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INTOXILYZER 8000[®]

Breath Alcohol Testing Instrument

Florida Breath Test Operator

User's Guide

Introduction

This is the official Florida Breath Test Operator User's Guide for the Intoxilyzer 8000®. Any other publication concerning the Intoxilyzer 8000® to include materials published or produced by the instrument manufacturer may be used as supplemental references. However, this guide and applicable Florida Statutes and Administrative Rules supercede any conflicts with information in other publications or products.

This operator's guide will provide the necessary information to ensure that the user of the CMI, Inc. INTOXILYZER® 8000 can properly operate the instrument in compliance with applicable Florida Statutes and Administrative Rules, and is to be used to supplement the State of Florida approved curriculum for a breath test operator permit. The guide covers all aspects from description of the principles of analysis to conducting a breath test.

For information concerning this guide, please contact the Florida Department of Law Enforcement, Alcohol Testing Program at P.O. Box 1489, Tallahassee, Florida, 32302-1489.

CONTENTS

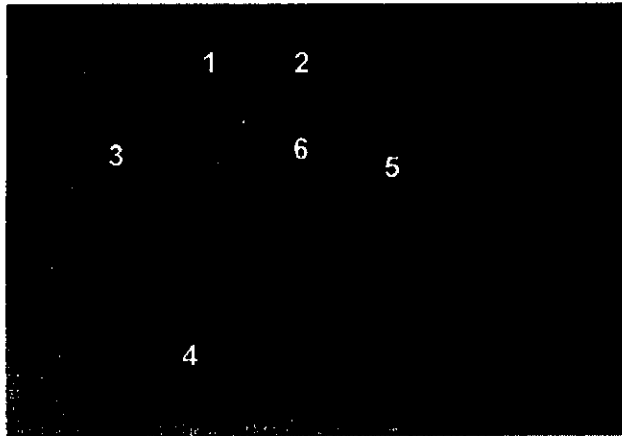
SECTION	TOPIC	PAGE
Section A	Instrument Description.....	1
	Power Requirements.....	4
	Principle of Analysis.....	4
Section B	Preparing for a Breath Test.....	5
	Standby Mode.....	5
	Operating Environment.....	5
Section C	User Menu.....	6
	Recall Test.....	6
	Gas Cylinder Change.....	7
Section D	User Maintenance.....	8
	Inspecting the Exterior.....	8
	Changing the Paper Roll.....	8
	Changing the 12 VDC Fuse.....	9
Section E	Changing the 110 VAC Fuse.....	10
	Performing the Breath Test.....	11
	Setting the Date/Time.....	11
Section F	Data Entry Questions.....	11
	Obtaining a Breath Sample.....	13
Section G	Exceptions.....	13

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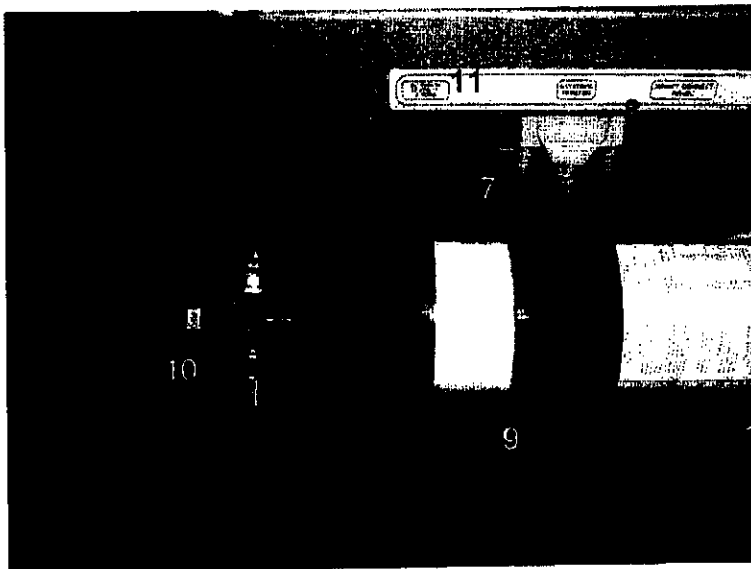
SECTION A: Instrument Description

