



U.S. DEPARTMENT OF TRANSPORTATION

Office of Drug and Alcohol Policy and Compliance

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Breath Alcohol Technician Training Student Handbook

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Training Guidelines

The Department of Transportation (DOT) seeks to ensure that all individuals or service agents (SA) who will be conducting breath alcohol testing of regulated transportation workers perform these services in a uniform and consistent manner. Consistency and uniformity are critical during legal proceedings, as well as providing a level of confidence in the testing process to individuals subject to testing.

49 CFR Part 40 requires qualification training, refresher training and error correction training for Breath Alcohol Technicians (BATs) and Screening Test Technicians (STTs). The DOT Model Course is intended to be an instructor led course. However, DOT has not limited training requirements to traditional instructor led courses; video and online training are available options. However, such "non traditional" offerings must be equivalent to the training requirements contained in the DOT Model Course.

DOT in the past has not "approved" training courses, however, written documentation has been provided to companies attesting that their training programs are equivalent to the requirements contained in the DOT Model Course; this practice will also apply to online training courses.

Duration of Training. While the DOT model courses do not mandate a specific length of time over which the entire course is to be offered, it is the intention that the offering be a complete and comprehensive course that will properly train STTs and BATs to perform the required tests. It is preferable that the entire course be offered on the same day, with the hands-on portion immediately following procedures training. However, this presents a problem with on-line or similar training.

The testing procedures and the device training for both BATs and STTs go hand-in-hand. However, using online training could mean that there will be a lengthy delay between receiving procedures training and device proficiency training. As a result, there is a substantial risk that students will forget the material on Part 40 procedures before receiving instructions on how to operate the device they will be using for the tests. Additionally, all proficiency training must be conducted either face-to-face or in real-time observation and, proficiency must be demonstrated in front of an individual who meets the requirements spelled out in Part 40.

It is recommended that individuals arrange both procedural training and device proficiency training simultaneously. The entire training process should be completed within 30 days of the start date. If the student has not completed the device proficiency training within the 30-day time frame, he/she will be required to retake the procedural training program.

Procedural Training. If online training courses are used, and the hands-on portion does not immediately follow the procedural training, any certificate, diploma, or credential that is issued at the conclusion of procedures training is meaningless. The person has not achieved the necessary requirements to be a BAT or STT **until** he or she has completed device proficiency training. Any documentation issued upon the successful completion of other than classroom style training (i.e., online, CD Rom, etc.) course should provide -a caveat that the individual is not a STT or BAT until proficiency training has been successfully completed. The documentation should clearly state that the student cannot perform any STT or BAT functions until they have successfully completed the device proficiency training.

Authentication of Individuals Subscribing to Training. Procedures need to be implemented that will accurately identify the individuals who subscribe to and successfully complete the online portion of training. This identification information should be made available to the trainer that is providing the hands-on training. Students arriving for device proficiency training should be required to provide a picture ID and documentation from the procedural training provider that the course was successfully completed.

Authenticating Student Knowledge. Trainers of evidential breath testing devices (EBTs) or alcohol screening devices (ASDs) will ultimately issue the documentation indicating that an individual has successfully completed all requirements contained in the DOT Model Course. Therefore, it is important that they are assured that students coming to them who have completed procedures training via other than classroom style training, are proficient in their knowledge and understanding of the requirements contained in Part 40. DOT encourages manufacturers or device trainers to implement a test of the procedures prior to the device-training program. If a student cannot pass the test, then he or she cannot take the device-training program. This should be indicated in writing to enable the student to go back to the online course for review purposes.

Course Review Material. Online training courses, as a rule, don't allow the material to be printed. However, it is recommended that as a minimum, a student handbook and a copy of 49 CFR Part 40 and ATF be provided in an online printable version to individuals subscribing to online courses.

Screening Test Technician (STT) Training. BATs are qualified as STTs if they successfully complete the BAT training course, however, they must complete the STT proficiency training on a particular alcohol screening device as well. This training manual focuses on training individuals as BATs using evidential breath testing devices.

Unit I - Introduction and Overview

This handbook is designed as a resource to use and make reference to when conducting breath alcohol tests. This unit provides you with the goal and objectives of the training as well as background information on the alcohol misuse prevention rules.

Training Goal

To prepare Breath Alcohol Technicians (BAT) to conduct breath alcohol tests in accordance with the U.S. Department of Transportation's Procedures for Transportation Workplace Drug and Alcohol Testing (a copy of Part 40 may be found in Appendix A).

Training Objectives

Upon completion of BAT training, you will be able to:

- Explain evidential breath test (EBT) methodology, operation, and calibration checks.
- Describe breath analysis for alcohol content.
- Explain the transportation workplace alcohol-testing program.
- Demonstrate the procedures for obtaining a breath sample and interpreting and recording EBT results.
- Demonstrate proficiency in operating the EBT that you will use for alcohol testing.

Background on DOT Operating Administration Alcohol Rules

What are they and who is affected?

The Rules require alcohol misuse prevention programs, including breath alcohol testing and education, for over eight million transportation workers with safety-related duties. The modes of transportation that issued alcohol rules for their regulated industries are the:

- Federal Aviation Administration (FAA)-- aviation,
- Federal Motor Carrier Safety Administration(FMCSA)-- commercial motor carrier,
- Federal Railroad Administration (FRA)-- railroad,
- Federal Transit Administration (FTA)-- transit,
- Research And Special Programs Administration(RSPA)-- pipeline.

Examples of safety-sensitive employees include pilots, flight attendants, airline mechanics, truck drivers, school bus drivers, railroad engineers and dispatchers, mass transit operators, dispatchers and mechanics, as well as pipeline maintenance personnel.

Purpose of Rules

The purpose of the Rules is to deter alcohol misuse in the transportation industry.

