

# INTOXILYZER 5000EN

## BREATH TESTING SPECIALIST MANUAL SUPPLEMENT

Idaho State Police  
Forensic Services  
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(revised 3/07)

Section 1  
Page 23

Revised 3/07

Rear view on the Intoxilyzer 5000EN

## **PARTS ON THE REAR OF THE INTOXILYZER 5000EN**

8. **Simulator Bracket Screws (side)** – Four screws used to attach a bracket that holds a wet bath breath alcohol simulator to the side of the instrument.
9. **Simulator Bracket Screws (rear)** – Four screws used to attach a bracket that holds a wet bath simulator to the rear of the instrument.
10. **Calibration Vapor Port** – An adapter through which alcohol vapor passes from an attached breath alcohol simulator to the instrument's sample chamber. A hose should be connected from this port to the "VAPOR OUT" port of the simulator.
11. **Simulator Hose Heater Connector** - Provides power and temperature control for wet bath simulator inlet tubing.
12. **Gas Delivery System Solenoid Control Connector** – "Solenoid Power" This connector provides a voltage to the external solenoid on a dry gas delivery system. We are currently not using dry gas calibration in the State of Idaho.
13. **AC Simulator Power Connector** – "Power Out" This connector is used to provide AC power to a wet bath simulator.
14. **Three Amp Fuse** – The instrument's main fuse. Replace with Part Number 140037, 3 amp Littlefuse 312 003.
15. **Power Jack** – "Power In" This is the port to which the power cord connects. The power cord that supplies power to the instruments can be replaced with Part Number 330196, Corcom 80-1245 Power Cord, if lost or damaged.
16. **Simulator Return Port** – This port is used for recirculation of vapors from a simulator. A hose from this port should feed back into the "AIR IN" port of the simulator.
17. **Guth Simulator Interface Connector** – "Simulator I/F" This 9 pin connector is used to connect the instrument to a compatible Guth simulator. This allows for simulator temperature monitoring. Without this connection, during test sequence, the instrument will display prompt "SIM IN RANGE Y/N".
18. **Printer Connector** – This 25-pin connector is used to interface with a standard parallel printer using a standard CENTRONICS interface cable. When a printer cable is connected to this port, it automatically deactivates the internal printer.

19. **RS232C Interface** – This 9-pin connector is used to connect the instrument to a computer or external modem for data communications. This connector is not needed at this time since the instrument is equipped with an internal modem.
20. **Keyboard Connector** – The keyboard of the instrument plugs into a 5-pin connector or a D-type connector. The keyboard can be replaced with an IBM compatible keyboard.
21. **RJ 11 Connector** – “Modem Line” This connector is used to connect the internal modem to an **analog** phone line. This line allows the Idaho State Police Forensic Services to communicate with the Intoxilyzer 5000EN and recover test data from the memory chip.
22. **Reset Button**

## **INTOXILYZER 5000 CALIBRATION CHECK PROCEDURES:**

### **Procedure for setting up the Intoxilyzer 5000 to perform a calibration check with each breath test**

**\*\*\*This is the setup you will use for evidentiary testing\*\*\***

1. Pour the calibration solution into the simulator, plug it in, and allow the solution to warm for at least 15 minutes to  $34^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ .  
  
**WARNING:** The simulator must contain liquid when it is plugged into an electrical outlet or the simulator will burn out.
2. Before attaching the simulator to the breath testing instrument, blowout the simulator for 5 seconds.
3. Connect the simulator to the Intoxilyzer 5000EN. The "**vapor out**" port of the simulator should be connected to the "calibration vapor" port on the **right side** (not rear) of the Intoxilyzer (See page 31). **If the simulator is incorrectly connected, the 5000EN may be flooded and put out of service.**
4. To utilize vapor recirculation connect the "simulator return" port on the right **rear** of the Intoxilyzer 5000EN to the simulator breath inlet (See page 31). This is recommended.
5. Use <Escape> <Escape> <W> on the keyboard and answer the questions to set up the instrument for evidentiary testing. See page 38 for proper answers for evidentiary testing.