Overview

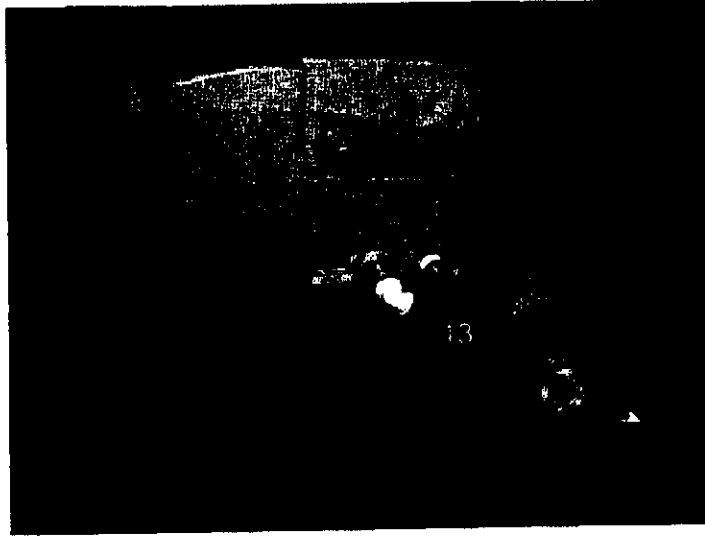
The CMI, Inc. INTOXILYZER® 8000 is an instrument which uses the infrared light absorption method of analysis and is designed for mobile, marine, and stationary evidential breath alcohol testing. The major components of the instrument are described below:



1. Mouthpiece storage area.
2. Breath hose, coiled in the top recess of the instrument to allow easy access. Approximately thirty-six inches in length, the hose is flexible, kink resistant, and non-collapsible. The temperature of the heated breath hose is under digital control to prevent condensation of the breath sample. The hose must be positioned correctly within the housing when not in use to protect from being damaged. The hose accepts standard mouthpieces.
3. Instrument display, (vacuum fluorescence, two line, twenty characters per line).
4. Drop-down mini PS/2 keyboard, may be detached from main unit to enable data entry to be performed remotely from where the test is taking place. A standard full size keyboard with a PS/2 connection can also be used.
5. Thermal printer unit. Used to produce a printed breath test result when an external printer is not attached. It has a 2.5" wide paper roll that when it is almost "out", a thin colored line appears along the edge of the roll. When this occurs, approximately five more custom test printouts are possible until the end of the paper is reached.
6. Start button. This button is used to initiate the instrument warm up "Not Ready" mode, restart from "Standby" mode, abort test sequences, and run an evidential breath test.



7. AC Power Connecting Socket and Power switch. Used to plug in the AC power cord and to power the instrument on and off when connected to 110 VAC (volts of alternating current).
8. Parallel printer port. Used to connect external printer.
9. Dry gas standard cylinder carrier. Used to support the dry gas standard cylinder.
10. Electronic gas regulator valve. Used to accurately deliver a dry gas standard sample to the instrument during a control check or test, and to show remaining pressure in the cylinder.
11. 12 VDC (volts of direct current) power cord connector. Used to connect the 12 VDC power cord.



12. Magnetic card swipe. Used to swipe a driver license to download test subject information into the instrument database. It will accept a Florida Driver License and Florida Identification Card. It can accept another state's driver license or identification card if they are of the properly coded format.
13. Dry gas standard supply hose. Used to deliver the dry gas standard to the instrument's sample chamber during control checks or tests.
14. Dry gas supply hose "quick connect". Used to connect the dry gas standard supply hose to the instrument.
15. Carry handle. Used to transport the instrument by hand.

Power Requirements

The instrument has a nominal power requirement of 60W. The device can be powered by each of the following:

- 110 volts alternating current (VAC) (47-63 Hz)
- 12 volts direct current (VDC) (nominal 8 to 16VDC)

The instrument will not operate if the above power and current requirements are not met.

