Idaho
LIFELOC FC20
Reference Manual
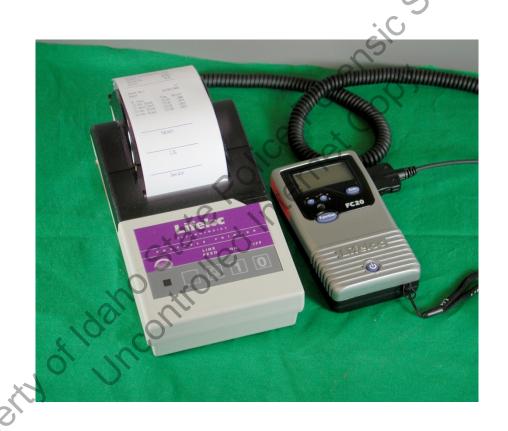
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History Page

Revision #	Effective date	History
	7/2010	New Manual called "version 1"
0	8/20/2010	New formatting and procedural language

Scope:

Idaho State Police (ISP) has authority and responsibility in the state of Idaho for the calibration and certification of instruments, maintenance of instrumentation, quality control guidelines, and analytical methods pertaining to the evidentiary collection of breath alcohol samples. Idaho State Police Forensic Services (ISPFS) is the functional unit within ISP that is authorized to administer the Breath Alcohol Testing Program.

Analytical Methods (AM), also known as Standard Operating Procedures (SOP), shall supersede and take legal precedent over any and all other forms of documentation (e.g. reference manuals, training manuals, and training materials) produced or maintained by the Idaho State Police as it pertains to the Breath Alcohol Testing Program in the state of Idaho. If discrepancies exist between differing forms of procedural documentation, the Analytical Method shall be the binding document.

The reference manuals produced and maintained by ISPFS are for reference only as it pertains to the form and function of the different breath alcohol testing instruments used within the state of Idaho. If questions arise as to the functionality of the instrument, the reference manual may be used to help answer those questions. The reference manual is a reference tool used by the end user agency to help the Breath Testing Specialists and Operators maintain knowledge as to the functionality of the instrument and to refresh their memories as to the different functions and options within the different instruments.

Breath Testing Specialists Responsibilities:

The Breath Testing Specialist (BTS) should have a good knowledge of the Breath Alcohol Program and the operation of the FC20. It will be the responsibility of the BTS to oversee the Breath Alcohol Program within his/her agency.

The BTS will be responsible for:

        a) Record management and retention
        b) Maintenance and functioning of the instrument
        c) Maintenance and functioning of the simulator
        d) Teaching and certifying operators in the proper use of the FC20
        e) Testifying in court to your responsibilities and duties

This reference manual is designed to assist the BTS in their duties. However, if at any time questions arise, call the lab that has jurisdiction over your area (see ISPFS Website).

COEUR d'ALENE LAB   PHONE NUMBER: 209-8700
615 W Wilbur Ave, Suite B   FAX NUMBER: 209-8612
Coeur d'Alene, Id 83815

POCATELLO LAB   PHONE NUMBER: 232-9474
209 E. Lewis   FAX NUMBER: 232-3697
Pocatello, Id 83201

MERIDIAN LAB   PHONE NUMBER: 884-7170
700 S. Stratford Drive Suite 125   FAX NUMBER: 884-7197
Meridian, Id 83642

Safety:

Chemicals, reagents, and solutions used within the scope of the breath testing program should be handled with caution to avoid loss, spillage, contamination, and damage of the instrumentation. When any electrical instrument is used around and in conjunction with liquid solutions and reagents, extreme caution should be taken to avoid damage due to short circuits and injury due to electrical shock.

Officers should be aware that pertinent safety information may exist in an instrument operation manual or in the Material Safety Data Sheet (MSDS) for a chemical, reagent, or solution.

Quick Reference Guide

Auto Subject Testing:

Power the instrument on and enter subject identification information (optional). To initiate an auto sequence test, execute a manual air blank. The testing sequence will proceed as follows: Auto Test/2 minute wait/Auto Air Blank/Auto Test/Print (third test will automatically be requested if the results are not within the 0.02 acceptance criteria)

If necessary, Manual Override may be used during the Auto Test window to take a manual sample.

Aborted/Cancelled Subject Test:

Briefly hit the power button during a sequence test to bring up the exit test screen. Select the reason for the aborted test and press the function button. Record the results and/or print the results.

