



## DEPARTMENT OF THE NAVY

COMMANDANT OF MIDSHIPMEN  
U.S. NAVAL ACADEMY  
101 BUCHANAN ROAD  
ANNAPOLIS, MARYLAND 21402-5100

COMDTMIDNINST 5350.2B

BPC

24 Aug 10

### COMMANDANT OF MIDSHIPMEN INSTRUCTION 5350.2B

Subj: BRIGADE ALCOHOL SCREENING USING BREATHALYZERS

Ref: (a) COMDMIDNINST 5350.1B

Encl: (1) DOD Police Breathalyzer Training Guide  
(2) Breathalyzer Screening Log  
(3) United States Naval Academy Portable Breath Test  
Brigade Refusal Form

1. Purpose. Promulgate procedures and guidelines for the implementation of breathalyzer testing to screen for irresponsible drinking, underage drinking, drinking while in a duty status and drinking while on Fourth-Class privileges within the Brigade of Midshipmen.

2. Cancellation. COMDTMIDNINST 5350.2A

3. Background. Alcohol abuse is incompatible with good order and discipline and is detrimental to morale. Irresponsible drinking, underage drinking, drinking while in a duty status and drinking while on Fourth-Class privileges are some of the most prevalent forms of alcohol abuse at the United States Naval Academy (USNA). Alcohol abuse runs counter to the mission of the Naval Academy and undermines one's credibility to lead. The purpose of the breathalyzer screening program is to encourage responsible drinking within the Brigade of Midshipmen per reference (a).

#### 4. Responsibilities

a. The Brigade Breathalyzer Program Coordinator (BPC) shall be responsible for the administration of the alcohol-testing program and maintenance of the breathalyzer unit chain of custody logbook. A Senior Enlisted Leader will be assigned the collateral duty of Brigade BPC. Each Battalion shall also identify a Battalion BPC to support the execution of breathalyzer testing.

b. Battalion Officers

(1) Ensure Battalion performs random breathalyzer testing for alcohol on predetermined evenings. Each Battalion will ensure a minimum of two tests per month are conducted. Testing may be performed on any evening of the week.

(2) The primary breathalyzer test administrator for each company shall be the Company Officer and/or Senior Enlisted Leader with the assistance of the Company Duty Officer(CDO). Enclosure (1) provides a timeline for the general administration of breathalyzer testing.

c. Brigade Random Breathalyzer Testing

(1) The Brigade BPC will generate a random testing schedule to monitor and maintain the integrity of the breathalyzer testing program.

(2) Testing shall be conducted on a weekly basis, normally a Friday or Saturday. One test per month shall be conducted during a week day as a spot-check for personnel drinking in Bancroft Hall.

(3) Random testing shall be conducted by the Officer of the Watch (OOW)/Staff Duty Officer (SDO) with the assistance of the designated company's CDO.

d. Breathalyzer testing is mandatory for all Midshipmen that are present in Bancroft Hall, or are required to sign in on the TAPS muster sheet. This includes all Midshipmen who are on weekend liberty or on movement order status and are remaining within Bancroft Hall for the night.

e. The Brigade BPC possesses and maintains breathalyzers. Company breathalyzer units will be utilized and the Battalion BPC will ensure that a second breathalyzer with sufficient mouthpieces is made available during each testing period. The Brigade BPC will be responsible for calibration of all breathalyzers and will take appropriate actions to correct all errors or other malfunctions occurring with the breathalyzer units.

5. Administration

a. Certified training will be conducted through the USNA DOD Police to train users on the operation of breathalyzer units

as well as to test administrator's responsibilities and procedures. The BPC shall maintain an accurate list of all facilitators that have received training and schedule follow-up training in coordination with the Naval Academy ADEO and the DOD Police. Enclosure (1) is the training guide that the DOD Police utilize while conducting training and is to be used as a resource as questions arise.

b. All testing shall be documented using enclosure (2). Page 7 of enclosure (1) provides specific guidance on the mandatory entries for each test.

c. Each Battalion BPC will maintain a log of completed tests.

d. Enclosure (3) should be utilized when a Midshipman refuses to be tested.

e. Administrative conduct action will be taken when Midshipmen test positive for irresponsible drinking, underage drinking, drinking while in a duty status, or drinking while on Fourth-Class privileges.

f. Each Monday, the Battalion Officer will report weekly breathalyzer screening results to the Deputy Commandant and the Naval Academy ADEO.

