

BACtrack

S35 Breathalyzer



User Guide

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This device is intended to measure alcohol in human breath. Measurements obtained by this device are used in the diagnosis of alcohol intoxication.

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Track your B.A.C. – BACTRACK!

INTRODUCTION

The BACtrack® Alcohol Detector is an alcohol screening device, used for the detection of alcohol in the breath. The BACtrack provides a digital result, indicating the approximate BAC (Blood Alcohol Content) of the test subject. The BACtrack is powered by two AAA batteries and is very easy to use. Simply turn on the unit and begin testing in a matter of seconds. However, before you begin testing, there are a few things you should know. Please take a moment to read your owner's manual in its entirety and familiarize yourself with the BACtrack.

Alcohol and Its Effects on the Human Body

Alcohol is absorbed from the mouth, throat, stomach and intestines into the bloodstream.

Alcohol ingested by the human body can be detected in the breath because of its presence in the bloodstream.

Alcohol cannot be digested, and it cannot be chemically changed in the bloodstream. As the blood flows through the lungs, alcohol in the bloodstream moves across the membranes of the lung's air sacs (alveoli) into the air. The concentration of the alcohol in the alveolar air is directly related to the concentration of the alcohol in the

blood. As the alveolar air is exhaled, the alcohol in it can be detected by the breath alcohol testing device. The alcohol concentration in the breath is related to that in the blood, and because of this, an individual's BAC can be determined by measuring alcohol in the breath. The ratio of breath alcohol to blood alcohol is generally estimated to be 2,100:1. Therefore, 2,100 milliliters (ml) of alveolar air will contain approximately the same amount of alcohol as 1 ml of blood.

Alcohol is a Drug

Alcohol is the chemical (ethanol or ethyl alcohol) resulting from the fermentation of grapes or grain. Alcohol is absorbed directly into your bloodstream. From your bloodstream, the fluids in your body tissues absorb the alcohol. Your brain is made up of a large concentration of fluids and will absorb a large amount of any alcohol you drink. Your liver eliminates the absorbed alcohol at its own rate of time and nothing you eat or drink can speed up the process. Your liver does this by oxidizing the alcohol (converting it into water and carbon dioxide). Coffee, food or any other "cure" will not sober you up. Only time will do that.

How does alcohol affect my body?

Alcohol is a depressant. It has a relaxing effect on the muscles in your body. The muscles of your eyes relax and lose focus. Your eyesight will become fuzzy and you may

experience double vision. Brain activity is slowed. Your judgment, reflexes, and coordination are all negatively affected. Some vision impairments that occur when you have been drinking include:

- Narrowing of your field of vision
- Reduction in your depth perception
- Decreased ability to see in darkness
- Increased sensitivity to glare and a longer time for your eyes to readjust from the glare

Some mental (brain) impairment can occur when you have been drinking, including:

- Reduced awareness of danger
- Becoming overly confident and reckless
- Difficulty in making decisions
- Reduction in balance
- Slowed reflexes
- Impaired judgment

How does alcohol affect my driving?

We can't emphasize enough how dangerous it is for you to drink and drive. Your vision and your brain are the most important factors in driving safely. If you jeopardize either by drinking, and then you drive, you are likely to be involved in a serious or fatal collision.

DOSE-SPECIFIC EFFECTS OF ALCOHOL*

BAC	Dose-Specific Effects
0.02 - 0.03%	Slight euphoria. Loss of shyness. Depressant effects are not apparent. Impairment possible in some individuals.
0.04 - 0.06%	Feeling of well-being, relaxation, lower inhibitions and sensation of warmth. Euphoria. Some minor impairment of reasoning and memory. Lowering of caution. Driving skills may be impaired at this level of intoxication.
0.07 - 0.09%	Slight impairment of balance, speech, vision, reaction time, and hearing. Euphoria. Judgment and self-control are reduced. Caution, reason and memory are impaired. Driving skills are always impaired at this level of intoxication and higher.
0.10 - 0.12%	Significant impairment of motor coordination and loss of good judgment. Speech may be slurred. Balance, vision, reaction time and hearing will be impaired. Euphoria.