Wet Check:

Enter the wet check screen and press the execute button to take a sample of the simulator breath sample. Log or print the results as the instrument will overwrite successive wet check results.

Be sure the sample target value is set correctly with the +/- buttons.

To get out of a Menu Screen:

Briefly press the Power button and it will take you back to the "Subject ID" screen.

Or turn the instrument completely off, back on.

Performance Verification:

The term performance verification is used synonymously with "calibration check". Performance verifications are checks of the instruments performance using verified standard solutions.

FC20 Displayed Messages
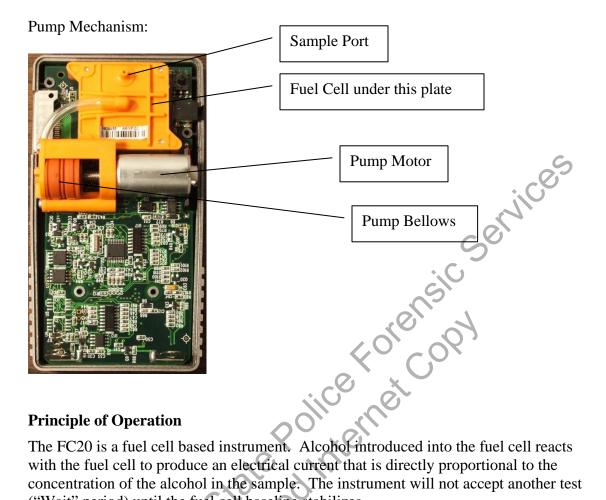
(Messages that may appear on the display)

1. **Calibration expiring**: This means the instrument must be sent to the ISP laboratory for inspection, or evaluated by ISP Forensics personnel. There will be a 14-day advance warning. At the end of that time the instrument will be locked and will not run any further tests until recalibrated by the laboratory. On a new instrument, this calibration lockout will be set at approximately 6 months from the date of initial certification. Following inspection by the ISP lab, the lockout will be set for a longer time period or disabled. **Notify your BTS.**

2. **Air blank time out**: After the air blank runs, there is a 2 minute window. If the breath test isn't initiated within that window, "air blank timeout" shows on the display and it requests another air blank.

3. **Air Blank Failed:** If an air blank is anything other than 0.000. Instrument goes into a two-minute countdown, runs another air blank automatically. If this one also fails **Aborted: 2 air blank failures** appears. Press Exec to get back to the Subject ID display.

4. **Log full in 10 tests**. (9, 8,7, etc.) This means there is log space for only 10, or fewer, tests. If the log is not cleared after those 10 tests, "Log Full" will appear and no tests can be run. **Contact your BTS.**

5. **Low Li Battery**- means the internal battery that powers the real-time clock is getting low. The instrument will have to have the battery replaced by appropriate personnel.

6. **Warning Low Battery**- The four AA cells need to be replaced. Don't use rechargeable batteries.

7. **External Interference** - Detection of high levels of interference typically or can occur near the end of a fuel cell's life.

8. **Printer Error** - unit can't communicate with the printer-possibly bad cable or improper cable connection.

9. **Excessive Alcohol** - The sample introduced into the instrument exceeded the range of the instrument. This can occur with high levels of mouth alcohol.

10. **Temperature**- the unit is too hot or too cold to take a test.

11. **Pump reset needed:** Follow displayed instructions or turn unit off, then on again.

    This message should appear rarely if at all. If it shows up repeatedly the instrument must be removed from service and evaluated by appropriate personnel. **Contact your BTS about this message.**

Instrument Overview: Reference Manual

The Lifeloc FC20 is an instrument made by Lifeloc Technologies in Wheat Ridge, Colorado. Phone: 800-722-4872. The FC20 is included in the NHTSA Conforming Products List of Evidential Breath Measurement Devices.

FC20 with mouthpiece in place:

Exec. is used for actions within a menu option, along with the small + and – buttons.

Sensor that detects local lighting conditions.

Function takes you thru various menu options.

On/off button. Pressing it briefly takes you back to the start of the testing sequence.

Mouthpiece slot

Printer/Data Port

Battery compartment
Fresh batteries should last
120-140 hours of usage

Pump Mechanism:

Sample Port

Fuel Cell under this plate

Pump Motor

Pump Bellows

Principle of Operation

The FC20 is a fuel cell based instrument. Alcohol introduced into the fuel cell reacts with the fuel cell to produce an electrical current that is directly proportional to the concentration of the alcohol in the sample. The instrument will not accept another test ("Wait" period) until the fuel cell baseline stabilizes.