6. Review Responsibility. The Breathalyzer Program Coordinator will review this instruction annually.

  
R. E. CLARK II

Distribution:  
Non-Mids (Electronically)

## **DOD POLICE BREATHALYZER TRAINING GUIDE**

1. Purpose. The basic purpose of Portable Breath Testing (PBT) is to demonstrate the association of alcohol with the observable evidence of a subject's impairment. A subject's impairment is established through sensory evidence: what the observer sees, hears, and smells. The PBT provides the evidence that alcohol is the chemical basis of the suspect's impairment yielding an on-the-spot indication of the suspect's blood alcohol concentration (BAC). The PBT provides direct indication of the BAC level. It does not indicate the level of the subject's impairment. Impairment varies widely among individuals with the same BAC.

### 2. Principles of Breath Testing

Like all indirect tests, breath testing is based on the principle of equilibrium. The equilibrium between blood and breath takes place in the deepest part of the lungs, near tissues called the alveoli. The alveoli exchanges gases between the breath and the blood. They extract oxygen (and tobacco smoke, inhaled fumes, and other impurities) from the breath and pass it into the blood. They remove carbon dioxide and water vapor (and alcohol, nicotine, etc.) from the blood and pass it into the deep-lung breath where it can be exhaled from the body.

Deep lung breath is called alveolar breath. It is the portion of the breath nearest to the alveoli. Alveolar breath establishes equilibrium with the blood, based on the water content of the alveoli and blood. The equilibrium ration is 2100 to 1. That is, a particular volume of breath (2100cc) contains as much alcohol as does a volume of blood (1cc).

When you perform a breath test, it is important that you collect and analyze a sample of alveolar breath, since it is only deep-lung breath that maintains the 2100 to 1 equilibrium ratio with the blood. Breath from the upper part of the lungs and from the mouth is called tidal breath. Tidal breath is farther from the alveoli and receives less alcohol from the blood. As a person speaks and breathes shallowly, outside air constantly exchanges with tidal breath (flowing in and out, much like seawater with the tides). Therefore, tidal breath contains a lower alcohol concentration than does alveolar breath, and tidal breath does not stay in equilibrium with the blood.

When a person exhales, he or she expels a mixture of tidal breath and alveolar breath. The first part of the exhalation consists almost entirely of tidal breath. As the exhalation continues, the person expels a higher proportion of alveolar breath. The average person must exhale for about five to six seconds before eliminating most of the tidal breath. The last part of his or her exhalations consists almost entirely of alveolar breath and provides a good sample for accurate measurement of BAC. If performed properly, a breath test is as accurate as a blood test.

### 3. Advantages

a. Corroborates other evidence by demonstrating that the suspicion of alcohol influence is consistent with the administrator's observations of the suspect's mental and physical impairment.

b. Confirms the administrator's own judgment and helps them gain confidence in evaluating alcohol impairment accurately, based on observations and psychophysical tests.

c. Disclose the possibility of medical complications or impairment due to drugs other than alcohol. The breath test can confirm or deny that alcohol is the cause of the observed impairment. For example, observed psychophysical impairment coupled with a breath test result showing a very low BAC indicates an immediate need to investigate the possibility that the subject has ingested a drug other than alcohol or suffers from a medical condition.

4. Limitations. Portable Breath Testing may have both evidentiary and accuracy limitations. In some instances PBT results will be admissible as evidence in other instances it would not.

a. Non-Judicial or Administrative proceedings, results will be admissible.

b. Judicial proceedings, such as a Courts Martial, results may not be admissible.

If an incident occurs, and if the person administering the PBT believes or is led to believe that criminal charges are going to

be placed against the subject, the test should not be given. The subject should be escorted to medical for a fitness for duty exam, at which time blood can be drawn to determine the individuals BAC.

c. Accuracy limitations. Although all PBT instruments currently used are reasonably accurate, they are subject to the possibility of error, especially if they are not used properly. There are factors that can affect the accuracy of the portable breath testing devices. Some of these factors tend to produce "high" test results; others tend to produce "low" results.

