

TECHNICAL INFORMATION



Use of Testbook Port 1 Loopback Connector – DTC0066A

No: TB/02/98/NAS
Ref:
Issue: 1
Date: 03/06/98

AFFECTED VEHICLE RANGE:

SITUATION:

TESTBOOK WILL NOT COMMUNCIATE WITH THE VEHICLE

TestBook is the P.C. based diagnostic equipment for Land Rover vehicles. As with any diagnostic equipment, the diagnosis of a vehicle is only possible if the equipment itself is in good working order. A special connector has been developed to assist in diagnosing a faulty Port 1 or extension cable.

RESOLUTION:

PERFORM AUTOMATIC TESTS

TestBook and its operating software (RDS311) provides a battery of automatic tests that allow the detection of possible problems. This software ensures:

- That the CD drive is online and in good working order
- That the printer is recognized by TestBook
- That all the necessary files are present and not damaged
- That the Ports 1 and 2 (VCSI and Roving Probes) are working correctly
- That the connection between TestBook and the vehicle is not damaged

△ **NOTE: The communication between the vehicle and TestBook is a major and essential aspect of all the diagnostics available through TestBook, as they need to communicate at least with one electronic control unit of the vehicle.**

TOOL INFORMATION:

**DTC0066APort 1 Loopback Connector
(HP Part Number: 27070-60001)**

TIB TB/02/98/NAS	CIRCULATE TO:	Service Mgr X	Warranty X	Workshop X	Body Shop X	Parts X
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TECHNICAL INFORMATION



No: TB/02/98/NAS

REPAIR PROCEDURE:

This TestBook connector will give you the ability to diagnose a faulty TestBook Port 1 extension cable (DTC0007A) in the case of a communication error, as illustrated in the testing procedure below. This will in turn aid in the identification of a defective VCSI brick (DTC0006A) or cable/adaptor. If these TestBook components are operating correctly, then you have identified that the faulty component is within the remainder of the TestBook cabling or the vehicle.

△ **NOTE: The TestBook Port 1 Loopback Connector, DTC0066A, will NOT test the VCSI "brick" DTC0006A.**

△ **NOTE: Two different cable setups are used in the test, one where the Port 1 Loopback Connector (DTC0066A) is directly connected into TestBook Port 1, the other where the Port 1 Loopback Connector (DTC0066A) is connected to the extension cable (DTC0007A), which in turn is connected to TestBook Port 1.**

△ **NOTE: Ensure that the voltage supplied from the vehicle battery is greater than 11.4 volts.**

PRINCIPLES OF THE TEST

TestBook uses up to 2 wires to communicate with the vehicle. We will call the first K "line" and the second L "line".

In general, the K "line" is used for:

- Transmitting data from TestBook to the vehicle
- Receiving data from the vehicle

The L "line" is used for:

- Transmitting data from TestBook to the vehicle only

To ensure correct data transfer, it is necessary to complete four tests:

- The transmitting and receiving of data via K "line" as it leaves TestBook
- The transmitting of data via L "line" as it leaves TestBook
- The transmitting and receiving of data via K "line" as it leaves the extension cable (DTC0007A) connected to TestBook
- The transmitting of data via L "line" as it leaves the extension cable (DTC0007A) connected to TestBook

△ **NOTE: Port 1 Loopback Connector (DTC0066A) allows the connection of the transmitting line (K or L) to the receiving line (K) via a switch.**

TECHNICAL INFORMATION



No: TB/02/98/NAS

AUTOMATIC TESTING



CAUTION: TestBook should be switched off with no CD present in the CD drive.

1. Switch on TestBook.
2. Choose "Integrity Test" from the Welcome Screen (Figure 1). The screen in Figure 2 will appear.