Menu Navigation

Once the instrument is turned on, there are five major menu screens used for testing or various instrument settings. See page 23; they are accessed by pressing **Function. Most of the menus are to be set only by the BTS.** To get out of a menu and back to subject testing press **Power** briefly.

1. **Testing**. The testing sequence appears when instrument power is turned on. Subject testing can begin immediately.

2. **Printing**. At the conclusion of testing, the print icon appears above the **Exec** button. It also shows up after pressing **Function** twice after powering on the instrument.

3. **Calibration**. In the field this menu is used to run performance verification checks, also known as Wet Checks or calibration checks. Actual recalibration of the instrument is done by the ISP labs and is password-protected.

4. **Settings**. This includes time, date, shutoff time, ID settings, testing mode, print settings, and display settings.

5. **Status**. Status includes the software version, test log status, battery condition, instrument temperature.

Subject Testing

The instrument should be operated with the automatic "Sequence Mode On" as set in the Settings menu. The sequence provides for air blank, breath test, air blank, and second breath test. Once the first air blank is run, the display reads "Auto-Test" and the subject should deliver the first breath sample. If the first two tests do not agree within .020 a third test is requested by the software. If the operator decides the subject cannot or will not deliver a proper sample as instructed, Manual Override is available by pressing **Exec.** The use of Subject ID is recommended because the information entered prints out on the hard copy of the results.

When a breath sample is delivered, the instrument draws approximately 1 cc of breath into the fuel cell by means of a pump; the sample is collected in approximately 160 milliseconds. The software requires delivery of a minimum of 1.3 liters of breath, and then checks for a drop-off of about 63% from the average breath pressure over the first 1.3 liters of expired breath before taking the sample. It also checks for positive pressure within the mouthpiece after the pump is run to make sure the subject did not stop blowing while the pump was running. If one or both of the first two tests (samples) is "insufficient", a third test will be requested by the software. The test log will store approximately 250 tests that may be printed at a later date. When the test log is nearly full, a warning message will appear advising that space for 10 tests remains. Once the log is full, no further tests can be run until the log is cleared. **Contact your BTS if the message "Log full in X tests" appears.**

Mouthpiece

The mouthpiece fits over two ports on the back of the instrument:

           Sample Port   Pressure Sensor

The openings on the mouthpiece should line up with these ports:

Be certain the mouthpiece fits the instrument tightly:

Auto Test Mode Operation
-Test mode used is at the discretion of the operator/agency-

1. Power on

2. **Subject ID** Alphanumeric capability.
   - A.   Use the + and – keys to select desired letters or numbers.
   - B.   Select the desired character, press **Exec** to move to the next space.
   - C.   When all the information has been entered, press **Function**.
   - D.   To by-pass subject ID, press the **Function** button.

3. Air Blank---Wait

4. Air Blank Sample—press the "Exec" button

5. Air blank results should be displayed at 0.000. If an air blank fails, (exceeds 0.000), it will run another air blank. If the second one also fails, the test sequence is aborted.

6. Auto Test

7. Install new mouthpiece

8. Subject blows

9. Results displayed

   -It is suggested that the mouthpiece be removed from the instrument, as the air blank may fail if the mouthpiece is left attached.

10. 2-minute delay before second air blank (automatic)

11. Results 0.000. If an air blank fails, (exceeds 0.000), it will run another air blank. If the second one also fails, the test sequence is aborted.

12. Reinstall the mouthpiece if it was removed. Officers may elect to discard the first mouthpiece and replace it with a new one for the second breath sample.

13. Auto Test

14. Results displayed

15. Event number XX with test results displayed

16. Printer icon; use "**Exec**" to print. If the printer is not currently attached, the test can be printed later.

Manual Test Mode Operation
-Test mode used is at the discretion of the operator/agency-

Used if subject cannot, will not activate the Auto Test, or at operator's discretion.

1. Power on

2. Air blank---wait

3. Air Blank Sample---press the "**Exec**" button

4. Air blank results display at 0.000. If the air blank fails, (exceeds 0.000), manually run another air blank. If the second one also fails, the test sequence should be aborted until a proper air blank can be obtained.

5. Auto Test XX-X displayed

6. Subject blows as long as possible (operator's estimation that the individual is providing deep lung air.)

7. Operator presses "**Exec**." button to take sample -Results displayed

   It is suggested that the mouthpiece be removed from the instrument, as the air blank may fail if the mouthpiece is left attached.