Breath alcohol tests required

The following alcohol tests are required by the Rules:

1. **Random** - conducted on a random basis just before, during, or just after performance of safety-sensitive functions.
2. **Reasonable suspicion** - conducted when a trained person observes behavior or appearance that is characteristic of alcohol misuse.
3. **Post-accident** - conducted after accidents on surviving employees whose performance could have contributed to the accident.
4. **Return-to-duty** and **follow-up** tests are conducted before an individual who has violated the prohibited alcohol conduct standards completes any recommended treatment and returns to performing safety-sensitive duties. Follow-up tests are unannounced and at least six tests must be conducted in the first 12 months after an employee returns to duty. Follow-up testing may be extended for up to 60 months following return to duty.

Pre-employment testing maybe performed under DOT testing at the option of the employer except for USCG and RSPA. However, if an employer conducts one pre-employment alcohol test, then all future applicants must undergo alcohol pre-employment testing. The pre-employment test is performed only after an offer of employment has been made. If pre-employment testing is performed it must be performed in accordance with Part 40 requirements.

Prohibitions of Rules

The Rules prohibit covered employees from performing safety-sensitive functions:

1. When a breath test result indicates an alcohol concentration of 0.040 or greater.
2. While using alcohol on the job.
3. Within 4 hours after using alcohol (8 hours for flight crew members and air traffic controllers).
4. If they use alcohol within 8 hours after an accident when their involvement has not been discounted as a contributing factor or before they are tested.
5. If they refuse to submit to a required alcohol test.

Consequences of Violation

If found in violation, safety-sensitive employees are subject to the following:

1. Employees must be immediately removed from safety-sensitive functions. This does not mean they have been fired, only that they cannot perform their safety-sensitive duties.
2. Employees cannot return to safety-sensitive duties until evaluated by a substance abuse professional (SAP), successfully undergo any recommended assistance or treatment, and pass a return-to-duty test.
3. Employees who have an alcohol concentration in the range of 0.020 - 0.039 when tested, must be removed from performing safety-sensitive duties for 8 hours or until a breath test result is below 0.020.

This is not a rule violation, but temporary removal is necessary to ensure safety. A SAP evaluation is not required. Also, it should be noted that the FRA and FMCSA also do not allow an employee to be retested repeatedly until the employee falls below 0.020.

4. Commercial motor vehicle drivers having an alcohol concentration in the range of 0.020 - 0.039 must be removed from driving for at least 24 hours. Covered railroad employees also do not have a retest option.

All alcohol testing is to be administered by a breath alcohol technician (BAT). As a BAT, you are responsible for conducting breath alcohol tests in accordance with 49 CFR Part 40.

Training Requirements

Qualification Training

To be permitted to act as BAT in the DOT alcohol-testing program you must meet the following requirements.

1. BATs must be trained to proficiency in using the alcohol testing procedures contained in Part 40 and any amendments and program guidance documents.
2. Training must be in accordance with the DOT Model BAT course.
3. The training must emphasize that the BAT is responsible for maintaining the integrity of the testing process, ensuring the privacy of employees being tested, and avoiding conduct or statements that could be viewed as offensive or inappropriate.
4. Upon successful completion of the procedures portion of the qualification training, you must be trained to proficiency in the operation of the particular device(s) (i.e., EBTs or ASDs) you will be using.

5. Included in the device proficiency training is a requirement to perform seven (7) error-free mock alcohol tests. (i.e., if a mistake is made on mock test four (4), then you must start again with the first mock test until seven (7) error-free mock tests have been successfully completed.)
6. An individual must monitor the mock collections face-to-face and attest in writing that the student successfully accomplished the mock tests. In addition to being a qualified BAT, the individual monitoring the error-free mock collections must meet one of the three requirements.
 - a. Has demonstrated necessary knowledge, skills, and abilities by regularly conducting DOT alcohol tests as an BAT or STT, as applicable, for a period of at least a year, or
 - b. who has conducted BAT or STT training, as applicable, under Part 40 for a year and has successfully completed the required number of error-free mock tests, or
 - c. who has successfully completed a "train the trainer" course.

Qualification Training Schedule

1. If you became a BAT prior to August 1, 2001, you were required to meet the above requirements; therefore you do not need to meet them again.
2. If you become a BAT on or after August 1, 2001, you must meet the above requirements prior to performing BAT functions.

BAT Refresher Training

1. As a BAT, you must undergo refresher training no less frequently than every 5 years from the date on which you satisfactorily completed the Qualification training requirements.
2. If you became a BAT before January 1, 1998 then you must complete refresher training by January 1, 2003
3. The Refresher training must be in accordance with the DOT Model BAT course.
4. The device proficiency requirement for refresher training is that the BATs must perform three (3) consecutive error-free mock tests.
5. An individual, who must be a qualified BAT, in person or by a means that provides real-time observation and interaction between the instructor and trainee, must attest in writing that the mock collections are "error-free". The person providing the refresher training must meet the following requirements.
 - a. Has demonstrated necessary knowledge, skills, and abilities by regularly conducting DOT alcohol tests as an BAT or STT, as applicable, for a period of at least a year, or
 - b. who has conducted BAT or STT training, as applicable, under Part 40 for a year and who has successfully completed the required number of error-free mock tests, or
 - c. who has successfully completed a "train the trainer" course.

BAT Error Training

1. If you, as a BAT, make a mistake in the alcohol testing process that causes a test to be cancelled (a fatal or uncorrected flaw), you must undergo error correction training.
2. The training must occur within 30 days of the date you discover or are notified of an error that led to the need for retraining.
3. Error correction training is required to cover only the subject matter area(s) in which the error(s) occurred.
4. You must also complete three (3) error-free mock tests consisting of one uneventful scenario and two scenarios related to the area(s) in which error(s) occurred.
5. An individual, who is a qualified BAT, in person or by a means that provides real-time observation and interaction between the instructor and trainee, must attest in writing that the mock collections are "error-free". The person providing the error correction training must meet one of the following requirements.
 - a. Has demonstrated necessary knowledge, skills, and abilities by regularly conducting DOT alcohol tests as an BAT or STT, as applicable, for a period of at least a year, or
 - b. who has conducted BAT or STT training, as applicable, under Part 40 for a year, including successful completion of the appropriate number of error-free mock tests, or
 - c. who has successfully completed a "train the trainer" course.
6. If the Error correction Training is not accomplished within 30 days of the date you are notified, you are out of compliance with DOT regulations and you cannot perform functions as a BAT for DOT alcohol tests.

