

4 Service Tests and Utilities

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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.



NOTE: 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.

Diagnostics - Self Test

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 "System Error Codes" on page 25.

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.

Remember that the Key combination for the Customer to Enter the Service Tests and Utilities is different from the one that the Customer Engineer will use.

Service Tests (Diagnostics)

The following is a list of all internal Service Tests available in the Printer. See page 80 for instructions on how to enter the Service Tests menu.

1. Scan Axis Test ⇒ page 83

The purpose of this test is to verify the operation of components related to the Scan Axis.

2. Media Drive Test ⇒ page 88

The purpose of this test is to verify the operation of components related to the Media Axis.

3. Electronics Module Test ⇒ page 92

The purpose of this test is to verify the operation of the:

- Main PCA (Formatter).
- Printer Configuration.
- Sausalito PCI PCA.
- Power Supply Unit.
- PrintMech.
- Interconnect PCA.
- Carriage Communication.
- ISS Communication.

4. Carriage Assembly Test ⇒ page 100

The purpose of this test is to verify the operation of the Carriage Assembly.

5. Sensors Test ⇒ page 100

- The purpose of this test is to verify the operation of the following Sensors:
- Window Sensor.
- Printhead Cleaner (PHC) Access Door Sensor.
- Media Lever Sensor.
- Media Sensor.

6. Ink Delivery System Test ⇒ page 104

The purpose of this test is to verify the operation of the Ink Supply Tubes.

7. SVS Test ⇒ page 104

The purpose of this test is to verify the operation of the Service Station.

8. Air Pump System Test ⇒ page 104

The purpose of this test is to verify the operation of the Air Pressurization System (APS).

9. Vacuum Fan Test ⇒ page 105

The purpose of this test is to verify the operation of the Vacuum Fans.

10. OMAS Module Test ⇒ page 105

The purpose of this test is to verify the operation of the OMAS system.

11. EEROM Reset ⇒ page 106

The purpose of this test is to reset the EEROM.

12. Color Sensor Test ⇒ page 107

The purpose of this test is to verify the operation of the Color Sensor.

13. Aerosol Test ⇒ page 110

The purpose of this test is to verify the operation of the Aerosol Fan.

14. Primer Test ⇒ page 110

The purpose of this test is to verify the operation of the Aerosol Fan.

15. Service Special Utilities s ⇒ page 118

This option allows you to:

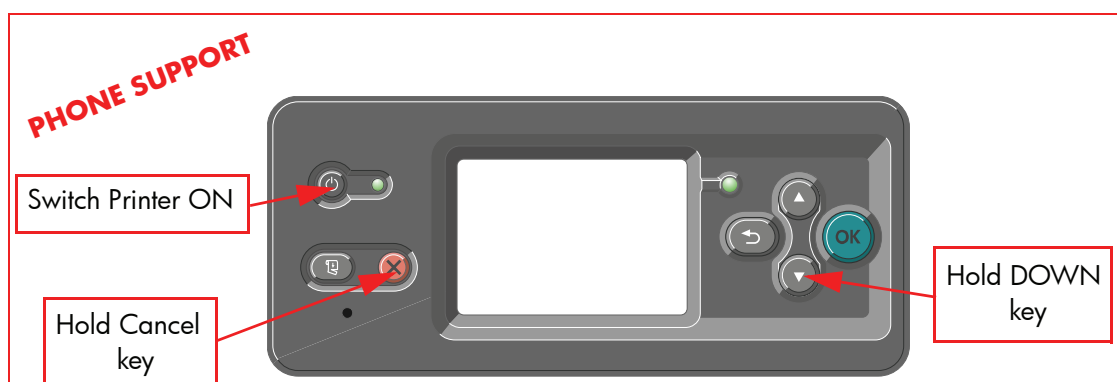
- Recover the Printer from a Bag Broken error ⇒ page 112.
- Set the Serial Number and Part Number in case both the Hard Disk Drive and the Ink Supply Tubes are replaced at the same time ⇒ page 114.
- View the information relating to the IO ⇒ page 116.
- View the Firmware Version, Part Number, Serial Number and PS Unit Configuration ⇒ page 117.
- Check Ink Supplies ⇒ page 118.
- Change primer status⇒ page 120.

Entering the Service Tests Menu

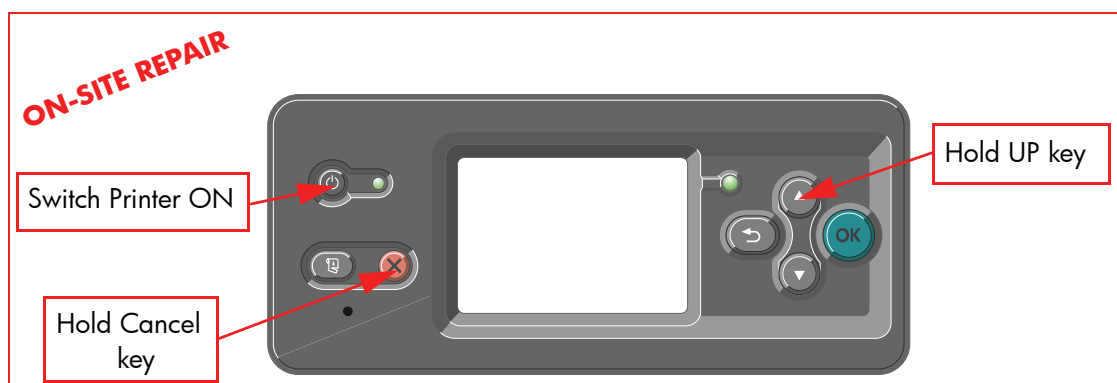


NOTE: In order to enter the Service Utility Menu, please refer to the instructions on Page <cross reference>4-60.

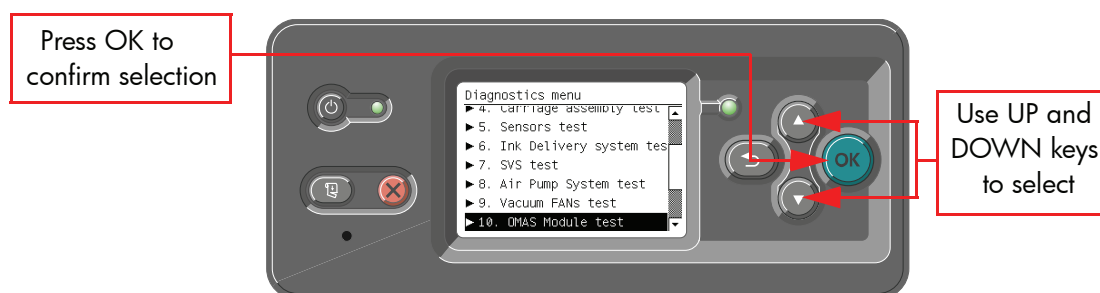
1. Make sure the printer is switched OFF from the power switch on the front of the printer and **NOT** from the power switch on the back of the printer.
2. For Call Agents who will request the User to Perform certain troubleshooting action, hold the **Down** arrow key and the **Cancel** key down and switch the printer **ON** using the front power switch. Wait until you hear one beep (usually after 5 seconds) before releasing ALL three keys.



3. For On-Site Engineers, hold the **Up** arrow key and the **Cancel** key down and switch the printer **ON** using the front power switch. Wait until you hear one beep (usually after 5 seconds) before releasing ALL three keys.



4. Once inside the Service Tests Menu use the **Arrow** keys to scroll through the "Service Tests" selections. Press the **Enter** key to begin a specific test when the required Service Test is highlighted.





NOTE: The Service Tests work in a special Mode which does NOT require the full Initialization of the Printer. Therefore it is important that once you have finished with the Service Tests, you **MUST** power OFF the Printer and Power ON again before trying to print.

NOTE: In some cases a quick press of a button may not be recognized by the Printer. When pressing a button, be sure to press it deliberately and all the way to the bottom of its travel.

NOTE: If the Printer hangs up during a test, switch the Printer OFF and restart from step 1.

1. Scan Axis Test

The purpose of this test is to diagnose a failure in the operation of components related to the Scan Axis.

You must perform the Scan-Axis Test after:

- System Error Code 86:YX.
- System Error Code 42:YX.
- System Error Code 73:YX.
- System Error Codes related to Scan-Axis shutdown or Carriage jam.



WARNING!: ALL THE COVER SENSORS ARE DISABLED WHEN IN THE SERVICE TESTS MENU. IF THE CARRIAGE IS MOVING IT WILL NOT STOP IF THE WINDOW IS OPENED, SO BE VERY CAREFUL NOT TO PUT YOUR HANDS INSIDE.



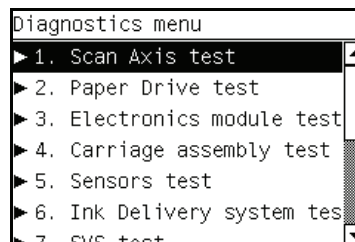
NOTE: In order to enter the Service Utility Menu, please refer to the instructions on Page <cross reference>4-60.

Perform the Scan Axis test as follows:



NOTE: Perform this test with the Printheads and the Tubes System installed in order to get values that can be compared correctly.

1. In the Service Tests submenu, scroll to “1. test” and press **Enter**.



2. The Printer will start to initialize the Scan-Axis system and the Front Panel will display the following information:

- Starting Sausalito.
- Starting Tests PWM.
- Starting Tests GPIO.

- Set GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 01.0:10** (refer to page 29).

- Clear GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

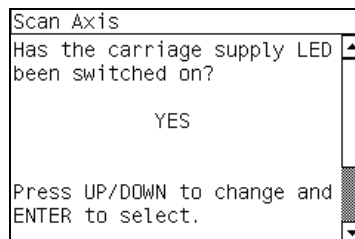
- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 01.0:10** (refer to page 29).

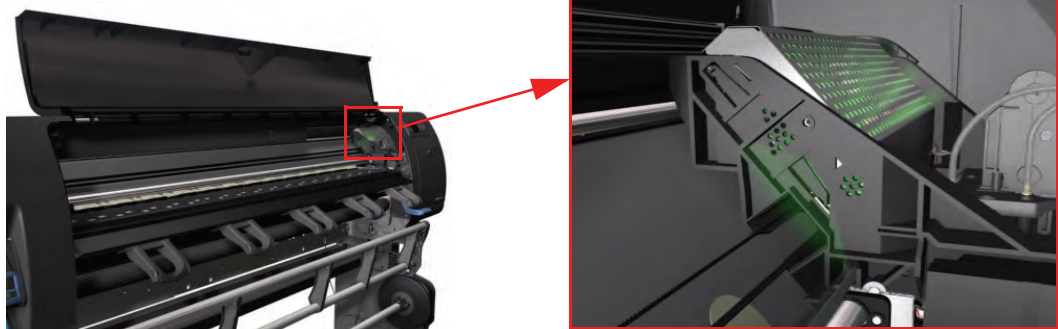
- Config GPIO drv_enable.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

3. After initializing the Scan-Axis system, the following message will appear on the Front Panel.



4. Open the Window, position your head as close as possible to the platen in order to check if the Carriage power light is ON (a green light on the carriage PCA). Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection.



NOTE: To be able to see the LED, you have to place your head very close to the Platen but if you are not comfortable doing that you should remove the Right Cover before starting the test.

If you select **No** at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 30. Check also

System Error Code 11:10 (refer to page 33) or **System Error Code 07:10** (refer to page 32).

If you select **Yes**, then the Front Panel will display:

- Booting up the Carriage.

If there is a failure at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 11:10** (refer to page 33) or **System Error Code 01.1:10** (refer to page 29).

Unit Hangs Up - If no System error code is displayed on the Front Panel but the Printer hangs up and the last message on the Front Panel is "Booting up the Carriage" it means that the Carriage ASIC could not be detected. Troubleshoot this problem in the same way as if **System Error Code 02.1:10** had appeared.

5. Once the Carriage is booted up, the Service Station will be prepared and moved to a safe position so that the Carriage can be moved. During this process, the following information will be displayed on the Front Panel:

- Starting SVS Motor.

If there is a failure at this point, the Front Panel will display **System Error Code 21:12**. For more information on troubleshooting this error code, refer to page 35. Also, try to perform the Service Station Test (refer to page 104).

Unit Hangs Up - If no System error code is displayed on the Front Panel but the Printer hangs up and the last message on the Front Panel is "Starting SVS Motor" it means that the SVS Motor could not be initialized. Troubleshoot this problem in the same way as if **System Error Code 21:12** had appeared.

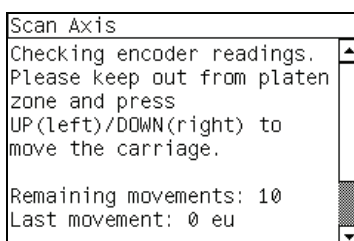
6. The Printer will program the duty cycle for the PWM test for the Scan-Axis Movement and leave it disabled and the following information will be displayed on the Front Panel:

- Preparing SVS
- Prog slow PWM scan.
- Moving carriage middle.
- Prog fast PWM scan.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

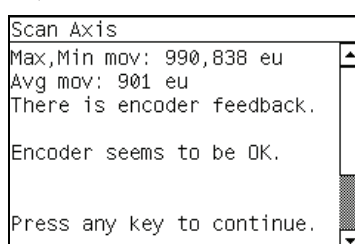
7. The Carriage will be moved to the middle of the Center Platen. If there is a failure in moving the Carriage, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.
8. The printer will now check that it can read the Encoder Strip. When the following message appears on the Front Panel, open the Window and press the **Up** key to move the Carriage to the left and the **Down** key to move the Carriage to the right. Make sure that you move

the Carriage in both directions and check that the Carriage actually moves when a key is pressed.



If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29. If the Carriage only moves in one direction, troubleshoot the problem as **System Error Code 01.1:10** (refer to page 29).