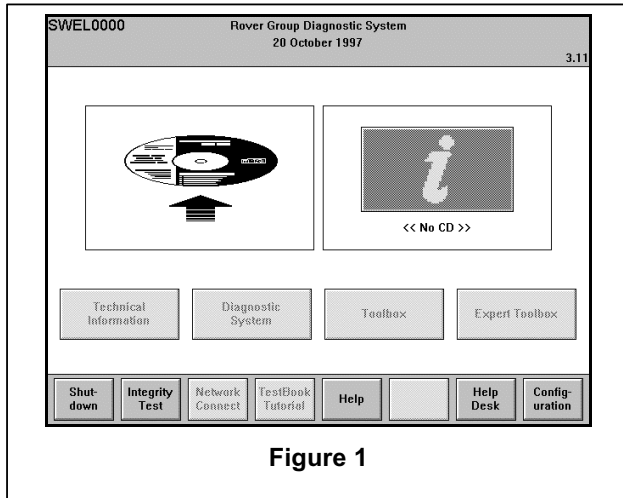


Figure 1

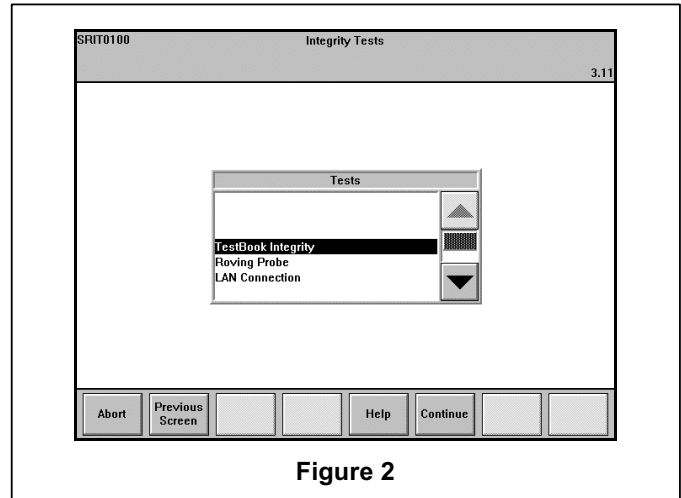


Figure 2

3. Move the selection bar onto VCSI Cable Loopback using the arrow at the foot of the dialogue box (Figure 3).

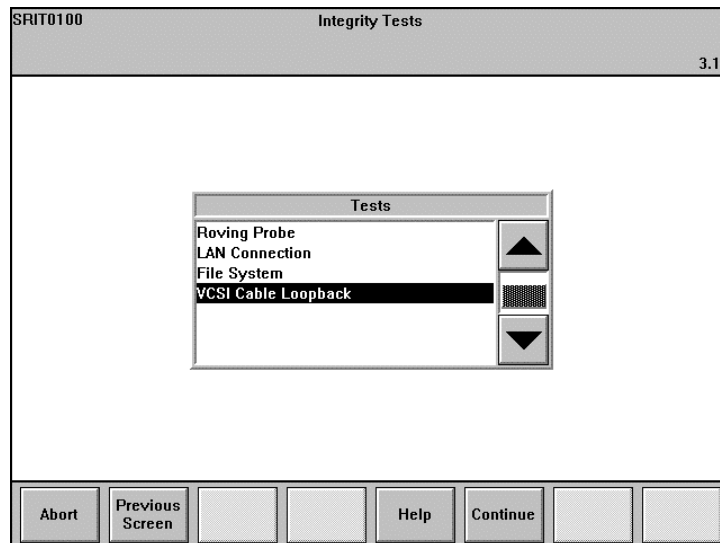


Figure 3



4. Press "Continue" then select the test for Port 1 of TestBook "Port 1 Loopback" (Figure 4).

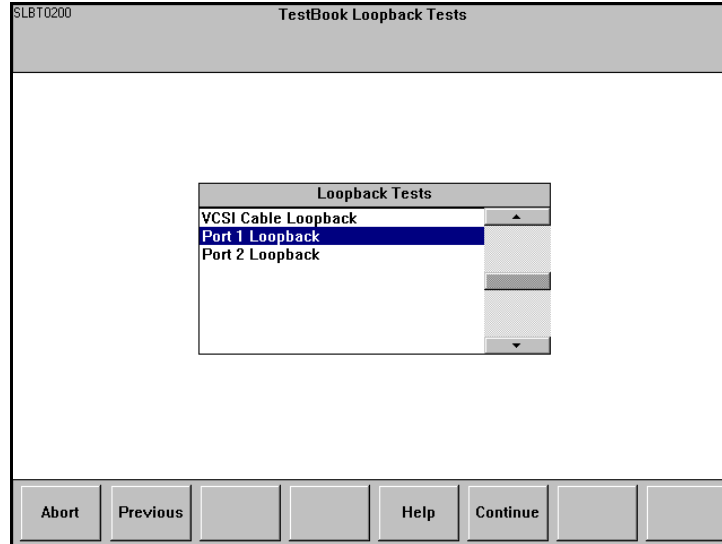


Figure 4

TESTING OF TESTBOOK PORT 1

1. The screen shown in Figure 5 will appear. It marks the first Step of the test. The operator is instructed to:
 - Connect the Port 1 Loopback Connector (DTC0066A) directly to TestBook Port 1 (without any other cable). The position of the switch is not important.
 - Select "Continue" when ready or "Abort" to cancel the operation in progress.