6. Use <Escape> <Escape> <X> on the keyboard.
7. Answer **all** of the following questions and press enter/return to store the information. **It is critical that the following parameters be entered correctly. Failure to enter any of these parameters correctly may result in the unnecessary disapproval of the breath test(s) performed.**
  - (1) Low Ref Value: This is the lowest acceptable value that will still be considered as valid for a calibration check. This number must be entered as 4 digits (e.g. 0.070). This value will be obtained from the Certificate of Analysis for each lot.
  - (2) High Ref Value: This is the highest acceptable value that will still be considered as valid for a calibration check. This number must be entered as 4 digits (e.g. 0.090). This value will be obtained from the Certificate of Analysis for each lot.
  - (3) Reset Count Y/N/V: This allows you to reset the counter. The counter increases by one every time the simulator solution is analyzed by the instrument. The counter should be reset every time a new solution is used. (Y) resets the counter, (N) does not reset the counter, and (V) lets you view the counter.
  - (4) Solution Lot #: This entry is for the solution lot number. This should be changed every time a new lot is used. This entry requires ten alphanumeric characters. (e.g. Lot # 98801 must be entered as 0000098801)
8. The instrument is now set to perform a simulator check with each breath test. Press the green START BUTTON and perform a mock subject test.
9. Retain a record of the results.

### Procedure for performing a calibration check via the simulator port

1. Pour the calibration solution into the simulator, plug it in, and allow the solution to warm for at least 15 minutes to  $34^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ .

**WARNING:** The simulator must contain liquid when it is plugged into an electrical outlet or the simulator will burn out.

2. Before attaching the simulator to the breath testing instrument, blow out the simulator for 5 seconds.
3. Connect the simulator to the Intoxilyzer 5000EN. The "**vapor out**" port of the simulator should be connected to the "calibration vapor" port on the **right side** (not rear) of the Intoxilyzer (See page 31). **If the simulator is incorrectly connected, the 5000EN may be flooded and put out of service.**
4. To utilize vapor recirculation connect the "simulator return" port on the right **rear** of the 5000EN to the simulator breath inlet (See page 31). This is recommended.
5. Use <Escape> <Escape> <W> on the keyboard and answer yes to "3 DIGITS ON?" and "PRELIM RES?"
6. Use <Escape> <Escape> <C> on the keyboard to begin the sequence. The instrument will run the solution twice and printout the results if data entry is turned on through <Escape> <Escape> <W>, or a prompt of "HOW MANY?" will appear on the display. This method is recommended for use on solutions that contain an interferent such as acetone. These solutions may be supplied by the ISPFS on a periodic basis.

Note: Between the first and second calibration test you will be prompted to press the start test button to continue.

7. If the calibration check does not produce valid results call the nearest lab and take the instrument out of service.

Note: If two consecutive instrument readings from the same simulator solution differ by more than 0.003 at the 0.080 level, the operator should check for problems with the simulator or individual technique. The  $\pm 0.003$  agreement is not a requirement for instrument approval, but should serve as a guideline.

8. Retain a record of the results.

### Procedure for performing a calibration check via the breath tube

1. Pour the calibration solution into the simulator, plug it in, and allow the solution to warm for at least 15 minutes to  $34^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ .
2. Attach a small piece of tubing and a clean mouthpiece to the air inlet port of the simulator.
3. Use <Escape> <Escape> <W> on the keyboard and answer yes to "3 DIGITS ON?" and "PRELIM RES?"
4. Before using the simulator blow it out for 5 seconds.
5. With the simulator unhooked from the instrument use <Escape> <Escape> <B> on the keyboard to begin the sequence.

**Warning:** Do not have the simulator hooked up to the breath tube during an air blank. The sucking action may pull the solution into the instrument and **the Intoxilyzer 5000EN may be flooded and put out of service.**

6. Follow the instructions on the display:

- (1) Insert a card

If data entry option is turned on through <Escape> <Escape> <W> on the keyboard, you will be prompted to answer the following questions.