8. Two minute wait for air blank

9. Air Blank Sample

10. Air blank results displayed

11. Replace the mouthpiece

12. Auto Test displayed

13. Subject blows as long as possible

14. Operator presses "**Exec**" button if necessary for manual override.

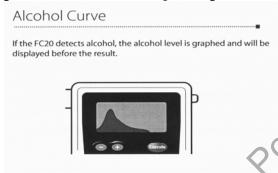15. Results displayed with printer icon

Air blank time out: After the air blank runs, there is a 2 minute window. If the breath test isn't begun within that window, "air blank timeout" shows on the display and it requests another air blank.

Air Blank Failed: The air blank is greater than 0.000. The instrument will start a two-minute countdown and run another automatic air blank. If this one also fails, **Aborted: 2 air blank failures** appears. Press **"Exec"** to get back to the Subject ID display.

Breath Flow

As the subject blows into the mouthpiece, the FC20 will show a graph of the breath flow on the display.

The shape of this graph is not an actual indication of the breath alcohol concentration present! It is presented only as a visual aid to show breath flow. It is possible for a sober subject to produce an impressive-looking graph while blowing.

Alcohol Curve

If the FC20 detects alcohol, the alcohol level is graphed and will be displayed before the result.

The graph is a visual aid, not a true indicator of breath alcohol concentration.
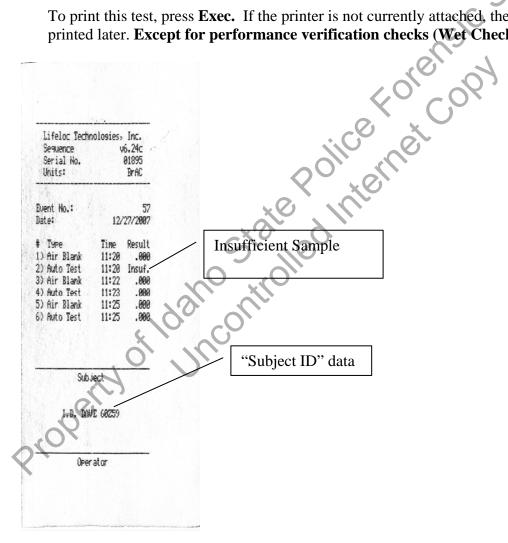
Test Result

After analysis, the test result is displayed as grams alcohol/210 liters breath. Results are stored in memory and may be printed. A test is typically two samples.

Printing
At the end of a test sequence, the printer icon appears.

To print this test, press **Exec.** If the printer is not currently attached, the test may be printed later. **Except for performance verification checks (Wet Checks) see page 21.**

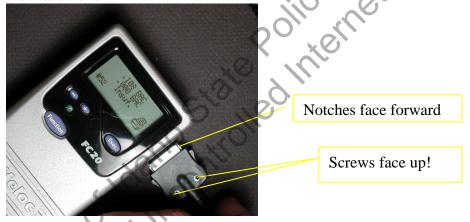Insufficient Sample

"Subject ID" data

Be sure to enter the test information in the instrument logbook.

Idaho agencies should use the impact printer. If your FC20 came with a thermal printer, you may have problems with long-term storage of the test record.

The printer uses rechargeable NiCad batteries. Once these batteries reach the end of their service life they should be replaced at Lifeloc.

Connect the printer cable with the notches facing forward and the screws facing up. Attempting to force a connection with a printer cable in the wrong position may damage the instrument.

Notches face forward

Screws face up!

Be sure the printer is turned on and then press **Exec.** to print the displayed test results.

Possible error message: Printer Error. This means the unit can't communicate with the printer. It might be due to a bad cable or improper cable connection.

Printing Options

To access the print screen: Power On/Function/Function.
There are two ways to print stored test results. In the print screen simply use the + and **–** buttons to find individual stored tests, then press **Exec.** to print the test(s). Another option is pressing the (+) button until the display shows "All", then press **Exec.** to print**.** This will print all the stored tests. The tests will **not** be deleted from memory by printing.

To print stored performance verification data, use the +/- keys to get this screen:
Press **Exec** to print.