9. At the end of 10 Carriage movements, the Front Panel will display the maximum and minimum length (in encoder units) of the 10 movements and the overall average.



If Carriage movement has not been detected or if Carriage movement was very short, the Front Panel will ask you "Did the motor move?". If the answer is **Yes** (the Carriage had moved) press **Enter**. If the answer is No (the Carriage had not moved) press the **Back** key.

If you select **No** (the Carriage had not moved), the Front Panel will display **System Error Code 42:10**. For more information on troubleshooting this error code, refer to page 43. Check also **System Error Code 01.1:10** (refer to page 29) or **System Error Code 01.0:10** (refer to page 29).

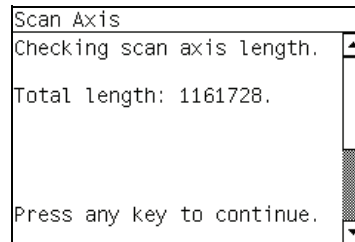
If you select **Yes** (the Carriage had moved), the Front Panel will display **System Error Code 02:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 11:10** (refer to page 33) or **System Error Code 01.0:10** (refer to page 29).

If any max. or min. movement length is outside the $\pm 20\%$ average, then this warning message will be displayed on the Front Panel "Some movements out of avg. $\pm 20\%$ range: Intermittent movements. PWM test needed". This warning means that there is a mechanical problem in the Printer (Encoder Strip, friction, Carriage Belt, Slider Rod, etc...). Press any key to continue with the PWM test.

10. The Printer will now start to initialize the Scan-Axis servo and the Front Panel will display the following information:
 - Starting Carriage Motor.
 - Off/On Carriage Motor.
 - Doing a right side bump.
 - Doing a left side bump
 - Exit bump position.

If there is a failure at this point, the Front Panel will display **System Error Code 86:10**. For more information on troubleshooting this error code, refer to page 62.

11. The Printer checks the complete length of the Scan-Axis and displays the result on the Front Panel. The length has to be between **1158629** and **1164616**.



If it is shorter, it means that there is an obstacle blocking the Scan-Axis path and the Front Panel will display **System Error Code 86:11**. For more information on troubleshooting this error code, refer to page 62.

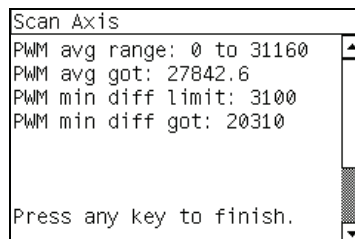
If the length is longer, it means that the carriage has a datum broken or the Carriage Stopper is not installed and the Front Panel will display **System Error Code 02:10**. For more information on troubleshooting this error code, refer to page 30.

12. The Printer will now check the Scan-Axis PWM and the following information will be displayed on the Front Panel:

- Starting Scan Axis.
- PWM test.

If there is a failure at this point, the Front Panel will display **System Error Code 86:10**. For more information on troubleshooting this error code, refer to page 62.

13. The Printer will test the PWM at 61 ips and display the results on the Front Panel.



If some of the results are incorrect, the Front Panel will show "High Friction". Depending on the actual results received, the following should be done:

- If **PWM avg got** is more than 31160 and **PWM min diff got** is less than 3100 then there is high friction along the Scan-Axis. In this case you should:
 - Clean the Slider Rods and Apply Oil along the complete axis of the Slider Rods. After applying the Oil, perform the test again.
 - Check that the Carriage Belt is installed correctly.
- If **PWM min diff got** is less than 3100 but **PWM avg got** is less than 31160 then there is a problem in the Scan-Axis. In this case you should:
 - Check that the Encoder Strip is clean. If necessary, clean Encoder Strip using a damp cloth.
 - Check that the Ink Supply Tubes and Trailing Cable is installed correctly.

If there is a failure processing the PWM results, the Front Panel will display **System Error Code 86:11**. In this case try repeating the test again.

14. Once the test is completed, OK will be displayed on the Front Panel and then you will be prompted to press any key to shut down the Printer.

2. Paper Drive Test

The purpose of this test is to diagnose a failure in the operation of components related to the Paper Axis.

You must perform the Paper Drive Test after:

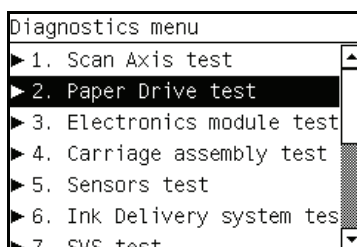
- System Error Code 81:YX.
- System Error Code 41:YX.
- System Error Code 73:YX.



NOTE: IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING ANY COMPONENT OF THE MEDIA-AXIS.

Perform the Paper Drive test as follows:

1. In the Service Tests submenu, scroll to “2. Paper Drive test” and press **Enter**.



2. The Printer will start to initialize the Scan-Axis system and the Front Panel will display the following information:

- Starting Sausalito.
- Starting GpioPwmlmpact.
- Set GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 01.0:10** (refer to page 29).

- Clear GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 01.0:10** (refer to page 29).

- Config GPIO drv_enable.

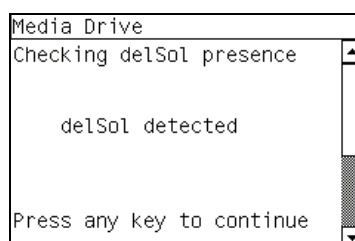
If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Starting Tests PWM
- Booting up the Carriage.
- Starting Paper Motor.

If there is a failure at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 11:10** (refer to page 33) or **System Error Code 01.1:10** (refer to page 29).

Unit Hangs Up - If no System error code is displayed on the Front Panel but the Printer hangs up and the last message on the Front Panel is "Booting up the Carriage" it means that the Carriage ASIC could not be detected. Troubleshoot this problem in the same way as if **System Error Code 02.1:10** had appeared.

- The printer will now check for the presence on the Color Meter and the following will be displayed on the front panel:



- The Printer will now check the revision of the PCA and the following message will be displayed on the Front Panel:

- Checking PCA rev.

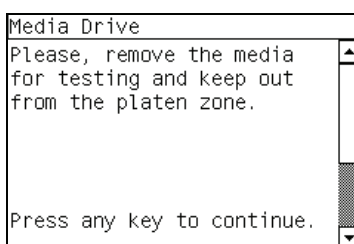
The value for the PCA revision must be more than 0.625V, if not the Front Panel will display **System Error Code 01.1:10**. For more information on troubleshooting this error code, refer to page 29.

- The Printer will program the duty cycle for the PWM test for the Paper Drive Movement and leave it disabled and the following message will be displayed on the Front Panel:

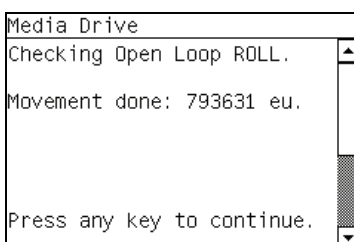
- Prog slow PWM paper.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

6. Before continuing, the following message will appear on the Front Panel. Remove the media if it is still loaded and make sure you stay out of the Print Platen area if the Window is open.

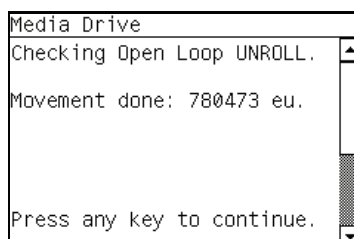


7. The Printer will now test the Paper Drive moving in an open loop in one direction and the following message will be displayed on the Front Panel. Press any key to continue the test:



Check that the movement done is more than 100 encoder units (in absolute value). If the movement done is less than 100 encoder units then open the Window and check for any visible obstacles restricting the movement of the Drive Roller or the Overdrive Assembly. In this case, press any key to finish the test.

8. The Printer will now test the Paper Drive moving in an open loop in the opposite direction and the following message will be displayed on the Front Panel. Press any key to continue the test:



Check that the movement done is **more** than 100 encoder units (in absolute value). If the movement done is **less** than 100 encoder units then open the Window and check for any visible obstacles restricting the movement of the Drive Roller or the Overdrive Assembly.

If the Encoder Units is **less** than 100, the Printer will request you to follow these instructions:

- a. Manually load a sheet of paper in to the Printer (an A4 sheet).
- b. The Printer will test the Paper Drive moving in an open loop.
- c. Perform a visual check during the test. The Front Panel will ask you if the paper moved or not:
 - If the paper moved, the Front Panel will display **System Error Code 56:10**. For more information on troubleshooting this error code, refer to page 54.
 - If the paper **did not** move, the Front Panel will display **System Error Code 41:10**. For more information on troubleshooting this error code, refer to page 42.

- d. A "FAIL" message will be displayed on the Front Panel and the test will be terminated at this point.
9. The Printer will now check the Paper Drive servo system and the following messages will be displayed on the Front Panel:
 - Starting Paper Motor.
 - Off/On Paper Motor.
 - Starting Paper Axis.

If there is a failure at this point, the Front Panel will display **System Error Code 81:10**. For more information on troubleshooting this error code, refer to page 60.

- Calib. Analog Encoder.

If there is a failure at this point, the Front Panel will display **System Error Code 56:03**. For more information on troubleshooting this error code, refer to page 54.

Once the Analog Encoder calibration is completed, the Front Panel will display the results:

Media Drive		
Analog Encoder results:		
CHANNEL	GAIN	OFFSET
A	005	019
B	005	019
Press BACK/CANCEL to reject or ENTER to accept.		

Acceptable values are:

- Gain: between 3 and 31.
- Offset: between 12 and 25.

If the results are acceptable, press **Enter**. If the results are unacceptable, then press the **Back/Cancel** key and the Front Panel will display **System Error Code 56:10**. For more information on troubleshooting this error code, refer to page 54. Starting Paper Path.

If there is a failure at this point, the Front Panel will display **System Error Code 81:10**. For more information on troubleshooting this error code, refer to page 60.

- Homing and repeat. test.

If there is a failure at this point, the Front Panel will display **System Error Code 56:10**. For more information on troubleshooting this error code, refer to page 54.

10. The Printer will now check the Paper Drive PWM. You must load media in to the Printer and press any key to continue the test.

Media Drive	
Please, raise the pinch lever. Load the paper roll and lower the pinch lever.	
Press any key to proceed.	

11. When the PWM check is being performed, the following message will be displayed on the Front Panel:

- PWM test with paper.

12. Once the PWM check is done, the results will be displayed on the Front Panel. Press any key to finish the test:

```
Media Drive
Checking Open Loop ROLL.
Movement done: 793631 eu.
Press any key to continue.
```

If there is a failure at this point, the Front Panel will display:

```
Media Drive
WARNING: High Friction.
PWM avg: 16000 to 20000
PWM avg got: 13300.0
Speed error top limit: 40
Speed error got: 20
PWM StDev: 1.00 to 850.00
PWM StDev got: 120.53
Press any key to finish.
```

13. Once the test is completed, OK will be displayed on the Front Panel and then you will be prompted to press any key to shut down the Printer.

3. Electronics Module Test

The purpose of this test is to diagnose a failure in the operation of the:

- Components of the Electronics Module.
- Electronics Module to Carriage and ISS Communication.



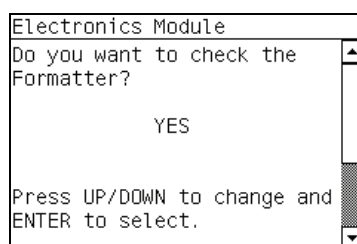
NOTE: This test does not test the EIO Card or the Hard Disk Drive.

Perform the Electronics Module test as follows:

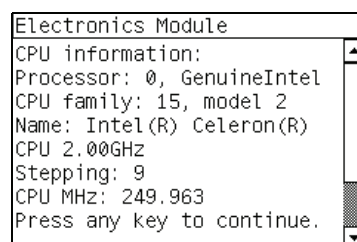
1. In the Service Tests submenu, scroll to "3. Electronics Module Test" and press **Enter**.

```
Diagnostics menu
▶ 1. Scan Axis test
▶ 2. Paper Drive test
▶ 3. Electronics module test
▶ 4. Carriage assembly test
▶ 5. Sensors test
▶ 6. Ink Delivery system tes
▶ 7. SVS test
```

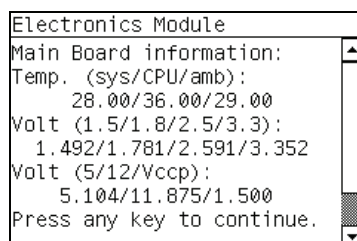
2. A message will appear on the Front Panel asking whether you would like to check the Formatter. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:



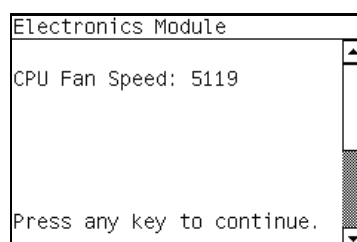
3. If you select **Yes**, the printer will get the CPU information and display the information on the Front Panel. Press any key to continue the test:



4. The printer will now get the Main Board (MB) information and display the information on the Front Panel. Press any key to continue the test:

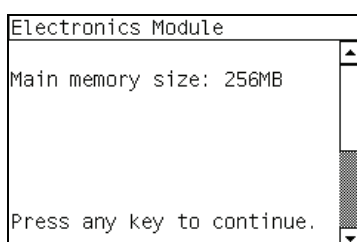


5. The printer will now get the CPU Fan Speed and display the information on the Front Panel. Press any key to continue the test:



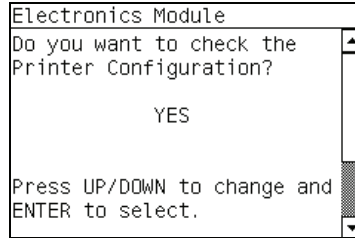
If the CPU Fan Speed is less than 2500, the Front Panel will display **System Error Code 05.1:10**. For more information on troubleshooting this error code, refer to page 31.

