

# Washington State Patrol

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## BREATH TEST PROGRAM

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### Training Manual

Revision November 2014

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## **1.0 TRAINING MANUAL**

### **1.1 POLICY**

The Washington State Patrol (WSP) Breath Test Program (BTP) will establish, implement and maintain a breath alcohol calibration training program appropriate to the scope of its responsibilities. The BTP will use only State Toxicologist approved training curriculum and examination materials during all of their training courses, and training records will be maintained for all courses provided. Approved training will include initial or basic training curriculum, as well as refresher courses. All training records will be maintained at BTP Headquarters. The goal will be to provide training of the highest and most relevant quality in order to ensure that all personnel are capable of performing their responsibilities in the most competent, qualified manner possible. This manual includes the training curriculum approved for personnel employed within the BTP, performing breath alcohol calibration functions.

### **1.2 SCOPE**

The Washington Administrative Code (WAC 448-15, 448-16) identifies those classifications of personnel qualified for different areas of breath alcohol calibration and testing responsibility. Those classifications within the BTP are: Operators, Instructors, External Standard Changers, Technicians, Preliminary Breath Test (PBT) Operators and PBT Technicians. This manual contains the curriculum that is currently approved for training and certifying individuals within these specific categories.

#### **1.2.1 Terminology**

- A. The term breath test instrument in this manual refers to the DataMaster, the DataMaster CDM, or the Draeger Alcotest 9510.
- B. The term DataMaster refers to the DataMaster or the DataMaster CDM.
- C. The Draeger Alcotest 9510 may also be referred to as the Draeger, Dräger, Dräger, Alcotest 9510, or 9510.

## **2.0 DATAMASTER AND PBT OPERATOR COURSE**

### **2.1 OBJECTIVE**

The curriculum outlined in this chapter is approved for training individuals as Qualified Operators of the DataMaster and DataMaster CDM breath test instruments, the Alco-Sensor III, and the Alco-Sensor FST PBT. Those individuals successfully completing this training course are qualified to perform evidential breath alcohol tests.

### **2.2 TRAINING OUTLINE**

#### **OPERATOR COURSE FOR DATAMASTER AND PBT OPERATOR**

To be presented in up to 16 hours (Operator Course).

To be presented in up to 4 hours (Operator Refresher Course). The topics marked with an asterisk (\*) must be covered in the Operator Refresher Course. Additional content from this outline may be incorporated as necessary.

#### **2.2.1 INSTRUCTIONAL OBJECTIVES**

- \*To certify (re-certify) students in the operation of the DataMaster/ DataMaster CDM
- Understand the role of breath testing in Driving Under the Influence (DUI) enforcement
- Understand basic pharmacology and physiology of ethanol relevant to DUI enforcement
- \*Understand the legal aspects of evidentiary breath testing
- Understand the principles of operation of the DataMaster and DataMaster CDM
- \*Understand the purpose, principles, and operation of the simulator
- \*To develop the student's skill in operating the DataMaster and DataMaster CDM
- \*To acquaint the student with techniques that help to achieve an admissible test result
- To familiarize the student with the DUI arrest report and its importance
- \*Basic preparation in court testimony regarding breath test instruments
- To develop the student's skill in effective DUI report writing
- \*To provide an opportunity for hands on practice with an approved breath test instrument.

- \*To test the students' knowledge of DataMaster and/or DataMaster CDM procedures and ability to conduct an admissible breath alcohol test.
- \*The student will become familiar with the history, nomenclature, theory, legal aspects and become a certified operator of the Alco-Sensor III and Alco-Sensor FST PBT.
- \*Successfully complete a written and practical examination.

### **2.2.2 \*TRAINING AIDS**

- White/Black board
- Relevant breath test instruments, simulators, and mouth pieces
- Drinking establishment codes
- Operator Manuals
- Breath test forms/documents
- Blood vial kit and gloves
- Practical exercise training forms
- Alco-Sensor (PBT) with mouthpieces
- DUI Arrest Report forms

### **2.2.3 \*EXAMINATION**

- Written exam - 80%
- Practical exercise - Pass/Fail

### **2.2.4 GUIDANCE FOR THE INSTRUCTOR**

- Have a class roster filled out.
- The Operator's Manual is a reference guide. Neither this course nor the exam is based on that manual.
- This training outline covers all the approved breath test instruments in the state of Washington and the Alco-Sensor III / Alco-Sensor FST PBT.
- This is up to a 16 hour course that includes physiology of alcohol, legal aspects, principles of breath test instrument operation, practical operation, as well as the operation and legal aspects of the PBT.

- Successful completion of the course will qualify the student to administer evidentiary breath tests and to use the PBT for 3 years.
- \*Verify that students are not over 90 days past their operator permit card expiration date – no exceptions.

### 2.2.5 INTRODUCTION

A. Driving by alcohol impaired persons has been a traffic safety concern since the invention of the automobile.

B. Corroborative evidence of alcohol use is needed for court.

#### 1. Chemical tests

a. Urine tests were used in Scandinavia early in the twentieth century.

- Later research has cast doubt upon the reliability of urine tests as a measure of alcohol concentration in the body.
- Urine is not an acceptable sample for evidentiary alcohol concentration analysis in Washington.

b. \*Blood tests are accepted as a way of obtaining evidence of alcohol concentration in Washington.

- Blood tests are an accurate and reliable method for determining impairment
- Blood samples can be taken only under specific conditions
- The results of blood test are not available immediately
- Blood sample collection is more intrusive than a breath sample
- Blood sample collection requires advanced training and skill

c. Breath testing is the preferred and accepted method of testing for alcohol since it is readily adaptable to field use.

- The results are immediately available
- Sample taking is minimally invasive.
- Test instruments are suitable for field use
- Breath testing is an accurate and reliable method for determining impairment

2. The value of breath test evidence depends upon the weight assigned to it by the law, the judge, and the circumstances of the case
  - a. \*Evidentiary breath test instruments have features that reduce uncertainties and provide accurate and reliable results. Using computerized instrumentation to measure breath alcohol samples allows the test process to be automated.
    - o Minimizes the need for operator involvement in the analysis procedure
    - o Minimizes operator bias
    - o Ensures adherence to the protocol, the computer always performs the test the same way
    - o It makes automatic safeguards possible for conditions that could be missed by humans
    - o Allows for data collection to evaluate program performance and DUI Enforcement effort
  - b. WAC 448-16-020 lists the currently approved evidential breath test instruments for the quantitative measurement of alcohol in a person's breath for evidentiary use in the state of Washington.
    - o The DataMaster and Draeger instruments use infrared technology to analyze a sample of human breath for ethanol concentration. The Draeger instruments also use fuel cell technology.
    - o Instruments are self-certifying.
    - o The test procedures are controlled by a central processing unit.
    - o The instruments provide a printed breath test document showing test results.
    - o The instruments express the results as grams of alcohol per 210 liters of breath.
    - o The test procedures have built in safeguards. The instruments can detect numerous potential issues affecting validity and abort the test. They are designed to give a proper test or none at all.
    - o Instruments are approved for evidentiary use by the National Highway Traffic Safety Administration and are on the Conforming Products List.

- These instruments are in use in many jurisdictions including the United States, Canada, and Europe.

## 2.2.6 PHYSIOLOGY OF ALCOHOL

### A. \*There are many types of alcohol.

1. Beverage or grain alcohol is often referred to as ethanol (preferred) or ethyl alcohol. When the term alcohol is used it refers to ethanol unless otherwise specified.
  - a. Used in alcoholic beverages
2. Methanol, also called methyl alcohol or wood alcohol
  - a. Very poisonous, metabolizes into formic acid
  - b. Damage is often first to the optic nerve, resulting in blindness
3. Isopropanol, also called isopropyl alcohol or rubbing alcohol
  - a. Metabolizes into acetone if consumed, stays with you a long time.
4. Other alcohols or volatile organic compounds on the breath
  - a. Poisonous
  - b. Concentration too low for breath test instrument detection.

### B. Ethanol

1. Ethanol in the non-scientific literature is generally referred to simply as alcohol.
2. \*Mixes readily with water
  - a. Will be distributed throughout the body in proportion to the water content.
    - Blood
    - Brain
3. Impairment is caused by alcohol's effect on the brain and central nervous system.
4. Alcohol usually gets into the body by oral consumption.
  - a. Absorbing alcohol through your skin is an extremely inefficient way of introducing alcohol into the body and is very unlikely to cause intoxication.

- b. Inhalation of alcohol is an extremely inefficient way of introducing alcohol into the body and is very unlikely to cause intoxication.
5. Once alcohol is consumed, it enters the gastrointestinal tract.
  - a. The stomach has a small surface area and is therefore not an efficient absorber. It may absorb up to 20% of the consumed alcohol.
  - b. \*The small intestine has a greater surface area when compared to the stomach and is therefore an excellent absorber. It may absorb 80% or more alcohol.
  - c. \*Stomach contents will affect the rate of alcohol absorption
    - o By inhibiting absorption through the stomach walls
    - o By slowing passage of alcohol from the stomach to small intestine
  - d. \*Alcohol is not changed chemically before being absorbed.
6. \*Once absorbed, alcohol enters the circulatory system.
  - a. From the stomach and intestines, alcohol goes to the liver via the portal vein.
    - o Alcohol is metabolized in the liver, but not all at once.
    - o Most alcohol continues past the liver to the heart and is circulated to the entire body, including the lungs.
  - b. From the liver alcohol is carried to the heart and then into the rest of the body.
    - o Arteries carry the alcohol from the heart directly to the brain, where it causes impairment.
    - o The arterial system carries the alcohol to all parts of the body, in what is known as the distribution phase.
    - o The alcohol equilibrates with any water that it encounters.
    - o Some of the alcohol is metabolized (i.e. broken down into other compounds).
    - o The remaining alcohol continues back to the heart to repeat the cycle.
  - c. In the lungs some of the alcohol in the blood evaporates and enters the air that is exhaled as breath, in accordance with Henry's Law.