Training Documentation

All training documentation must be maintained by the BAT and presented to employer(s) and/or C/TPA(s) for whom you will provide services, upon request. It is not necessary to carry the documentation with you at all times, however, if it is requested it must be presented to the requester in a reasonable amount of time.

Unit II - EBT Methodology

This unit explains what devices are to be used for breath alcohol testing, provides you with a brief overview of the three types of devices that meet the requirements of the Rule, and explains how a breath test measures alcohol concentration and how results are interpreted (and recorded).

Devices Used for Breath Alcohol Testing

The devices to be used for breath alcohol testing are called evidential breath testing devices (EBT).

What is an EBT?

An EBT is a device that measures alcohol concentration in the breath. These devices have met the National Highway Traffic Safety Administration's (NHTSA) specifications for precision and accuracy.

Once a device meets these specifications it is put on the NHTSA Conforming Products List (CPL). Appendix B contains a copy of the NHTSA Model Specifications and CPL for EBTs. The NHTSA CPL for EBTs includes both devices that meet September 1993 amendments to NHTSA's model specifications and devices that meet only the previous version of the model specifications. Only those devices on the CPL that meet the September 1993 model specifications may be used in the DOT alcohol testing program. Other devices on the CPL (those designated by an asterisk on the published CPL; see for instance 59 Federal Register 18840 (April 20, 1994)) are not authorized for use in DOT-mandated alcohol testing programs.

DOT's rules specify additional capabilities beyond precision and accuracy to ensure the integrity of the testing process (e.g., printing three copies of the test result and unique numbering of the tests).

When is an EBT used?

An EBT or ASD, listed on the NHTSA CPL, must be used for both screening and confirmation breath alcohol tests. An ASD can only be used as a screening device; it does not meet the requirements for performing confirmation tests.

Screening test

All transportation safety-sensitive employees are subject to a screening test in various circumstances (e.g., random, reasonable suspicion, post-accident, return-to-duty, and follow-up). Pre-employment tests are optional for the employer, however, if conducted for one applicant, they must conduct pre-employment tests on all applicants. Also, if an employer conducts pre-employment alcohol tests, they must be conducted according to requirements outlined in Part 40.

Confirmation test

Employees are subject to a confirmation test when the result of a screening test is 0.020 or greater.

Types of Breath Testing Devices that Meet the Requirements of the Rules

There are three types of breath testing devices that meet the requirements of the Rules: electrochemical oxidation/fuel cell, infrared (IR) spectrometry, and gas chromatography.

1. Electrochemical Oxidation/Fuel Cell

This method of measuring breath alcohol uses special electronic components that generate electrical energy by oxidizing a fuel. The components are called "electrochemical cells", or fuel cells, which are comprised of two platinum electrodes. Alcohol is an excellent fuel, and it can readily be oxidized by fuel cells to generate an electrical current.

How does a fuel cell work?

When a subject blows into a mouthpiece, a small (approximately 1.5 cc) sample of expired breath is drawn into the fuel cell for analysis. This can be accomplished either manually or automatically. Most newer fuel cell units automatically draw in the breath sample.

Note that in certain cases, a manual override may be necessary (e.g., when a subject cannot blow long enough/hard enough for automatic sampling). When breath containing alcohol molecules comes into contact with the fuel cell, a spontaneous flow of electricity is generated. The amount of electrical current generated indicates how much alcohol is present in the breath sample. The end result is the alcohol measurement displayed on the EBT.

2. Infrared (IR) Spectrometry

How is alcohol measured by infrared spectrometry?

Depending on their physical size and structure, molecules will absorb light at specific frequencies. Infrared devices measure the amount of light that is absorbed by the alcohol molecules present in the expired human breath. A light source is focused into a sample chamber, passing through a series of filters and finally striking a detector. When a person blows into the mouthpiece, the breath, containing alcohol molecules, is blown into the sample chamber. If alcohol molecules are present, the alcohol molecules absorb the transmitted light at certain frequencies. Thus, less light reaches the detector. What happens during a breath test?

As the amount of alcohol molecules in the chamber rises, the amount of light reaching the detector falls. This is a proportional relationship (this is similar to a smoke filled room: the more the room fills with smoke, the less you can see. Thus, with more alcohol less light reaches the detector). Therefore, by finding the difference between the zero reference point and the breath measurement, the IR instrument determines the breath alcohol concentration.

3. Gas Chromatography

What is gas chromatography?

Gas chromatography (GC) is a technique for separating closely related compounds by passing them through an absorbent. A carrier gas (hydrogen/helium) is utilized to assist moving the suspect compounds through the device.

How does a GC work?

The gas chromatography technique involves three main functions: Injection, Separation, and Detection.

- Injection -- getting the sample to be analyzed into the device. In breath testing the "injection" is providing the breath sample.
- Separation -- once the breath sample is injected into the system for isolating a particular compound, it is pushed by the carrier gas into a column that separates the different compounds (picture a coin sorter, where coins fall through holes to a certain level--i.e. all quarters, because of their size will stay on the first level, nickels will fall to the second level, and so on).
- Detection -- the separated compounds move through the column at different speeds. The compounds are identified by the length of time needed to reach the detector (i.e., different substances in the breath move through the column at different rates and, therefore, arrive at the detector at different times).

How are results recorded?

The detector transmits to a graphic recorder an amount of electrical current which is proportional to the concentration of each substance detected. The results are printed on a graphic recorder where the peak of the line indicates concentration and the time line identifies the substances. BAC can be determined from the graphic results or obtained directly from a digital readout. Those are the three types of devices that meet the requirements of the Rules.

Which type of device will you be using for testing?