Principle of Analysis

The fundamental principle of analysis is infrared light absorption. That is, the greater the concentration of alcohol in a subject's breath specimen, the greater the amount of infrared light that is absorbed by that specimen (an infrared detector detects the amount of absorption of the infrared light).

In order to eliminate the possibility of interferences being reported as a breath alcohol result, the instrument operates using infrared light selected at two wavelengths. The ratio between the two filters that is generated when alcohol alone is supplied in the path of the infrared light creates what may be termed as a "fingerprint". This "fingerprint" allows the device to discriminate between samples that are contaminated by breath interferences and those that are not.

SECTION B: PREPARING FOR A BREATH TEST

Connect the instrument to either a wall outlet (110 VAC) or to a 12 VDC power source. If it is connected to a wall outlet, the operator must turn on the power switch. If it is connected to a 12 VDC power source, it is not necessary to turn on the power switch.

After the power is turned on, the instrument will cause the power light to glow red, and check the power regulator output to the printer and internal heaters.

Push the "Start Test" button. The instrument will purge and enter its warm up "Not Ready" phase. The power light will glow green. It will then produce a printout.

- If the heaters and printer are being provided proper power, the printout identifies the instrument model number and states "Instrument Initialized".
- If proper power is not provided, the printout will only contain the instrument model number.

The operator should still proceed to the next step, as the instrument will continue to attempt to provide proper power until the diagnostic tests begin. This phase lasts approximately 20 minutes, depending on ambient conditions, and if the instrument has recently been used. The instrument will countdown the last five minutes of the warm up phase on the display.

At the end of the last five minutes, the instrument will automatically run a diagnostic test. The instrument checks critical functions and circuits during the diagnostic test. Once the instrument passes the diagnostics test, it is ready for use. If it fails the diagnostics test, note the error, restart the instrument by turning off the power, turning it back on, and pushing the "Start Test" button, or disconnecting and reconnecting the 12 VDC power cord, if used. If it again fails the diagnostics test, remove from service immediately and contact your agency inspector.

STANDBY MODE

If the instrument is turned on and in a "Ready" mode and has not been used for approximately 30 minutes, it will automatically enter a "Standby Mode". To bring the instrument out of the "Standby" mode, simply press the "Start Test" button. The instrument will countdown for one minute and enter the "Ready" mode.

OPERATING ENVIRONMENT

The instrument will operate in a wide variety of ambient and environmental conditions. If the instrument will successfully pass a diagnostic test and enter a breath test mode, it can be used. The one limiting factor is that it must not be exposed to rain or submersed in water, as it is water resistant, not waterproof.

SECTION C: USER MENU

The user can perform certain tasks other than the breath test. These tasks are accessed through the instrument menu options. The breath test will be addressed later in this guide.

The user must twice press and release the <ESC> key on the keyboard. Upon doing this the user must then enter their last name, first name, and middle initial, pressing <ENTER> after each entry. The instrument will then display the User Level 1 Menu.

**11 RS
Recall Test**

The user can only access **R** and **S**. The rest of the menu options are password access only.

The following options are available to users:

- Set Time/ Date (Available in the Breath Test Data Entry Questions)
- Recall Test (R)
- Change Gas Cylinder (S)

Recall Test (R)

- Move cursor under "R" on menu and press <ENTER>.
- Screen will display "REC CREATION DATE" and current date.
- Use **PgDn** and **PgUp** key to scroll through dates. **NOTE:** Date will change via the day only. You must scroll down or up past the first or last day of the month to change the month. Press <ENTER> when desired date is reached.
- The display will list number of records available for that date.
- Press <ENTER>
- The screen will display the record date, record number, test subject's last name, and a right arrow (->). Press the right arrow key to see test subject's first name. Press the left arrow key to return to test subject's last name. The subject's last name must be displayed in order to scroll through the records.
- Page up or down with the **PgUp** or **PgDn** keys to scroll through the records for that date.

- Once desired record is found, press <ENTER> key to print.
- If a breath test result affidavit is desired, ensure an external printer is connected. If an external printer is not connected, then a test report will print out via the internal printer.
- Press the <ESC> key until the desired menu level is reached after completing the task.