Changing Printer Paper

To change paper, use the "Feed" button on the printer to run the remaining paper out of the mechanism. Pulling the paper may damage the printer. Then simply put the new roll in, with the paper end square cut, and feed it through the mechanism while pressing the "Feed" button.
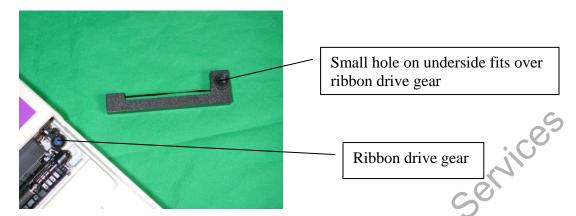
Impact or Ink?

There are two options with this printer, using the three-ply impact printer paper without a ribbon, or single ply paper with a ribbon. As of January 2008, single ply paper is $2.00/roll, the three ply is $3.00/roll. The printer ribbon, for use with single ply paper, is $7.00.
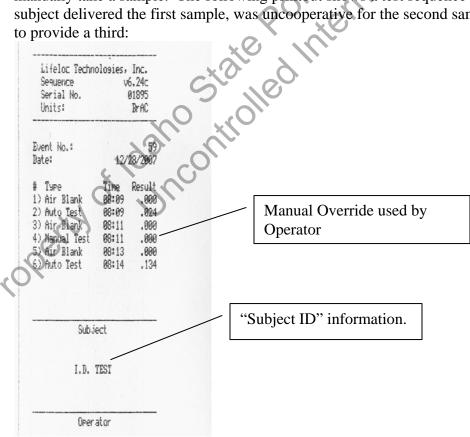This is the impact printer without and with a ribbon:

Installing the ribbon:

Small hole on underside fits over ribbon drive gear

Ribbon drive gear

Simply position the ribbon over the drive gear, being sure the ribbon fits in the paper feed slot.

Testing Situations

Uncooperative Subject/Subject Refusal
If a subject decides not to provide one or more of the samples, you can press **Exec.** to manually take a sample. The following printout shows a test sequence in which the subject delivered the first sample, was uncooperative for the second sample, then decided to provide a third:

Manual Override used by Operator
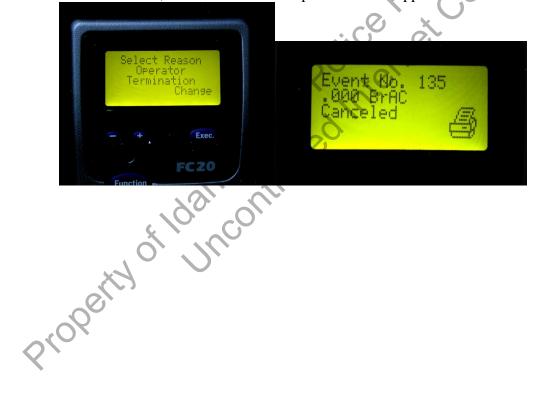
"Subject ID" information.

Another possibility: The subject states he will not provide a sample. Press the **Power** button briefly, the screen will say **Exit Test? No.** Press **Exec.** to change the **No** to **Yes,** then press **Function.**

Now select the reason: **Operator Termination or Subject Refusal**. Use **Exec.** to select one or the other, then **Function.** The print icon will appear. Use **Exec.** to print.

```
----------------------------
Lifeloc Technologies, Inc.
Sequence          v6.24a
Serial No.        01819
Units:            BrAC
----------------------------

Event No.:           132
Batch:              7804
Date:         12/28/2007

# Type        Time  Result
1) Air Blank  08:53  .000
2) Auto Test  08:53  .180
3) Air Blank  08:55  .000
4) Subj. Refused 08:56


_____
        Subject


_____
          I.D.


_____
        Operator
```
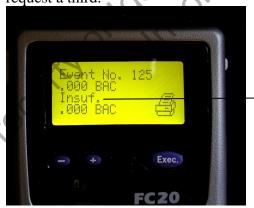
Mouth Alcohol/0.02 Agreement

If the first two tests don't agree within 0.02, the instrument will request a third test. The 0.02 correlation of the two breath samples is a good indicator of the absence of an external alcohol contaminant, and is used in conjunction with 15 minute observation period to eliminate an external contaminant, as well as inconsistent sample delivery by the subject, and RFI as contributing factors to the breath test results. The results shown below are due to the presence of mouth alcohol and illustrate what happens if the first two samples exceed the required 0.02 agreement:
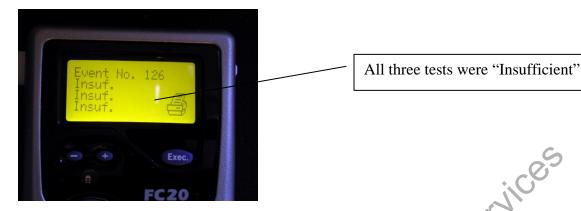
Ready for printing.