NOTE: Once the "Continue" option has been selected, the screen in Figure 6 will appear. This screen shows the result window before the beginning of Step 1 of the test. All the meters are at 0.

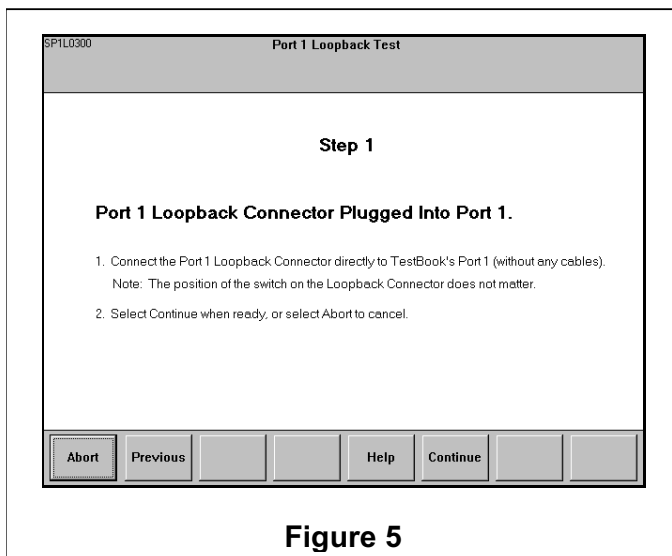


Figure 5

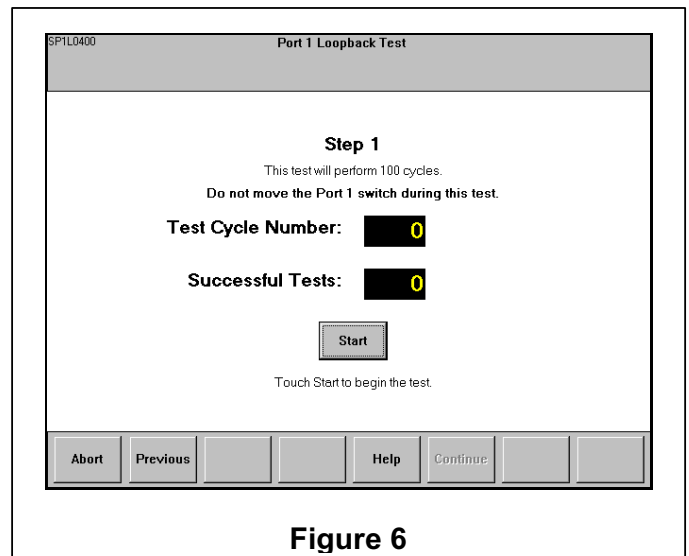


Figure 6



2. Do not change the position of the Port 1 Loopback Connector (DTC0066A) switch.
3. Press the "Start" button to run the test
 - A series of 100 test cycles will be carried out.
 - If no fault is found, the "Test Cycle Number" and "Successful Tests" boxes will both read 100.



NOTE: If the result is not equal at 100/100 at the time of steps 1 or 2, the VCSI communication card within the TestBook is faulty. If these two initial steps have been successfully completed, then the extension cable test should be carried out.

4. Press the "Continue" option to proceed to Step 4 (Figure 7). The screen shown here instructs the operator to:
 - "Press the switch on Port 1 Loopback Connector (DTC0066A) (once) to change its position." The switch should be placed in the opposite position from the previous test.
 - Select "**Continue**" when ready, or "**Abort**" option to cancel the operation in progress.