- d. \*When alcohol is being absorbed more quickly than it is being metabolized (burned off) its concentration in the blood increases.
  - o Example: A 235 lb. man will metabolize an average of one 12 fl. oz. beer per hour, whereas a 145 lb. woman will metabolize an average of one-half of a 12 fl. oz. beer per hour. This assumes beer to be 4% alcohol by volume.
  - o Widmark formula
    - Estimates the breath alcohol concentration (BAC) or amount of alcohol consumed. Uses weight, amount of alcohol or BAC level, sex, and time.
- e. As concentration increases, the impaired effects from the alcohol become more obvious.
  - o The first effects are subtle:
    - Inhibitions fade
    - Suppression of care
    - Reduced ability to recognize hazards
    - Inappropriate response to hazards
  - o Loss of efficiency in simple performance tests
  - o Horizontal Gaze Nystagmus becomes apparent
  - o Readily observed effects
    - Lack of coordination
    - Loss of balance
    - Emotional instability
  - o At high concentrations unconsciousness and respiratory paralysis can occur.
  - o Untreated respiratory paralysis results in death.
- f. The onset and magnitude of the various effects differ among individuals:
  - o Native tolerance
  - o Use or consumption tolerance

- g. Because of differences in absorption, elimination and onset of various levels of effect, information about a defendant's actions in the hours prior to a DUI violation can be important evidence.
- h. Long term tolerance aside, there is no known way to increase the rate of elimination of alcohol from the human body.
- i. Once consumed, there is no known way to prevent the effects of alcohol.

## 2.2.7 \*LEGAL ASPECTS

### A. Legal Context

- 1. DUI laws apply to public and private roadways open to the public. RCW 46.61.005; State v. Day (driving drunk in field not open to public not DUI)
- 2. "Vehicle" is defined by RCW 46.04.670
- 3. Vehicles which may not be operated intoxicated do not include "mopeds" U.S. v. Dotson (1994) or "bicycles" City of Montesano v. Wells (1995).

### B. DUI Statute (RCW 46.61.502)

- 1. A person is guilty of driving while under the influence of intoxicating liquor, marijuana, or any drug if the person drives a vehicle within this state:
  - a. And the person has, within two hours after driving, an ethanol concentration of 0.08 or higher as shown by analysis of the person's breath or blood made under RCW 46.61.506; or
  - b. The person has, within two hours after driving, a THC concentration of 5.00 or higher as shown by analysis of the person's blood made under RCW 46.61.506; or
  - c. While the person is under the influence of or affected by intoxicating liquor, marijuana, or any drug; or
  - d. While the person is under the combined influence of or affected by Intoxicating liquor, marijuana, and any drug.
- 2. Penalty is a gross misdemeanor or Class C felony
- 3. DUI Arrest with child in the vehicle.
  - a. Advise communications of the presence of minor children along with their names and dates of birth for Child Protective Service (CPS) notification. Document the presence in the narrative report. Ensure safety of children in release procedures. (Follow department

established guidelines)

4. Felony DUI (RCW 46.61.502 (6) It is a class C Felony punishable under chapter 9.94A RCW, or chapter 13.40 RCW if the person is a juvenile, if:
  - a. Person has four or more prior offenses within ten years as defined in RCW 46.62.5055;or
  - b. Person has ever previously been convicted of:
    - o Vehicular homicide while under the influence
    - o Vehicular assault while under the influence
    - o An out-of-state offense comparable to Vehicular homicide or Vehicular assault; or
    - o Prior conviction for Felony DUI and Felony Physical Control
5. Mandatory Booking (RCW 46.61.5055). The person has violated RCW 46.61.502 or RCW 46.61.504 or an equivalent local ordinance and the officer has knowledge that the person has a prior offense as defined in RCW. 46.61.5055 within 10 years. Confirm the arrested subject has a qualifying prior offense (conviction) within 10 years in accordance to RCW 46.61.5055. A prior offense is defined as a conviction of the following:
  - a. DUI (RCW 46.61.502)
  - b. Physical Control (RCW 46.61.504)
  - c. Vehicular Homicide while under the influence
  - d. Vehicular Assault while under the influence
  - e. Charge of Vehicular Homicide, Vehicular Assault, DUI or Physical Control that was reduced to Negligent Driving – First degree, Reckless Driving, Reckless Endangerment
  - f. An out of state conviction of a violation of i –v (listed above) that would have been a violation if committed in this state.
  - g. Deferred sentence or deferred prosecution under RCW 10.05 for any of the above listed violations (whether dismissed or not).
    - o For confirmation, officer should review 10 year abstract of driver's record and Interstate Identification Index (III). Communications can assist with information.

- o If subject needs medical care, stay with subject at medical facility. Comply with Department guidelines and/or prosecutor instruction.
6. Constitutionality of the breath test statute was affirmed by State v. Brayman.
  7. 46.04.015 or 46.61.506 defines ethanol concentration units as
    - a. g/210L breath
    - b. g/100 mL blood
- C. Physical Control Statute (RCW 46.61.504)
1. A person is guilty of being in actual physical control of a motor vehicle while under the influence of intoxicating liquor or any drug if the person has actual physical control of a vehicle within this state:
    - a. And the person has, within two hours after being in actual physical control of the vehicle, an ethanol concentration of 0.08 or higher as shown by an analysis of the person's breath or blood made under RCW 46.61.506; or
    - b. The person has, within two hours after being in actual control of a vehicle, a THC concentration of 5.00 or higher as shown by analysis of the person's blood made under RCW 46.61.506; or
    - c. While the person is under the influence of or affected by intoxicating liquor or any drug; or
    - d. While the person is under the combined influence of or affected by intoxicating liquor and any drug.
  2. "Safely off the roadway" defense
    - a. This is an affirmative defense, which means it is a factual issue to be proved by the defense and decided by the jury and may not be decided by the judge in pre-trial motions. Edmonds v. Ostby (1987)
  3. Penalty is a gross misdemeanor (maximum 364 days in jail/\$5,000 fine)
  4. Felony Physical Control (RCW 46.61. 504(6))
- D. Driver under twenty-one consuming alcohol or marijuana (RCW 46.61.503)
1. Notwithstanding any other provision of this title, a person is guilty of driving or in physical control of a motor vehicle after consuming alcohol or marijuana if the person operates or is in physical control of a motor vehicle within this state and the person

- a. Is under twenty-one years of age; and
  - b. Has within two hours after operating or being in physical control of a motor vehicle; either:
    - o An alcohol concentration of at least 0.02 but less than 0.080 or
    - o A THC concentration above 0.00 but less than the concentration specified in RCW 46.61.502
  2. Analyses of blood or breath samples obtained more than two hours after the alleged driving or being in physical control may be used as evidence that within two hours of the alleged driving or being in physical control, a person had an alcohol or THC concentration in violation of subsection (1) of this statute.
  3. Penalty is a misdemeanor or Class C felony
    - a. The wording “Driver under twenty-one consuming alcohol or marijuana (RCW 46.61.503)” is to be written on the citation if an officer files directly and the prosecution does not file their own complaint.
    - b. If .08 BAC or above write for RCW 46.61.502
- E. Driving with alcohol or THC in system - Uniform Commercial Drivers Act (RCW 46.25.110)
1. Notwithstanding any other provision of Title 46 RCW, any person may not drive, operate, or be in physical control of a commercial motor vehicle while having alcohol or THC in their system.
    - a. Issue an out-of-service order valid for 24 hours, per CFR 392.5
    - b. If .040 or more, any measurable amount of THC concentration, or refuse the test, their CDL will be disqualified.
  2. Violation of the Act, mandatory, gross misdemeanor
- F. Persons under influence of intoxicating liquor or drug – Evidence Tests (RCW 46.61.506)
1. An alcohol concentration reading less than 0.080 or a THC concentration less than 5.00 may be considered with other evidence for determining if under the influence.
    - a. Breath analysis of a person’s alcohol concentration is based upon g/210 L. Blood analysis of a person’s alcohol concentration is based upon g/100 mL.

- b. Blood analysis of the person's THC concentration shall be based upon nanograms per milliliter of whole blood.
2. Breath alcohol testing methods are approved by the state toxicologist. Officers must have a valid permit issued by toxicologist.
3. Breath tests performed on instruments approved by the toxicologist are admissible at trial or administrative proceeding. Criteria for admissibility of breath tests are presented in training outline section PRINCIPLES OF OPERATION.
4. Blood samples may only be obtained by a physician, registered nurse, licensed practical nurse, nursing assistant (18.88A RCW), physician assistant (18.71A RCW), first responder (18.73 RCW), emergency medical technician (18.73 RCW), health care assistant (18.135 RCW), or any trained technician.
5. A person has the right to additional tests administered by any qualified person of their choosing. Failure or inability to obtain additional tests shall not preclude the admission of evidence relating to the test taken at the directions of a law enforcement officer.

G. Implied Consent (RCW 46.20.308)

1. Any person who operates a motor vehicle within this state is deemed to have given consent, subject to the provisions of RCW 46.61.506, to a test or tests of his or her breath for the purpose of determining the alcohol concentration, THC concentration, or presence of any drug in his or her breath if arrested for any offense where, at the time of the arrest, the arresting officer has reasonable grounds to believe the person had been driving or was in actual physical control of a motor vehicle while under the influence of intoxicating liquor or any drug or was in violation of RCW 46.61.503. Neither consent nor this section precludes a police officer from obtaining a search warrant for a person's breath or blood.
2. Statute applies wherever DUI applies.
3. Elements to be met:
  - a. Subject was driving or in physical control of a motor vehicle within state of Washington. (RCW 46.04.320 - motor vehicle, but not trains)
  - b. Officer established probable cause that subject was under the influence.
  - c. A lawful arrest was made.
  - d. Implied consent warnings were read to subject.