BAC	Dose-Specific Effects
0.13 - 0.15%	Gross motor impairment and lack of physical control. Blurred vision and major loss of balance. Euphoria is reduced and dysphoria (anxiety, restlessness) is beginning to appear.
0.16 - 0.20%	Dysphoria predominates. Nausea may appear.
0.25%	Needs assistance in walking. Total mental confusion. Dysphoria with nausea and some vomiting.
0.30%	Loss of consciousness.
0.40% and up	Onset of coma. Possible death due to respiratory arrest.**

From California Department of Motor Vehicles (<http://www.dmv.ca.gov>)¹ Bailey, William J., Drug Use in American Society, 3rd ed., Minneapolis: Burgess, 1993
 *The effects of alcohol intoxication are greatly influenced by individual variations among users. Some users will be intoxicated at a much lower BAC than shown above.

**Death can occur at a lower BAC in some individuals.

The generally accepted legal standard for alcohol intoxication in the United States is 0.08%. However, your driving skills can be impaired at a level of 0.04% or lower. It is never safe to drink any amount of alcohol and drive.

SENSOR CLEANSING

When the breathalyzer is used for the first time, or if the unit has not been used for an extended period of time (3 weeks or more) air borne pollutants may form on the sensor surface. To maximize accuracy, clean the sensor by performing 2 tests, allowing it to run a complete cycle each time, and disregard the results. Whether or not alcohol is present on the breath for the sensor cleansing doesn't matter. After running through the complete testing process twice, cleansing is complete, and you can test again normally.

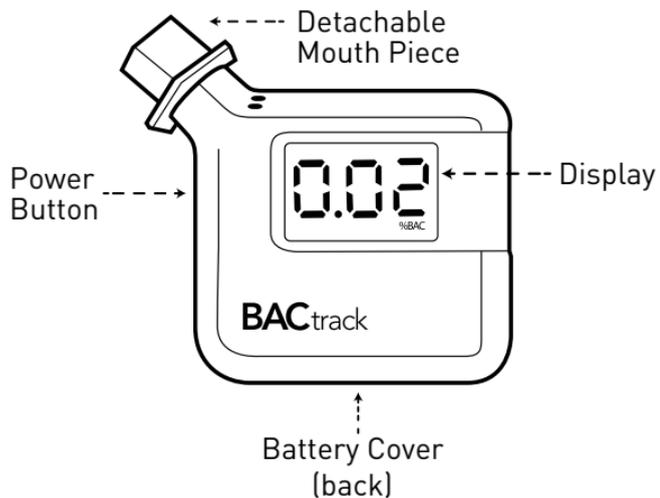
PREPARATION

Installing the Batteries

Install two Alkaline AAA batteries in the battery compartment.

COMPONENTS DIAGRAM

Front View



OPERATION

IMPORTANT!



Test subjects should wait 20 minutes after eating, drinking, or smoking before blowing into the BACtrack Breathalyzer. Failure to wait 20 minutes can provide inaccurate test results and damage the sensor.



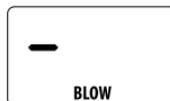
STEP 1: Attach a mouthpiece to the breathalyzer. It protects the sensor from droplets from the mouth, which could damage it. The mouthpiece also ensures a consistent blowing pressure, therefore contributing to a more accurate reading.



STEP 2: Press the start button. The BACtrack will begin a countdown.



STEP 3: When the countdown approaches 2, begin to inhale a deep breath.



STEP 4: When the countdown reaches zero, blow and a line will appear on the screen. Blow through the mouthpiece continuously for five seconds while the beeps sounds and then stops.