- (2) Enter your last name (up to 20 letters)
- (3) Enter your first name (up to 20 letters)
- (4) Enter your middle initial
- (5) Enter your ID Number (must be 10 number w/o dashes)
- (6) Enter the solution 1 or 2 (only option 2 is programmed to work)
- (7) Review data Y/N (Yes starts you back at step (2), No continues on with calibration check.)

**NOTE:** The solution number referred to in 6 (6) above is not important at this time. Its purpose is to distinguish which solution is run through the breath tube when more than one solution is used to perform this type of calibration check. Only option 2 will function at this time.

7. The Instrument will obtain an air blank.
8. The message "PLEASE BLOW/R INTO MOUTHPIECE UNTIL TONE STOPS" will scroll across the display and then "PLEASE BLOW/R" will flash on the display. At this point attach the breathtube to the vapor out port of the simulator and blow into the mouthpiece for a minimum of five seconds.
9. **Unhook the simulator from the breath hose IMMEDIATELY** following the displayed readout, displayed as "SUBJECT TEST .###".
10. Repeat steps 7-8 and obtain the printout.

Note: If two consecutive instrument readings from the same simulator solution differ by more than 0.003 at the 0.080 level, the operator should check for problems with the simulator or individual technique. The  $\pm 0.003$  agreement is not a requirement for instrument approval, but should serve as a guideline.

11. Retain a record of the results.

# Proper Connection of the Simulator

The proper connection of the simulator is important. If the simulator is not connected properly, the Intoxilyzer 5000EN may draw solution into the chamber and flood the instrument.

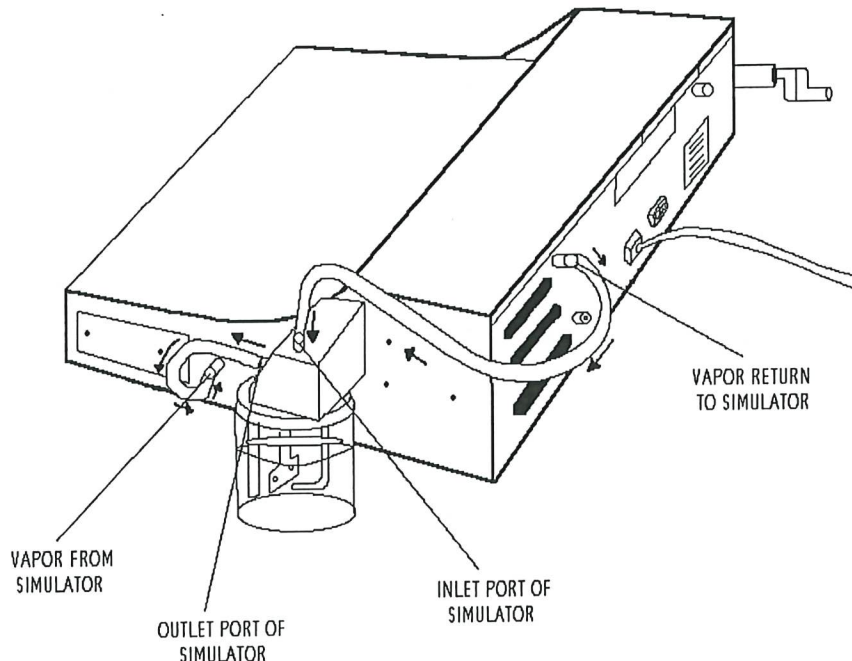
To properly connect the simulator to the Intoxilyzer 5000EN attach heated simulator hose from the vapor out port on the simulator to the “calibration vapor” port on the side of the Intoxilyzer 5000EN.

Next, connect the supplied black tubing or a 1/4 inch (inside diameter) piece of tubing from the right rear of the Intoxilyzer 5000, labeled “simulator return” on the instrument, to the vapor-in port on the simulator. *This connection must be tight for best results.*

**Do not connect the inlet port of the simulator to the port on the left rear of the instrument labeled PUMP EXHAUST/SAMPLE CAPTURE or BREATH EXHAUST.**

The diagram below illustrates the proper hookup with a Guth or a Mark IIA simulator.