Measuring Alcohol Concentration

The test to be used to determine alcohol concentration is a breath test. Taking a proper breath test involves obtaining the best possible breath sample. Next, you will learn what a breath test measures, how to interpret the results, and how to obtain the best possible breath sample.

What does a breath test measure?

A breath test measures the concentration of alcohol in breath. This relates directly to the alcohol concentration in the blood, and thus provides an accurate determination of the quantity of alcohol reaching the brain.

Interpretation of results

Results of a breath alcohol analysis are expressed in terms of weight-to-volume; weight of alcohol (expressed in grams) per volume of breath (210 liters). Results of a breath test are read as Breath Alcohol Concentration or BrAC, but are often interpreted as BAC.

For example, an alcohol concentration of 0.100 means that there are 0.100 grams of alcohol per 210 liters of breath, which equals 0.100 BrAC or 0.100 BAC.

A proper breath sample

To collect a proper breath sample you must collect alveolar or "deep lung" air and you must also make sure that the employee does not have any residual mouth alcohol.

Alveolar or "deep lung" air

What is alveolar or "deep lung" air and why is it important in breath testing? The exchange of alcohol from the blood to the breath occurs in the alveoli of the lungs. This is also called the deep lung air region. Alveoli are minute tissue sacs in the lungs, which are richly supplied with blood from the heart. By diffusion, some of the alcohol molecules in the blood partition into the breath (similar to the process of evaporation).

If an alveolar sample is not collected, the sample analyzed will be diluted with breath of lower alcohol concentration from the upper respiratory tract. This results in a lower than optimum test result. It is up to you to collect the best possible breath sample.

What is residual mouth alcohol and how can it affect a breath test? Residual mouth alcohol is alcohol, which remains in the mouth, after swallowing, and may affect a breath alcohol test by causing a higher test result. If an employee uses mouthwash or mouth spray, e.g., Binaca, it may affect a breath test because it contains alcohol.

How long does it last?

This presence dissipates within 15 minutes. As part of the testing procedures, you are required to explain to the employee why he/she must wait at least 15 minutes before a confirmation test. The reason for this wait is to rid the employee's mouth of any possible residual mouth alcohol.

Unit III - Preparing for Testing

This unit will make you aware of the functional requirements for EBTs and the purpose of the manufacturer's quality assurance plan. You will also learn about the testing locations requirements and the (ATF).

EBT Functional Requirements

Safety-sensitive employees are subject to screening tests and may be subject to a confirmation test. The EBT (or an alcohol screening device (ASD) can be used for conducting screening tests. A confirmation device can be used for a screening test, but a screening device may not be used for a confirmation test.

For a confirmation test, the EBT must:

- Have the capability of providing, independently or by direct link to a separate printer, a printed result in triplicate (or three identical copies) of each breath test.
- Be capable of assigning a unique number to each completed test, with the number capable of being read by you and the employee before each test and being printed out on each copy of the result.
- Be capable of printing out, on each copy of the result, the manufacturer's name for the device, the device's serial number, and the time of the test.
- Be able to distinguish alcohol from acetone at the 0.020 alcohol concentration level.

Acetone is a naturally produced chemical in the body, usually found in individuals with diabetes, with a chemical structure similar to alcohol and in small amounts can be detected with a breath test instrument.

Be capable of the following operations:

- Testing an air blank prior to each collection of breath.

An air blank is when an instrument purges the complete breath passage and sample chamber. The air blank check tests the alcohol content of the purged chamber. This process ensures that any trace of alcohol that may have been measured previously has dissipated or disappeared from within the instrument and that the system is ready for another test.

- Performing an external calibration check

An external calibration check is a test of the instrument's ability to produce a quantitative result consistent within a given tolerance (e.g., .005), of a known alcohol concentration standard. In some EBTs this is automated, and in others this is done manually.

For a screening test, the EBT does not have to meet the same functional requirements as for the confirmation test, but must be listed on the NHTSA CPL.

For example, you may use a fuel cell device without a printer for a screening test, but you are required to use a printer for a confirmation test. When an EBT does not meet the following requirements, it cannot be used in a confirmation test:

- Is not capable of providing, independently or by direct link to a separate printer, a printed result in triplicate (or three identical copies) of each breath test.
- Is not capable of assigning a unique number to each completed test, with the number capable of being read by the BAT and the employee before each test and being printed out on each copy of the result.
- Is not capable of printing out, on each copy of the result, the manufacturer's name for the instrument, the instrument's serial number, and the time of the test.

Quality-Assurance Plans (QAP) for EBTs

What is a QAP?

A **QAP** is a set of criteria used to confirm that the manufacturer has taken steps, to provide standards for ensuring the accuracy of each instrument used for testing.

Each EBT used for alcohol testing, either screening or confirmation, must have a QAP developed by the manufacturer and approved by NHTSA.

Contents of the QAP

The QAP must:

- Designate the method or methods to be used to perform external calibration checks of the instrument.
- Specify the minimum intervals for performing external calibration checks of the instrument (i.e., how often external calibration checks must be performed to ensure the accuracy of the instrument).
- Specify the tolerances on an external calibration check within which the EBT is regarded to be in proper calibration.
- Specify inspection, maintenance, and calibration requirements and intervals for the instrument.

Who is responsible for the QAP?

The manufacturer is responsible for developing a QAP for each device used for alcohol screening or confirmation testing. NHTSA is responsible for approving a manufacturer's QAP. The employer is responsible for complying with the NHTSA-approved QAP for each EBT it uses for testing.

Alcohol Testing Locations

The testing location must provide aural and visual privacy to the person being tested, sufficient to prevent unauthorized persons from seeing or hearing the test results.

In unusual circumstance, for example, when it is essential to conduct a test outdoors at the scene of an accident, a test may be conducted at a location that does not fully meet the requirements for aural and visual privacy. In such a case, the employer or the BAT must provide privacy to the employee to the greatest extent possible.

All necessary devices, personnel, and materials for breath testing must be provided at the location where testing is conducted.

No unauthorized persons are permitted access to the testing location when the EBT remains unsecured or, in order to prevent such persons from seeing or hearing a test result, at any time when testing is being conducted.