6. The printer will now calculate the amount of memory installed and display the information on the Front Panel. Press any key to continue the test:



A minimum of 256 megabytes of memory must be installed in the Printer. If not, the Front Panel will display **System Error Code 05.3:10**. For more information on troubleshooting this error code, refer to page 31.

7. A message will appear on the Front Panel asking whether you would like to check the Printer Configuration. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:

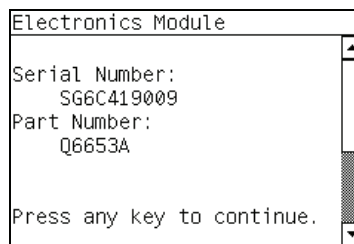


8. If you select **Yes**, the Printer will start the CDS and the following information will be displayed on the Front Panel:

- Starting CDS.

If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 60.

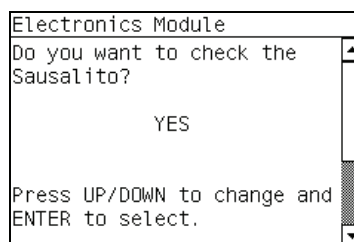
9. The printer will then check the Serial Number and Part Number and display the information on the Front Panel. Press any key to continue the test:



If the Serial Number or the Part Number cannot be read, the Front Panel will display an error.

If the Serial Number does not have assigned a correct 10 character format or the Part number does not have assigned a correct 6 character format, a fail message will appear on the Front Panel. In this case, re-enter in to the Service Tests submenu and use the diagnostic "13. Error 71:19 Recovery" to set the correct Serial Number (refer to page 114).

10. A message will appear on the Front Panel asking whether you would like to check the Sausalito. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:

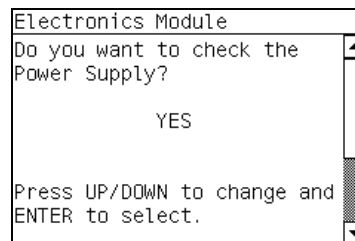


11. If you select **Yes**, the Printer will check the Sausalito PCI PCA and the following messages will be displayed on the Front Panel:

- Starting CDS
- Checking Sausalito PCI.
- Starting Sausalito.
- Checking Impact memory
- Checking Gauntlet memory.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

12. A message will appear on the Front Panel asking whether you would like to check the Power Supply. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:



13. If you select **Yes**, the Printer will check the Power Supply Unit and the following messages will be displayed on the Front Panel:

- Starting Sausalito.
- Starting Tests GPIO.
- Starting Tests Encoder.
- Starting Vacuum Fans.
- Set GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 30.

- Clear GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

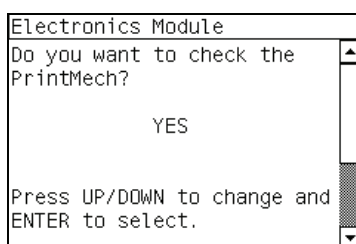
- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 30.

- Starting CDS.

If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 60.

14. A message will appear on the Front Panel asking whether you would like to check the PrintMech. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:



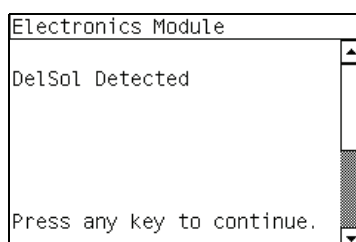
15. If you select **Yes**, the Printer will check the PrintMech and the following messages will be displayed on the Front Panel:

- Starting Sausalito.
- Starting Tests GPIO.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Starting Tests Encoder.
- Starting Vacuum Fans.
- Checking delSOL presence.

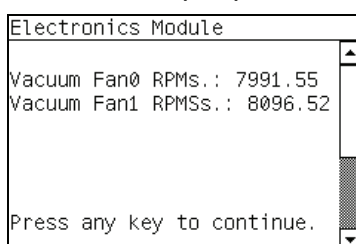
16. A message will appear on the Front Panel stating that the delSol has been detected and asking whether you would like to Continue. Press any key to continue:



If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

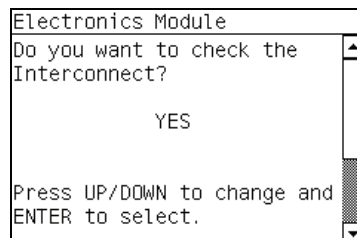
- Checking Vacuum Fans.
- Switching on Vacuum Fans.
- Testing Vacuum Fans.
- Switching off Vacuum Fans.

17. At this stage the Front Panel displays the results for the test of the vacuum fans and asks whether you would like to Continue. Press any key to continue:



If there is a failure at this point, the Front Panel will display either **System Error Code 01.0:10** or **System Error Code 01.1:10**. For more information on troubleshooting either of these error codes, refer to page 29.

18. A message will appear on the Front Panel asking whether you would like to check the Interconnect. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:



19. If you select **Yes**, the Printer will check the Interconnect PCA and the following messages will be displayed on the Front Panel:

- Starting CDS.

If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 60.

- Getting unit config.

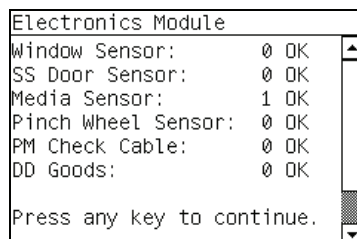
If the current Part Number is not in the correct 6 character format, the Front Panel will display a fail message. In this case, re-enter in to the Service Tests submenu and use the diagnostic "14.2 Error 71:19 Recovery" to set the correct Serial Number (refer to page 114).

- Starting Tests GPIO.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Checking GPIO channels.

At this stage, the Printer reads and checks the default GPIO values in the Interconnect PCA when all the cables are connected and all the sensors give the default value or the current state. The results will be displayed on the Front Panel and you can press any key to scroll through the information.

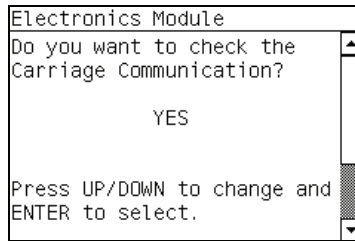


If any of the channels cannot be read, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

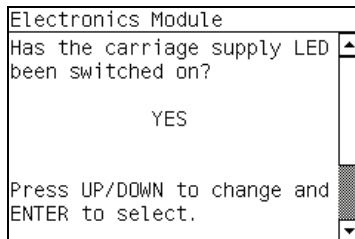
If any of the read values do not match the expected default, the Front Panel will display **System Error Code 07:10**. For more information on troubleshooting this error code, refer to page 32.

20. A message will appear on the Front Panel asking whether you would like to check the Carriage Communication. Select **Yes** or **No** by using the **Up** and **Down** keys and press

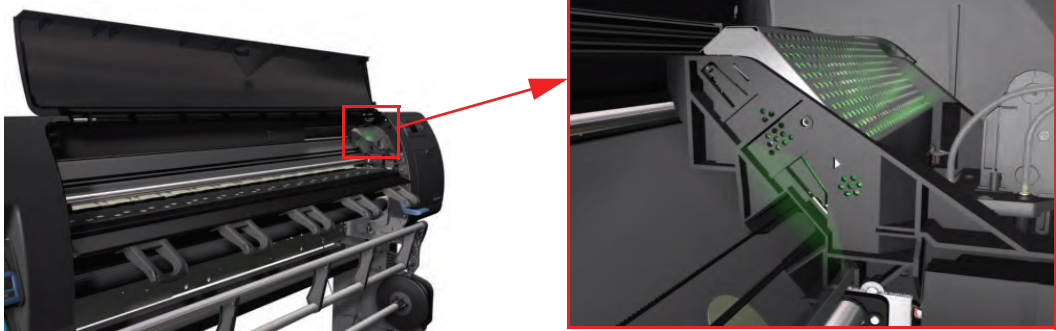
Enter to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:



21. If you select **Yes**, the following message will appear on the Front Panel:



22. Open the Window, position your head as close as possible to the platen in order to check if the Carriage power light is ON (a green light on the carriage PCA). Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection.



NOTE: To be able to see the LED, you have to place your head very close to the Platen but if you are not comfortable doing that you should remove the Right Cover before starting the test.

If you select **No** at this point, the Front Panel will display **System Error Code 07:10**. For more information on troubleshooting this error code, refer to page 32. Check also **System Error Code 11:10** (refer to page 33) or **System Error Code 02.1:10** (refer to page 30).

If you select **Yes**, then the Front Panel will display:

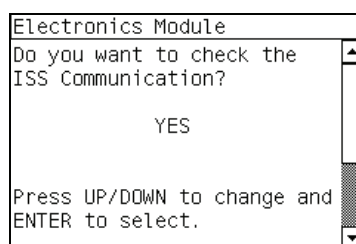
- Starting Carriage.

If there is a failure at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 11:10** (refer to page 33) or **System Error Code 01.0:10** (refer to page 29).

- Checking Carriage rev.

If there is a failure at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 11:10** (refer to page 33).

23. A message will appear on the Front Panel asking whether you would like to check the ISS Communication. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:



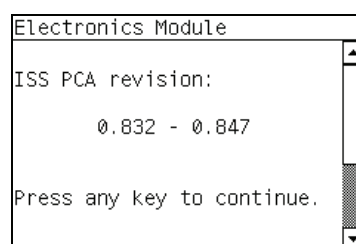
24. If you select **Yes**, the Printer will check the ISS Communication and the following information will be displayed on the Front Panel:

- Starting Sausalito.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Checking ISS PCA rev.

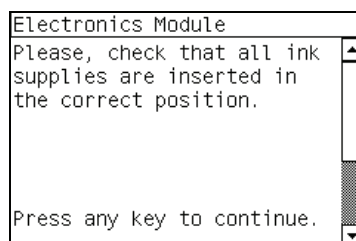
At this stage, the Front Panel displays the value for the ISS PCA revision and asking whether you would like to Continue. Press any key to continue:.



If any of the channels cannot be read, the Front Panel will display **System Error Code 01.2:10**. The value for the ISS PCA revision must be more than **0.832**, if not the Front Panel will display **System Error Code 01.2:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 01.0:10** (refer to page 29)

If there is a problem in reading the values, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

25. When the Front Panel displays the following message, check that all the Ink cartridges are correctly installed. Press any key to continue.



26. The Printer will continue with the ISS Communication test and the following messages will be displayed on the Front Panel:

- Starting ISS Ink Sup.
- Getting ISS data.

If there is a failure at this point, the Front Panel will display an error.

- Checking ISS Ink Sup.

If there is a failure at this point, the Front Panel will display **System Error Code 26.n:10**. For more information on troubleshooting this error code, refer to page 36.

27. Once the test is completed, OK will be displayed on the Front Panel.

4. Carriage Assembly Test

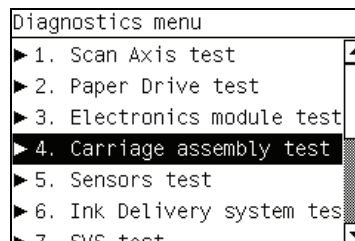
The purpose of this test is to verify the operation of the Carriage Assembly.



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

Perform the Carriage Assembly test as follows:

1. In the Service Tests submenu, scroll to “4. Carriage Assembly Test” and press **Enter**.



2. This test has not yet been implemented.

5. Sensors Test

The purpose of this test is to verify the operation of the following Sensors:

- Window Position Sensor.
- Media Lever.
- Maintenance Cartridge Door Sensor.
- Paper Sensor.



NOTE: IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING RELEVANT SENSOR. IF THIS TEST PASSES, DO NOT REPLACE THE RELEVANT SENSOR.

Perform the Sensors test as follows:

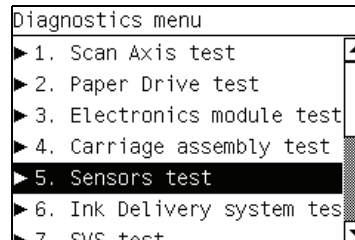
1. Before starting, first make sure that:
 - The Window is closed.
 - The Maintenance Cartridge Door is closed.
 - The Media Lever is in the lowered position.

- Paper is unloaded.



NOTE: If there is a failure in reading the GPIO channel during any of the steps of this test, the Front Panel will display System Error Code 01.0:10. For more information on troubleshooting this error code, refer to Page 2-5. Check also System Error Code 07:10 (refer to Page 2-8).

2. In the Service Tests submenu, scroll to “5. Sensors Test” and press **OK**.



3. The Printer will initialize the sensors and the Front Panel will display the following messages:

- Starting Sausalito.

If there is a failure starting the Sausalito, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Starting Tests GPIO.

If there is a failure starting the GPIO tests, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

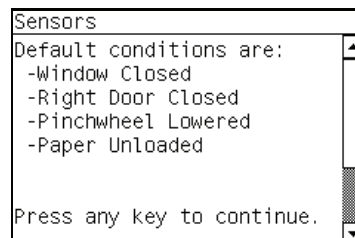
- Starting Cds.

If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 60.

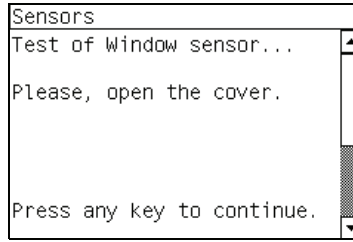
- Getting unit config.
- Checking unit config.

If there is a failure at this point, the Front Panel will display **System Error Code 71:19**. For more information on troubleshooting this error code, refer to page 58.

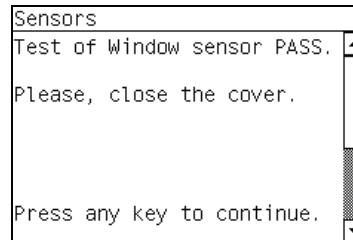
4. Before starting to test the sensors, the following message will be displayed to prompt the user to set the sensors to the test default positions. Press any key to continue:



5. The Window Sensor will be tested first. When the following message is displayed on the Front Panel, open the Window and press any key to continue.