- Subject refuses to take breath test- license, permit, or privilege to drive will be revoked or denied
  - Refusal may be used in a criminal trial.
  - Apply for a blood search warrant or voluntary consent (for voluntary consent, follow Department and local prosecutor's recommendations).
- Subject takes breath test - license, permit, or privilege to drive will be revoked or denied if:
  - Age 21 or over and test indicates alcohol concentration 0.080 or more or THC concentration of blood is 5.00 or more.
  - Under age 21 and test indicates alcohol concentration of 0.020 or more or THC concentration of blood is above 0.00
  - Under age 21 and in violation of RCW 46.61.502 or 46.61.504
- If a license, permit, or privilege to drive is suspended, revoked, or denied, a person may be eligible to immediately apply for an ignition interlock driver's license.
- A subject has a right to additional tests administered by any qualified person of their choosing.
- A bright line on refusals (DOL v. Lax, 1995). Once refused, no further testing by the officer needs to be done. The officer determines if a good faith attempt to provide a sample was made or if it is a refusal.
  - Condensation in the mouthpiece, buzzing/audible beeping sound, and 'Please Blow' stops flashing. If in doubt about the sample acceptance of an instrument the officer can run a test with his breath to check it. Include the ticket with your case report.
- Reading the implied consent warnings three times is sufficient. The implied consent warning to be given at the time of arrest need only be "substantially" the same as the wording of the implied consent statute.
- Must be read in a language person understands. Ensure the rights are read in the subject's native language. Use language line, or translator, or Spanish DUI Packet.
- Expressed confusion by subject, documentation is necessary.

- o DOL paperwork process for a breath test that is 0.080 or more (adult), 0.020 or more (minor), 0.04 or more (commercial motor driver) or refusals, the officer shall do the following: (The results of both breath samples must meet or exceed the limit.)
  - Serve the 'Request for DUI Hearing' notice of DOL intent to revoke or deny the person's driver's license.
  - The person has 20 days to request the hearing with a \$375.00 fee. Not necessary to read form to subject.
  - Fax or email completed report, breath test document, and

Department of Licensing  
Driver Records  
[SwornReports@DOL.WA.GOV](mailto:SwornReports@DOL.WA.GOV)  
Fax: (360) 570-7026

- For a blood test, submit the report when results are returned to you.
- Driver's licenses are no longer to be punched with diamond hole punch.

H. RCW 46.20.750 Circumventing ignition interlock – Penalty.

1. A person who is restricted to the use of a vehicle equipped with an ignition interlock device and who tampers with the device or directs, authorizes, or requests another to tamper with the device, in order to circumvent the device by modifying, detaching, disconnecting, or otherwise disabling it, is guilty of a gross misdemeanor.
2. A person who knowingly assists another person who is restricted to the use of a vehicle equipped with an ignition interlock device to circumvent the device or to start and operate that vehicle in violation of a court order is guilty of a gross misdemeanor. The provisions of this subsection do not apply if the starting of a motor vehicle, or the request to start a motor vehicle, equipped with an ignition interlock device is done for the purpose of safety or mechanical repair of the device or the vehicle and the person subject to the court order does not operate the vehicle.

I. Special Evidence Warnings:

1. If an individual is unconscious or is under arrest for the crime of felony driving under the influence of intoxicating liquor or drugs under RCW 46.61.502(6), felony physical control of a motor vehicle while under the influence of intoxicating liquor or any drug under RCW 46.61.504(6), vehicular homicide as provided in RCW 46.61.520, or vehicular assault as provided in RCW 46.61.522, or if an individual is under arrest for the crime of driving while under the influence of intoxicating liquor or drugs

as provided in RCW 46.61.502, which arrest results from an accident in which there has been serious bodily injury to another person, a breath or blood test may be administered without the consent of the individual so arrested pursuant to a search warrant, a valid waiver of the warrant requirement, or when exigent circumstances exist.

- a. Apply for a search warrant. If granted, read warrant and special evidence warnings and obtain blood samples.
  - b. Unable to obtain warrant due to exigent circumstances, read the special evidence warnings and obtain blood samples.
    - o Exigent circumstances are emergency situations requiring swift action to prevent imminent danger to life or serious damage to property. Forestall imminent escape of suspect or destruction of evidence. (People V. Ramey)
    - o Exigency will be determined according to each particular case and only applies to special evidence.
  - c. A valid waiver of warrant requirement (voluntary consent) may be sought with District Commander approval based on consultation with the local prosecutor. In these cases the voluntary blood draw consent form must be utilized.
  - d. Only send to DOL the Report of Breath/Blood form when special evidence warnings have been read and the blood was obtained through a search warrant, a valid waiver to the warrant requirement, or exigent circumstances and the results are a positive per se blood test.
2. Non-felony collisions (blood draw):
- a. Driver is being treated at hospital and no BAC instrument is available and subject will not be released in time. May apply for a blood search warrant or possibly use valid waiver to the warrant requirement per Department guidelines.
3. DUI – Drug impaired driver (blood draw):
- a. No alcohol involved, or impairment inconsistent with alcohol level. Follow Department guidelines, DRE process, and seek a blood search warrant. Voluntary consent in accordance to Department and local prosecutor's recommendations.
  - b. If warrant is obtained or voluntary consent has been given, do not send in DUI Arrest Report for Breath/Blood Test because no implied consent warnings were read and DOL cannot suspend their license. If Defendant is convicted the courts will impose the suspension and report it to DOL for action.

4. If due to a medical reason subject is unable to provide a breath sample apply for a blood search warrant or utilize voluntary consent in accordance to Department and local prosecutor's recommendations.
  5. Missouri v. McNeely: (US Supreme Court)
    - a. Natural dissipation of alcohol in blood stream alone is insufficient to establish an exigency to justify a warrantless search for blood.
- J. Test for alcohol or drugs – Disqualification for refusal of test or positive test. Implied Consent for Commercial Motor Vehicle (46.25.120)
1. A person who drives a commercial motor vehicle within this state is deemed to have given consent, subject to RCW 46.61.506, to take a test or tests of that person's blood or breath for the purpose of determining that person's alcohol concentration or the presence of other drugs.
  2. Officer must have probable cause to believe the driver had alcohol in his or her system or while under the influence of any drug.
  3. Officer shall warn person that a refusal to submit to a test will result in that person being disqualified from operating a commercial motor vehicle under RCW 46.25.090.
  4. Marking of boxes in Implied Consent
    - a. If Commercial Driver and DUI mark boxes in both sections of the form, relating to DUI and Commercial Vehicle.
  5. An officer shall submit a sworn report to DOL if the person refuses testing, submits to a test that discloses an alcohol concentration of 0.04 or more, or has any measurable amount of THC.
- K. DOL Administrative Hearings
1. Civil hearing (preponderance of the evidence)
  2. Hearings are held primarily over the phone. If involves a hearing impaired person, the hearing is held in person and in the county of arrest.
  3. The hearing is based on the officer's sworn report. An officer's attendance is not needed unless the officer is subpoenaed to be present. (Exception is for the commercial driver arrest where you will be required to attend). The hearing must be held within 60 days of the arrest (or issuance of notice by DOL if blood).
    - a. The time frame is very short between when DOL requests the report and the hearing date.

4. An Officer's DUI arrest report under declaration and any other evidence accompanying the report shall be admissible without further foundation. Certifications authorized by criminal rules shall be admissible without further foundation.
5. No prosecutor will be in attendance, except in Superior Court. If the case is appealed to Superior Court, will have prosecution representation from the Assistant Attorney General's office.
6. A Hearing Officer may issue subpoenas for attendance. It is permissible for an officer to attend if you notify DOL in advance.
7. Include additional officer's sworn reports for the record. The reports help establish probable cause.
8. DOL requests that if an officer runs a breath test for another officer, a sworn narrative report indicating your involvement in the process be submitted along with the arresting officer's sworn report.
9. Fax or email a copy of your completed sworn report, breath test document, and supplemental reports to the DOL within 72 hours. (Frank v. DOL) allows for a reasonable delay of the 72 hour rule. However, a delay can reduce the amount of days DOL has to schedule and advise the person of the hearing.

L. Miscellaneous Case Law – Breath Test Samples

1. The subject has a right to an attorney before the implied consent test. (State v Wakenight)
2. Right to have attorney actually present within 30 minutes. (State v Fitzsimmons).
3. The subject has a right to a private conversation if they or their attorney request it. (Seattle v Koch)
  - a. Do not jeopardize officer safety.
  - b. You do not need to interrupt the 15 minute observation period if direct observation is not lost. However, if observation is lost, the 15 minute observation period must be started over.
4. If the subject is to be detained and asks for additional tests, refer to local court rules for transportation guidelines. (State v McNichols)
  - a. RCW 46.61.506 states the failure or inability to obtain an additional test by a person shall not preclude the admission of evidence taken.
  - b. If the person is to be released in a timely manner they may go obtain their own test.

- c. If subject is detained and/or booked and requests additional tests, refer to Department guidelines and local prosecutor recommendations on affording test opportunity.
- d. Indigent subjects
- 5. A sample blown into a defective instrument does not relieve the subject of the requirement to give a full test (two samples) at another instrument. (Sunnyside v Sanchez)
- 6. If one of the two samples required to get a printout is refused it is a refusal. (DOL v Rogers, 1988)

M. Voluntary Blood/Urine/Breath

- 7. You may want to show a person is clear of alcohol and/or drugs.
- 8. Obtain a signature for a voluntary sample and indicate circumstances in narrative report.
- 9. The use of voluntary consent should be in accordance to Department policy and local court jurisdictions preference.