You are to test only one employee at a time and you cannot leave the testing location while the testing procedure is in progress.

Unit IV - Conducting a Screening Test

This unit will provide you with a step-by-step approach on how to properly conduct a screening test.

As a BAT, you must not require an employee to sign a consent, release, waiver of liability, or indemnification agreement with respect to any part of the alcohol testing process contained in Part 40.

The First Steps for Breath Testing

1. If an employee arrives at the testing location for a drug and alcohol test, the alcohol test should be performed before the urine collection.
2. When an employee arrives at the testing location have the employee provide identification.

Examples of identification include a photo i.d. card, photo driver's license, or identification by an employer representative.

3. If the employee requests you to provide business identification, do so.
4. Explain the testing procedures to the employee.

A sample explanation might be, "I will be conducting a screening test on you today. After you sign this ATF you will blow into this device and I will record your results. If the results show a 0.020 or greater you will be required to take a confirmation test. I will record the results and give you a copy of the ATF when we are finished."

5. Complete Step 1 on the ATF which includes:
 - Employee name;
 - Employee SSN or ID number;
 - Employer name;
 - Street address, city, state and zip code;
 - DER Name and telephone number where he or she can be reached if needed, and
 - Reason for test.
6. Have employee complete Step 2 on the ATF, signing the certification. If an employee refuses to sign the certification it is regarded as a refusal to take the test.
7. If using an EBT that meets the requirements of a confirmation test, you and the employee shall both read the unique test number displayed on the EBT for the test about to be given.
8. Open an individually sealed mouthpiece in view of the employee and attach it to the EBT, according to the manufacturer's instructions.

9. Instruct the employee to blow forcefully into the mouthpiece for at least 6 seconds or until the EBT indicates that an adequate amount-of breath has been obtained.
The reason why you have the employee blow forcefully is to ensure that you are getting a deep lung sample. (If you are using a hand-held EBT, you are to hold the EBT. The employee shall not hold the EBT.)

Conducting a Screening Test on an EBT that does not Meet the Requirements for a Confirmation Test

When an EBT does not meet the rule's requirements for a confirmation test:

- Follow the same first eight steps for breath testing.
- Show the employee the result displayed on the EBT.
- Record the following on Step 3 of ATF
 - Technician Box: Check BAT
 - Device Box: Check BREATH
 - If a confirmation-test is required, check Yes or No concerning the 15-minute wait.
 - Test number
 - Name of testing device
 - Serial number of the testing device
 - Time of test
 - Displayed test result (0.020, 0.041, etc.). It is important to enter the test result exactly as indicated on the device. The EBT displays the result in three digits and it must be recorded as three digits.

Conducting a Screening Test on an EBT that Meets the Requirements for a Confirmation Test

When using an EBT that meets the requirements of a confirmation test, specific steps must be taken in certain situations. These situations and the steps to follow are:

If the EBT provides a printed result, but does not print the results directly onto the ATF:

1. Show the employee the result displayed on the EBT.
2. Technician Box: Check BAT; Device Box: Check BREATH
3. Affix the test result printout to the ATF in the designated space on the front of the ATF, using a method that will provide clear evidence of removal such as tamper-evident tape. If the result printout will not fit on the front of the ATF, you can attach to the back of ATF.

If the EBT prints the test result directly onto the ATF:

1. Show the employee the result displayed on the EBT.

If the unique test number printed by the EBT does not match the unique test number displayed by the EBT prior to the screening test, or if the printed result does not match the displayed result:

1. Note the disparity in the "Remarks" section of the ATF.
2. Both you and the employee must initial or sign the notation.
5. Advise the employee that the test is cancelled.
3. Provide Copy 2 of the ATF to the employee.
4. Notify employer of the cancelled test and forward Copy 1 to the employer.
5. Keep Copy 3. It is suggested that you retain copy 3 for at least 30 days.
6. Begin, if practicable, a new test. You may have to use a different device and a new ATF.

Completing the Screening Test

When the result of the screening test is an alcohol concentration of less than 0.020:

1. Date and sign the certification in Step 3 of the ATF.
2. No further testing is authorized.
3. Provide Copy 2 of the ATF to employee.
4. Forward Copy 1 to employer.
5. Keep Copy 3.

If the result of the screening test is an alcohol concentration of 0.020 or greater, a confirmation test must be performed.

If the confirmation test will be conducted by another BAT, the original BAT is to:

1. Complete Step 3 as follows:
 - Company name;
 - Company address;
 - Company, city, state and zip code;
 - Company phone; and sign and date ATF
2. Provide the employee with Copy 2 of the ATF.
3. Forward copy 1 to the employer.
4. Keep copy 3.

What has changed on the ATF?

1. In step one (1), the BAT is required to provide the designated employer representative's (DER) name and telephone number.
2. In step three (3), the BAT must check the appropriate technician box (i.e., BAT or STT), whether the device is saliva or breath, and whether or not the 15-minute wait was observed (in the event of a confirmation test).

Also, in step 3, the BAT must provide the name of the company, address, and telephone number that they are representing.

3. The individual who is being tested only needs to sign and date step 4 if the test result was 0.02 or higher. If an employee refuses to sign, it is not a refusal to test, however, it should be annotated in the remarks section of the ATF.

What if ...

1. Five employees show up randomly and the first one tested has a breath test result of 0.020. What do you do with the remaining four?

Complete the test before testing the second employee. Each test must be completely finished before going on to the next test.

2. If you conduct breath alcohol tests and urine drug tests and several employees show up for their "tests", how do you know who gets what test?

You should request a list from the employer, which lists the name of the employees to be tested, and the type of test (alcohol and or drugs) they are to receive. The BAT should also get the name and telephone number of the DER.

4. The employee does not have a photo i.d. and there is no employer representative available to positively identify the employee.