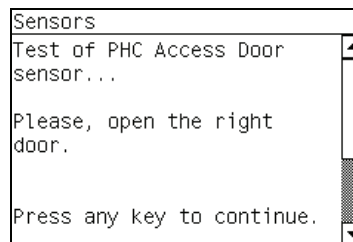


6. If the Window Sensor passes the test, the following message is displayed on the Front Panel. Close the Window and press any key to continue.

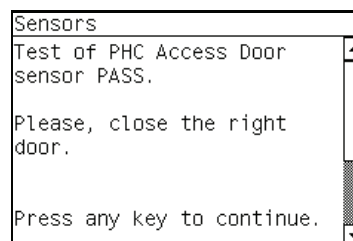


If the Window Sensor fails the test, the Front Panel will display **System Error Code 51:10**. For more information on troubleshooting this error code, refer to page 50. Check also **System Error Code 07:10** (refer to page 32).

7. The Maintenance Cartridge Door Sensor will be tested next. When the following message is displayed on the Front Panel, open the Maintenance Cartridge Door Sensor and press any key to continue.

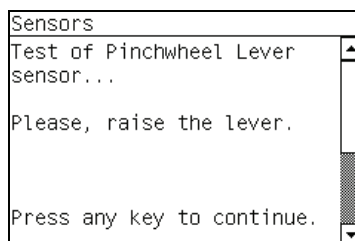


8. If the Maintenance Cartridge Door Sensor passes the test, the following message is displayed on the Front Panel. Maintenance Cartridge Door Sensor and press any key to continue.

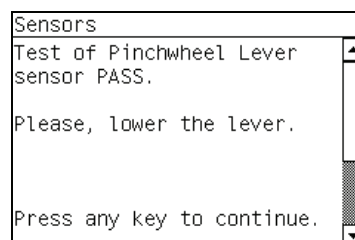


If the Maintenance Cartridge Door Sensor fails the test, the Front Panel will display **System Error Code 51.1:10**. For more information on troubleshooting this error code, refer to page 50. Check also **System Error Code 07:10** (refer to page 32).

9. The Media Lever Sensor will be tested next. When the following message is displayed on the Front Panel, raise the Paper Lever and press any key to continue.

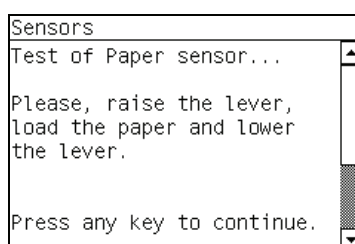


10. If the Media Lever Sensor passes the test, the following message is displayed on the Front Panel. Lower the Paper Lever and press any key to continue.

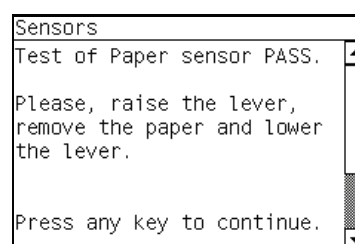


If the Paper Lever Sensor fails the test, the Front Panel will display **System Error Code 54:10**. For more information on troubleshooting this error code, refer to page 52. Check also **System Error Code 07:10** (refer to page 32).

11. The Media Sensor will be tested next. When the following message is displayed on the Front Panel, raise the Media Lever, load paper, lower the Media Lever, and press any key to continue.



12. If the Media Sensor passes the test, the following message is displayed on the Front Panel, raise the Media Lever, unload paper, lower the Media Lever, and press any key to continue.



If the Paper Lever Sensor fails the test, the Front Panel will display **System Error Code 53:10**. For more information on troubleshooting this error code, refer to page 52. Check also **System Error Code 07:10** (refer to page 32).

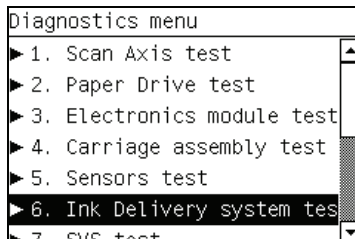
13. Once the test is completed, OK will be displayed on the Front Panel.

6. Ink Delivery System Test

The purpose of this test is to verify the operation of the Ink Delivery System.

Perform the Ink Delivery System test as follows:

1. In the Service Tests submenu, scroll to “6. Ink Delivery System Test” and press **Enter**.



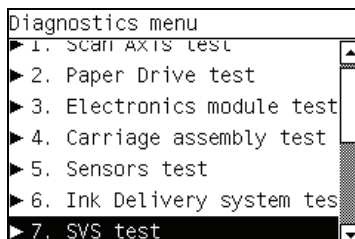
2. This test has not yet been implemented.

7. SVS Test

The purpose of this test is to verify the operation of the Service Station.

Perform the SVS test as follows:

1. In the Service Tests submenu, scroll to “7. SVS Test” and press **Enter**.



2. This test has not yet been implemented.

8. Air Pump System Test

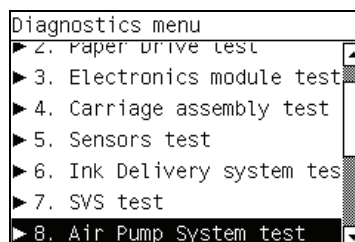
The purpose of this test is to verify the operation of the Air Pressurization System (APS).



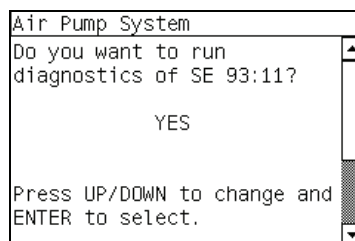
NOTE: IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING THE APS. IF THIS TEST PASSES, DO NOT REPLACE THE APS.

Perform the Air Pump System test as follows:

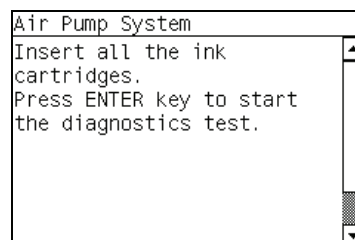
1. In the Service Tests submenu, scroll to “8. Air Pump System Test” and press **Enter**.



2. A message will appear on the Front Panel asking whether you would like to check the APS. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:



3. A message will appear on the Front Panel asking you to insert all the Ink Cartridges. Insert all the Ink Cartridges and press any key to continue:



4. The Printer will initialize the APS and the Front Panel will display the following messages:

- Starting Nvm.
- Starting Cds.

If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 60.

- Starting Sausalito.

If there is a failure starting the Sausalito, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Starting SuppliesConf.
- Starting Pump.

5. The Printer will pressurize the APS and the Front Panel will display the following messages:

- Pressurizing.
Followed by the actual pressure as the APS pressurizes.
- Holding Pressure.
Followed by the actual pressure being held.
- Depressurizing.

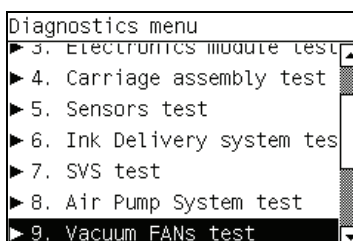
6. Once the test is completed, OK will be displayed on the Front Panel.

9. Vacuum Fans Test

The purpose of this test is to verify the operation of the Vacuum Fans.

Perform the Vacuum Fans test as follows:

1. In the Service Tests submenu, scroll to “9. Vacuum Fans Test” and press **Enter**.



2. This test has not yet been implemented.

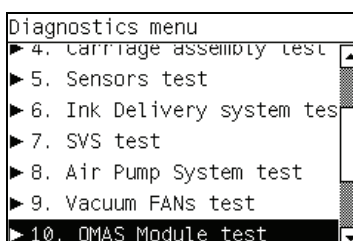
10. OMAS Module Test



The purpose of this test is to verify the operation of the Optical Paper Advance Sensor (OMAS) system.

Perform the OMAS test as follows:

1. In the Service Tests submenu, scroll to “10. OMAS Test” and press **Enter**.



2. This test has not yet been implemented.

11 EEROM Reset



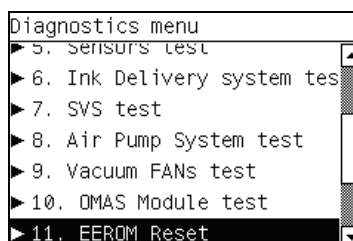
The purpose of this diagnostic is to reset the EEROM values.



NOTE: Once the EEROM has been reset, the Printer will act as if it is being started for the first time, except that the Ink Supply Tubes have already been primed.

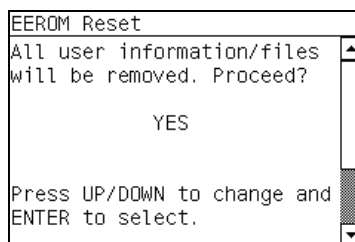
Perform an EEROM Reset as follows:

1. In the Service Tests submenu, scroll to “11. EEROM Reset” and press **Enter**.



2. A message will appear on the Front Panel advising you that all user information/files will be removed. If you would like to proceed select **Yes** or **No** by using the **Up** and **Down**

keys and press **Enter** to confirm your selection. If you select **No**, the process will end at this point.



3. If you select **Yes**, the Printer will begin the process to reset the EEROM and the following messages will appear on the Front Panel:

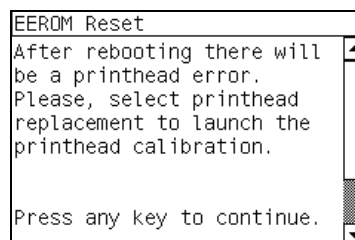
- Starting Sausalito.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Starting NVM.
- Setting default config.
- Restoring tubes state.

If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 60.

4. Once the EEROM has been reset, the following message will appear on the Front Panel. Press any key to continue.



NOTE: After rebooting the Printer, make sure you select Printhead replacement through the Front Panel in order to launch the Printhead calibration.

5. Once the process is completed, OK will be displayed on the Front Panel.

12. Color Sensor Test

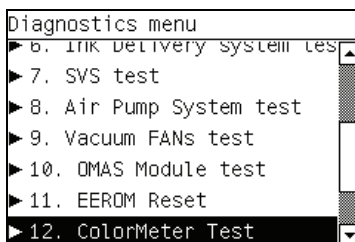
The purpose of this test is to verify the operation of the Color Sensor.



NOTE: IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING THE COLOR SENSOR. IF THIS TEST PASSES, DO NOT REPLACE THE COLOR SENSOR.

Perform the Color Sensor test as follows:

1. In the Service Tests submenu, scroll to “12. Color Sensor Test” and press **Enter**.



2. The Printer will initialize the Color Sensor and the Front Panel will display the following messages:

- Starting Sausalito.

If there is a failure starting the Sausalito, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Starting Carriage.

If there is a failure at this point, the Front Panel will display **System Error Code 02.1:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 11:10** (refer to page 33) or **System Error Code 01.0:10** (refer to page 29).

- Starting Nvm.
- Getting Part Number.

If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 60.

- Getting Scan Axis Size.
- Starting Service Station.

If there is a failure at this point, the Front Panel will display **System Error Code 21:10**. For more information on troubleshooting this error code, refer to page 34.

- Starting Scan Axis.

If there is a failure at this point, the Front Panel will display **System Error Code 42:10**. For more information on troubleshooting this error code, refer to page 43.

- Homing Scan Axis.

If there is a failure at this point, the Front Panel will display **System Error Code 42:10**. For more information on troubleshooting this error code, refer to page 43.

- Homing Service Station.
- Moving Carriage out of Service Station path.
- Starting Servicing Services.
- Capping Service Station.

If there is a failure at this point, the Front Panel will display **System Error Code 21:10**. For more information on troubleshooting this error code, refer to page 35.

- Starting Color Sensor.

If there is a failure at this point, the Front Panel will display **System Error Code 58:11**. For more information on troubleshooting this error code, refer to page 54.

- Starting Color Sensing.

If there is a failure at this point, the Front Panel will display **System Error Code 58:11**. For more information on troubleshooting this error code, refer to page 54.

- Reading SOL status.

3. Once the Color Sensor status has been read a message will appear on the Front Panel asking whether you would like to enable the Color Sensor. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:

```
Colormeter
SQL Disabled.
Do you want to enable?
      YES
Press UP/DOWN to change and
ENTER to select.
```

4. Once the Color Sensor has been enabled the following message is displayed on the Front Panel, press any key to continue.

```
Colormeter
Starting ColorSensor.
Starting ColorSensing.
Reading SOL status.
Enabling SOL.
SQL enable/disable OK
Press any key to continue.
```

5. The Color Sensor information is read and the following message is displayed on the Front Panel, press any key to continue.

```
Colormeter
FW Revision:  V4.080D
Sensor Type:  PP2
Serial Number: 135
Mfg date:    0641
      YES.
Press UP/DOWN to change and
ENTER to select.
```

6. When the following message is displayed on the Front Panel, raise the Media Lever, load paper, lower the Media Lever, and press any key to continue.

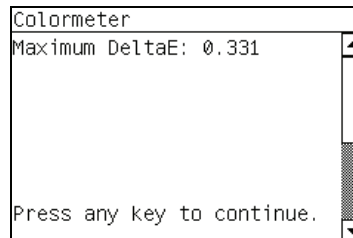
```
Colormeter
Please, raise the pinch
lever.
Load Roll paper and lower
the pinch lever.
Press any key to proceed.
```

7. The Printer will read the Red Reference and the Front Panel will display the following messages:

- Starting ColorSensor...

- Starting ColorSensing
- Reading SOL Status
- Reading Registers
- Performing Calibration...
- Reading Red Reference

8. The Front Panel then displays the deltaE value, press any key to continue.



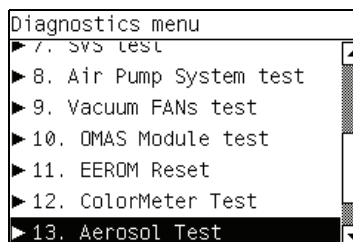
9. Once the test is completed, OK will be displayed on the Front Panel.