Insufficient Sample:

For a satisfactory sample, a minimum blow of 1.3 liters of breath is required, with a drop-off of about 63% from the average breath flow over the first 1.3 liters of expired breath. There must also be positive pressure present after the pump is run to make sure someone did not stop blowing while the pump was sampling. If the sample does not meet these criteria, the display will show "**Insufficient Sample**" and the instrument will proceed to the next air blank. If the first two breath samples are insufficient, the instrument will request a third.

Second test "Insufficient"

All three tests were "Insufficient"

If the subject inhales through the mouthpiece instead of blowing, no test is taken and the Auto-Test screen remains visible. A short "puff" of breath will trigger "Insufficient Sample".

Temperature
The FC20 will run tests if the instrument temperature is between 50º F and 104º F. If the instrument temperature is outside those limits, it will not operate and a "Temperature" alert will appear in both the subject testing and wet check screens.   Even though the surrounding temperature may be within the acceptable range, it may take time for the internal instrument temperature to stabilize and reach the acceptable range.

Radio Frequency Interference: (RFI)
The instrument is physically shielded as well as electronically protected against RFI. If RFI is detected, the RF causes the unit to display "wait" and not allow a test. If it detects high RF after the pump has run it will display an "external interference" prompt and not a result.

Performance Verification

Your agency may require that only the BTS handle the performance verification checks. Don't attempt performance verification checks unless you have been trained in the proper procedure.

The instrument must have performance verification checks as specified in the ISP Standard Operating Procedure for breath alcohol testing. Actual **calibration** is done in the ISP laboratories and is password-protected. From power on, press **Function** until the Calibration screen appears, then press **Exec.**
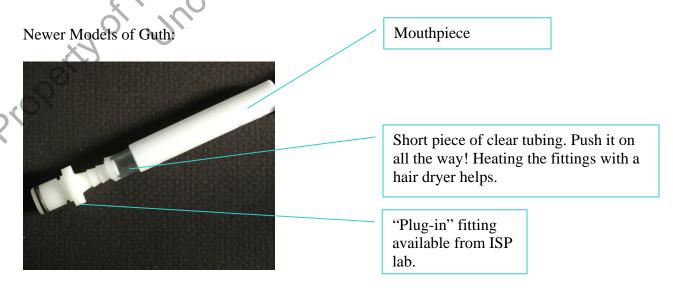
Performance Verification Procedures (Wet Check)
The simulator should be warm, running for approximately 15 minutes. The connection between the instrument and the simulator should be tight.

Older model simulators:

Short piece of clear tubing on "vapor out" tube of simulator.

Connection to the Mark IIA (green top simulator) would be similar.

Newer Models of Guth:

Mouthpiece

Short piece of clear tubing. Push it on all the way! Heating the fittings with a hair dryer helps.

"Plug-in" fitting available from ISP lab.

Performance verification set-up:

This fitting should be inserted farther into the clear tubing. It is this way for display purposes only.

Suggested operation for running a Performance verification Check:
Turn power on, press "Function" until the Calibration display appears:

Better view of the light sensor.

Next, press **Exec**. to get to the Wet Check screen.

Now the display shows "Wet Check" and the target value of the standard. Use the + and – keys to adjust the value to the target of the solution you're using, for example 0.200 or 0.080. This value comes from the **certificate of analysis** issued by ISP.

If you press **Function** while in this screen, the Security Code screen appears, asking for a pass code. This screen is used by ISP personnel to access other functions of the instrument including recalibration (adjustment) of the instrument. Press **Function** then **Exec.** to get back to the Calibration screen.

Connect the instrument to the heated simulator and blow through the simulator. The graph will appear on the display:

After blowing for about 4 seconds, press "**Exec**." *and continue blowing* for another 1-2 seconds. The instrument will take a sample of the vapor flowing through the mouthpiece.

For accurate results it is important to continue blowing after pressing "Exec."