If the employee cannot be positively identified by a photo i.d. or by an employer representative, the test cannot be conducted. Exception: if the employee is an independent self-employed individual and has no photo i.d., notify the collection site supervisor and record in the Remarks section of the ATF that positive identification is not available. Request that the employee provide two items of identification bearing his/her signatures. Proceed with testing. When the employee signs the ATF, compare the signature with the identification provided earlier. if the signatures appear consistent, continue the testing procedures. if signature does not match signatures on identification presented, make an additional note in the Remarks section of the ATF stating, "Signature identification is unconfirmed."

5. The employee requests to have a union or legal representative present during the testing?

If the employer's policy permits such practice, it is permissible, so long as the union or other representative does not disrupt or interfere with the collection process. Having to delay testing to wait for the representative would be disruptive and should not be done.

6. Once testing procedures have begun, the employee says that he/she is leaving and then leaves, what do you do?

If the employee leaves once the testing procedure has begun it is considered a refusal to test. Make a note in the Remarks section of the ATF saying that the employee left, then immediately inform the employer.

7. What must I do if I use a Non-DOT ATF for a DOT test by accident?

If a BAT uses a non-DOT ATF for a DOT test due to circumstances beyond his or her control, that in itself does not cause the test to be cancelled. However, in order for the test to be considered valid, a signed memorandum for the record must be obtained from the BAT. The statement should indicate that the ATF used contains all the required information for a DOT test, why the ATF was used and what steps have been taken so that this error does not happen again. Consistent use of non-DOT ATFs by DOT (and vice versa) tests can be cause for sanctions under DOT regulations.

8. I need to indicate on the ATF what DOT agency this test is being performed for. Where can I put this information?

You can write this information in the Remarks section of the ATF.

9. As a BAT am I subject to Public Interest Exclusion (PIE)?

Yes, all service agents and employers who perform tests under DOT regulations are subject PIE.

Unit V - Conducting the Confirmation Test

This unit will provide you with a step-by-step approach on how to properly conduct a confirmation test.

Explaining Test Procedures to the Employee

If you are conducting the confirmation test and you conducted the screening test, you would continue using the same ATF. If you have not conducted the screening test but are conducting the confirmation test, you would have to start with a new ATF and begin with the first eight steps from Unit IV.

1. Explain the testing procedures to the employee. Let the employee know that you will be conducting a confirmation test.
2. Explain to the employee that they must observe a 15-minute waiting period and during this time they cannot:
 - Eat
 - Drink
 - Put any object or substance in mouth
 - Belch, to the extent possible

Inform the employee that this time period begins with the completion of the screening test, is not to be less than 15 minutes, and the test will be conducted within 30 minutes of the completion of the screening test. Explain to the employee the reason for this requirement is to prevent any accumulation of mouth alcohol leading to an artificially high reading. Stress to the employee that this is for the employee's benefit.

Explain that the test will be conducted at the end of the waiting period, even if the employee has disregarded the instruction (i.e., has belched, eaten a breath mint).

3. If you become aware that the employee has not complied with this instruction, note so in the "Remarks" section of the ATF.
4. A new mouthpiece is to be used for the confirmation test.

Open an individually sealed mouthpiece in view of the employee and attach it to the EBT, according to the manufacturer's instructions.

Prior to Conducting the Confirmation Test

1. Conduct an EBT air blank check.
2. Ensure that the EBT registers 0.000 on an air blank.
 - If the reading is greater than 0.000, conduct one more air blank.
 - If the second reading is greater than 0.000, do not proceed using that device. Proceed on another device, if available.

EBT taken out of service

Any EBT taken out of service because of failure to perform an air blank accurately is not to be used for testing until a check of external calibration is conducted and the EBT is found to be within tolerance limits.

Conducting the Confirmation Test

1. Have employee provide a breath sample. Instruct the employee to blow forcefully into the mouthpiece for at least 6 seconds or until the EBT indicates that an adequate amount of breath has been obtained. As BAT, you are to hold the EBT.
2. Record test results.

Under any of the following circumstances, take the appropriate steps.

1. If EBT provides a printed result, but does not print the results directly onto the ATF:
 - Show the employee the result displayed on the EBT.
 - Affix the test result printout to the ATF in the designated space, using a method that will provide clear evidence of removal (e.g., tamper-evident tape).
2. If the EBT prints the test results directly onto the ATF:
 - Show the employee the result displayed on the EBT.
3. If the screening and confirmation test results are not identical: The confirmation test result is deemed to be the final result upon which any action under operating administration rules is to be based.
4. The unique test number printed by the EBT does not match the unique test number displayed by the EBT prior to the confirmation test, or if a test result printed by the EBT does not match the displayed result:
 - Note the disparity in the "Remarks" section of the ATF.
 - Both you and the employee must initial or sign the notation.
 - Advise the employee that the test is cancelled.
 - Give Copy 2 of the ATF to the employee.
 - Notify the employer of the cancelled test and forward Copy 1 of the ATF to the employer.
 - Keep Copy 3.
 - If practicable, initiate a new confirmation test, using a new ATF and device, if necessary.

Completion of Test

1. Complete all portions of Step 3 of the ATF then date and sign the certification and Date and sign the certification in Step 3 of the ATF.
2. Have the employee sign the certification and fill in the date in Step 4 of the ATF.
3. If the employee does not sign the certification in Step 4 of the ATF it is not to be considered a refusal to be tested. In this event, note the employee's failure to sign in the "Remarks" section of the ATF.
4. Distribute copies of ATF
5. Copy 1 is forwarded to the employer.
6. Copy 2 is to be given to the employee.
7. You keep copy 3. You should keep your copy of the ATF for at least 30 days.

Results to the DER

Each employer will have a designated employer representative (DER) for the purposes of receiving and handling alcohol testing results in a confidential manner. All communications by you to the employer concerning the alcohol testing results of employees will be to the DER.

Results are forwarded in a confidential manner. Transmission may be in writing, in person or by telephone or through electronic means (e.g. fax). Ensure immediate transmission to the DER of results that require the employer to prevent the employee from performing a safety-sensitive function (>0.020).