Change Gas Cylinder (S)

Screen	Max. Num. Of Characters	Format
Enter Cylinder Lot #:	10	Alpha, Numeric
Enter Exp Date:	8	Valid Date

- Move cursor under "S" on the menu and press <ENTER>
- Enter cylinder lot number (found on cylinder label). Press <ENTER>
- Enter cylinder expiration date (found on cylinder label). Press <ENTER>
- Instrument will display "Please Wait, Saving Settings" and then revert to Menu.
- Carefully disconnect the gas cylinder by turning counterclockwise from the regulator. Be sure to support the regulator with free hand.
- Carefully connect the new cylinder to the regulator by turning clockwise until very snug. Be sure to support the regulator with free hand. **DO NOT USE ANY TOOLS TO CONNECT THE CYLINDER.**

SECTION D: User Maintenance

Inspecting the Exterior

- Visually inspect the exterior of the instrument for damage or dirt, spills, etc.
- Do not use if the case or display is cracked or damaged. Notify your agency inspector.
- Clean off any dirt or spills with a clean, water **dampened but not soaked** cloth or paper towel. Do not use solvents or cleaners of any kind.
- Check the breath hose for cuts, tears, kinks, or other damage. If any are found, do not use the instrument and notify your agency inspector.
- Check the dry gas standard cylinder and insure it is snugly attached to the regulator. Tighten if necessary.
- Check the dry gas standard supply hose for a snug fit to the instrument. Also check for damage to the hose. If damage is found, do not use the instrument and contact your agency inspector.
- Check the power cord(s) for tears, fraying, or other damage. Replace if necessary.
- Check the paper roll in the interior printer and test paper feed by depressing the paper feed button. Realign the paper if jamming, or replace if necessary. See below for the proper procedure to replace the paper roll.

Changing the Paper Roll

Changing the paper roll does not require menu access.

- Gently pull up on black knob on top rear of printer access door.
- Remove door by lifting from top of instrument.
- Gently pull green lever located on front right of printer forward until it locks.
- Note placement and alignment of remaining paper roll in the paper roll holder.
- Remove remaining paper by grasping paper roll and lifting back and up. The remaining paper and spool will come out easily. **DO NOT FORCE.**
- Tear or cut a smooth, straight edge on the new roll.

- Holding the roll with the paper spooling from the bottom front, slip the leading edge of the paper underneath the rear of the black rubber platen (roller) downwards until leading edge slides under the platen and out the front.
- Place the paper roll into the paper roll holder.
- Pull out approximately three inches of paper past the platen. Ensure the paper is aligned straight.
- Gently push the green lever up and backwards until it points straight up. **IT WILL NOT "CLICK" INTO PLACE.**
- Holding the printer cover in one hand and oriented properly, slip the paper through the paper feed slot.
- Place the printer cover on the instrument, ensuring the edge on the bottom front of the cover rests in the slot on the instrument top cover.
- Gently depress the black knob until it locks in to place.

Changing the 12 VDC Fuse

If the instrument fails to power up when the 12 VDC power cord is connected, the cause may be a faulty 12 VDC fuse, either in the power cord or the instrument, or a faulty vehicle/vessel fuse. All fuses must be checked.

First, check the vehicle/vessel fuse. If it is okay, check the power cord and then the instrument fuse.

The fuse for the power cord is located on the "male" end that is inserted into the power receptacle.

Unplug the cord from the instrument.

- Remove the chrome plated end-piece by turning counter-clockwise.
- Check the filament in the fuse. If it is broken or the glass discolored, remove the fuse by gently pulling it out the cap and replace it with a new 250v 7amp 5mm fuse.
- Replace the cap by turning it clockwise until it seats.

The other 12 VDC fuse is located on the rear panel of the instrument on the right side of the power switch.

Turn instrument off and unplug from power source.