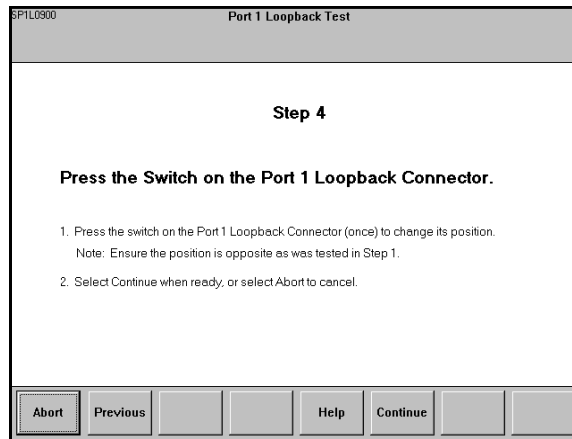


Figure 7

- If no fault is found, the "Test Cycle Number" and "Successful Tests" boxes will both read 100.
- If a fault is present, the operator will see a screen similar to that in Figure 8.

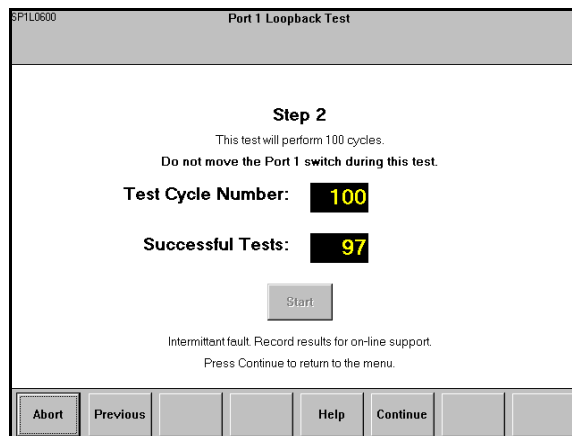


Figure 8



TESTING OF EXTENSION CABLE (DTC0007A)



NOTE: The extension cable (DTC0007A) test (Steps 3 and 4) can only be carried out after the testing of TestBook Port 1 - to ensure that TestBook is working correctly.

1. The following screen (Figure 9) describes Step 3. Here the operator must:
 - Disconnect the Port 1 Loopback Connector (DTC0066A) from TestBook
 - Connect extension cable (DTC0007A) to TestBook
 - Connect the Port 1 Loopback Connector (DTC0066A) to extension cable (DTC0007A). The position of the switch is not important.
 - Select "**Continue**" when ready or "**Abort**" to cancel the operation in progress.

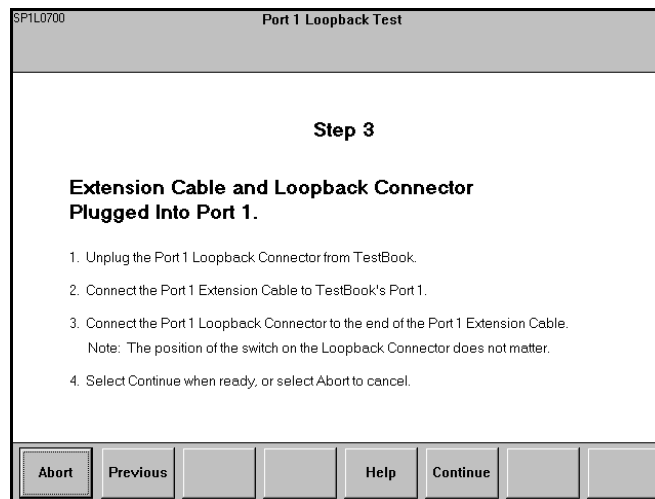


Figure 9

2. The following screen, Figure 10, will appear once the operator has pressed the "**Continue**" option.
3. Press the "**Start**" button to begin the test.