13. Aerosol Test

The purpose of this test is to verify the operation of the Color Sensor.

Perform the Aerosol test as follows:

1. In the Service Tests submenu, scroll to "13. Aerosol Test" and press **Enter**.



2. This test has not yet been implemented.

14. Primer Test

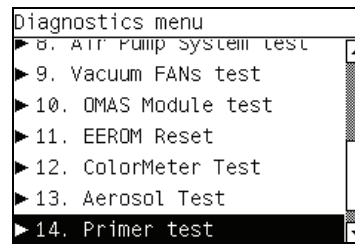
The purpose of this test is to prime a specified Printhead.



NOTE: IF POSSIBLE ALWAYS PERFORM THIS TEST BEFORE REPLACING THE PRIMER. IF THIS TEST PASSES, DO NOT REPLACE THE PRIMER.

Perform the Primer test as follows:

1. In the Service Tests submenu, scroll to "14. Primer Test" and press **Enter**.



2. The Printer will start the Primer test and the Front Panel will display the following messages:

- Starting Sausalito.

If there is a failure starting the Sausalito, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Starting GpioPwmImpact.
- Set GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 30.

- Clear GPIO psu_lpm.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Checking voltage.

If there is a failure at this point, the Front Panel will display **System Error Code 03:10**. For more information on troubleshooting this error code, refer to page 30.

- Config GPIO drv_enable.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

- Starting Service Station.

If there is a failure at this point, the Front Panel will display **System Error Code 21:10**. For more information on troubleshooting this error code, refer to page 34.

- Starting Scan Axis.

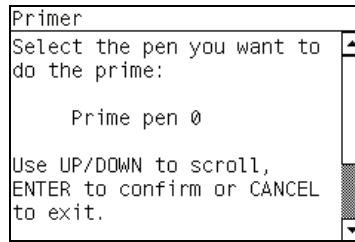
If there is a failure at this point, the Front Panel will display **System Error Code 42:10**. For more information on troubleshooting this error code, refer to page 43.

- Starting Primer.
- Homing Primer.
- Homing Service Station.

If there is a failure at this point, the Front Panel will display **System Error Code 21:10**. For more information on troubleshooting this error code, refer to page 35.

- Homing Scan Axis.

3. Once the Primer has initialized a message will appear on the Front Panel asking which pen you want to prime. Select the pen number (0 to 7) by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the printer skips this test and goes to the next one:



4. The Printer will prime the selected pen and the Front Panel will display the following messages:

- Setting pens operational.
- Preparing fluid manager.
- Priming...
- Terminating fluid manager.
- Allowing pens not operational.

If there is a failure at this point, the Front Panel will display an error code. For more information on troubleshooting this error code, refer to page 54.

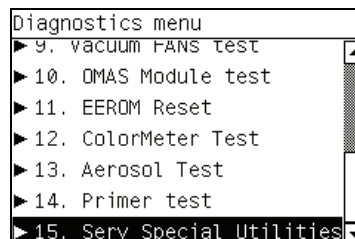
5. Once the test is completed, OK will be displayed on the Front Panel.

15.1 Service Special Utilities >>> Bag Broken Recovery

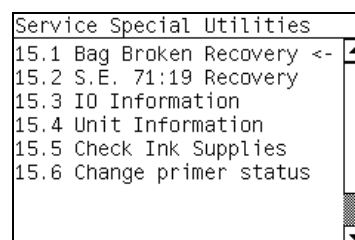
This option allows to recover the Printer from a Bag Broken error.

Perform the Bag Broken Recovery as follows:

1. In the Service Tests submenu, scroll to "15. Service Special Utilities" and press **Enter**.



2. In the Service Special Utilities submenu, scroll to "15.1 Bag Broken Recovery" and press **Enter**.



3. The Printer will start to initialize and the Front Panel will display the following messages:

- Starting Sausalito.
- Starting TestGPIO.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

4. The Printer will now detect for a broken bag in the Ink cartridges and the Front Panel will display the following messages:

- Detecting Bag Broken.

If the Printer does not detect that any of the Ink cartridges have a broken bag, then the message "No ink short detected on supplies" will be displayed on the Front Panel.

If there is a problem while reading the Bag Broken signal, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29. Check also **System Error Code 01.2:10** (refer to page 30).

If the Printer detects that one or more of the Ink Cartridges have a broken bag, then the message "Please, replace one of the defective cartridges (0, 1, 2 or 3) and press any key to continue" will be displayed on the Front Panel. In this case, remove the faulty Ink Cartridge as indicated by the Front Panel and install a new Ink Cartridge.

If the Bag Broken error is still active even after replacing the faulty Ink cartridge, the Front Panel will display **System Error Code 01.2:10**. For more information on troubleshooting this error code, refer to page 30. Check also **System Error Code 01.0:10** (refer to page 29).

5. If the Printer does not detect that any of the Ink cartridges have a broken bag, then it will read the Acumen of the Ink cartridge to check if there had been an ink short previously. During this check, the Front Panel will display the following messages:

- Starting AcumenSupplies.
- Getting ISS data.

If the Printer does not detect that any of the Ink Cartridges previously had a Bag Broken error, then the message "No Broken Bag detected on supplies" will be displayed on the Front Panel.

If there is a problem while reading the Acumen, the Front Panel will display **System Error Code 26.n:10**. For more information on troubleshooting this error code, refer to page 36. Check also **System Error Code 01.2:10** (refer to page 30) or **System Error Code 01.0:10** (refer to page 29).

If it is not possible to get the ISS Data, the Front Panel will display an error.

If the Printer detects that an Ink Cartridge had previously experienced a Bag Broken error, the Front Panel will display **System Error Code 26.n:10**. For more information on troubleshooting this error code, refer to page 36. Check also **System Error Code 01.2:10** (refer to page 30) or **System Error Code 01.0:10** (refer to page 29).

6. If no Ink Cartridges have been identified with Bag Broken, the Printer will try a Self Recovery test. When the following message is displayed on the Front Panel, remove the Left

Cover and check if the tubes from the APS to the ISS are clean. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection.

```

Bag Broken Recovery
Are Tubes from APS to ISS
clean?

YES

Press UP/DOWN to change and
ENTER to select.
  
```

If you select **No**, the Front Panel will display **System Error Code 23:10**. For more information on troubleshooting this error code, refer to page 35.

7. If you select **Yes**, the following message will appear on the Front Panel. Check if the Ink Supply Tubes from the ISS to the Carriage contain visible air. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection.

```

Bag Broken Recovery
Do Tubes from ISS to
Carriage contain visible
air?

NO

Press UP/DOWN to change and
ENTER to select.
  
```

If you select **Yes**, the Front Panel will display **System Error Code 24:10**. For more information on troubleshooting this error code, refer to page 36.

8. If you select **No**, the following message will appear on the Front Panel. You can now remove the Broken Bag condition causing the initial problem. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection.

```

Bag Broken Recovery
Do you want to remove the
broken bag condition?

YES

Press UP/DOWN to change and
ENTER to select.
  
```

9. If you select Yes, the following messages will appear on the Front Panel:

- Start Supplies Conf.

If there is a problem at this stage, the Front Panel will display **System Error Code 01:0:10**. For more information on troubleshooting this error code, refer to page 29.

- Removing leakage.

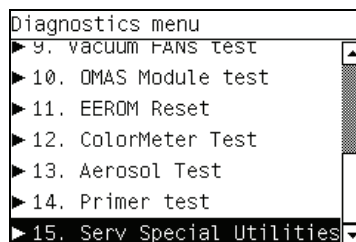
10. Once the process is completed, OK will be displayed on the Front Panel.

15.2 Service Special Utilities >>> Error 71:19 Recovery

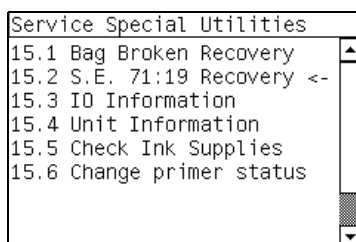
The purpose of this utility is to set the Serial Number and Part Number in case both the Hard Disk Drive and the Ink Supply Tubes are replaced at the same time.

Set the Serial Number as follows:

1. In the Service Tests submenu, scroll to “15. Service Special Utilities” and press **Enter**.



2. In the Service Special Utilities submenu, scroll to “15.2 Error 71:19 Recovery” and press **Enter**.



3. The Printer will check if the System Error Code 71:19 has been recorded and the following message will appear on the Front Panel:

- Checking SE log.

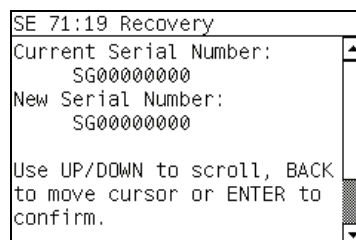
If the Printer fails to find the System Error Code 71:19, the Front Panel will display **Error: Utility not available**. In this case press any key to exit.

4. If System Error Code is detected, the Printer will start the recovery procedure and the following messages will be displayed on the Front Panel:

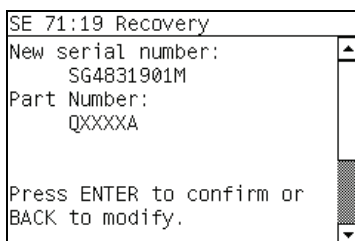
- Starting NvmBackup.
- Starting NvmMain.
- Getting Serial Number.
- Checking Serial Number.
- Starting Nvm.
- Getting Part Number.

If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 60.

5. The Printer will display the current Serial Number and the new Serial Number of the Printer. Use the **Up** and **Down** keys to go through the digits and press the **Enter** key to go to the next digit. You can press the **Cancel** key at any time to exit the utility without making any changes.

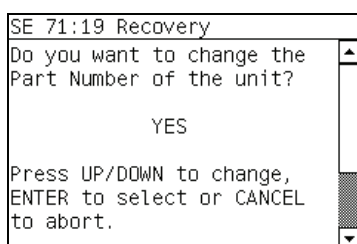


6. Once the new Serial Number has been entered, the Front Panel will display the Serial Number and Model Number of the Printer. Press the **Enter** key to confirm the Serial Number or the **Cancel** key to exit the utility without making any changes.



If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 60.

7. A message will appear on the Front Panel asking you if you would like to change the Part Number of the Printer. Select **Yes** or **No** by using the **Up** and **Down** keys and press **Enter** to confirm your selection. If you select **No**, the process will end at this point.



8. If you select **Yes**, the Front Panel will display the new Serial Number and Part Number. Press the **Enter** key to accept.

If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 60.

9. Once the process is completed, OK will be displayed on the Front Panel.



NOTE: Once the Printer has recovered from the System Error Code 71:19, it will be configured as HP Designjet Z6100

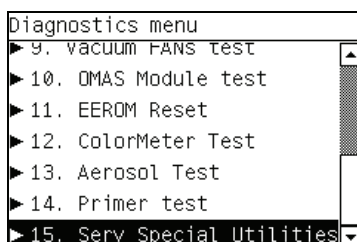
15.3 Service Special Utilities >>> IO Information



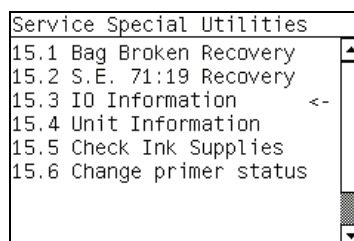
This option allows you to view the information relating to the IO.

View the IO Information as follows:

1. In the Service Tests submenu, scroll to "15. Service Special Utilities" and press **Enter**.



2. In the Service Special Utilities submenu, scroll to “15.3 IO Information ”and press **Enter**.



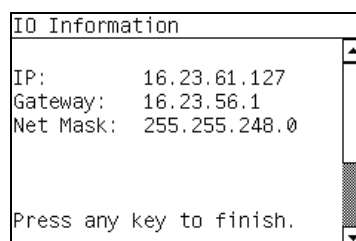
3. The Printer will start to initialize and the Front Panel will display the following messages:

- Getting IO Interface.
- Getting Interface info.

If there is a failure at this point, the Front Panel will display an error.

If no active interface is found, the Front Panel will display “No active interface found. Press any key to finish”.

4. Once the IO information is obtained, it is displayed on the Front Panel. Press any key to exit.



5. Once the process is completed, OK will be displayed on the Front Panel.

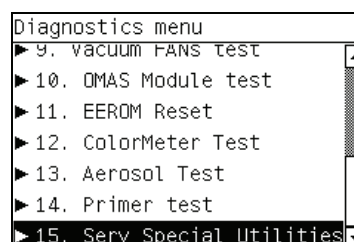
15.4 Service Special Utilities >>> Unit Information

This option allows you to view the following Printer information:

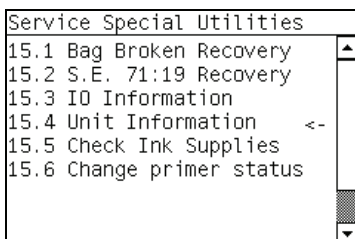
- Firmware version.
- Serial Number.
- Part Number.
- PS Language (for HP Designjet Z6100)

View the Unit Information as follows:

1. In the Service Tests submenu, scroll to “15. Service Special Utilities” and press **Enter**.



2. In the Service Special Utilities submenu, scroll to "15.4 Unit Information "and press **Enter**.



3. The Printer will start to initialize and the Front Panel will display the following messages:

- Starting Nvm.
- Getting FW version.
- Getting Serial Number
- Getting Part Number.

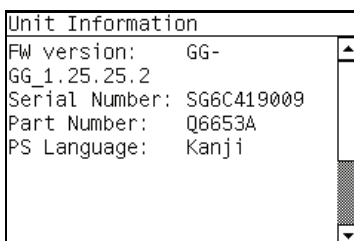
If there is a failure at this point, the Front Panel will display **System Error Code 79:03**. For more information on troubleshooting this error code, refer to page 60.