If the initial transmission is not in writing (e.g., by telephone):

1. The employer must establish a mechanism to verify the identity of who is providing the information.
2. Follow-up the initial transmission by providing to the employer the employer's copy of the ATF.

What's new about distribution of alcohol test results?

An employer may have a C/TPA act as an intermediary. As a BAT, **you must** provide alcohol test results to the DER. However, you can also provide the results simultaneously to the C/TPA who is acting as the employer's intermediary.

What if ...

1. You have given a screening test to an employee and the result is a 0.020. Under the procedures of the Rule you are required to give a confirmation test but the employee tells you that he/she is off duty in 10 minutes. what should you do?

Do what you can. Re-inform the employee of the procedures (that they are to wait 15 minutes before the confirmation test and leaving is equivalent to refusing to test). if he/she leaves, make note of the situation on the ATF, inform the employer that the employee left, and refused testing.

2. During the waiting period between the screening and confirmation test, the employee says that he/she has to go to the rest room.

Inform the employee that at the end of the 15-minute waiting period the confirmation test must be conducted. If the employee leaves, the BAT makes note of the situation on the ATF and informs the DER that the employee left and refused testing.

3. After the confirmation test, you realize that you used the same mouthpiece.

Void the confirmation test by writing "void" across the printed result, provide an explanation in the Remarks section of the ATF, and affix the voided result to the ATF. Put a new mouthpiece on the device and perform another confirmation test.

4. On a confirmation test, an employee has a test result of 0.040 or greater.

Show employee results, complete ATF, and have employee sign Part 4 of the ATF. Immediately notify the employer. "Immediately" is a good faith effort to contact the employer after the completion of the confirmation test. All efforts to contact the employer should be documented; e.g., time of call(s), whom you notified, etc. Reiterate to the employee that he/she agreed not to drive or perform a safety-sensitive function by signing Part 4 of the ATF. You are not required to restrain the employee, take employee's keys, or call the police.

5. What if the printer runs out of paper while printing a test result?

Some devices have a recall button. In this case you would replace the paper, recall the test and print the result. if this is not the case, cancel the test and make a note in the Remarks section and conduct another test.

Unit VI - Obstacles to Completing a Test

This unit provides you with the procedures you will need to follow if you come across any of the following situations:

- Test refusals
- Uncompleted tests
- An employee's inability to provide an adequate amount of breath
- Cancelled tests

Refusals to Test

Refusals include when an employee refuses to:

1. Complete and sign Step 2 of the ATF.
2. Provide breath (i.e., to refuse to blow into the mouthpiece).
3. Provide an adequate amount of breath (e.g., to not blow hard enough or long enough to register) and there was no adequate medical explanation for the failure. Provided that an employee who does not provide an adequate amount of breath because he or she has left the testing site before the testing commences for a pre-employment test is not deemed to have refused to test.
4. Failure to cooperate with the testing process in a way that prevents the completion of the test.
5. Failure to arrive at the testing site within a reasonable amount of time, except for a pre-employment test, as determined by the employer, after being directed to do so by the employer. This includes the failure of an employee to arrive at the testing site (including an owner/operator) when called by the C/TPA.
6. Failure to remain at the testing site until the testing process is complete. Provided that an employee who leaves the testing site before the testing process commences for a pre-employment test is not deemed to have refused to test.
7. Fail to undergo a medical examination or evaluation, as directed by the employer as part of the insufficient breath procedures. (Note: This is provided for information purposes only, you as a BAT, will not be involved in this determination.)

What do you do when confronted with a refusal?

1. Note refusal in the "Remarks" section of the ATF or in a separate document, which you attach to the ATF.
2. Terminate the testing process.
3. Immediately notify the DER, not using the C/TPA as an intermediary (except in the cases where the individual being tested is an owner/operator).

Uncompleted Tests

Examples of uncompleted tests include:

1. A screening or confirmation test that cannot be completed (e.g., mouthpiece won't attach, instrument temperature reading is incorrect, etc.).
2. An event occurring that would cancel the test.

What do you do when you have an uncompleted test?

1. Begin a new screening or confirmation test using a different EBT, if available.
2. As applicable, use a new ATF with a new unique test number (in the case of a screening test conducted on an EBT that meets the same requirements as an EBT used for a confirmation test, or in the case of a confirmation test).

What If ...

A device is malfunctioning and there is no backup.

Cancel the test. Make note in the Remarks section of the ATF that the test has been cancelled due to the device malfunctioning. Call your supervisor or the manufacturer's service provider.

Inability to Provide an Adequate Amount of Breath

What does this mean?

It is when an employee is unable, or alleges that he or she is unable, to provide an amount of breath sufficient to permit a valid breath test because of a medical condition. Examples of medical conditions include asthma, bad cold, lung cancer, one lung, etc.

What do you do?

1. Instruct the employee to attempt to provide an adequate amount of breath.
2. If employee fails to attempt, notify the DER immediately.
3. If employee attempts and fails, note in the "Remarks" section of the ATF.
4. Immediately inform the DER.

Cancelled Tests

When is a test cancelled?

An alcohol test is cancelled under the following circumstances:

1. In the case of a screening test conducted on a saliva ASD: -
 - The BAT reads the result either sooner or later than the time allotted by the manufacturer;
 - The device does not activate; or
 - The device is used for a test after the expiration date printed on its package.
2. In the case of a screening or confirmation test conducted on an EBT, the unique test number or alcohol concentration displayed on the EBT is not the same as the unique test number or alcohol concentration on the printed result.
3. In the case of a confirmation test:
 - The BAT conducts the confirmation test before the end of the minimum 15-minute waiting period;
 - The BAT does not conduct an air blank before the confirmation test;
 - There is not a 0.000 result on the air blank conducted before the confirmation test; or
 - The next external calibration check of the EBT produces a result that differs by more than the tolerance stated in the QAP from the known value of the test standard. In this case, every result of 0.02 or above obtained on the EBT since the last valid external calibration check is cancelled.

What do you do?

