Insight™ Instruction Manual

VST EVR Total Balance System Solution

Version: 1.0 (f)

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1 Insight™ Overview

Insight™ software is testing software that VST created to:

- Troubleshoot common ISD Alarms
    - Flow collect
    - Gross pressure
    - Degradation pressure
- Leak check the hanging hardware and isolate the leaks to a single dispenser
- Leak check the complete Vapor Recovery System
- Generate reports to prove that any ISD alarms were repaired correctly
- Prevent ISD alarms by catching small problems before they trigger an ISD alarm

2 How to Connect your Laptop to the TLS-350

2.1 Required Cables

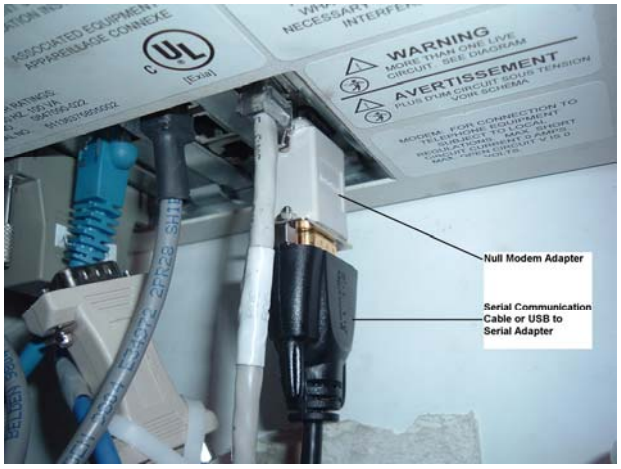
- Use a serial cable with a Null modem adapter to connect to the TLS-350.
    - ► If your computer does not have a serial port, use a USB to serial adapter with a Null Modem adapter to connect to the TLS-350.
    - ► The plugs are located on the bottom left of the TLS-350.
    - ► The cables can be purchased at Radio Shack or other electronics' store.

If your computer has a USB plug

Null Modem Adapter: Radio Shack	Model# 26-264 / Catalog# 26-264
Gigaware® 6-ft. USB-A to Serial Cable: Radio Shack	Model# 26-949 / Catalog# 26-949

If your computer has a 9-pin serial bus or does not have USB

Null Modem Adapter: Radio Shack	Model# 26-264 / Catalog# 26-264
6-ft. DB9 M/F Extension Cable Radio Shack	Model# 26-117 / Catalog# 26-949



2.2 Communications Set-Up: TLS-350 to Laptop

1. Get a set-up printout from the TLS-350.
    a) On the TLS-350 press MODE until the TLS-350 displays SET-UP MODE.
    b) Press PRINT.

2. Look at the Communications Set-Up for the RS-232 port. It will list:
    - COMM BOARD: X=card slot (RS-232)
    - The Baud rate
    - Parity
    - Stop Bits
    - Data Length

    - The cards are identified from 1-6 and are in order from left to right.
    - Figure 1 shows the cards and the setup printout identifies the cards this way.
    - If you are plugging into the Multi-port card in slot 4, the connections will be identified as 5 and 6 on the printout. To know what Com-Port on your computer is connected to the TLS check the device manager in the control panel of your laptop.
    - Make sure the port has RS-232 in parenthesis. Refer to the *Veeder-Root RS-232 Communications Manual* for more information. Example:
        - COMM BOARD: 5 (RS-232) – This tells you this can communicate with a PC
        - Baud Rate: 9600
        - Parity: None
        - Stop Bit: 1 STOP
        - Data Length: 8 Data

2.3 Set the Communications Settings

1. Open Insight™ on your computer.
    - Net Framework 3.5 has to be installed on the computer to use the Insight™ software. Net Framework 3.5 is a free download from Microsoft.
    - The left side of the window will display the communications settings. See figure 2 Communications Options.
    - The Com Port is for the communication port of your laptop.

2. Set the rest of the communication settings to match the Veeder-Root settings.

3. Click the OPEN PORT button. See figure 2.

2.4 Confirm Communications with the TLS-350

1. Click the ECS PROCESSOR STATUS REPORT button to confirm communication with the TLS-350.
    - The Veeder-Root window displays the report for the ECS status.
    - If there is no data, double-check the communication settings, and make sure you have selected the correct COM port on your computer.