**2.2.8 \*DUI ARREST REPORT**

A. Constitutional Rights

- 1. Ensure Constitutional Rights have been read to arrested subject. (Read it to a person acting unconscious)
- 2. Must get translator for non-English/deaf speaking person. Spanish DUI Arrest Report is available for use. May obtain court-approved Spanish language audio files to use in lieu of Spanish DUI Arrest Report written translation.
- 3. If used, officer signs on "Officer Signature" line and indicates date, time, and location. If read in the field check box and indicate time.
- 4. If used, have defendant sign or write subject 'refused to sign'.
- 5. If defendant requests an attorney indicate in specified box. Indicate if able to contact attorney and the time of contact. The attorney's name and phone number should be indicated. If unable, specify reason in provided box.

B. Implied Consent Warning for Breath (Adult, Minor, Commercial)

- 1. Check appropriate statute box for which the subject is under arrest .
- 2. Read Implied Consent Warnings for Breath to arrested subject.

3. Officer signs on "Officer's Signature" line and indicates date, time, and location.
4. Have defendant sign or you can write 'refused to sign'.
5. Have defendant mark the YES/NO box indicating if they are willing or not to provide a sample.
6. If subject expressed confusion regarding the warnings, write an explanation on the lines provided.
7. Check box(es) indicating valid permit to operate the applicable evidentiary breath test instrument.
8. Check mouth check related boxes.
9. If PBT was used, check box and indicate reading and time obtained.
10. Indicate after breath test processing whether the subject was booked or released. If released, indicate to whom.
11. If during a breath test interference is detected, this circumstance will invalidate the test. The subject will be required to repeat the test. A subject whose breath registers the presence of interference on two or more successive breaths shall be deemed to have a physical limitation rendering them incapable of providing a valid breath sample. An officer may apply for a search warrant for blood.

#### C. Special Evidence Warning

1. Five circumstances when blood can be taken by search warrant/exigent circumstances
  - a. Vehicular Homicide
  - b. Vehicular Assault
  - c. Unconscious (DUI/ Physical Control/Minor Driver). If possibly "acting" unconscious read the form anyway
  - d. DUI arrest resulting from an accident with serious bodily injury to another
  - e. Felony DUI or Felony Physical Control
2. When taking blood at a hospital you must have probable cause which lead to a warrant or met exigent circumstances.
  - a. Observations at the scene

- b. Information from a reliable informant
  - c. Officer at the scene
    - o Relay from Communications
  - 3. Officer signature required on designated line with indicated, date, and time.
  - 4. Distribution and copy process followed for warrant documentation.
- D. Blood sample collection (State Tox blood kit, gloves)
- 1. Blood samples may only be obtained by a physician, registered nurse, licensed practical nurse, nursing assistant (18.88A RCW), physician assistant (18.71A RCW), first responder (18.73 RCW), emergency medical technician (18.73 RCW), health care assistant (18.135 RCW), or any trained technician.
    - a. Officer should try to be a witness to the drawing of the blood sample.
      - o This may avoid the need for the approved health care professional to be in court.
      - o Document all critical information (information on DUI Arrest Report) and qualifications regarding person who drew blood sample.
  - 2. Blood sample must be drawn and placed in a grey top tube.
    - a. Tubes available from State Toxicology Laboratory
    - b. Expiration date on tube
    - c. White anti-coagulant powder present in tube. Should not be empty.
    - d. Record evidence information on tube
    - e. Record evidence and chain of custody information on form
    - f. Use only Toxicology Laboratory mailing kits to mail tubes to the State Toxicology Laboratory
      - o Postal regulations
      - o Does not need to be refrigerated because the vials contain preservative (note: refrigeration is preferable if blood samples are not transported to the State Toxicology Laboratory for several days).

- o To prevent transmission of disease, do not touch blood
- g. Hospital analysis is not approved by the State Toxicologist
  - o Use ONLY the State Toxicology Laboratory for analysis

#### E. Voluntary Blood Draw Consent Form

1. Read or have subject read voluntary consent section.
2. Officer signature required along with date and time on designated line.
3. Consenter signature required along with date and time on designated line.
4. Approved health care professional title, name, signature, date, and time Indicated on designated line.
5. Distribution and copy process followed for warrant documentation.

#### F. DUI Interview

1. Statements are listed in question form.
2. First and last drink times
3. Note all responses (answers, sayings, and statements) provided by defendant.
4. Note if defendant invokes right to silence
5. Observations should be listed in DUI report.

#### G. Pre-Arrest Observations

1. Indicate observations
2. Indicate native language, understanding, and if interpreter was provided
3. Passenger information if obtained

#### H. Sobriety Tests

1. Fill out Sobriety Test information gathered from arrested subject.

#### I. Narrative

1. Officers may use provided narrative page or can use department approved report form.
2. Perjury clause and officer's signature must be present.

## J. Request for DUI Hearing

1. For a breath test that is 0.080 or more (adult), 0.020 or more (minor), 0.04 or more (commercial motor driver) or refusals, the officer shall do the following. The results of both breath samples must meet or exceed the limit.
  - a. Serve the 'Request for DUI Hearing' notice of DOL intent to revoke or deny the person's driver's license.
    - o The person has 20 days to request the hearing with a \$375.00 fee. Not necessary to read form to subject.

### 2.2.9 THE DATAMASTER INSTRUMENTS

#### A. The physical portion of the DataMaster breath test system includes the instrument, simulator, plastic mouthpieces and breath test documents

1. The DataMaster and DataMaster CDM instruments
  - a. Metal case, 8"x 24"x 15" ap., 45 lbs, 25 lbs for CDM
  - b. Power cord
    - o Moving the instrument may pull the cord out. Call a technician before moving.
  - c. On-Off switch
    - o Always leave the instrument on
    - o If you need to turn the instrument off, call a technician first.
  - d. Display
    - o Liquid crystal display, with ready light
    - o Time displayed
  - e. RFI antenna
    - o To detect any radio transmission and abort test if necessary
  - f. Breath tube
    - o Must feel heated, warm/hot to the touch. This eliminates condensation.
    - o The tube must not lay behind the machine. It should be kept forward to avoid re-circulating purged air.

- There should never be a mouthpiece in the breath tube except when a breath sample is being taken.
  - g. Printer ports
    - The breath test document is drawn into the printer at the beginning of a test and remains there until the end, when it is printed and ejected.
    - Do not remove document once it is taken into the printer. If it is not used it will remain for the next test.
    - The breath test document has three copies, two copies for the CDM. CDM has a separate laser printer.
      - court
      - officer
      - defendant
  - h. Keyboard
    - Top row of keys are locked out to operators except the RUN button. If a top key is hit prior to hitting RUN and “Password” appears, hit enter to clear.
  - i. Phone cord outlet
    - Transmits data to the server for the Breath Test Program
2. Simulator / Guth Model 34C or Guth digital 2100 model
- a. It is used to check the accuracy of the DataMaster.
  - b. It has a motor, thermometer, paddle attached to a jar containing a known solution prepared by the State Toxicology Laboratory.
  - c. The thermometer shows the temperature of the solution, it must be  $34^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$  / Digital 2100 model shows temperature on LED display, shows temperature to the fourth digit i.e. 34.00
    - Each graduation equals 1/10th degree C.
    - Be able to draw a simple picture of the thermometer for court.
    - The paddle inside the jar keeps the solution at an even temperature.
    - The solution in the simulator obeys Henry's Law.

- o At any other temperature the instrument cannot run a valid simulator test on itself and the test results are not admissible.
  - d. On-Off switch of the simulator should always be on.
  - e. If the Digital model 2100 simulator displays an error message, turn the power switch off and back on and wait approximately 5-10 minutes to reach acceptable temperature, or clear error then proceed with test if ok. If still displaying an error message, tag out of service and notify WSP radio of error message.
  - f. The power lamp - amber - shows the simulator is on.
  - g. The heater lamp - red - shows the heater is on.
  - h. The plastic tubing delivers the sample to the instrument during the external standard phase.
  - i. If the tubing is kinked it can cause a low standard reading.
  - j. The solution batch number is displayed on the simulator jar.
3. Features of the Guth model 2100 Digital simulator
- a. Microprocessor controlled, mercury column is eliminated
  - b. Maintains a precise temperature of  $34^{\circ}\text{C} \pm 0.05^{\circ}\text{C}$  or better.
  - c. High intensity LED display, provides maximum visibility of temperature and heater activity.
  - d. RFI protected
  - e. Malfunction indication, simulator provides an audible and visual indication if a malfunction occurs.
4. Plastic mouthpieces with moisture baffles are used to take samples
- a. Use the plastic bag to handle the mouthpiece and prevent the transmission of disease
  - b. Open the bag carefully to leave the mouthpiece ports clear
  - c. Discard the mouthpiece and bag immediately after the breath sample
  - d. Use a new mouthpiece for each sample

## 2.2.10 PRINCIPLES OF OPERATION

- A. An accurate and reliable breath test requires a good instrument, program, and protocol.
- B. \*The following are required for an accurate and reliable test.
  - 1. An accepted method of analysis
  - 2. An instrument in proper working order
  - 3. A properly calibrated instrument
  - 4. A deep lung sample of breath from a living human being
  - 5. A procedure for conducting the test that protects against electrical or mechanical conditions that introduce uncertainty
  - 6. An analysis of the test results to show that they are accurate and reliable
- C. \*Criteria for admissibility of breath test results (RCW 46.61.506)
  - 1. The test was done by a person authorized by the State Toxicologist.
  - 2. The person tested did not vomit, eat, drink, smoke, or have any foreign substance in his or her mouth for at least 15 minutes before the test.
  - 3. The simulator temperature was at the appropriate level as measured by a thermometer approved by the State Toxicologist.
  - 4. The internal standard test produced an "Internal Standard Verified" message. This message will be printed on the document.
  - 5. Two breath samples agreed to within plus or minus 10% of their mean.
  - 6. The external standard simulator test was within 0.072 to 0.088, inclusive.
  - 7. Blank tests showed a .000 result.
  - 8. The test results will be provided in a form of a print out.
  - 9. The results will indicate the grams of alcohol/210 liters of breath.
- D. The DataMaster uses infrared spectroscopy, an accepted method of analysis.
  - 1. Beers Law states that the concentration of ethanol in a sample is proportional to the infrared light absorbed by the sample.
    - a. The DataMaster measures the infrared light transmitted through an empty sample chamber