1. Begin, if practicable, a new screening or confirmation test. You may have to use a different instrument.
2. As applicable, use a new ATF with a new unique test number (in the case of a screening test conducted on an EBT that meets the same requirements as an EBT used for a confirmation test, or in the case of a confirmation test).

Your goal is to complete the alcohol breath tests. You are to do everything you can to ensure a proper test is conducted and completed properly.

What problems cause an alcohol test to be cancelled unless they are corrected?

1. If, during or shortly after the testing process, you become aware of any event that will cause the test to be cancelled, you must try to correct the problem promptly, if practicable. You may repeat the testing process as part of this effort.
2. If repeating the test, you must begin a new test as soon as possible. You must use a new ATF, a new unique test number, and, if needed, a new ASD and/or new EBT. It is permissible to use additional technical capabilities of the EBT (e.g., manual operation) if you have been trained to do so.

3. If another testing device is not available for the new test at the testing site, you must immediately notify the DER and advise the DER that the test could not be completed. The DER is responsible for attempting to have the test accomplished at another testing site.
4. If, as a BAT administering the testing process, you become aware of a correctable flaw that has not already been corrected, you must take all practicable action to correct the problem so that the test is not cancelled.

If the problem resulted from the omission of required information, you must, as the person responsible for providing that information; supply in writing the missing information and a signed statement that it is true and accurate.

5. If the problem is the use of a non-DOT ATF, you must, as the person responsible for the use of the incorrect ATF, certify in writing that the incorrect ATF contains all the information needed for a valid DOT alcohol test. You must also provide a signed statement that the incorrect ATF was used inadvertently or as the only means of conducting a test, in circumstances beyond your control, and the steps you have taken to prevent future use of non-DOT ATFs for DOT tests. You must supply this information on the same business day on which you are notified of the problem, transmitting it by fax or courier.

If you cannot correct the problem, the test must be cancelled and you are required to attend Error Correction Training.

If you as the BAT cancel a test, you must notify the DER within 48 hours of the cancellation.

An employer cannot ask you, as a BAT to conduct a non-DOT (i.e., a test under company authority) test because the DOT was cancelled.

Procedural Problems

1. As a BAT you must document any errors in the testing process of which you become aware, even if they are not fatal flaws or correctable flaws.
2. No person concerned with the testing process may declare a test cancelled based on a mistake in the process that does not have a significant adverse effect on the right of the employee to a fair and accurate test. For example, the test should be cancelled if the employee does sign in Step 4 of the ATF.

Unit VII - Disclosure of Information and Keeping Records

This unit will examine what records must be maintained and for how long they must be kept. This unit will also provide you with the procedures for maintaining and disclosing records on **EBTs, BATs**, and employee test results.

Maintenance and Disclosure of Records Concerning EBTs, BATs, and Employee Test Results

If you, as the BAT, are the "agent" of the employer, you must maintain the following records:

1. Records of alcohol test result indicating an alcohol concentration of 0.02 or greater for five years;
2. Documentation of refusals to take required alcohol tests and follow-up alcohol tests must be maintained for 5 years;
3. Records of the inspection, maintenance and calibration of **EBTs** for two years; and
4. Records of negative and cancelled alcohol tests with a concentration of less than 0.02 for one year.

The records must be maintained in a location with controlled access.

Records must be produced with two (2) business days when requested by a DOT agency.

Retention of BAT copy of ATF

It is suggested that you maintain your copy of the employee's alcohol test results for at least 30 days. They must be maintained in a secure manner, so that disclosure to unauthorized persons does not occur.

BAT Training Records

BATs are responsible for maintaining documentation showing that they currently meet all training requirements contained in Part 40.

BATs must provide these records to the DOT agency, employers or service agents who use their services upon request.

Disclosure of Records Concerning EBTs, BATs, and Employee Test Results:

Disclosure of testing information to unauthorized persons is not permitted. If you receive a specific, written consent from an employee authorizing the release of information about that employee's alcohol tests to an identified person; you must provide the information to the identified person. In doing so, you must comply with the terms of the employee's consent.

As a service agent, upon request from DOT agency representatives, you must provide:

- Access to your facilities used for DOT alcohol testing, and
- All written, printed, and computer-based alcohol program records and reports (including copies of name-specific records or reports), files, materials, data, documents and/or documentation, agreements, contracts, policies, and statements that are required by Part 4 and DOT agency regulations.
- If requested by the National Traffic Safety Board as part of an accident investigation, you must provide information concerning post-accident tests administered after the accident.
- If requested by Federal, state or local safety agency with regulatory authority over you or the employee, you must provide alcohol test records concerning the employee.

Why is it important to keep and maintain records?

It is important to keep and maintain records because you will have to refer back to them if you are ever called to testify. By keeping a well-organized system of documentation you will be able to recount a particular employee test on a particular day.

If called to testify you may be responsible for describing the DOT alcohol testing procedures, and verifying the specific actions you take when conducting a test. You may also be responsible for verifying your training and signatures on documents that you have prepared.

Unit VIII – Proficiency in the Use of the EBT

You are also responsible for demonstrating proficiency in operating and possessing knowledge of the operations on the EBT that you will use for alcohol testing.

Upon successfully completing this unit, each student will be able to:

- Demonstrate proficiency in administering a breath alcohol test in accordance with the procedures of 49 CFR Part 40. Proficiency must include:

Student must perform a minimum of seven breath tests using a live subject on each EBT he/she will be using for breath alcohol testing and successfully demonstrate the following:

- Ability to respond to the device's messages and commands.
- Actions to take when an error message of malfunction occurs with the device.
- Ability to conduct an air blank or the knowledge that an air blank has been conducted.
- In order for a test to be counted among the minimum seven, the test must be technically correct with respect to the manufacturer's requirements for the specific EBT and 49 CFR Part 40.
- Identify and explain actions he/she will take when the device(s) does not function properly.
- Explain when a check of external calibration is required and identify the procedures and/or person(s), if other than the student, responsible for performing the calibration checks.
- Completion of a self-check test sufficient to demonstrate knowledge of and proficiency on the instrumentation of the EBT.