The results will appear:

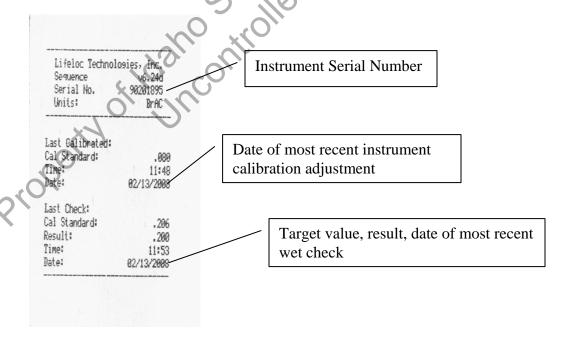

When the print icon appears, press Exec to print.
The Wet Check screen will appear again during the printing process.
Repeat to run additional samples.

Air blanks do not run between the checks.

You must print or log *each* wet check result as soon as the result appears. The instrument can store *only* the most recent result.
The Wet Check screen reappears automatically during the printing process, so several samples may be run in sequence.

This means that if you run two wet checks with a 0.08 solution and do not press **Exec** to print until after the third one, *only* the second one will print.

Instrument Serial Number

Date of most recent instrument calibration adjustment

Target value, result, date of most recent wet check

The performance verification check consists of running two consecutive samples.

Once finished with the performance verification checks, momentarily press the **on/off** button to get back to the Subject ID screen, or press and hold the **on/off** button to shut off the instrument. **Enter the wet check data in the instrument logbook.**

The performance verification requirements are set in the SOP for breath alcohol testing.

Final step: Reset the "Std=" value to the target for the 0.08 simulator solution.

Note: This is only a suggested procedure for running the performance verification checks. The requirements for the checks shall be in the analytical method/Standard Operating Procedure.

Instrument Settings
The BTS is responsible for the various settings. If you get into one of the menus accidentally, pressing the Power button briefly should take you back to subject testing, or you can turn the instrument completely off, then back on.

1. Date/Time/Auto shutoff Settings:
The instrument does not automatically adjust for daylight savings time. Press **Function** until "Settings" appears, then press **Exec.** The time appears with the hour digits flashing. Use the + and – buttons to adjust the time, press "Next Digit" to move from hours to minutes. When finished, press **Function** again to bring up the date. Adjust the date the same way. Press **Function** again to get out of time/date settings. "Shutoff Time" will appear. Adjust this to set a time interval after which the instrument will automatically shut off to save batteries.

2. ID/Batch Settings:
Can be set to indicate the officer ID or batch settings if the instrument is used by multiple individuals within an agency.

3. Test Mode**:**
Sets the instrument to sequence test mode or auto/manual/passive modes.

4. Print settings**:**
Sets the printing parameters for the instrument.

5. Display Settings:
Adjusts the display settings for the instrument.

6. Status:
Once in the Status window, you can check the following:
Software version and the date of installation.
Test Log Status; how many tests remain available (See the next page).
Battery Status.
Instrument temperature in both Centigrade and Fahrenheit.
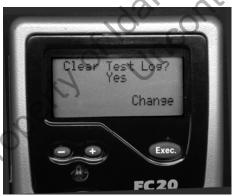

Function: Exit from Status.

The Test Log

Pressing **Function** in the **Status** window will take you to Test Log Status:

From this window, pressing **Function** takes you to the Battery Status display. Pressing **Exec.** while in the Test Log Status window takes you to this display:

Pressing **Exec.** changes the choice from "No" to "Yes":

If you press **Function** while in this display, *the test log will be erased and the data lost.* To get out of this window without clearing the log, press **Exec.** to change the "Yes" to "No", then press **Function.** *Or* simply press the On/Off button briefly.

Clearing the log *clears all the test information*, but it does not clear the performance verification check information currently in the unit.
You can print out all tests stored in the log. In the print screen press the +/-
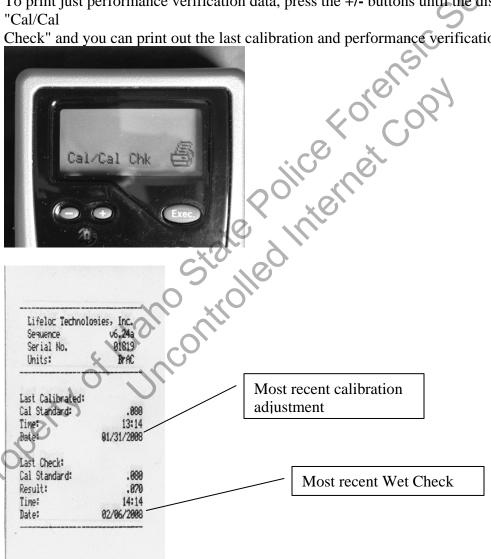
buttons until it reads "All". Then press **Exec.** to print all the tests.