- b. It measures infrared light transmitted through the breath sample
      - c. The difference is used to calculate the concentration of ethanol in the chamber.
    2. In the light path, filters are used to distinguish ethanol and acetone.
    3. Over 100 substances on human breath absorb infrared light as ethanol does, but all of them combined on a healthy human breath would not affect the DataMaster result.
      - a. \*Acetone can be on human breath (particularly diabetics) and affect the reading, so the DataMaster detects acetone as an interfering substance.
        - o Interfering substance of 0.010 or above will abort the test. If you receive this error message, run the test again.
- E. When the 'RUN' button is pushed the instrument is checked internally.
  1. If there has been a change of any kind, a message will appear on the display and the DataMaster will not proceed with a test.
    - a. RAM Error
    - b. Temperature High
    - c. Temperature Low
    - d. Fatal Systems Error
    - e. Pump Error
- F. The DataMaster checks its calibration during each test.
  1. \*Calibration is checked with an internal standard
    - a. Quartz Plate
    - b. During each test the value of the Quartz Plate is checked against its value at the time at which the instrument was calibrated.
    - c. If "Calibration Error" appears the test aborts
    - d. This check is indicated on the printed breath test ticket as "Internal Standard Verified".
  2. \*Accuracy is checked using a vapor sample from a simulator containing a known external standard solution.

- a. Results are displayed during the external standard phase
  - b. Results must be 0.072 to 0.088, inclusive
  - c. If the results are not within the required values, the test will abort
3. \*Sample Control
- a. A proper 15 minute observation period
  - b. The most accurate and reliable sample is one of deep lung or alveolar air
  - c. The best sample is a product of time and flow rate
  - d. A long sample with moderate flow is better than a short, hard blown sample
  - e. When sampling requirements have been met the sample can be accepted
    - o Time: At least 5 seconds of acceptable sample flow
    - o Volume: At least 1.5 liters breath
    - o Flow: At least 4 liters of breath per minute
    - o Minimum slope to breath alcohol concentration curve
  - f. When the alcohol concentration of the sample has peaked then sharply declines during the blow the display reads 'Invalid Sample'
    - o The test stops and all data is lost
    - o Invalid Sample is recorded in the database
    - o The operator must assume mouth alcohol and begin a new 15 minute observation, then run the test again
    - o Sucking or stop-start blowing may cause "Invalid Sample"
  - g. Good samples can be achieved by instructing the person and by coaching during the blow
    - o "Blow steadily into the mouthpiece 10 to 15 seconds, I will tell you when to stop."
    - o The blow need only be strong enough to make the "Please Blow" become steady, but should be as long as possible. A

sound will accompany the blow when air is traveling into and through the chamber.

- G. \*Blank tests are run before and after any sample is introduced into the sample chamber.
1. Blank tests ensure that the sample chamber has been completely purged of the previous sample.
  2. If any blank test results are other than 0.000, the display reads "Ambient Fail" or "System Won't Zero"
    - a. The test will abort. Start the test over and use previous data
    - b. This does not mean that the instrument is broken
    - c. Some condition exists that prevents a complete purge of the sample chamber, for example:
      - Solvents present/nearby; e.g., hand cleaner, fingerprint ink
      - Person's clothes soaked in alcohol
      - A mouthpiece left in the breath tube during purge
      - The breath tube not forward of the DataMaster
      - Person standing next to breath tube during purge
      - Mechanical or electrical problems
      - Poor room ventilation
      - Electromagnetic interference (RFI)
        - The instrument design and protocol prevent it from affecting the test results
        - Metal instrument case
        - Effective ground
        - Separate circuit boards
        - WAC requirement that the two samples be within 10% of their mean
        - Radio frequency detector
          - Detects radio waves transmitted nearby

- The test stops, must start over, use previous data
- H. The DataMaster analyzes the test results to show that they are consistent with an accurate and reliable test result
  1. The two sample results must be within plus or minus 10% of their average mean.
    - a. Add the sample results and divide by two for the mean. This mean is rounded to four decimal places.
    - b. Multiply the mean by 0.9 and truncate the result to three decimal places to get the lower limit
    - c. Multiply the mean by 1.1 and truncate the result to three decimal places to get the upper limit
    - d. If the individual results fall within and inclusive of the upper and lower acceptable limits, the two breath samples are valid
  2. \*Most differences in sample results are due to sample differences, not instrument differences
    - a. Breathing patterns
    - b. Length of the sample blown
    - c. Consistent instruction and coaching will result in smaller differences between sample results.
    - d. The plus or minus 10% of the mean rule protects against
      - Mouth alcohol
        - Alcohol in the mouth dissipates rapidly.
        - If alcohol is present in the mouth at the time the sample is taken, the two sample results will not be within plus or minus 10% of their mean.
    - e. Electromagnetic radiation
      - Radiation would have to strike only the sample analysis
      - It would have to strike at both samples in exactly the same way
    - f. Instrument precision
      - Precision is the ability to get the same results from repeated measurements.

3. The plus or minus 10% of the mean rule is not computed for results below 0.01 g/210 L
- I. \*When the test protocol has been followed and breath test document is printed out, the operator can be assured that the test results are accurate and reliable

### 2.2.11 \*THE PRE-TEST PERIOD

- A. Check the RFI antenna
1. If there is no antenna, advise WSP radio and go to a different instrument.
- B. Check the breath tube
1. It should be warm/hot to the touch.
  2. The breath tube should be upright/forward.
  3. If it is cold, advise WSP radio and go to a different instrument.
- C. Check the simulator temperature
1. It must be 34° C ± 0.20° C.
  2. If the temperature is out of range.
    - Check to see that the simulator is turned on. If it's off, turn it on, and in 10-15 minutes recheck the temperature. If it is still not correct, call WSP radio and tag out of service.
    - Look at the paddle to be sure it is turning. If it is not turning, advise WSP radio and go to a different instrument.
  3. Check that there are no kinks in the tubing.

### 2.2.12 \*THE OBSERVATION PERIOD

- A. Read the Constitutional/Miranda Rights and Implied Consent Warnings.
- B. Check person's mouth and begin the 15 minute observation using the DataMaster clock.
1. The time on the instrument may be different than your watch. Record the exact time from the instrument clock. 16 minutes must pass before the test can begin; this is programmed into the software to assure a complete 15 minutes has occurred.
  2. 15 minute observation period. (Guideline procedures for breath test defined by WAC 448-16-040, State Toxicologist):

- a. To ensure that any alcohol in the person's mouth has time to dissipate before the samples are taken.
  - b. The person does not have any foreign substances in the mouth. Such determination shall be made by either an examination of the mouth or a denial by the person that he/she has any foreign substances in the mouth.
  - c. Upon checking the person's mouth for foreign objects before starting the 15 minutes, clear the person's mouth of all objects except dental work, and if necessary have the person rinse their mouth. (i.e., chewing tobacco, etc.).
  - d. If the person puts anything into their mouth, smokes, or vomits the mouth must be rechecked and the 15 minutes started over.
  - e. The mouthpiece and the subject's own blood are not foreign objects.
  - f. Tongue Jewelry: ask the subject to remove, if unable or unwilling to request a blood search warrant under the implied consent law (other physical limitation language).
  - g. Vomiting may bring alcohol back up to the mouth and may require a new 15 minutes and instructions.
  - h. Observe the subject until the last sample is taken and the process is completed.
3. The time on the instrument will disappear once 'RUN' is pushed.
- C. You must keep the person under observation while entering data, etc.
- D. Make a note if subject has odor of volatile organic compounds (e.g., paint, thinner, etc.) about his person or clothing. If noted, determine time of last exposure.

### **2.2.13 \*INSTRUMENT OPERATION**

- A. Check breath tube. Should be warm or hot to the touch. If not, do not use.
- B. When 15 minutes is completed push 'RUN'
- C. Insert Ticket (for DataMaster)
  1. Straight, face-down, notch to the right, into the bottom slot, colored side down.
  2. If a ticket is already in the DataMaster, it should not ask for a new one.

3. For the CDM, breath ticket will be printed from separate printer. Ensure the printer has paper.

#### D. Data Entry

1. Some data is used for statistical purposes, and some for the breath test document itself.
  - a. Refer to the DataMaster Operator Informational Manual for questions on data entry.
  - b. Be accurate.
  - c. Use back space, control X, and delete to correct errors.
  - d. You have five minutes to enter each data item and one minute for Y/N questions.
    - If time expires, the display will revert to 'Ready - Push Run' and all data is lost.
2. Data entry sequential steps:
  - a. Sim Temp  $34^{\circ}\text{C} \pm 0.20^{\circ}\text{C}$ ?
    - Look at the thermometer.
    - Y / N answer. N will abort the test.
  - b. Observation Began
    - Enter the time you started your 15 minute observation.
    - Use the clock on the instrument.
    - Use 24 hour time.
  - c. Citation Number
    - Enter the letters/numbers of the alcohol related citation. If none hit enter and continue.
  - d. Operators Name (L/F/M)
    - Emphasize slash between names.
    - 40 characters
    - First character must be alpha the remaining may be alpha, slash, or hyphen.