3 Troubleshooting Vapor Leakage Warning / Alarm

- The purpose of this test is to determine if any hanging hardware is leaking.
- RUN THIS TEST WHEN NO ONE IS DISPENSING FUEL AT ANY OF THE FUELING POSITIONS OR ELSE THE SOFTWARE WILL SEE A FALSE LEAK.
- Wait a minute or two after the last fueling before you begin.

3.1 Hose Leak Check Test Procedure

1. In the Insight™ software, click on the ECS MANUAL MODE and then click the MANUAL ON. This action turns on the processor to generate a vacuum in the UST(s).

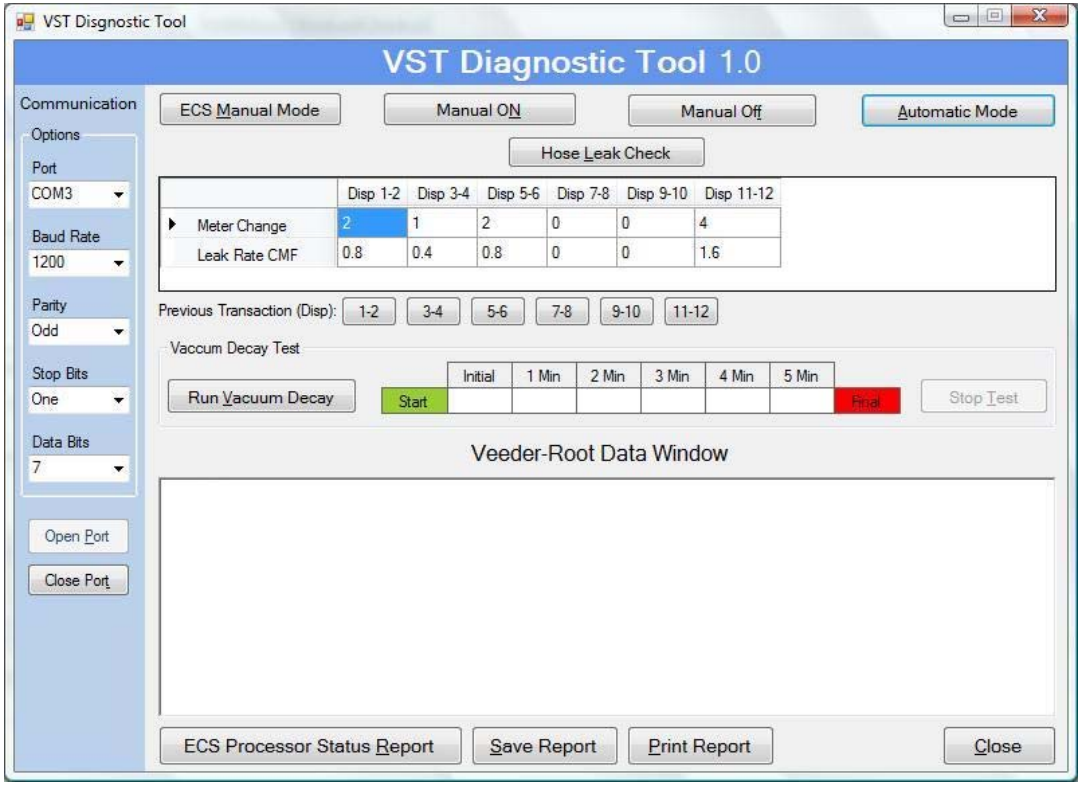
2. Click the HOSE LEAK CHECK and wait about 30 seconds to allow the data to display on the screen.
   - The hose leak rates will display directly under the HOSE LEAK CHECK button.

3. If any dispensers show a leak rate above zero, perform a visual inspection of the hanging hardware at those dispensers that failed the leak test.

4. Replace bad components, and click HOSE LEAK CHECK again to confirm that the hardware has been repaired. If a leak is still detected, replace parts one by one until the leak stops.