If the Serial Number does not have assigned a correct 10 character format or the Part number does not have assigned a correct 6 character format, a fail message will appear on the Front Panel. In this case, re-enter in to the Service Tests submenu and use the diagnostic "15.2 Error 71:19 Recovery" to set the correct Serial Number (refer to page 114).

- Getting PS Language (for HP Designjet 4000PS).

If there is a failure at this point, the Front Panel will display an error.

4. Once the Unit information is obtained, it is displayed on the Front Panel. Press any key to exit.



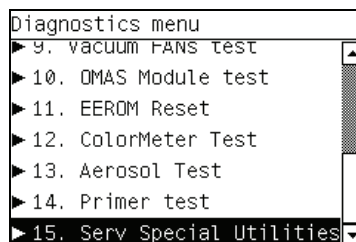
5. Once the process is completed, OK will be displayed on the Front Panel.

15.5 Service Special Utilities >>> Check Ink Supplies

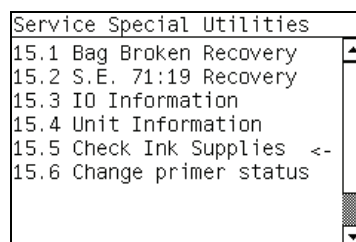
The purpose of this test is to verify which Ink Cartridges are valid for the purge process and what is their current available ink level. Some Ink Cartridges may not be able to be accessed (unable to read the Acumen) if previously there had been a failure (faulty, broken bag, etc...).

Check the ink supplies as follows:

1. In the Service Tests submenu, scroll to “15. Service Special Utilities” and press **Enter**.



2. In the Service Special Utilities submenu, scroll to “15.5 Check Ink Supplies” and press **Enter**.



3. The Printer will start to initialize and the Front Panel will display the following messages:

- Starting Sausalito.

If there is a failure at this point, the Front Panel will display **System Error Code 01.0:10**. For more information on troubleshooting this error code, refer to page 29.

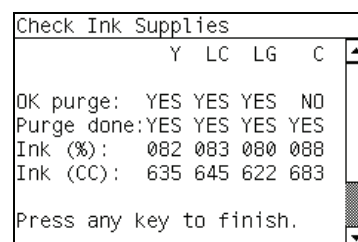
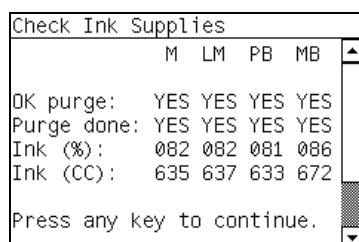
- Starting AcumenSupplies.

If there is a problem while reading the Acumen, the Front Panel will display **System Error Code 26.n:10**. For more information on troubleshooting this error code, refer to page 36. Check also **System Error Code 01.2:10** (refer to page 30) or **System Error Code 01.0:10** (refer to page 29).

- Reading Ink Supplies.

If there is a failure at this point, the Front Panel will display the message “Replace failing ink supplies after running this utility”.

4. Once the Ink Supplies information is obtained, it is displayed on the Front Panel. Press any key to exit.



If any part of the Acumen information is invalid, the Front Panel will display an error.

5. Once the process is completed, OK will be displayed on the Front Panel.

15.6 Service Special Utilities >>> Change primer status

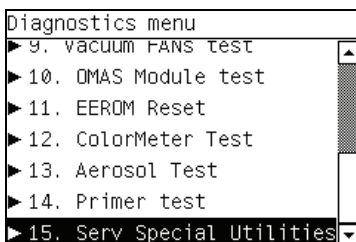
The purpose of this utility is to disable the primer if it has become unserviceable in order for the Printer to continue to operate until a replacement Primer is available.



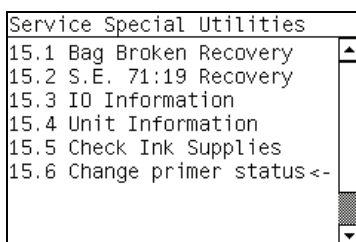
CAUTION: This utility should only be used as a temporary fix because disabling the Primer may prevent the Printer from being able to recover the Printheads which will result in image quality problems and excessive printhead replacements.

Disable the Primer as follows:

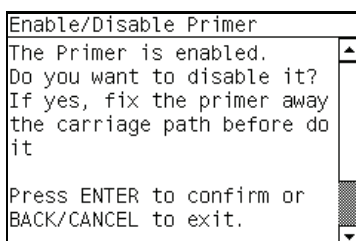
1. In the Service Tests submenu, scroll to “15. Service Special Utilities” and press **Enter**.



2. In the Service Special Utilities submenu, scroll to “15.6 Change primer status” and press **Enter**.



3. The Printer will read the Primer status, and depending on its current state, prompt you to enable or disable it. Press **Enter** to confirm or **Back/Cancel** to exit.



4. Depending on the status of the Primer, the Front Panel will display one of the following messages:
 - Disabling Primer.
 - Enabling Primer.
5. Once the process is completed, OK will be displayed on the Front Panel.

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 122.

1. Turn Drive Roller ⇒ page 123

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

2. Prime Tubes ⇒ page 124

The purpose of this Service Utility is to Prime the Tubes when the Ink Tubes are NOT new and they need to be re-primed or automatic priming was not completed correctly.

3. Set SN ⇒ page 127

The purpose of this Service Utility is to set the Serial Number of the Printer.

4. Reset Life Counters ⇒ page 128

The purpose of this Service Utility is to reset the internal life counters. There are two submenus that allow you to:

- Reset ALL the counters related to a Preventive Maintenance Kit (PMK).
- Reset only the counters related to a specific replaced part.

5. Diagnostic Print ⇒ page 130

The purpose of this Service Utility is to print the Diagnostic Print in order to identify image quality problems.

6. Sleep Mode ⇒ page 130

The purpose of this Service Utility is to enable/disable the sleep mode so that the Printer is never switched Off automatically if not used for a certain period of time (one hour by default).

7. Replace Cutter ⇒ page 131

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

8. Set RTC Clock ⇒ page 132

The purpose of this Service Utility is to set the Real Time Clock (RTC) of the Printer.

9. Enable/Disable Firewall ⇒ page 133

The purpose of this Service Utility is to enable or disable the firewall of the printer.

10. Prime Pen X ⇒ page 134

The purpose of this Service Utility is to prime a specific pen.

11. Open/Close SOL ⇒ page 135

The purpose of this Service Utility is to open and close the Color Sensor shutter.

12. Disk Wipe DoD 5330.22'M ⇒ page 136

The purpose of this Service Utility is to securely erase data on the Hard Disk.

13. Enable/Disable SCAPA

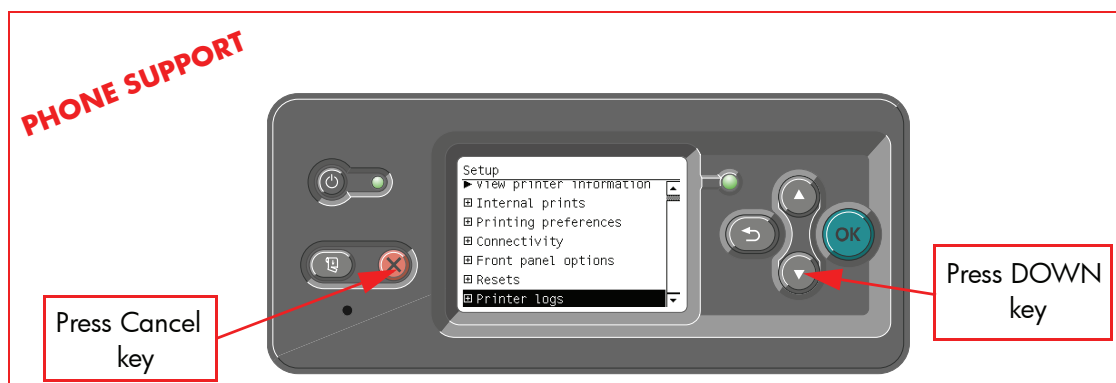
The purpose of this Service Utility is to enable or disable the SCAPA.

Entering the Service Utilities Menu

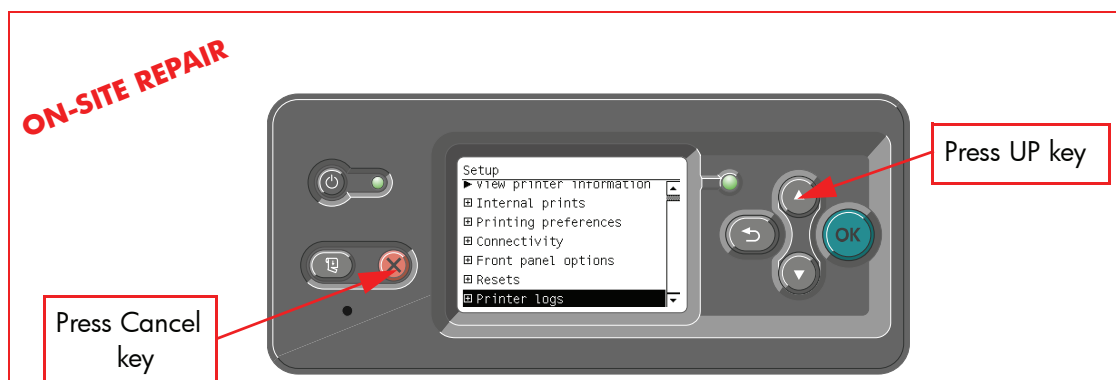
1. Once the message “Ready” is displayed on the front-panel, scroll to the “Printer Setup Options” icon and press the **Enter** key.



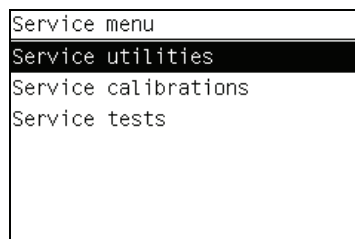
2. For Call Agents who will request the user to perform certain Service Utilities, once inside the “Setup” menu, press the **Down** arrow key and the **Cancel** key together. You are now in the **Service Tools** Menu.d



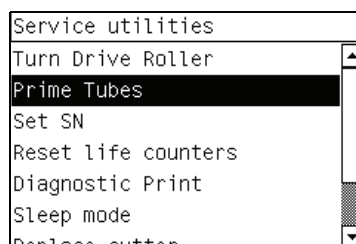
3. For On-Site Engineers, once inside the “Setup” menu, press the **Up** arrow key and the **Cancel** key together. You are now in the **Service Tools** Menu.



4. Use the **Arrow** keys to scroll to the “Service Utilities” menu and press the **Enter** key.



5. Use the **Arrow** keys to scroll through the “Service Utilities” selections and press the **Enter** key to begin a specific operation when the required Service Utility is highlighted.



NOTE: If the printer is not used for 135 seconds, the printer exits out of the Service Utilities Menu and you must repeat the above steps to enter Service Utilities again.

NOTE: In some cases a quick press of a button may not be recognized by the Printer. When pressing a button, be sure to press it deliberately and all the way to the bottom of its travel.

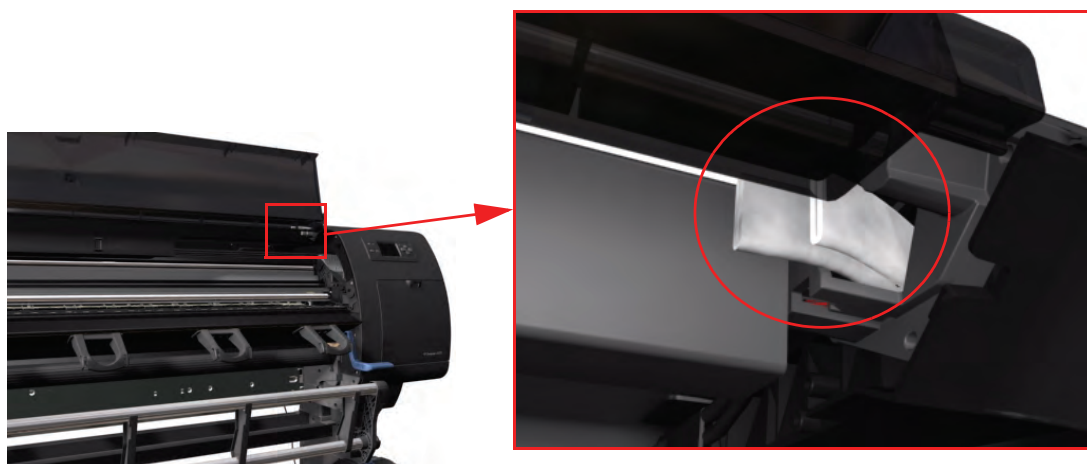
1. Turn Drive Roller

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



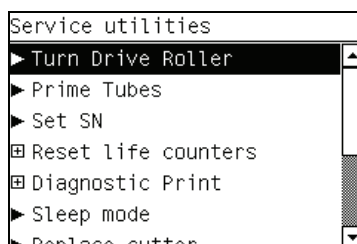
NOTE: REMOVE THE MEDIA BEFORE PERFORMING THIS OPERATION.

NOTE: OPEN THE WINDOW OF THE PRINTER AND ACTIVATE THE WINDOW SENSOR (USING A PIECE OF PAPER) BEFORE PERFORMING THIS SERVICE UTILITY.

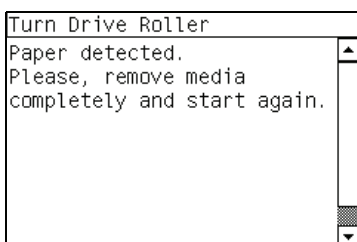


Perform the Turn Drive Roller utility as follows:

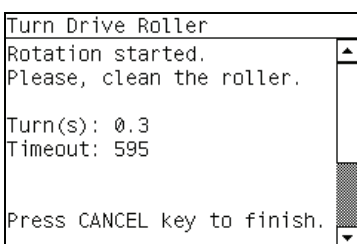
1. In the Service Utilities submenu, scroll to “Turn Drive Roller” and press **Enter**.