(1) There are two common factors that tend to produce high results on a PBT.

(a) Residual mouth alcohol: After a person takes a drink, some of the alcohol will remain in the mouth tissues. If the person exhales soon after drinking, the breath sample will pick up some of this left-over mouth alcohol. In this case, the breath sample will be higher than the true BAC.

- It takes 15 minutes for the residual alcohol to evaporate from the mouth. Evaporation cannot be accelerated by having the subject gargle with water or in any other way.

- The only sure way to eliminate this factor is to make sure the subject does not take any alcohol for at least 15 minutes before conducting a breath test. Remember, too, that most mouthwashes, breath sprays, cough syrups, etc., contain alcohol and will produce residual mouth alcohol. Therefore, it is always best not to permit the subject to put anything in their mouth for at least 15 minutes prior to testing.

(b) Breath Contaminants. Some types of portable breath tests might react to certain substances other than alcohol. For example, substances such as ether, chloroform, acetone, acetaldehyde and cigarette smoke conceivably could produce a positive reaction on certain devices. If so, the test would be contaminated and its result would be higher than the true BAC. Normal characteristics of breath samples, such as halitosis, food odors, etc., do not affect accuracy.

(2) There are two common factors that tend to produce low PBT results.

Enclosure (1)

(a) Cooling of the breath sample. If captured breath sample is allowed to cool before it is analyzed, some of the alcohol vapor in the breath may turn to liquid and precipitate out of the sample. If that happens, the subsequent analysis of the breath sample will produce a low BAC result.

(b) The composition of the breath sample. Breath compositions mean the mixture of the tidal breath and alveolar breath. Tidal breath is breath from the upper part of the lungs and the mouth. Alveolar breath is deep lung breath. Breath testing should be conducted on a sample of the alveolar breath, obtained by having the subject blow into the PBT instrument until all air is expelled from the lungs.

5. Equipment. LIFELOC FC10 PLUS - Breath Alcohol Tester

a. Key Assignment

(1) Power. Located at the bottom of the front face. Hold for 2 seconds to turn off. Automatically shuts down after 5 minutes of inactivity.

(2) Execute. Large button located in the right side of the display lens

(3) Function. Large button located on the left side of the unit, under the display lens. Depressing this button allows the operator to change testing modes of the machine as well as calibration settings, and results of the last test.

(a) Auto test

(b) Manual Test

(c) Passive Test

(d) Last Test result

(e) Calibration

(f) Test order (Auto-Man-Passive)

(4) +/- Small buttons located in the left side of the display lens, used only in the calibration process to adjust the standard. (NOT FOR OPERATOR USE)

Enclosure (1)

b. Testing capabilities. The FC10 *PLUS* provides the flexibility to perform breath tests in any situation. The machine has three modes.

(1) Passive - DO NOT USE - Testing that does not require a mouth piece.

(2) Automatic - combines easy operation and high accuracy. The subject blows into a mouth piece and the FC10 Plus automatically takes a sample of the breath at the optimal time.

(3) Manual - DO NOT USE - used in rare situations where the subject does not have the capability of meeting the minimum breath flow rate or total volume standards. If a subject is incapable of blowing into the machine a medical evaluation should be conducted.

#### 6. Performing the Test (Automatic Mode)

a. Start by observing the subject. The subject must be observed for a period of 15 minutes before a test is conducted. During this period ensure the subject does not ingest anything into their mouth. If the subject does ingest anything the observation time must start over.

b. Turn the machine on by pressing the power button. The FC10 Plus will go through a series of self-diagnostic checks. Following this, the unit will display "AUTO TEST" followed by a sequential number. The battery icon displays the level of charge. If the machine is set for Passive or Manual test, push the "FUNCTION" key until "AUTO TEST" appears in the top line of the window.

c. Attach a mouth piece. Remove the mouthpiece from its wrapper, making sure not to touch the end which the subject will be blowing into.

(1) Attach the mouth piece to the port on the back by lining it up over the holes in the back.