- o Enter your name the way you sign a ticket.
- e. Arresting Agency
  - o Seven characters
  - o First three may be alpha or numeric, remaining numeric.
- f. Subjects Name (L/F/M)
  - o Emphasize slash between names.
  - o 40 characters
  - o First must be alpha, remaining alpha, slash, hyphen.
  - o Enter full name as shown on Driver's License.
  - o Enter "test" for a sample test.
- g. Subjects DOB (mm/dd/yyyy)
  - o Numbers, slash automatic.
  - o Must be valid month/day combination.
  - o Enter (00/00/0000) for a sample test.
- h. Subjects Sex (M/F)
  - o Must be M or F.
- i. Subject's Ethnic Group
  - o DataMaster: I, B, A, W, or U
  - o DataMaster CDM: A, B, E, H, I, P, W, O
- j. D.L. State/Number
  - o Two letter state or country abbreviation, the slash is automatic.
  - o Next, the license number.
  - o If unknown or none, enter XX for the state and press Enter/Return to continue.
  - o For an \* hit shift key and 8.
- k. County of Arrest

- The 2 digit county code
- I. Crime Arrested For
  - 2 numeric characters
  - 00 for practice tests
- m. Accident Involved
  - Must be Y or N.
- n. Drinking Location
  - First character must be numeric, the second alpha, the remaining six numeric.
  - Use coded drinking locations whenever possible.
  - Enter 00000000 for practice test.
  - Emphasize entering this data goes to the liquor control board each month.
- o. Solution Batch # (sticker on top of simulator)
  - Five characters, numeric
  - Do not transpose, on breath test document.
  - Enter the correct solution batch for practice tests.
- p. PBT Test Given (Y/N):
  - Must be Y or N.
- q. PBT Time:
  - Military Time
  - Must be a time greater than 15 minutes prior to breath test.
- r. PBT Result:
  - Enter three digit result.

E. Review Data? (Y/N)

1. One minute to answer.
2. Always review if any doubt about accuracy.

3. Use back space and control I (moves cursor forward) to move cursor in review mode.

#### F. Purging

1. Air is drawn through breath tube to flush chamber. If the purge is unsuccessful the display will read "AMBIENT FAIL".
  - a. Chamber vented out back of instrument.
  - b. Keep breath the tube upright/forward - away from the vent.
  - c. Some Ambient Fail causes
    - o Mouth piece left in breath tube
    - o Room odor; alcohol/chemical odor (fingerprint ink, WD40)
    - o Subject's clothes soaked in alcohol
    - o Subject with very strong alcohol odor on breath near breath tube while trying to purge.
  - d. Start test over, use previous data

#### G. Ambient Zeroing

- a. Similar to ambient fail caused by the voltage being unable to zero out.
  1. Very small adjustment possible.
  2. If large adjustment required - "SYSTEM WONT ZERO".
    - a. "SYSTEM WONT ZERO" does not mean that the instrument is broken - something prevented a complete purge of the sample chamber.
  3. Try one more test and if need to go to another instrument and notify WSP Communications.
    - a. No new observation period required.

#### H. Blank Test

- a. Displays .000

#### I. Internal Standard

1. A quartz plate that checks the instrument calibration internally.

2. If check is unsuccessful - "CALIBRATION ERROR".

J. Subject Refuse? (Y/N) (First breath sample)

1. A beep will sound to alert operator to respond.
2. One minute to select Y or N.
3. "Y" results in a "Refusal".
4. "N" results in a request for a breath sample.

K. Please Blow

1. Put mouthpiece in when "PLEASE BLOW" appears - not before.
2. Take care in opening the plastic bag not to get plastic in mouthpiece ports.
3. Use the plastic bag to handle the mouthpiece to prevent transmission of disease.
4. Instruct the subject, watch the display and coach the subject, provide clear instructions – very important.
  - a. "Blow steadily into the mouthpiece 10 - 15 seconds, I will tell you when to stop.
  - b. The blow need only be strong enough to stop "PLEASE BLOW" from flashing, but should be as long as possible. A sound will accompany the blow when air is traveling into and thru the sample chamber.
5. Hard blow may not be accepted.
6. Stop-start blowing or sucking will not be accepted and may cause INVALID SAMPLE.
  - a. If this occurs a mouth check and a restart of the 15 minute observation period is required.
7. When the sample is accepted, REMOVE the mouthpiece using the plastic bag for protection.
  - a. A mouthpiece left in the breath tube restricts the flow of purge air and will result in "Ambient Fail".
8. The alcohol reading will not appear on the display, wait for the document.

9. If after two minutes of "PLEASE BLOW", a sample has not been accepted, the display will read "SUBJECT REFUSE? Y/N".
  - a. "Y" response gives a "REFUSAL" document.
  - b. "N" response gives an "INCOMPLETE" document.
  - c. No response will give an "INCOMPLETE" document.
  - d. The officer must decide whether the subject is unable or unwilling to provide a proper sample and be able to articulate the cause/facts for his/her reasoning in the arrest report. An officer may do a self test, to show the instrument is in proper working condition.
    - o Unable - "INCOMPLETE". Use Implied Consent Warnings for Blood. May apply for a blood search warrant.
    - o Unwilling - "REFUSAL". Be able to articulate the reasons for a refusal. May apply for a blood search warrant.
  - e. Distribute these documents as you would a complete test document.
10. If "INVALID SAMPLE" appears on display:
  - a. You must assume it was caused by mouth alcohol.
  - b. Check subject's mouth and wait 15 minutes - then start again, you will not be able to use previous data.
  - c. "INVALID SAMPLE" will appear in the data base.
  - d. "INVALID SAMPLE" does not mean that the instrument is broken - the sample offered was unacceptable.
11. If "INTERFERENCE DETECTED" appears on the display:
  - a. Try one or more tests.
  - b. If it occurs again apply for a search warrant. For blood (other physical limitation language).

#### L. Analyzing

1. Analyzing alcohol in the breath sample.

#### M. Purging - Ambient Zeroing - Blank Test .000

#### N. External Standard (the simulator solution)

1. Must be between 0.072 and 0.088, inclusive.

2. If the external standard is outside the limits, the test will abort and "Simulator Out of Range" will appear on the display. You will have to put the instrument out of service and go to another location.
3. Simulator is to remain on. Do not disconnect or interfere with hoses in back of the instrument. Kinked hoses cause low external standard.

O. Analyzing

1. Analyzing alcohol in the external standard, results will be on the display.

P. Purging - Ambient Zeroing - Blank Test .000

Q. Subject Refuse? (Y/N) (Second breath sample)

1. One minute to select Y or N.
2. "Y" results in a "Refusal".
3. "N" results in a request for a breath sample.

R. Please blow

1. Second breath sample
2. Put a new mouthpiece in the breath tube.
3. Instruct the subject and watch and listen.
4. Obtain sample, remove and discard mouthpiece using plastic wrapper.
5. Consistent sample desirable
6. If "SAMPLES OUTSIDE 10%" appears on the display, the test aborts as the two samples are not within plus or minus 10% of their mean.
  - a. Not a valid test, run the test again.
  - b. Do not need to check mouth or wait an additional 15 minutes but continue to keep in direct observation.
  - c. Will be in the database.

S. Analyzing - Purging - Blank Test .000

T. Breath Test Document

1. Instrument serial number and software version near the top.
2. The reading is truncated to three digits, e.g.: 0.128g/210L.

3. Sign the breath test document and distribute it to the court, officer, and defendant.
  4. Make copies if needed.
  5. If "Printer Error" appears on display, test data is lost/not retrievable.
    - a. Put the instrument out of service and go to another instrument.
      - o If the document is stuck in the instrument, just leave it there.
  6. "Insert Ticket" message on display:
    - a. If the breath test document is already in the instrument, gently remove and insert a new breath test document.
  7. If printed breath test document is not legible, it is not in the right position, or stuck in the instrument.
    - a. Printer not performing properly.
    - b. Call WSP, tag instrument "OUT OF SERVICE / DO NOT PUSH RUN" a technician may be able to reprint breath test document.
    - c. DO NOT PUSH RUN or TURN INSTRUMENT OFF.
- U. If breath test result is 0.250 g/210 L or more, wait 1/2 hour and retest subject. (Check with department policy on amount of time to wait). A preliminary breath test instrument (PBT) may be used for re-test of subject. If the reading goes up, provide the subject with an opportunity to seek medical attention.
- V. Message Codes - a complete list with procedures to follow will be displayed at the instrument location. The list is titled, "DataMaster helps for displayed messages."
1. If "DETECTOR OVERFLOW" appears on the display:
    - a. It is probably an equipment problem, try one or more tests.
    - b. Call WSP and tag instrument 'Out of Service'.
  2. RFI Radio Frequency Interference
    - a. Radio transmission in close proximity to instrument.
    - b. Ensure all radios are turned off and try another test.
    - c. No new observation period is required.

3. Several of the Message Codes allow the operator to press the Run Button again and then reuse the previously entered data.

#### **2.2.14 \*ALCO-SENSOR III and ALCO-SENSOR FST PRELIMINARY BREATH TEST (PBT) INSTRUMENT**

##### A. Introduction

1. The PBT can be a very useful tool for establishing probable cause to arrest for DUI.
2. The PBT can also be useful for enforcing "minor in possession" laws.
3. The PBT is not the evidential breath alcohol test under the implied consent law since it is voluntary and typically performed prior to arrest.
4. Only the Alco-Sensor III and Alco-Sensor FST PBT instruments are approved in the Washington Administrative Code. If an officer's agency uses a different PBT instrument, the agency must contact the State Toxicology Laboratory to determine its acceptability for use.

