9 + 1 = 10) = October 10th; **360** = (360/30 = 12) = December 30th)

■ **Engine F/W** - The current version of the Firmware being used by the Printer and the date that it was updated.

■ **Formatter F/W** - The current version of the Firmware being used by the Formatter (if it is installed).

■ **Hard disk F/W** - The current version of the Firmware being used by the Hard Disk (only if the Formatter is installed).

■ **Paper usage** - The amount of media used by the Printer.

■ **Ink usage** - The amount of Ink used by the Printer.

■ **Scan axis usage** - Number of Scan-Axis cycles represented as a percentage over the maximum number of Scan-Axis cycles that the

Printer is designed to support. If the percentage is **more than** 100% and the Printer is experiencing problems then try the following:

1 Apply Lubricant to the Drive Roller.

2 Replace the Carriage Assembly (including the Belt) ⇒ Page *8-78*.

3 Replace the Scan-Axis Motor ⇒ Page *8-29*.

■ **Paper axis usage** - Number of Paper-Axis movements represented as a percentage over the maximum number of Paper-Axis movements that the Printer is designed to support. If the percentage is **more than** 100% and the Printer is experiencing problems then try the following:

1 Replace the Paper-Axis Motor ⇒ Page *8-84*.

■ **Service Station usage** - Number of Service Station cycles represented as a percentage over the maximum number of Service Station cycles that the Printer is designed to support. If the percentage is **more than** 100% and the Printer is experiencing problems then try the following:

1 Replace the Service Station ⇒ Page *8-52*.

■ **Spittoon usage** - Number of drops spitted into the Spittoon (on the left hand side of the Printer) represented as a percentage over the maximum number of drops allowed by the Spittoon. If the percentage is **more than** 100% and the Printer is experiencing problems then try the following:

1 Replace the Spittoon ⇒ Page *8-23*.

■ **Pinch-lift usage** - Number of Pinch-lift cycles represented as a percentage over the maximum number of cycles that the Printer is designed to support. If the percentage is **more than** 100% and the Printer is experiencing problems then try the following:

1 Replace the Pinch-Lift Mechanism ⇒ Page *8-67*.

■ **Cutter usage** - Number of times the Cutter has been used represented as a percentage over the maximum number of times that the Printer is designed to support. If the percentage is **more than** 100% and the Printer is experiencing problems then try the following:

1 Replace the Cutter Assembly ⇒ Page *8-32*.

■ **Carriage usage** - Number of Printhead insertions in the Carriage stall where the most Printheads have been inserted represented as a percentage over the maximum number of Printhead insertions that the Printer is designed to support. If the percentage is **more than** 100% and the Printer is experiencing problems then try the following:

1 Replace the Carriage Assembly ⇒ Page *8-78*.