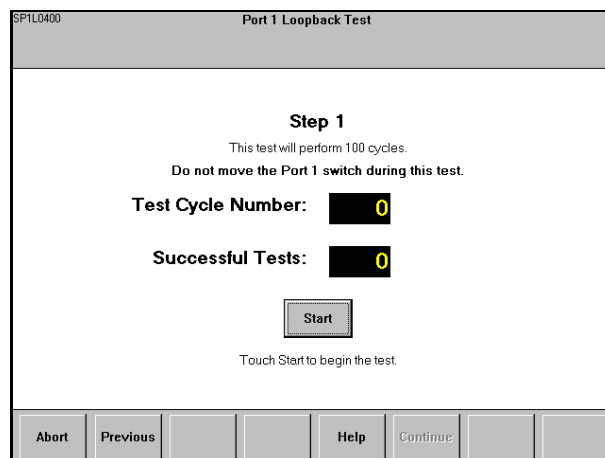


Figure 10



4. When the test is finished press the "Continue" option to obtain the Step 4 screen.

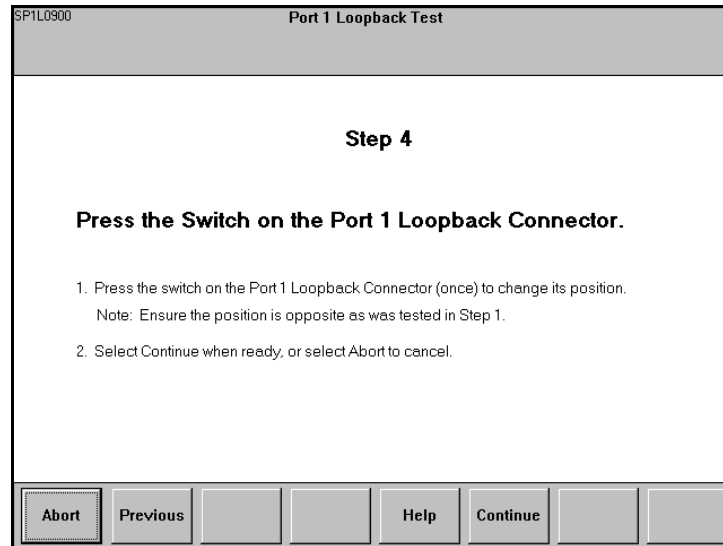


Figure 11

5. The Step 4 screen (Figure 11) instructs the operator to "Press the Port 1 Loopback Connector (once) to change its position." The switch should be placed in the opposite position from the previous test.
6. Select "Continue" when ready, or "Abort" option to cancel the operation in progress.
7. If no fault is found, the "Test Cycle Number" and "Successful Tests" boxes will both read 100.
8. If a fault is present, the operator will see a screen similar to that in Figure 12.