STEP 5: Once the sensor has analyzed the breath sample, the estimated BAC value is displayed. **NOTE: For most accurate results, wait one minute between tests. When testing high alcohol levels, wait 3-5 minutes between tests.**

Error Notifications



Display shows 'FL'

The FL notification can appear in three cases:

- The user did not blow continuously for five seconds.
- The user may still have alcohol in their saliva, and the measured alcohol concentration is uneven. Users should wait 20 minutes after their last drink to make sure alcohol in the mouth is fully absorbed and a proper breath sample can be taken.
- The user may have blown too hard. Try again with a more moderate and consistent blow.



Display shows 'H'

Reading exceeds upper limit of .40% BAC. Make sure user has waited 20 minutes after consuming alcohol before blowing.



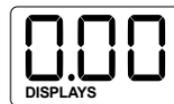
Display shows 'Er'

The sensor is damaged. Contact support for assistance.



Display shows 'Lo'

When low battery icon appears, replace with new AAA Alkaline batteries.



Display shows '0.00'

If an attempt at the breath sample is detected, but not completed, the unit will display .00 and then power off.

SPECIFICATIONS

Dimensions	1.45 x 0.55 x 2.44 inches (3.7 x 1.4 x 6.2 cm)
Weight	2 oz. (56 grams)
Sensor Technology	Advanced Semiconductor
Detection Range	0.00 - 0.40 %BAC
Power Supply	Two AAA Alkaline Batteries - not included
Battery Life	100 - 150 tests
Warm Up Time	11 - 13 seconds
Response Time	5 seconds
Operating Temperature	50 - 104 degrees Fahrenheit (10 - 40 Celsius)

PRECAUTIONS

1. Wait at least 20 minutes after drinking, eating or smoking before testing. Not observing this waiting period can cause inaccurate readings and damage the sensor.
2. Do not blow smoke, food, or liquids into the BACtrack as this will damage the sensor.
3. Do not test in areas with strong winds, smoke, or in an area where a large amount of alcohol is being consumed.
4. Send your tester in for periodic calibration service as required. (See calibration).
5. The BACtrack Breathalyzer is designed to be used in a temperature range of 50-104 degrees F (10-40 degrees C).
6. Avoid testing in the presence of any substances that contain methyl alcohol, isopropyl alcohol or acetone. These substances may interfere with the results of the test.
7. You cannot use the results of this product in court.
8. Do not use the BACtrack as a tool to determine whether you should operate a motor vehicle or equipment, or perform any other dangerous act.
9. Do not drink and drive. Always have a designated driver when alcohol is being consumed.

VERIFICATION AND CALIBRATION

The BACtrack is calibrated during manufacture using advanced alcohol simulation equipment. Known alcohol concentrations are passed through the sensor to set baseline values for testing. During testing, the unit compares users' breath samples to these baseline values.

The accuracy of breath alcohol testers can fluctuate after six to twelve months of normal use, depending on the number of tests performed and operating conditions.

If this product is providing inconsistent test results, is not providing any test results, or provides unusually high or low test results, the product should be recalibrated immediately by a trained professional.

The product should be recalibrated at least every six to twelve months. If the product is used every day, it may need to be recalibrated as frequently as every month.

Calibration Instructions

Please visit www.bactrack.com or call 415-693-9756 for information on how to get your BACtrack Breathalyzer recalibrated.

During recalibration, a professional technician will reset the sensor baseline values and also perform a full diagnostic check to ensure the accuracy and reliability of the product.

ONE-YEAR LIMITED WARRANTY

KHN Solutions' warranty obligations for this product are limited to the following:

KHN Solutions warrants this product against defects in materials and workmanship under normal use for a period of ONE (1) YEAR from the date of retail purchase by the original end-user purchaser ("Warranty Period"). Except as provided in the preceding sentence or applicable law, KHN Solutions provides this product "as is". If a defect arises and a valid claim is received by KHN Solutions within the Warranty Period, at its option, KHN Solutions will either (1) repair the product, (2) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product, or (3) refund the purchase price of the product. When a refund is given, the product for which the refund is provided must be returned to KHN Solutions and becomes KHN Solutions' property. This warranty is limited to the original end-user purchaser and is not transferable to, or enforceable by, any subsequent owner.