##### B. Alco-Sensor III Nomenclature

1. Temperature display
2. Set button
3. Read button
4. Digital display
5. Breath intake port
6. Mouthpieces

##### C. Theory of Operation

1. The instrument uses a fuel cell to detect and quantify ethanol.
2. The fuel cell oxidizes the alcohol which releases electrons available for an electrical current flow that is proportional to the concentration of ethanol.
3. The current flow is measured and becomes an index of alcohol concentration.
4. The results are shown on a digital display.

##### D. Alco-Sensor III Steps of Operation

1. Preliminary Considerations
  - a. The PBT is usually the last test administered along the roadside.
  - b. The person must be advised the test is voluntary, and not an alternative to an evidential breath alcohol test. After determining the subject's willingness to do the test, the operator must determine that the subject has not consumed any alcohol in the prior fifteen minutes.
  - c. If subject acknowledges alcohol consumption in the last fifteen minutes then a test should not be administered unless the subject is willing to wait fifteen minutes. This may not be practical and the decision to arrest will need to be based on other information.
    - o The purpose of the 15 minute wait is to guard against mouth alcohol.
    - o Open containers visible in the vehicle may corroborate a subject's statement about drinking or not within the last 15 minutes. The observation should be noted in the narrative report.
  - d. Ask the person if they have anything in their mouth, i.e. gum, Mint etc. Ask them to remove it; this is voluntary, we can't force them to remove it.
  - e. Check the temperature display on the instrument; it should read between 20-36° C.
  - f. Push in the "Set" button on the instrument.
2. Blank test: Push and hold the "Read" button and confirm that the displayed results go down to 0.003 or less and remain there. If not, push the "Set" button again and then push and hold the "Read" button. An operator may have to wait a few minutes for this to be accomplished.
3. Push in the "Set" button on the instrument.
4. Attach the mouthpiece in one of the following configurations:
  - a. Attach the mouthpiece. Next, attach the mouthpiece to the breath intake port.
  - b. Attach the mouthpiece with one-way valve in the proper direction so that the breath will flow in the proper direction. Reversing the direction will mean that the subject will not be able to exhale into the mouthpiece.
  - c. Demonstrate these configurations to the students.

- d. Use plastic bags when handling (attaching, removing and disposing of) mouthpieces.
5. Have subject blow at least a five second breath sample. While the subject is still blowing press and hold the "Read" button. This will obtain that last sample of breath. Keep the subject at a safe distance and remember officer safety issues. Monitor flow with back of hand to ensure subject does not suck back (this will not be necessary if using a mouthpiece with a one-way valve).
6. Keep the "Read" button depressed and observe the displayed result until the peak value is obtained. This may take up to 45 seconds or longer. This is very important to obtain an accurate result.
7. Record the results to three decimal places in the case report.
8. Note also in the case report the serial number or the state tag number of the PBT instrument.
9. Remove and discard the mouthpiece using the plastic bag to handle.
10. Press the "Set" button and LEAVE in this position until next use.

#### E. Alco-Sensor III Additional Considerations

1. It may take up to five minutes to zero between tests on the PBT. The manufacturer recommends no more than five tests per hour when results are near 0.10. If many low tests (near zero results) are run in a row, over five tests per hour is acceptable.
2. If the PBT displays "888" this means the battery is low. Contact the local PBT Technician for a battery replacement. The battery can last up to 500 tests.
3. The PBT should be stored where it will not encounter extreme heat or cold.
4. Radios should not be transmitted near the PBT when in operation. These signals may bias the test results. Watch for the continuous smooth rise in the results.
5. The PBT instruments must be certified at least every 6 months by a certified PBT Technician. The certification and documentation is important for breath results to be admissible in a probable cause hearing. Instruments may be checked more frequently by the technician. An example would be after a significant arrest where the PBT will be critical evidence. The PBT Technician will use a gas standard to certify the PBT and will follow an approved procedure.

6. Generally, the PBT test results alone should not be the sole basis for the decision to arrest. However, there may be the circumstance (e.g., accident) where it is the sole basis for probable cause.
7. A negative or low PBT test result can help add to the probable cause to believe that the subject is on some other drug and a Drug Recognition Expert (DRE) should be called.
8. Do not allow any samples to be provided by an individual who has been smoking within three minutes. Smoke will ruin the fuel cell costing nearly \$250. When properly used, the fuel cell should last up to 3000 tests.
9. The most common problems encountered with PBT use are:
  - a. Allowing someone to smoke and then blow into the PBT within 3 minutes.
  - b. Breaking off the mouthpiece tip on top of the instrument.
  - c. Leaving the PBT on the vehicle and then driving off and losing or driving over it.
  - d. Failing to keep the READ button depressed long enough to obtain a peak value.
  - e. Not obtaining a deep lung breath sample.
10. There are three questions related to the PBT that must be answered on the DataMaster:
  - a. PBTTESTGIVEN? (Y/N):
    - o If "N", the next two questions will not appear.
    - o If "Y", then:
      - PBT TIME:
        - Use military time
      - PBT RESULT:
        - The decimal is automatic, report to three digits

#### F. Alco-Sensor- FST/ PBT

1. Alco-Sensor- FST Nomenclature
  - a. Mouthpiece:

Insert the closed end of the mouthpiece into the mouthpiece channel, and then rotating the shaft of the mouthpiece downward, the flat side of the mouthpiece and the two holes on the underside of the mouthpiece will naturally align and attach to the appropriate ports on the Alco-Sensor FST.

b. ON Button:

The ON button labeled with a ( I ) symbol, is the larger of the two buttons on the FST case. The button is located opposite the display and will naturally rest under the operator's forefinger when holding the instrument. To turn the FST on press and hold the button for one second, a beep and or display powering ON will indicate that power up has been successful.

c. The OFF button:

The OFF button labeled (labeled with an O symbol) is located on the Alco-Sensor FST case beneath the display. Press the button holding it for two seconds to shut the FST off. This will reset the instrument to the standard subject test sequence.

2. Battery:

- a. The battery cover is located on the base of the Alco-Sensor FST. Two AA batteries should run in excess of 500 tests. When changing the batteries always replace both batteries.
- b. Alco-Sensor FST Steps of Operation
- c. Attach a clean unused mouthpiece from a sealed bag.
- d. Depress the power on button and hold for 1 second. The battery strength indicator and temperature in Celsius will be displayed momentarily. To have the display's back lighting illuminate, hold the power on button for an extra second or two.
- e. The FST/PBT is designed to operate when the UNIT temperature (not ambient temperature) is between 0° C and 50° C. If the temperature is outside of the proper operating range, the instrument will indicate a temperature out of range condition before powering off. If a test must be performed with the FST/PBT, place it in an environment that will bring it to proper operating temperature.
- f. If the instrument does not have sufficient battery power to perform a test either the instrument display will not power on or (BAT) will be displayed and testing will be disabled.
- g. If the unit displays (BLN), this is an indication that the instrument is performing a blank test automatically. The unit will then display the

result of the blank test. If the blank test is successful, a zero result appears on the display. If it is not successful, a status message E 11 (Air Blank Out Of Range Message) is displayed and the test sequence is aborted.

- h. When the display shows the icon of a person's head flashing and/or BLO displayed, instruct the subject to take a deep breath, hold it and then blow steadily through the mouthpiece for as long as he or she can. The icon of the head will stop flashing and a dash appears to the right of the head indicating the instrument senses sufficient breath blow.
- i. Additional dashes will appear as the subject continues to provide a sample. Once three dashes appear an automatic sample will be taken. (It is not necessary for the subject to blow hard but rather a steady or continuous sample is best for sample collection). At the end of the analysis phase a result will be displayed in three digits. The result will be displayed for fifteen seconds before the instrument will power itself off (Remove the mouthpiece).
- j. To turn the instrument off manually press the OFF button for two seconds. The OFF button is the small button directly under the LED display.
- k. To recall the last test result, momentarily press the OFF button and then simultaneously press the ON button. The display will show the first menu item off a list of optional functions that the instrument can perform. The first item on the list is RCL (Recall Last Test). To execute this function, pressing the OFF button will prompt the instrument to alternately display the result from the last test performed with an intermittent displayed RCL.

#### G. Alco-Sensor FST Manual Sampling

1. In the rare occasion when a subject is unable to provide an adequate breath flow to trigger the automatic sample capture feature, a manual sample capture is possible. This process requires that the operator follow the normal test procedure up to the point that "BLO" is displayed. At this point the operator should instruct the subject on how to provide a sample.
2. As close to the end of the exhalation as possible (but while the subject is still blowing) the operator can collect a manual sample by pressing the ON button.
3. Errors in Manual Testing that must be avoided include capturing a sample after the exhalation has ceased. In all of these cases, a dilute sample will be drawn into the instrument for analysis and a corresponding low or zero result will occur.

4. Multiple tests

- a. An operator does not have to wait 5 minutes between tests with the FST PBT. An operator can do one test after another.

H. Practical Tests

1. Set up simulators/ gas standard for doing the PBT practical tests.
2. Have either the student or a partner provide samples using the simulators.
3. When using simulators, have student hold PBT on side or upside down to keep water from entering the fuel cell. Demonstrate this to students.

**2.2.15 \*CASE REPORTS**

- A. Clear, thorough and complete case reports are very important.
  1. A case can stand alone on the case report.
  2. Substantiating evidence such as driving, physical test, observations, statements, should make your case prior to even administering the breath test.
  3. Be sure to include all information DOL needs for a hearing. Submit report to DOL within 72 hours.
    - a. Any question about a case that is not answered in the report leaves the defense an opportunity.

**2.2.16 REVIEW**

- A. Topics to be determined by instructor.
- B. \*When an operator is asked in court what they were taught in DataMaster and PBT Operator class, state to the effect: The DataMaster and PBT Operator Course is up to sixteen hours and consists of lectures, a practice session, a written exam, and a practical exam. The course covers legal aspects of breath testing, the theories upon which the DataMaster and PBT operate and detailed instruction in how to operate the DataMaster and PBT instruments. The Refresher Course covers the same material in an abbreviated, four hour course.