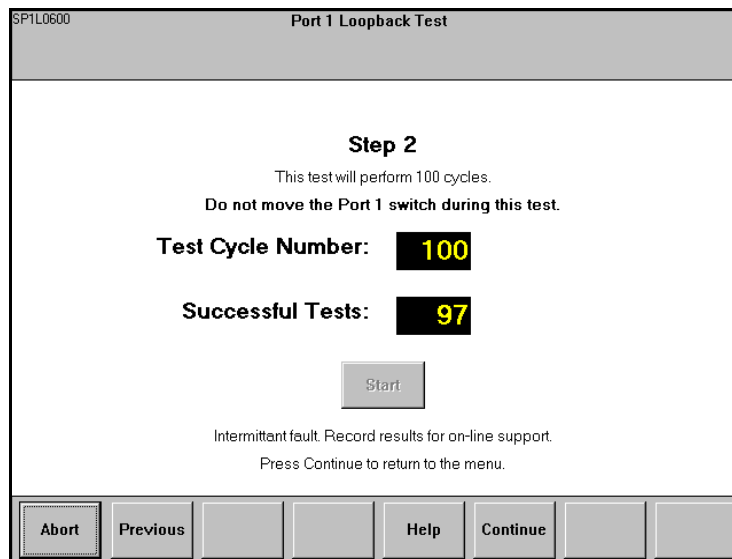


Figure 12

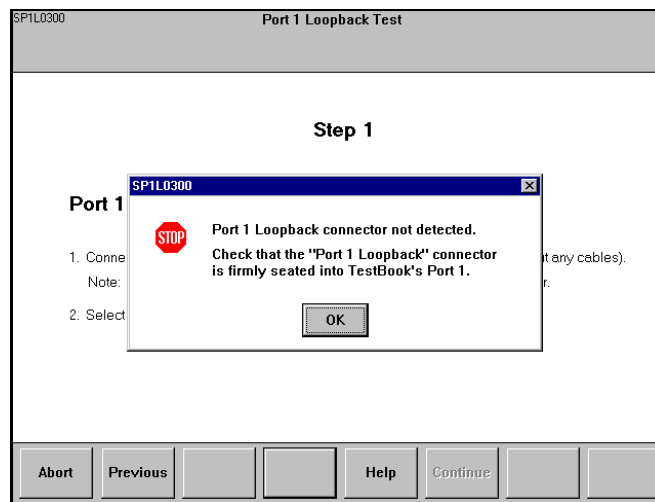


KNOWN PROBLEMS AND ERRORS

Certain dialogue boxes can appear during the execution of the test. Generally the heading of the dialogue box is in the form "SP1L0x00" where "x" represents a number. Three screens are shown below. An explanation is offered each time. However, if you encounter a dialogue box that is not shown below, contact the HelpLine.

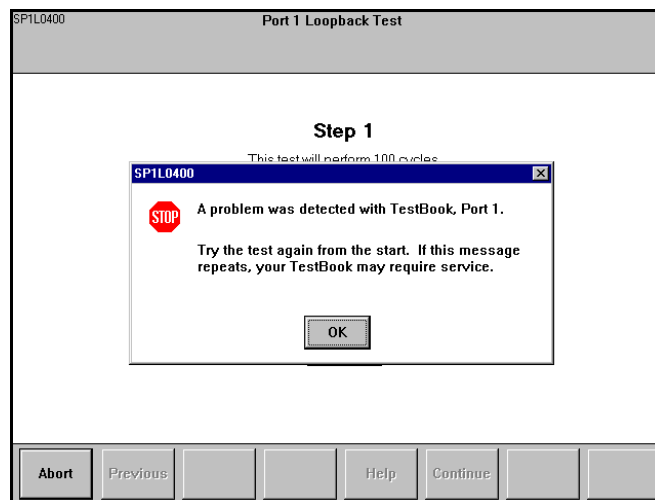
Reference: SP1L0300

Explanation: the Port 1 Loopback Connector has not been detected. Ensure that the Port 1 Loopback Connector (DTC0066A) is actually connected to TestBook. Restart the test and if the message continues, contact the HelpLine.



Reference: SP1L0400

Explanation: the Port 1 Loopback Connector has been detected at the beginning of Step 1, but a problem exists in the area of TestBook Port 1. Ensure that the Port 1 Loopback Connector (DTC0066A) has not been removed and is correctly attached. Restart, and if this message continues, contact the Helpline.



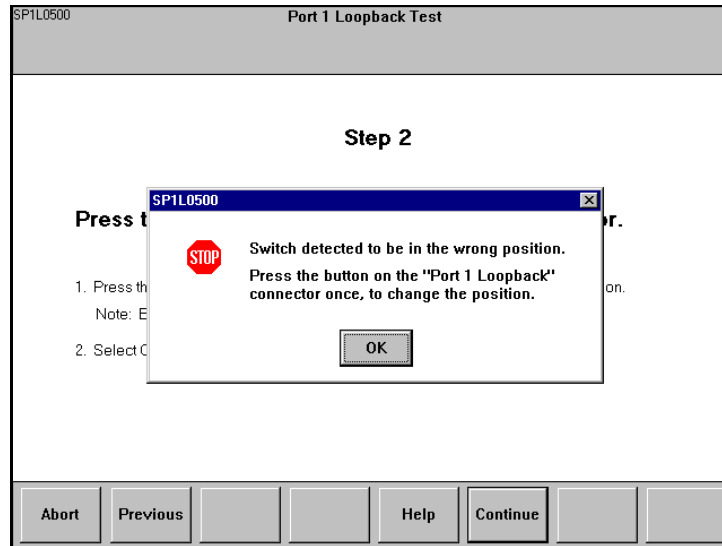
TECHNICAL INFORMATION



No: TB/02/98/NAS

Reference: SP1L0500

Explanation: the Port 1 Loopback Connector switch position has not been changed. Press the switch ONCE and press the "OK" button to continue the test.



HELPLINE ASSISTANCE

Assemble the following information BEFORE calling the Land Rover Technical HelpLine:

- Which version of the RDS software is installed on TestBook (in the top right of the TestBook screen)
- The serial number of TestBook (on the back of the screen)
- The one or two initial references in the top left of the screen for inquiries about a particular TestBook screen

The HelpLine can be reached at 1-800-562-5824.