To print just performance verification data, press the **+/-** buttons until the display reads "Cal/Cal
Check" and you can print out the last calibration and performance verification check data.

Lifeloc Technologies, Inc.
Sequence   v6.24a
Serial No.   01819
Units: BrAC

Last Calibrated:
Cal Standard: .080
Time: 13:14
Date: 01/31/2008

Most recent calibration adjustment

Last Check:
Cal Standard: .080
Result: .070
Time: 14:14
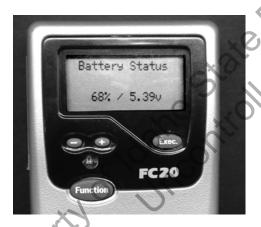Date: 02/06/2008

Most recent Wet Check

Battery Status

A set of fresh alkaline batteries should last for approximately 130 hours of operation. There is a battery-shaped symbol in the Air Blank screen that is an indicator of battery condition.

To get a more accurate indication of battery condition, press **Function** repeatedly until the **Status** window appears, then press **Exec./Function/Function** to see the actual battery voltage. At 4.4 volts the instrument will no longer operate and the display will show "Warning Low Battery". Replace with fresh alkaline batteries.

Press **Function** again and the instrument temperature is shown. Press **Function** again and the display reads **Exit**. Pressing **Exit** takes you back to the **Status** window; press **Function** again and the **Subject ID** window appears.

Instrument Storage

Fuel cells like moisture, so if the instrument is not used regularly, run a test on it occasionally in order to provide moisture to the fuel cell. Breath or a simulator solution may be used (the presence or absence of alcohol is not necessary). This will extend the life of the fuel cell.

Passive Testing/Non-Numeric results

<u>Should be used only for juvenile/screening or the screening of beverages for the presence of alcohol. May also be used to screen subjects who are required to provide a sample at any time a sample is requested (ie. probation, parole, work release, etc.)</u>

If the instrument is set to not report a numerical result, then the instrument will report results as **Pass/Warn/Fail (PWF)** for the Auto-Test and Manual modes, and **Neg/Pos** for the passive test mode. No air blanks are run. The advantage of the passive test mode is that it draws a larger sample into the fuel cell, thus being suitable for testing the vapors from beverage containers, and it does not use a breath tube.

To set the FC20 for Passive Testing:

1. Use **Function** to bring up the Settings screen
2. **Exec**
3. Use **Function** to get to Sequence mode ON
4. Change Sequence Mode to OFF
5. Use **Function** to get to Display Settings

6. Use **Exec** and **Function** to get to Results Format Numeric
   Exec changes it to PWF
7. **Function** takes you to Pass Level. Use +/- to set the value
8. **Function** brings up the Fail Level. Use +/- to set the value
9. **Function/Exec**.
10. Briefly press **Power** to get back to the Subject I.D. screen

The "Subject ID" screen will still be displayed when the instrument is turned on.

In the Pass/Warn/Fail mode, testing <u>does not meet</u> the requirements for evidentiary breath alcohol tests for DUI. PWF screening should always be followed up with an evidentiary test in order to establish the foundational admissibility of the breath alcohol results.

Testing:

PWF
Auto-Test

No air blanks
Subject blows
The breath flow and alcohol analysis graphs will be displayed
Results reported PASS/WARN/FAIL depending on the limits set
Printout: PASS/WARN/FAIL

PWF
Manual Test

Subject blows
Must Press "Exec" to take the sample
Only the alcohol analysis graph will be displayed
Results reported PASS/WARN/FAIL depending on the limits set
Printout: PASS/WARN/FAIL

NEG/POS
Passive Test

May be used to test air above a container to presumptively test for alcohol

Must Press "Exec" to take the sample
Alcohol analysis graph displayed
Results reported as NEG/POS depending on the limits set
Printout: NEG/POS

To reset the instrument for DUI evidentiary breath testing:

From the Subject ID window:

1. Use **Function** to get to Settings
2. **Exec**
3. Use **Function** to bring up Sequence Mode and change to "On"
4. Press **Function** to get to Display Settings
5. Use **Exec/Function**; Test Order should be Auto-Man-Passive
6. Use **Function** to bring up Results Format
7. Change Results Format to Numeric
8. Press **Function** to get to Exit (Pass and Fail levels may be ignored)
9. Briefly press **Power** to get to the Subject I.D. screen