The final step, which is not shown in the diagram, is to connect the 9-pin cable to the back of the Guth simulator and to the port on the back of the instrument labeled “simulator I/F”. This connection allows the instrument to monitor the simulator temperature.



## KEYBOARD OPTIONS MENU

Diagnostic and set up functions can be accomplished through the Keyboard Options Menu, commonly known as the Escape Escape Sequence. The Intoxilyzer 5000EN does not have switches to control functions like the previous Intoxilyzer 5000. All of the functions are controlled through the keyboard options menu.

To enter the Keyboard Options Menu, press the ESC key twice in rapid succession. It may take a few attempts to get the instrument to recognize the ESC ESC command. The timing is critical for this keystroke. This was done deliberately to help prevent an unauthorized operator from inadvertently activating the menu.

### Keyboard Options Menu

Press the ESC button twice very quickly to view the keyboard options menu. To make a selection from the menu, press the associated letter followed by the ENTER key.

Display: Menu #1: 1 B,C,D,E,G,H,P,V,W,Q  
Menu #2: 2 A,I,J,K,M,S,U,X,Q

#### **ON THE FIRST MENU:**

**1**  
**B = Maintenance Check**  
**C = Calibration Check**  
**D = Diagnostic**  
**E = Preliminary Data Entry**  
**G = Calibration Standard**  
**H = DVM Mode**  
**P = Print Test**  
**V = Version Display**  
**W = Instrument Function Setup**  
**Q = Quit Menu**

#### **ON THE SECOND MENU:**

**2**  
**A = Continuous Air Blank**  
**I = Internal Standards**  
**J = Memory Full Check**  
**K = Flow Rate Calibration and Testing**  
**M = Communications Select**  
**S = Motor Speed**  
**U = Cell Temperature Setup Function**  
**X = Solution Setup Function**  
**Q = Quit Menu**

## ESCAPE ESCAPE MENU FUNCTIONS

- A Auto Purge or Continuous Air Blank The pump is tuned on and stays on until the START TEST button is pressed. This is a maintenance feature that will help purge the chamber of fluid that may enter the instrument.
- B Calibration check via the breath hose. See the procedure for performing a calibration check through the breath hose (Section 1, Page 29-30).
- C Calibration check via the simulator port. See the procedure for performing a calibration check through the simulator port (Section 1, Page 28-29). Choosing this option will activate a sequence in which the instrument's calibration will be checked by using a simulator solution. The sequence will always alternate between an air blank and a calibration check. The sequence always ends with an air blank. Be sure the simulator is connected properly before you begin this procedure. Proper simulator connection can be found in Section 1, Page 31.

If the data entry is turned on, using keyboard option <W>, the data from the calibration check is stored in battery-protected memory. Because of the limitations of space in this memory, only two calibration checks will be performed and stored.

If the data entry is not active, the instrument will ask how many calibration checks to perform. The prompt "HOW MANY" will appear on the display. Type the number of calibration checks you desire and press ENTER. The data from all of the air blanks and calibration checks will appear on the printed test record, but will not be stored in battery-protected memory.

NOTE: Between the first and second calibration test you will be prompted to press the START TEST button to continue.

- D Diagnostics This option performs the diagnostic tests. This option will always print a test record regardless of the print inhibit option.
- E Preliminary Data Entry Allows you to edit the time, date, location of the instrument and to select the question asked at the end of the testing sequence. For instruments with external printers, you are able to select the number of copies of the breath test results to be printed. As each prompt appears there are two courses of action. Either type in the new data or press ENTER when the proper data in on the display to store it in memory.