- Using a small slotted screwdriver or similar device, insert the edge into the slot located on the end-cap of the fuse holder.
- Turn counterclockwise until the end-cap is off.
- Check the filament in the fuse. If it is broken or the glass is discolored, remove the fuse by gently pulling it from the cap and replace it with a new 250v 6.3 amp 5mm fuse.
- Place the end-cap back onto the fuse holder, and turn clockwise until snug.
- Plug instrument into a power source and turn on. If one of the fuses fail again, immediately turn off, unplug, and remove from service. Notify your agency inspector as soon as possible.

Changing the 110 VAC Fuse

If the instrument fails to power up when connected to a 110 VAC outlet, the cause may be either no power at the outlet or a blown fuse in the instrument.

- Turn the instrument off and unplug from power source.
- Using a small slotted screwdriver or similar device, insert the edge into the slot below the door to the 110 VAC fuse holder, located just below the power switch.
- Gently pry outwards, and slide the fuse holder out and down. The fuse will be on the right side of the holder. There is a place to store a spare fuse on the left side of the fuse holder.
- Remove the fuse and check the filament. If it is broken or the glass discolored, replace it with a new 250v 3 amp 5mm fuse.
- Insert the new fuse in the fuse holder and close the door.

If the fuse is not blown, plug the instrument into a wall outlet that is known to have power. If the instrument now turns on, the wall outlet first used does not have proper power. If the instrument does not turn on, remove from service and notify the agency inspector.

SECTION E: PERFORMING THE BREATH TEST

The instrument will flash the display and sound a short tone when a manual operation or step is required. The instrument will sound a low/high tone when an exception occurs. An exception is any condition that the instrument recognizes that would not allow it to function properly. The instrument will sound a steady tone when all sample requirements are being met.

SPECIAL NOTE: *Set Date/Time*

The instrument keeps very reliable date and time. The user should rarely, if ever, have to make adjustments. If the user does make adjustments, the changes are recorded by and stored within the instrument's software. The operator must notify their agency inspector if adjustments are made. The date and time can only be changed in User Level 1 during the breath test mode

After the user enters their name, the next prompts will be for verifying the correct date and time. The screen will pause approximately 10 seconds during this step.

The year format must be MM/DD/YYYY (ex: 12/12/2004 is December 12, 2004). The instrument will automatically adjust for annual year change, daylight savings time, and leap years.

- Asks if time and date is correct. To change, enter "Y" and press **<ENTER>**
- Automatically displays date
- Adjust date by entering correct numbers and press **<ENTER>**
- Automatically displays time
- Adjust time by entering correct numbers and press **<ENTER>**
- Instrument displays **"Please wait, Saving Settings"**
- Instrument then continues to next question.

Data Entry Questions

Once the date and time has been verified, the next sequence of data entry questions will display. If a driver license or identification card of the proper format coding is available for the test subject, swipe it with the magnetic strip facing down and to the rear of the instrument through the card swipe slot located on the top right rear of the instrument from left to right when prompted. Information from the card will be automatically filled in. Verify the information when those questions are displayed. Correct the information if necessary. If an identification card is used, delete the number from the "Driver License #" field. If the question does not apply, then enter **N/A** into the field and press **<ENTER>**. If the instrument does not accept the card, manually enter the information.

If there is no middle initial, press the space bar once and press **<ENTER>**.

When the instrument asks for the user's or arresting officer's agency, select the correct agency through the "drop down" agency list.

When the instrument asks for the offense code, select the correct category code through the "drop down" offense code list.

Once the required questions are answered, the instrument will enter the breath sampling process. The breath test sequence is: **DACABAWABA(WABA)CAD**

- A: Air blank.
- C: Control test
- B: Breath sample
- W: 2 minute wait
- D: Automatic internal diagnostic test

Listed below are the data entry questions and their character format requirements.