(2) Press in place, ensuring it fits snugly.

d. Instruct the subject to take a deep breath and exhale into the mouthpiece until the unit beeps again. Exhale firmly and steadily (not necessarily as hard as they can)

(1) The unit will automatically detect the presence of deep lung air and take a sample.

(2) Continue blowing until the machine beeps a second time.

(3) As the subject blows the screen will display a graph of the breath flow.

(4) If alcohol is detected, it will be graphed on the machine and will be displayed.

e. Test Results

(1) After the machine beeps a second time the test results will be displayed within 6 seconds.

(2) Record the results in the log book assigned to the testing unit.

f. Press the function key to return to the test mode. The unit needs one minute in between positive tests. If test was negative move to the next subject without a waiting period.

g. If the subject fails to provide a sufficient sample

(1) The machine will display <1.3L Retest or Try Manual Test. To clear the display press the execute key, the machine will go through a clearing process, and reset itself to "Auto Test".

(2) If the subject fails to provide a sufficient sample

(a) Have the subject perform a second test. A 15 minute waiting period is not required.

(b) After three attempts the subject will be treated as refusing to take the test and the appropriate paperwork should be filled out.

h. Record of Test. A record of each test must be completed regardless of the test results. The following information should be annotated in the log book:

- Test# - Record the 5 digit test number that appears on the screen
- Date - Date test was given
- Time - Time test was given
- Name - Name of Subject or MID#
- Type - Type of test (AUTO/MANUAL/PASSIVE)
- Results - Either "NEG" or the BAC (.000 BAC)/or "Refusal" if appropriate
- Tester - Name of individual conducting the test

Test #	Date	Time	Name	Type	Results	Tester
00026	20031023	1400	Powell, John	Auto	.000	YNC Smith

7. Calibration. Calibration will be performed monthly, or after two failed calibration checks, by the program coordinator in accordance with manufactures procedures. Upon completion of the calibration the following information will be recorded:

- Test# - Record the 5 digit test number that appears on the screen
- Date - Date Calibration was conducted
- Time - Time Calibration was conducted
- Name - Lot # on Dry Gas Bottle
- Type - Wet (wet bath simulator)/Dry (Dry Gas)
- Results - Record two sets of numbers, the first being the standard used, and the second is the reading of the unit.

Test #	Date	Time	Name	Type	Results	Tester
00026	20031023	1400	L000526	DRY	.100/.100	YNC Smith

**NOTE:** If the calibration shows a variance greater than +/- .005 BAC of the standard used for the calibration, remove the unit from service and contact the manufacturer.

8. Troubleshooting. Following are the error messages that may be seen on the FC10 Plus.

External Interference	The unit has detected external interference, e.g., RF interference
Error XXX	The unit has detected a fault. Take the unit out of service and notify the program coordinator. The program coordinator should contact Lifloc tech support before returning the unit to service.
Pump Failure	The unit's internal pump malfunctioned. Return to the initial state and try taking a test again. If this does not solve the problem. Take the unit out of service and notify the program coordinator. The program coordinator should contact Lifloc tech support before returning the unit to service.
Insufficient Breath	The subject has/did not completely exhale to the end of his lung capacity OR exhaled less than the required 1.3 liters. Instruct the subject to take a deep breath and exhale fully.
Low Battery	The battery level is low. Will need to change batteries shortly.
Check Power Supply	Replace batteries
Temperature Out of Range	The unit's temperature is not within an acceptable range for testing and/or calibrating.



**United States Naval Academy Portable Breath Test  
Brigade Refusal Form**

Name: \_\_\_\_\_

\_\_\_\_\_ 1. You are advised that per COMDTMIDNINST 5350.2B you have been ordered to provide a sample of your breath for testing to determine the presence of alcohol in your system.

\_\_\_\_\_ 2. Having been advised of this above requirement and after having received an order from \_\_\_\_\_ to provide a sample of your breath, you;

\_\_\_\_\_ a. Are refusing to provide a sample

\_\_\_\_\_ b. After three attempts, you have failed to provide a sample of your breath. Your failure to provide a sufficient sample is considered the same as a refusal.

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Signature

Witness: \_\_\_\_\_  
Name/Signature

Witness: \_\_\_\_\_  
Name/Signature