2. The Printer checks to see if media is loaded. If media is loaded, the Front Panel will display the following message. Unload the media and start again from **step 1**:



3. The Drive Roller begins to turn slowly and the following message is displayed on the Front Panel:



4. Refer to the Cleaning Instructions on page 434.
5. Once you have finished cleaning the Drive Roller and the Overdrive, press the **Cancel** key to finish the utility.
6. If the utility exits correctly, OK will be displayed on the Front Panel.



NOTE: PLEASE REMEMBER TO REMOVE THE PIECE OF PAPER FROM THE WINDOW SENSOR BEFORE CLOSING THE WINDOW AS THIS COULD DAMAGE THE WINDOW AND THE SENSOR.

2. Prime Tubes



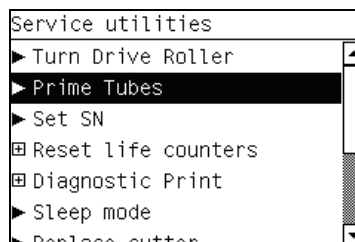
The purpose of this Service Utility is to Prime the Tubes when the Ink Tubes are NOT new and they need to be re-primed or automatic priming was not completed correctly.



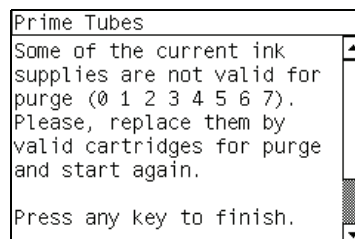
NOTE: Make sure that NEW Ink Cartridges are installed or that the ink volume remaining in the Ink cartridges is below 88% before starting to prime the tubes. If you do not comply, you will get a warning message.

Perform the Prime Tubes utility as follows:

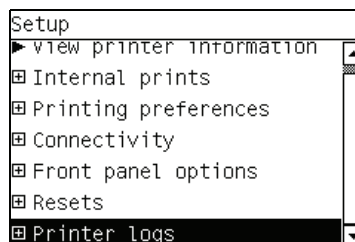
1. In the Service Utilities submenu, scroll to "Prime Tubes" and press **Enter**.



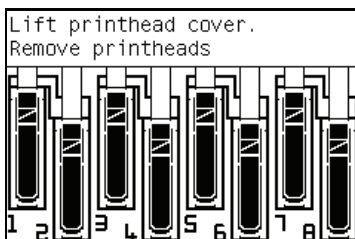
2. If the Ink Cartridges are not suitable for priming, the following message will appear on the Front Panel. Replace the installed Ink Cartridges with Ink Cartridges that are new or contain less than 88% of ink. Press any key to finish the utility.



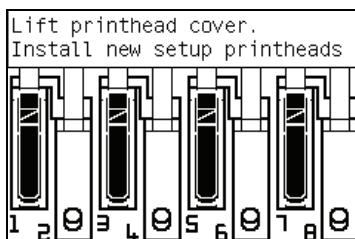
3. When the following message appears on the front panel, you must select whether you would like to continue with the procedure by pressing the **Enter** key, in which case the Printer will reboot. Press **Back** or **Cancel** to exit the procedure at this point.



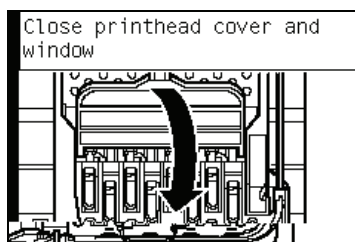
4. Once the Printer has rebooted, the Front Panel will instruct you to open the Window and remove ALL the Printheads installed in the Carriage.



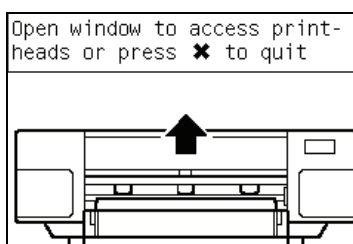
5. Once ALL the Printheads have been removed, the Front Panel will instruct you to install the Setup Printheads into the Carriage. Make sure you install the Setup Printheads in stalls 1, 3, 5 and 7.



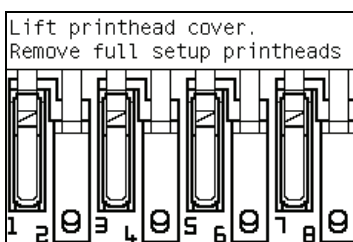
6. Once all the Setup Printheads are installed, the following message will appear on the front panel. Close the carriage cover and close the window.



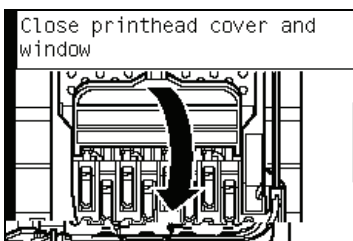
7. The printer will begin to purge the tubes system.
8. Once the tubes system has been purged, the following message will instruct you to open the Window:



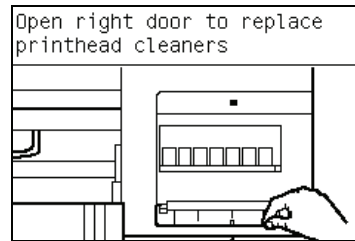
9. When the following message appears on the Front Panel, open the Carriage cover and check the window on top of each Setup Printhead. If the Ink Supply Tubes have been primed correctly, the windows will contain ink. If the windows on top of each Setup Printhead does NOT contain ink, then you may need to repeat the Prime Tubes process from the beginning.



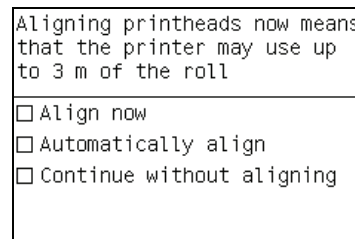
10. Remove ALL the Setup Printheads from the Carriage and install the previously removed Printheads.
11. Once ALL the Printheads are installed, the Front Panel will instruct you to close the Carriage cover and close the Window.



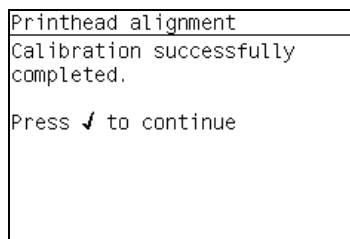
12. Open the right cover and make sure the Maintenance Cartridge is installed in the Service Station.



13. The Printer will now perform the Printhead Alignment and the following message will be displayed on the Front Panel. To continue with the Printhead Alignment, use the select "Align now" and press the **Enter** key.



14. Once the Printhead Alignment is completed, the following message will be displayed on the Front Panel. Press the **Enter** key to continue.

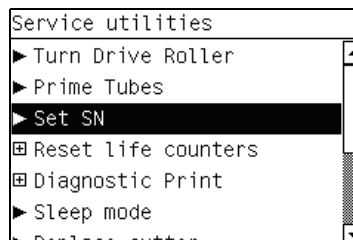


3. Set SN

The purpose of this Service Utility is to set the Serial Number of the Printer.

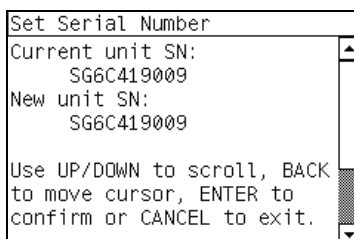
Perform the Set SN utility as follows:

1. In the Service Utilities submenu, scroll to "Set SN" and press **Enter**.



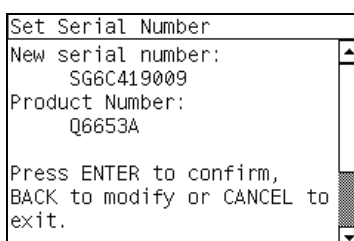
2. The Printer will display the current Serial Number and the new Serial Number of the Printer. Use the **Up** and **Down** keys to go through the digits and press the **Enter** key to go to the

next digit. You can press the **Cancel** key at any time to exit the utility without making any changes.



If the Serial Number or the Part Number cannot be read, the Front Panel will display an error.

3. Once the new Serial Number has been entered, the Front Panel will display the Serial Number and Model Number of the Printer. Press the **Enter** key to confirm the Serial Number or the **Cancel** key to exit the utility without making any changes or the **Back** key to modify again.



4. If the new Serial Number cannot be set, the Front Panel will display an error.
5. If the utility exits correctly, OK will be displayed on the Front Panel.

4. Reset Life Counters



The purpose of this Service Utility is to reset the internal life counters. There are two submenus that allow you to:

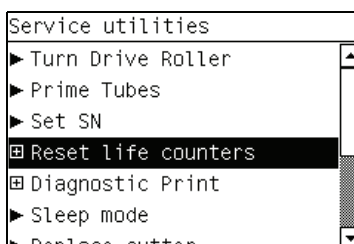
- Reset ALL the counters related to a Preventive Maintenance Kit (PMK).
- Reset only the counters related to a specific replaced part.



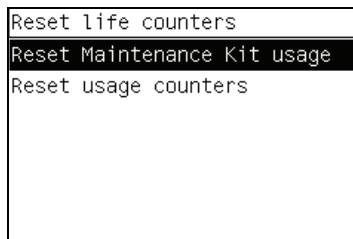
NOTE: ALWAYS RESET THE LIFE COUNTER OF A CORRESPONDING PART AFTER REPLACING IT.

Perform the Reset Life Counters utility as follows:

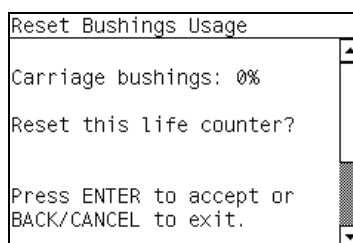
1. In the Service Utilities submenu, scroll to “Reset Life Counters” and press **Enter**.



2. You will be given an option to either reset the Life Counter for ALL the parts related to a Preventive Maintenance Kit (PMK) or to just reset the Life Counter for a particular part:



- a. If you select to reset the Life Counter for ALL the parts related to a Preventive Maintenance Kit (PMK), you will be given an option to reset the Life Counter of:
 - Preventive Maintenance Kit 1 (PMK1).
 - Preventive Maintenance Kit 2 (PMK2).
- b. If you select to reset the Life Counter for a particular part, you will be given an option to reset the Life Counter of the:
 - Carriage ME.
 - Tubes and Trailing Cable.
 - Scan Motor
 - Left Spittoon.
 - Drop Detector
 - Line Sensor
 - APS Pump.
 - Maintenance Cartridge Spittoon.
 - Paper Motor.
 - OMAS Module.
 - Primer Mech.
 - SVS.
 - Color Meter
3. Once you have selected a Life Counter to reset, the following message will be displayed on the Front Panel. Press the **Enter** key to reset the selected Life Counter or press **Back/Cancel** to exit without resetting the Life Counter.



If the Usage Counter information cannot be read, the Front Panel will display “Unable to get usage counter”. This could point to a possible Firmware error.

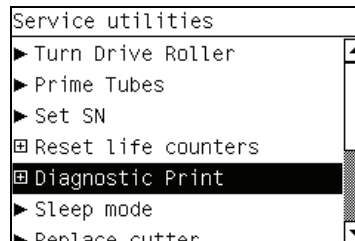
4. If the utility exits correctly, OK will be displayed on the Front Panel.

5. Diagnostic Print

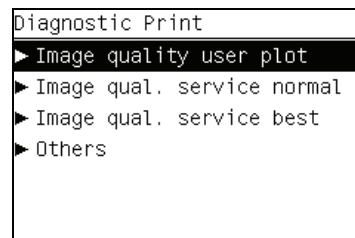
The purpose of this Service Utility is to print the Diagnostic Print in order to identify image quality problems.

Print the Diagnostic Print as follows:

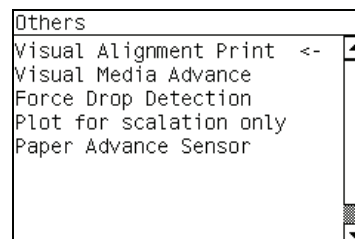
1. In the Service Utilities submenu, scroll to “Diagnostic Print” and press **Enter**.



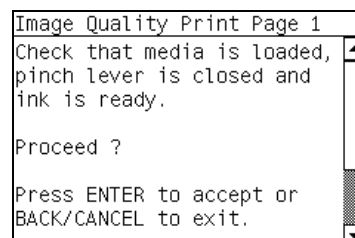
2. You will be given an option to either print the “Image Quality User Plot”, the “Image Qual. service normal”, the “Image Qual. service best”, or “Others”. Use the **Arrow** keys to make the selection and press the **Enter** key to start printing the required Diagnostic Print.



If you select “Others” you will be given a submenu to select the required diagnostic plot:



3. Make sure media is loaded, the Pinch Lever is lowered and that the Ink System is correctly installed. Press the **Enter** key to print the Diagnostic Print or press **Back/Cancel** to exit without printing the Diagnostic Print.



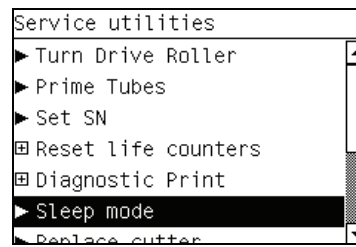
4. The selected Diagnostic Print will now be printed. For further information on how to use troubleshoot Image Quality problems, refer to Chapter 6.

6. Sleep Mode

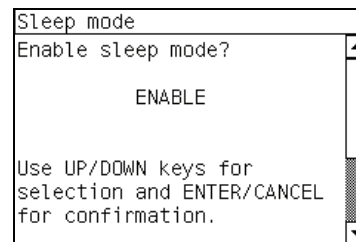
The purpose of this Service Utility is to enable/disable the sleep mode so that the Printer is never switched Off automatically if not used for a certain period of time (one hour by default).