Exclusions, Limitations, and Disclaimers

KHN Solutions makes no warranties, express or implied, as to the ability of this product to determine whether, or the extent to which, a test subject's mental or physical functioning, or judgment, may be impaired by blood alcohol including whether the test subject is intoxicated under any definition of that word. KHN Solutions expressly disclaims any liability for direct, indirect, incidental, special, or consequential damages of any nature under any legal theory.

Any act or failure to act based on a reading from this product shall be at the test subject's or user's own risk. KHN Solutions assumes no responsibility for consequences to or of test subjects who use this product and later are shown to have been under the influence of alcohol or to have had their judgment or any mental or bodily function impaired by alcohol. Correlation between breath alcohol content and blood alcohol concentration depends on many variables, including environmental factors (such as air quality, wind, humidity, temperature, etc.) and health conditions of the test subject. A low BAC reading does not mean that the test subject's physical or mental performance or judgment (including reaction times) can respond to an emergency. The concentration of alcohol in the blood of a test subject cannot be exactly determined by using a breath alcohol screening product.

KHN Solutions does not warrant that the operation of the product will be error-free. KHN Solutions is not responsible for any consequences arising from failure to follow instructions or relating to the product's use. This warranty does not apply: (a) to consequences caused by accident, abuse, tampering, misuse, flood, fire, earthquake or other external causes; (b) to consequences caused by operating the product outside the permitted or intended uses described by KHN Solutions; (c) to consequences caused by service performed by anyone who is not a representative of KHN Solutions or a KHN Solutions Authorized Service Provider; or (d) to a product or part that has been modified to alter functionality or capability without the written permission of KHN Solutions.

TO THE EXTENT PERMITTED BY LAW, THIS WARRANTY AND THE REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, STATUTORY, EXPRESS OR

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No KHN Solutions reseller, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

If any term is held to be illegal or unenforceable, the legality or enforceability of the remaining terms shall not be affected or impaired.

EXCEPT AS PROVIDED IN THIS WARRANTY AND TO THE MAXIMUM EXTENT PERMITTED BY LAW, KHN SOLUTIONS IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES UNDER ANY LEGAL THEORY, INCLUDING BUT NOT LIMITED TO LOSS OF USE; LOSS OF REVENUE OR INCOME; LOSS OF ACTUAL OR ANTICIPATED PROFITS (INCLUDING LOSS OF PROFITS FROM A CONTRACT); LOSS OF THE USE OF MONEY; LOSS OF ANTICIPATED SAVINGS; LOSS OF BUSINESS; LOSS OF OPPORTUNITY; LOSS OF GOODWILL, OR LOSS OF REPUTATION.

This Breath Alcohol Tester is intended to measure alcohol in human breath. Readings obtained by this device are used in the diagnosis of alcohol intoxication. The accuracy of this device has been established

at a Blood Alcohol Concentration of 0.008 and 0.032. Accuracy at a Blood Alcohol Concentration greater than .032 has not been established.

Some countries, states and provinces do not allow the exclusion or limitation of incidental or consequential damages or allow limitations on how long an implied warranty or condition may last, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary by country, state or province. This Limited Warranty is governed by and construed under the laws of the country in which the product purchase took place.

Obtaining Warranty Service

Please be sure to read this instruction manual carefully if you believe your product is not operating properly. If you still feel that your product requires warranty service, please follow these instructions:

Obtain a Return Authorization (RA) number by calling toll-free 877-334-6876 or by emailing support@bactrack.com.

When shipping the product back to KHN Solutions, please package the product carefully and ship using a major carrier (UPS, FedEx, USPS, etc). To ensure proper credit for a returned item, be sure to obtain a delivery confirmation on the return shipment. The customer is responsible for all return shipping charges.

Include the following information with your returned product:

- Your Return Authorization number
- Name, address, and phone number as stated at the time of order
- A copy of your original sales receipt

BACtrack

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