**"ENTER TIME HHMM"** (Set time using 24 hour clock)

**"NORM TIME ZONE ="** (example MST)

**"Date = MMDDYYYY"** (Set date)

**"INSTR LOCATION ="** (Set location)

**“H FOR HELP (1,2,3)”** (This option sets the question asked at the end of subject test if the operator answers yes to the question  
“DUI ARREST Y/N”. 1 = DECP Y/N  
2 = DRUG TEST Y/N  
3 = NONE

**Currently in Idaho we are using selection 2.**

**“NUM COPIES (1-3)”** (This option is for the use of external printers and can be set to print form 1-3 copies. For internal printers choose 1.)

**“TIMEOUT IN MIN =”** (This number determines how many minutes of inactivity are necessary before the instrument goes into STANDBY MODE. An entry of ZERO (0) will force the instrument to always stay on. The allowable range of time for this option is 1 to 255 minutes. The simulator is not programmed to go into STANDBY MODE and will stay on any time there is power to the instrument.)

**G** Barometric Menu This option allows you to choose between wet bath and dry gas calibration. Dry gas is not being used in the State of Idaho. Instrument prompts

**“SELECT, MAINT (S,M)”**

**“S”** – Select

The instrument will prompt **“TYPE GAS, WET (G,W)”**

**“G”** -Dry Gas

**“W”** -Wet Bath

**“M”** -Maintenance

The instrument will prompt **“DISP,CAL,PNT (D,C,P)”**

**“D”** -Display the current barometric pressure

**“P”** -Print the current barometric calibration

**“C”** -Instrument prompts to **“ENTER BAROMETRIC”** to perform one point calibration on the barometric sensor.

**“Q”** - Quit

None of the Maintenance options are needed since we are only using the wet bath calibration check.

**H** DVM Test This is a special diagnostic tool to help a technician check the instrument for drift and stability.

In this mode, the processor output from each of the five filters appears one at a time on the display.

The display will show the output **YY X VVVV NNNN**

where: **YY** indicates which mode the instrument is in.

**CH** indicates DVM mode

IN indicates internal standards  
X is the channel number  
VVVV is the value of the channel  
NNNN is the noise figure for the channel

The value displayed is the value from the analog to digital converter. The noise figure gives a representation of performance of the channel. The noise figure is the difference between the maximum and minimum of 30 individual samples. Noise figures above 60 will fail the stability tests.

- I** Internal Standards This option allows you to check the instrument's internal standard values. The value of each of the five internal standards is printed individually on the card.
- J** Memory Full Check When the memory full option is active (Y), the instrument will warn the operator when the memory is almost full and disable the instrument if the memory becomes full. This would allow for a communications download of the data without losing any data. When this option is not active (N), the instrument will still record the test records as before. However, when the instrument is out of space, it will begin to delete the oldest record to make room for the newest entry. Until we are downloading information on a regular basis, leave this option turned off (N).
- K** Flow Rate Calibration and Testing This option allows the technician to monitor volume and flow measurements. If you choose this option, press the START TEST button to exit.
- M** Communication Select This option allows you to choose the communication interface with the instrument. It will prompt "**MODEM OR DIRECT**". Select "**M**" for modem so that ISPFS can contact the instrument.
- P** Printer Test This runs a diagnostic test for the printer. This test will print rows of characters and lines of dots to determine if there are any problems with the card alignment or individual print solenoids.
- S** Motor Speed This option allows the operator to monitor the motor speed. The display will read "**MOTOR SPEED RPM #####**". The motor speed should be approximately 2400± 200 RPM.
- U** Cell Temperature Setup Function This option allows the operator to monitor the sample chamber temperature. The instrument will display "**D,P,Q**". **D**- to display the temperature, **P**- to print the temperature and **Q** – to quit and return to idle mode.
- V** Version Display This will display the version of software that is contained within the EPROM of the instrument.

- X Simulator Solution Setup This is where you enter high and low reference values, enter solution lot number and reset the counter when you change simulator solutions. The high and low values must be entered as four digits, example: 0.070. The lot number must be entered at a ten digit number (#0000000807). The counter should be reset every time a new solution is used.
- W Custom Function Setup This option replaces the switch settings that were on the previous Intoxilyzer 5000. The function of the instrument is controlled by answering a series of eleven questions.