Question	Max. Num. of characters	Format
User Last	20	Alpha, Numeric, Separator
User First	20	Alpha, Numeric, Separator
User MI	1	Alpha or space
Date/Time Correct? Y/N	1	Alpha, Y or N Only
Last Agency Insp Date?	8	Valid Date, MM/DD/YYYY
Enter Cylinder Lot #	10	Alpha, Numeric, Separator
Expiration Date?	8	Valid Date, MM/DD/YYYY
Obsrv Time Began?	4	Valid Time, HH:MM
Please Swipe/Scan DL or Press Enter	None	None
Subj Last Name?	20	Alpha, Numeric, Separator
Subj First Name?	20	Alpha, Numeric, Separator
Subj Mid I?	1	Alpha or space
Driver License #?	20	Alpha, Numeric, Separator
State?	2	Alpha, Two Letter Abrv
Date of Birth?	8	Valid Date, MM/DD/YYYY
Sex M/F?	1	Alpha, M/F Only
Arrst Officer Last?	20	Alpha, Numeric, Separator
Arrst Officer First?	20	Alpha, Numeric, Separator
Arrest Time?	4	Valid Time, HH:MM
Arrest Agency?	20	Alpha, Numeric, Separator
User Agency	20	Alpha, Numeric, Separator
Violation code?	10	Alpha, Numeric, Separator
Review Data Y/N?	1	Alpha, Y or N Only

SECTION F: Obtaining a Breath Sample

Insert a new, clean mouthpiece into the end of the external breath tube.

The instrument will display: **"Provide Sample Now"**. Holding the breath tube, instruct the subject to take a normal breath and blow into the mouthpiece until you tell them to stop. Ensure the subject blows until it appears they have expelled all possible air from their lungs.

If the subject has provided a sufficient sample (minimum of 1.1L of breath in a single attempt) and the user has given the instructed to stop, the breath test result will display. If the subject stops providing the sample before the minimum requirements are met, the instrument will again display **"Provide Sample Now"**. The instrument will allow a maximum of 3 minutes to provide a sufficient sample.

If the subject refuses to provide a sample during the period when the instrument is prompting for a breath sample, simply press the **"R"** key on the keyboard and a refusal result will print.

If there is no 0.020 g/210L agreement between the first two samples, the instrument will automatically request a third sample. If there is still no 0.020 g/210L agreement, restart the test.

NOTE: In order for a breath alcohol test affidavit to print at the time of test, an external printer must be connected to the instrument. If not, the breath test results will print from the internal printer. The user must attach this printout to the affidavit when the affidavit is printed.

SECTION G: EXCEPTIONS

The instrument will not print out test results in case of some exceptions. It will print the exception message received. These exceptions can occur for the following reasons including but not limited to: RFI (radio frequency interference), low or improper sample, sample introduced at wrong time, ambient fail, mouth or residual alcohol detected, diagnostic failure, or control test failure. The instrument will give a low/high warning tone and abort the test. The resulting printout will identify the exception by printing the words **"TEST ABORTED"** and the reason. The user must attempt to correct the exception if possible and restart the test.

Listed below are exception messages a breath test operator could encounter:

Interferent Detect: An interfering substance was detected in the breath or control sample.

Improper Sample. The sample was introduced at the wrong time

Ambient Fail: The instrument detected a substance during the initial sample chamber air blank that prevented a zero reference point from being established.

Purge Error: The instrument was not able to successfully purge the last breath or control test sample from the sample chamber.

Test Refused: The operator depressed the "R" key on the keyboard during "Provide Sample Now" to indicate the subject refused to provide a sample.

Test Timeout: No sample was provided within the 3 minute time period allowed.

Slope Not Met: The sample did not meet the minimum requirements for slope.

RFI Detect: The instrument detected radio frequency interference of a sufficient strength and frequency to interfere with the breath test.

Test Aborted: The "Start Test" button was depressed during an operational function.

Range Exceeded: The value of the sample provided exceeded the reporting range of the instrument. (0.000 to 0.600 g/210L)

Control Failure: The dry gas standard control test value analyzed was either too low or too high in value from the preset level.

Diagnostic Failure: One or more of the diagnostic tests failed.

Tank Pressure Low: The gas pressure of the dry gas standard cylinder was under 30 psi.

Card Rejected: The magnetic card reader was unable to accurately read the driver license. The data must be entered manually.

Record Buffer Limit: The test record memory has reached it's preset 150 test limit.

Insufficient Sample: Less than 1.1L of continuous breath volume was provided during "Provide Sample Now" within the 3 minute time period allotted.