Perform the Sleep Mode utility as follows:

1. In the Service Utilities submenu, scroll to "Sleep Mode" and press **Enter**.

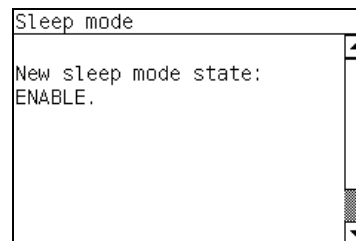


2. When the following message appears on the front panel, use the **Up** and **Down** arrow keys to either disable or enable the sleep mode. Press the **Enter** or **Cancel** key to confirm the selection.



If the current sleep mode cannot be read, it could point to a possible Firmware error.

3. Once the selection is confirmed, the Front Panel will display the new sleep mode state:



If the current sleep mode cannot be set, it could point to a possible Firmware error.

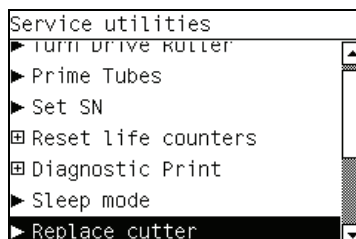
4. If the utility exits correctly, OK will be displayed on the Front Panel.

7. Replace Cutter

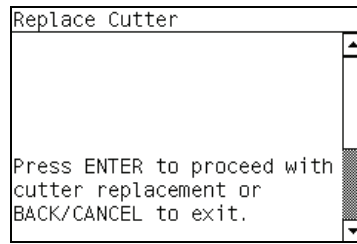
The purpose of this Service Utility is to move the Carriage to a position where the Cutter can be replaced easily.

Perform the Replace Cutter utility as follows:

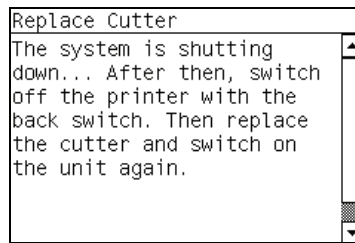
1. In the Service Utilities submenu, scroll to "Replace Cutter" and press **Enter**.



2. When the following message appears on the front panel, you must select whether you would like to continue with replacing the Cutter by pressing the **Enter** key. Press **Back** or **Cancel** to exit the utility.



3. The Carriage will move to the Cutter replacement position and the following message will be displayed on the Front Panel. After a few seconds the Printer will begin to shutdown.



4. Before replacing the Cutter, make sure that you switch the Printer OFF from the rear.

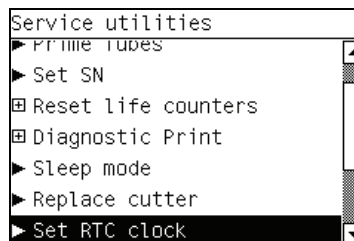
8. Set RTC Clock



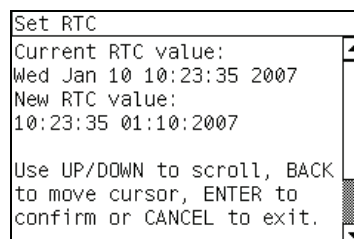
The purpose of this Service Utility is to set the Real Time Clock of the Printer.

Perform the Set RTC Clock utility as follows:

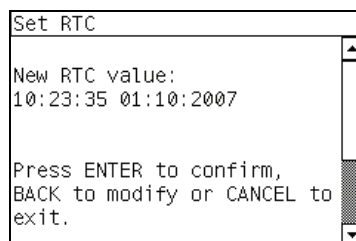
1. In the Service Utilities submenu, scroll to "Set RTC Clock" and press **Enter**.



2. The Printer will display the current time and the new time. Use the **Up** and **Down** keys to go through the digits and press the **Enter** key to go to the next digit. You can press the **Cancel** key at any time to exit the utility without making any changes.

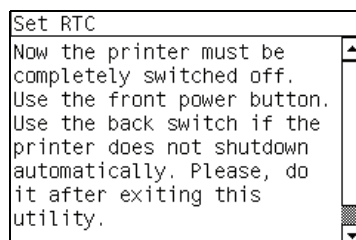


- Once the new time has been entered, the Front Panel will display the time that you have requested. Press the **Enter** key to confirm the time or the **Cancel** key to exit the utility without making any changes or the **Back** key to modify again.



If the current RTC Clock cannot be set, it could point to a possible Firmware error.

- Once the new time has been set, the Front Panel will prompt you to restart the printer after exiting the Set RTC utility.



If there is a failure at this point, the Front Panel will display **System Error Code 79:04**. For more information on troubleshooting this error code, refer to page 60.

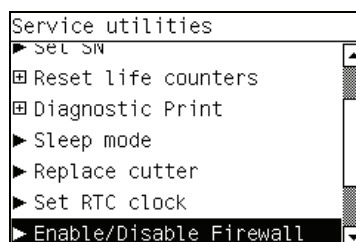
- If the utility exits correctly, OK will be displayed on the Front Panel.

9. Enable/Disable Firewall

The purpose of this Service Utility is to enable or disable the firewall of the printer.

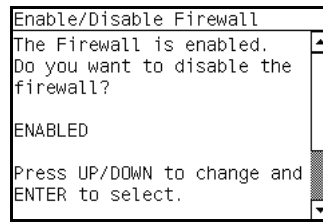
Perform the Enable/Disable Firewall utility as follows:

- In the Service Utilities submenu, scroll to "Enable/Disable Firewall" and press **Enter**.



- The utility checks to see if the firewall is enabled or disabled and the Front panel displays the following message:
 - Getting Information of Firewall.

- When the following message appears on the front panel, you must select whether you would like to enable or disable the firewall. Use the **Up** and **Down** keys to make your selection and press the **Enter** key.



- The system upgrades the internal memory to reflect the chosen selection.
- If the utility exits correctly, OK will be displayed on the Front Panel.

10. Prime Printhead X



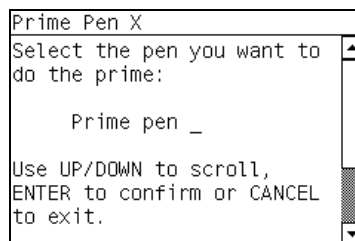
The purpose of this Service Utility is to prime a specific pen.

Perform the Prime Pen X utility as follows:

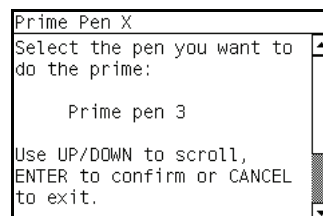
- In the Service Utilities submenu, scroll to “Prime Pen X” and press **Enter**.



- When the following message appears on the Front Panel, you must select whether you want to perform the Prime Printhead X Service Utility by pressing **Enter**. Press **Back** or **Cancel** to exit the utility.



- Use the **Arrow** keys to select the Pen (0 to 7) you want to prime and press the **Enter** key.



- The Printer will prime the selected pen and the Front Panel will display the following messages:
 - Setting pens operational.
 - Preparing fluid manager.

- Priming...
- Terminating fluid manager.
- Allowing pens not operational.

If there is a failure at this point, the Front Panel will display an error code. For more information on troubleshooting this error code, refer to page 28.

5. If the utility exits correctly, OK will be displayed on the Front Panel.

11. Open/Close SOL

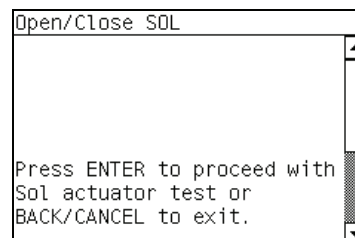
The purpose of this Service Utility is to open and close the Color Sensor shutter to verify correct operation.

Perform the Open/Close SOL utility as follows:

1. In the Service Utilities submenu, scroll to “Open/Close SOL” and press **Enter**.



2. When the following message appears on the Front Panel, you must select whether you want to perform the Open/Close SOL Service Utility by pressing **Enter**. Press **Back** or **Cancel** to exit the utility.



3. The Printer will perform the Open/Close SOL test and the Front Panel will display the following messages:
 - Performing SOL Full Calibration.
 - Checking ColorSensor Status.
 - Reading Lab values with SOL Shutter Closed.
 - Opening SOL Shutter
 - Reading Lab values with SOL Shutter Open
 - Analyzing SOL Shutter Open status.

If there is a failure at this point, the Front Panel will display **System Error Code 58:10**. For more information on troubleshooting this error code, refer to page 54.

4. If the utility exits correctly, OK will be displayed on the Front Panel.

12. Disk Wipe DoD 5330.22'M

The purpose of this Service Utility is to securely erase data on the Hard Disk according to the directive DoD 5220.22-M.

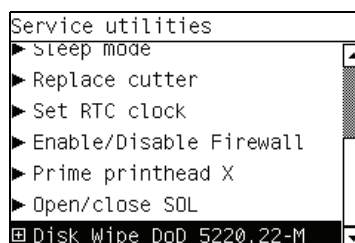
The printer's hard disk is used as a temporary storage area for print jobs. The Secure Disk Erase facility can completely erase your information from the hard disk to protect it from unauthorized access.

Secure Disk Erase provides three different levels of security:

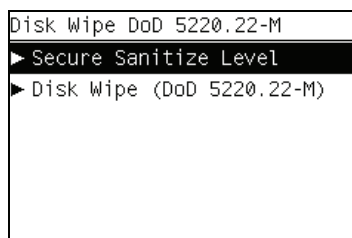
- **Non-Secure Fast Erase:** all pointers to the information are erased. The information itself remains on the hard disk until the disk space it occupies is needed for other purposes, and it is then overwritten. While it remains on the disk, it is difficult for most people to access, but may be accessed using software designed for the purpose. This is the normal method in which files are erased on most computer systems; it is the fastest method but the least secure. This is the default security level when using Secure Disk Erase.
- **Secure Fast Erase:** all pointers to the information are erased, and the information itself is also overwritten with a fixed character pattern. This method is slower than Non-Secure Fast Erase, but more secure. It may still be possible to access fragments of the erased information by using special tools to detect residual magnetic traces.
- **Secure Sanitizing Erase:** all pointers to the information are erased, and the information itself is repetitively overwritten using an algorithm designed to eliminate any residual traces. This is the slowest method, but the most secure. Secure Sanitizing Erase meets the US Department of Defense 5220-22.m requirements for clearing and sanitization of disk media.

Perform the Disk Wipe DoD 5330.22-M utility as follows:

1. In the Service Utilities submenu, scroll to "Disk Wipe DoD 5330.22-M" and press **Enter**.



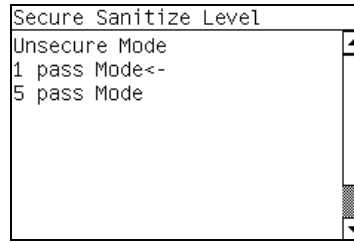
2. In the Disk Wipe DoD 5330.22-M submenu, scroll to "Secure Sanitize Level" and press **Enter**.



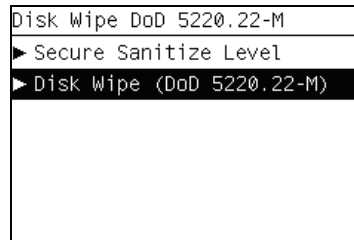
3. In the Secure Sanitize Level submenu, scroll to the required Secure Sanitize Level and press **Enter**.



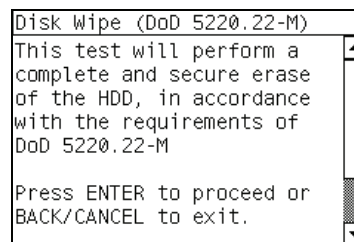
NOTE: Erasing the Hard Disk drive using either of the Secure Sanitize Levels is a very slow process, 6 hours for the Secure Fast Erase mode and 40 hours for the Secure Sanitizing Erase mode.



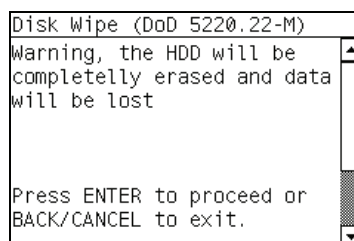
4. Press **Back** to return to the Disk Wipe DoD 5330.22-M submenu.
5. In the Disk Wipe DoD 5330.22-M submenu, scroll to "Disk Wipe DoD 5330.22-M" and press **Enter**.



6. When the following message appears on the Front Panel, you must select whether you would like to perform a complete erase of the Hard Disk Drive using the previously selected erase mode by pressing **Enter**. Press **Back** or **Cancel** to exit the utility



7. When the following message appears on the Front Panel, you must select whether you want to continue and completely erase of the Hard Disk Drive by pressing **Enter**. Press **Back** or **Cancel** to exit the utility.



8. The erase process starts and the Front Panel shows the total time required to erase the Hard Disk Drive using the selected Sanitize Level along with a progress bar.



Secure Fast Erase



Secure Sanitizing Erase

13. Enable/Disable SCAPA

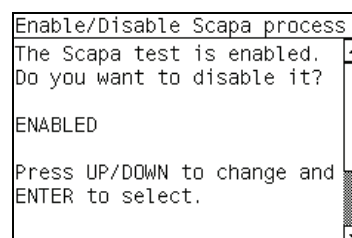
The purpose of this Service Utility is to enable or disable the Scan Axis Pen Alignment (SCAPA) process which is used as a compensation/adjustment factor during the printhead alignment. The advantage of this process is that it allows the printhead alignment to be carried out at the beginning of the roll (during the first 3 meters).

Perform the Enable/Disable SCAPA utility as follows:

1. In the Service Utilities submenu, scroll to "Enable/Disable SCAPA" and press **Enter**.



2. The Printer checks the current state of the SCAPA and prompts you to enable it if it is disabled or to disable it if it is enabled.



3. Make your selection and press **Enter**.
4. The selection is made and an OK screen is displayed.