**“STD TEST (1-5)?”** The Intoxilyzer 5000EN is capable of running five different breath test sequences. **For evidentiary use you will choose sequence 1, which is the custom sequence for the State of Idaho.**

1. Custom test (AIACABABA)
2. ABA
3. ABACA
4. ACABA
5. ABABA

**“CUSTOM TEST? Y/N”** The instrument will confirm the test sequence you want to use. Type Y or N.

**“3 DIGITS ON? Y/N”** This question is asking how many digits the alcohol concentration should be displayed in. **For evidentiary use, we recommend this option be turned on (Y)**, this will print three digits past the decimal point (.000). When you use the keyboard options to do a calibration check, this should be turned on to print all three digits (.000).

**“PRELIM RES? Y/N”** This allows you to see the alcohol concentration throughout the entire test, not just the final result. The display will continually show the rising, falling or constant concentration value of the sample as the subject blows. **For evidentiary testing this should be turned off (N)**, so only the final result is displayed.

**“DATA ENTRY? Y/N”** The instrument is programmed with a set of data entry questions that may be asked before each breath test begins. These questions include the subject’s name and operator’s name. **For evidentiary testing turn this option on (Y).**

Note: Only when data entry is turned on will test results be stored on the battery-protected memory.

**“PRINT INHIB? Y/N”** It is possible to inhibit the printer from creating a printed record of the breath test. Choose “Y” if you do NOT want the instrument to print a test record. Choose “N” if you DO want the instrument to print a test record. **For evidentiary testing this should be turned off (N)** so that a test record is printed. If a record is not printed use the function key F1 on the keyboard to reprint the results of the last test.

**“INT STDS? Y/N”** This option performs an internal standards check in place of the calibration check. **For evidentiary testing this needs to be turned off (N)** so that a calibration check is run during the test sequence.

**“PRINT VOLUME? Y/N”** The expired breath volume can be printed with each breath test. **For evidentiary testing this should be turned off (N)**. We are not currently using this feature.

**“AUTO TEMP CK? Y/N”** Allows the instrument to obtain temperature information from a compatible Guth simulator automatically. “SIMULATOR TEMPERATURE IN RANGE” will print on the report. **For evidentiary testing this should be turned on (Y) if possible**. If a compatible simulator is not being used or this feature is for some reason not functioning it can be turned off. If it is turned off (N), the question “SIM IN RANGE Y/N” will be asked before each calibration check.

**“REVIEW SETUP? Y/N”** If you are satisfied with the setup, choose “N”. If you would like to double-check your entries, choose “Y”.

**“SAVE SETUP? Y/N”** Answering “Y” to this question will save your new configuration onto the battery backup RAM. This will preserve the configuration so that each time that the instrument is energized, it will be set to your new configuration.

## **RECOMMENDED INSTRUMENT SETUP FOR EVIDENTIARY TESTING**

<b><u>QUESTION</u></b>	<b><u>RESPONSE</u></b>
<b>“STD TEST (1-5)?”</b>	<b>1</b>
<b>“CUSTOM TEST? Y/N”</b>	<b>Y</b>
<b>“3 DIGITS ON? Y/N”</b>	<b>Y</b>
<b>“PRELIM RES? Y/N”</b>	<b>N</b>
<b>“DATA ENTRY? Y/N”</b>	<b>Y</b>
<b>“PRINT INHIB? Y/N”</b>	<b>N</b>
<b>“INT STDS? Y/N”</b>	<b>N</b>
<b>“PRINT VOLUME? Y/N”</b>	<b>N</b>
<b>“AUTO TEMP CK? Y/N”</b>	<b>Y</b>

## **INTERNAL PARTS AND THEORY UNIQUE TO THE 5000EN**

This is information that is unique to the Intoxilyzer 5000EN in relation to the previous Intoxilyzer 5000. Further information can be found in Section 1, Pages 19-22.

### **A. Filter Wheel**

The Intoxilyzer 5000EN has five filters embedded in the filter wheel. It uses these filters to measure alcohol concentration and to detect interfering substances.