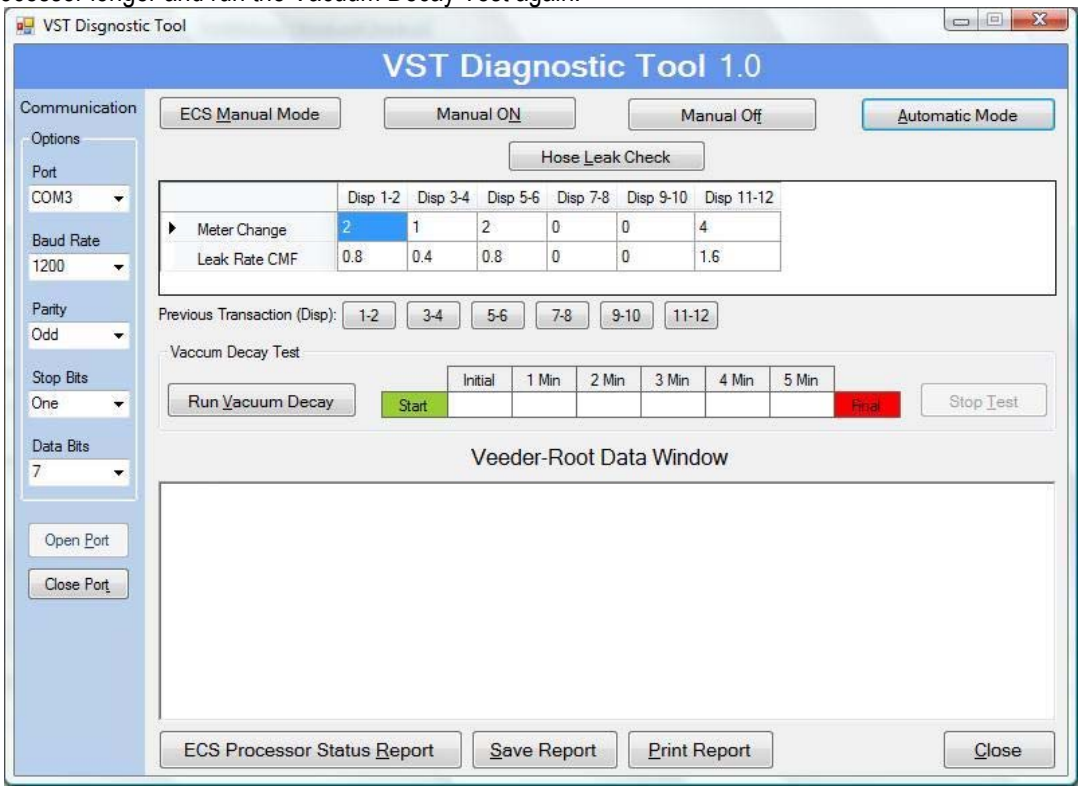
5. Click MANUAL OFF to turn off the processor.

6. You can either print or save the passing Hose Leak Test results for your records by clicking SAVE REPORT or PRINT REPORT.



3.2 Vacuum Decay Test Procedure

- This test will show how vapor tight your site is.
- If you run a Hose Leak Check and no leaks are found, run the Vacuum Decay Test to check the entire system.
- RUN THIS TEST WHEN NO ONE IS DISPENSING FUEL AT ANY OF THE FUELING POSITIONS OR ELSE THE SOFTWARE WILL SEE A FALSE LEAK.
- The vacuum level on the Vacuum Decay Test depends on how long you run the processor and how much ullage you have in the tanks.
- If your starting negative pressure is too low, run the processor longer and run the Vacuum Decay Test again.

1. Click ECS MANUAL MODE and then click MANUAL ON.

2. Click RUN VACUUM DECAY and wait for approximately 7 minutes. The system waits two minutes and then collects five minutes of pressure data.
   - The Vacuum Decay results will display in the boxes to the right of the RUN VACUUM DECAY button.
   - If the initial vacuum decay pressure is less than -1"WC, run the vacuum decay test again to reduce the pressure in the UST.
   - If in five minutes the values decrease by more than 50% of the initial value, have your site looked at by a VST certified technician.
   - If the Hose Leak Check Test passes and the Vacuum Decay Test fails, this indicates a Phase-I leakage problem between the dispenser vapor flow meter and the vent risers. Likely causes:
     - P/V valves, tank top components, Phase-I piping, swivel adapters,
   - Experience has shown that a good starting point is the P/V vents.
     - Check the P/V vents for leakage by bagging and taping them with a plastic garbage bag
     - If the bag collapses, replace the P/V vent and run another vacuum decay test.
   - If the P/V vents are not leaking, check the tank top components for a good seal. These could leak if any component is not properly replaced or sealed following an annual Monitor Certification, for example.
   - Check the vapor adapters and tank gauge caps for leakage and tightness.