1.     3.47                      Measures the concentration of alcohol.  
       3.80                      Is used as a reference.  
       3.40, 3.36 and 3.52      Look for interfering substances. Make the instrument more specific to ethanol.
  - a.     In a normal alcohol-only situation, a ratio exists between the 3.40 and 3.47 peaks.
  - b.     With the presence of acetone, 3.40 peak gets higher and ratio changes.
  - c.     Intoxilyzer 5000 electronically corrects the ratio and subtracts the interfering substance.
  - d.     **Not all substances are subtracted accurately. For this reason it is important to obtain a blood sample when an interferent is detected.**
  - e.     Unlike the previous Intoxilyzer 5000, the Intoxilyzer 5000EN is able to detect other types of alcohol as interferents. For example this instrument will respond "INTERFERENT DETECTED" in the presence of methanol and isopropanol.
2.     Timing notch on the filter wheel keeps the computer in sync to filters.

### **B. Internal standards**

Checks the functioning of the instrument by monitoring the voltages produced by the five filters on the filter wheel.

1.     3.40 is .100 standard.
2.     3.47 is .200 standard.
3.     3.80 is .300 standard.
4.     3.36 is .400 standard.
5.     3.52 is .500 standard.
6.     Internal standards are directly linked to the established voltages and calibration setting of the instrument.
7.     Any shift or change in voltages or calibration setting will be reflected in the Internal Standards.

8. If one or more of the internal standards are outside a 5% allowable tolerance the Intoxilyzer will abort the test with INTERNAL FAILED.
  - a. .100 std range is .095 to .105.
  - b. .200 std range is .190 to .210.
  - c. .300 std range is .285 to .315.
  - d. .400 std range is .380 to .420.
  - e. .500 std range is .475 to .525.

C. **Printer**

1. The internal printer is an impact printer, no ribbon.
2. Needs NCR paper for the print cards.
3. The Intoxilyzer 5000EN is equipped with a connection for an external printer. The internal printer is automatically disabled when an external printer is connected to the instrument.

D. **Flow Sensor**

The pressure switch in the previous Intoxilyzer has been replaced by a flow sensor.

1. There are four minimum requirements that must be met before a sample will be taken.
  - a. 1.1 Liters of air must be expired.
  - b. The subject must blow for a minimum of one second.
  - c. The alcohol concentration slope must level off.
  - d. The pressure must reach approximately 1" of water.

E. **Standby Mode**

The Standby Mode allows the Intoxilyzer 5000EN to be used with a short warm up time and results in less wear on the instrument than being left running continuously.

1. In the Standby Mode, power is applied only to the heaters in the instrument.
2. When a cold Intoxilyzer is turned on, the instrument will take 30 minutes to warm up to the proper operating temperature before it begins diagnostics and moves into the IDLE MODE. When the instrument is reactivated from the Standby Mode, it only will need two minutes to warm up.
3. To reactivate the instrument from the Standby Mode you only need to press the START TEST button.
4. **The Standby Mode can be easily noted because the display will be blank and the red power light will still be lit.**

5. The amount of time allowed before the instrument “times out” is controlled through the “**ESC ESC E**” menu option. Entering zero (0) will force the instrument to always stay on.
6. The simulator does not shut off in the Standby Mode and will be on any time there is power to the instrument.

F. **Temperature Monitoring**

The Intoxilyzer 5000EN has a temperature monitoring feature that allows the instrument to verify the simulator temperature is  $34^{\circ}\text{C} \pm 0.5$ .

1. During the test sequence, prior to the calibration check, the instrument will check the simulator temperature. If it is in range, on the final report will be printed “SIMULATOR TEMPERATURE IN RANGE”. If it is out of range, the test sequence will be aborted.
2. This temperature monitoring feature is controlled through the “**ESC ESC W**” menu.
3. When this feature is turned off, before the calibration check is performed, the operator will be prompted to answer the question “SIM IN RANGE Y/N”.