**2.2.17 \*WRITTEN AND PRACTICAL EXAM**

- A. 80% to pass on written exam
- B. Pass / Fail practical exam



C. Must pass both written and practical exams to become certified.

## **3.0 DRAEGER ALCOTEST 9510 AND PBT OPERATOR COURSE**

### **3.1 OBJECTIVE**

The curriculum outlined in this chapter is approved for training individuals as Qualified Operators of the Draeger Alcotest 9510 breath test instruments, the Alco-Sensor III, and the Alco-Sensor FST PBT. Those individuals successfully completing this training course are qualified to perform evidential breath alcohol tests.

### **3.2 TRAINING OUTLINE**

OPERATOR COURSE FOR DRAEGER ALCOTEST 9510 (Draeger) AND PBT OPERATOR

To be presented in up to 16 hours (Operator Course).

To be presented in up to 4 hours (Operator Refresher Course). The topics marked with an asterisk (\*) must be covered in the Operator Refresher Course. Additional content from this outline may be incorporated as necessary.

NOTE: This course is designed specifically for the Operator and Operator Refresher Courses as they relate to operator certification. As the Washington State Patrol's Breath Test Program transitions to the Draeger Alcotest 9510, a version of training designed specifically for the transition will be provided for officers when their permit is current. In other words, the transition training will NOT serve as the refresher training for the Draeger. The transitional training is found in the Draeger Alcotest 9510 Operator Transition Training chapter of the BTP Training Manual.

#### **3.2.1 INSTRUCTIONAL OBJECTIVES**

- \*Certify (re-certify) students in the operation of the Draeger Alcotest 9510.
- Understand the role of breath testing in Driving Under the Influence (DUI) enforcement.
- Understand basic pharmacology and physiology of ethanol relevant to DUI enforcement.
- \*Understand the legal aspects of evidentiary breath testing.
- Understand the principles of operation of the Draeger Alcotest 9510.
- \*Understand the purpose, principles, and operation dry gas external standard.
- \*To develop the student's skill in operating the Draeger Alcotest 9510.
- \*To acquaint the student with techniques that help to achieve an admissible test result.
- To familiarize the student with the DUI arrest report and its importance.

- \*Basic preparation in court testimony regarding breath test instruments.
- To develop the student's skill in effective DUI report writing.
- \*To provide an opportunity for hands on practice with an approved breath test instrument.
- \*To test the students' knowledge of Draeger Alcotest 9510 procedures and ability to conduct an admissible breath alcohol test.
- \*The student will become familiar with the history, nomenclature, theory, legal aspects and become a certified operator of the Alco-Sensor III and Alco-Sensor FST PBT.
- \*Successfully complete a written and practical examination.

### **3.2.2 \*TRAINING AIDS**

- White/Black board
- Relevant breath test instruments, simulators, and mouth pieces
- Operator Manual
- Breath test forms/documents
- Blood vial kit and gloves
- Practical exercise training forms
- Alco-Sensor (PBT) with mouthpieces
- DUI Arrest Report forms

### **3.2.3 \*EXAMINATION**

- Written exam – 80%
- Practical exercise – Pass/Fail

### **3.2.4 GUIDANCE FOR THE INSTRUCTOR**

- Have a class roster filled out.
- The Operator's Manual is a reference guide. Neither this course nor the exam is based on that manual.
- This training outline covers the approved Draeger Alcotest 9510 evidential breath test instrument and the Alco-Sensor III / Alco-Sensor FST PBT.

- This is up to a 16 hour course that includes physiology of alcohol, legal aspects, principles of breath test instrument operation, practical operation, as well as the operation and legal aspects of the PBT.
- Successful completion of the course will qualify the student to administer evidentiary breath tests and to use the PBT for 3 years.
- \*Verify that students are not over 90 days past their operator permit card expiration date – no exceptions.

### 3.2.5 INTRODUCTION

A. Driving by alcohol impaired persons has been a traffic safety concern since the invention of the automobile.

B. Corroborative evidence of alcohol use is needed for court.

#### 1. Chemical tests

a. Urine tests were used in Scandinavia early in the twentieth century.

- Later research has cast doubt upon the reliability of urine tests as a measure of alcohol concentration in the body.
- Urine is not an acceptable sample for evidentiary alcohol concentration analysis in Washington.

b. \*Blood tests are accepted as a way of obtaining evidence of alcohol concentration in Washington.

- Blood tests are an accurate and reliable method for determining impairment.
- Blood samples can be taken only under specific conditions.
- The results of blood test are not available immediately.
- Blood sample collection is more intrusive than a breath sample.
- Blood sample collection requires advanced training and skill.

c. Breath testing is the preferred and accepted method of testing for alcohol since it is readily adaptable to field use.

- The results are immediately available.
- Sample taking is minimally invasive.
- Test instruments are suitable for field use.

- Breath testing is an accurate and reliable method for determining impairment.
2. The value of breath test evidence depends upon the weight assigned to it by the law, the judge, and the circumstances of the case.
- a. \*Evidentiary breath test instruments have features that reduce uncertainties and provide accurate and reliable results. Using computerized instrumentation to measure breath alcohol samples allows the test process to be automated.
    - Minimizes the need for operator involvement in the analysis procedure.
    - Minimizes operator bias.
    - Ensures adherence to the protocol, the computer always performs the test the same way.
    - It makes automatic safeguards possible for conditions that could be missed by humans.
    - Allows for data collection to evaluate program performance and DUI Enforcement effort.
  - b. WAC 448-16-020 lists the currently approved evidential breath test instruments for the quantitative measurement of alcohol in a person's breath for evidentiary use in the state of Washington.
    - The Draeger Alcotest 9510 uses dual technology to analyze a sample of human breath for ethanol concentration. The samples are measured using infrared and electrochemical (fuel cell) technologies.
    - Instrument is self-certifying.
    - The test procedures are controlled by a central processing unit.
    - The instrument provides a printed breath test document showing test results.
    - The instrument expresses the results as grams of alcohol per 210 liters of breath.
    - The test procedures have built in safeguards. The instruments can detect numerous potential issues affecting validity and abort the test. They are designed to give a proper test or none at all.

- Instruments are approved for evidentiary use by the National Highway Traffic Safety Administration and are on the Conforming Products List.
- These instruments are in use in many jurisdictions including the United States, Canada, and Europe.

### 3.2.6 PHYSIOLOGY OF ALCOHOL

#### A. \*There are many types of alcohol.

1. Beverage or grain alcohol is often referred to as ethanol (preferred) or ethyl alcohol. When the term alcohol is used it refers to ethanol unless otherwise specified.
  - a. Used in alcoholic beverages.
2. Methanol, also called methyl alcohol or wood alcohol.
  - a. Very poisonous, metabolizes into formic acid.
  - b. Damage is often first to the optic nerve-resulting in blindness.
3. Isopropanol, also called isopropyl alcohol or rubbing alcohol.
  - a. Metabolizes into acetone if consumed, stays with you a long time.
4. Other alcohols or volatile organic compounds on the breath:
  - a. Poisonous;
  - b. Concentration too low for breath test instrument detection.

#### B. Ethanol

1. Ethanol in the non-scientific literature is generally referred to simply as alcohol.
2. \*Mixes readily with water
  - a. Will be distributed throughout the body in proportion to the water content.
    - Blood
    - Brain
3. Impairment is caused by alcohol's effect on the brain and central nervous system.
4. Alcohol usually gets into the body by oral consumption.

- a. Absorbing alcohol through your skin is an extremely inefficient way of introducing alcohol into the body and is very unlikely to cause intoxication.
  - b. Inhalation of alcohol is an extremely inefficient way of introducing alcohol into the body and is very unlikely to cause intoxication.
5. Once alcohol is consumed, it enters the gastrointestinal tract.
- a. The stomach has a small surface area and is therefore not an efficient absorber. It may absorb up to 20% of the consumed alcohol.
  - b. \*The small intestine has a greater surface area when compared to the stomach and is therefore an excellent absorber. It may absorb 80% or more alcohol.
  - c. \*Stomach contents will affect the rate of alcohol absorption:
    - o By inhibiting absorption through the stomach walls.
    - o By slowing passage of alcohol from the stomach to small intestine.
  - d. \*Alcohol is not changed chemically before being absorbed.
6. \*Once absorbed, alcohol enters the circulatory system.
- a. From the stomach and intestines, alcohol goes to the liver via the portal vein.
    - o Alcohol is metabolized in the liver, but not all at once.
    - o Most alcohol continues past the liver to the heart and is circulated to the entire body, including the lungs.
  - b. From the liver alcohol is carried to the heart and then into the rest of the body.
    - o Arteries carry the alcohol from the heart directly to the brain, where it causes impairment.
    - o The arterial system carries the alcohol to all parts of the body, in what is known as the distribution phase.
    - o The alcohol equilibrates with any water that it encounters.
    - o Some of the alcohol is metabolized (i.e. broken down into other compounds).

- The remaining alcohol continues back to the heart to repeat the cycle.
- c. In the lungs some of the alcohol in the blood evaporates and enters the air that is exhaled as breath, in accordance with Henry's Law.
- d. \*When alcohol is being absorbed more quickly than it is being metabolized (burned off) its concentration in the blood increases.
  - Example: A 235 lb. man will metabolize an average of one 12 fl. oz. beer per hour, whereas a 145 lb. woman will metabolize an average of one-half of a 12 fl. oz. beer per hour. This assumes beer to be 4% alcohol by volume.
  - Widmark formula
    - Estimates the breath alcohol concentration (BAC) or amount of alcohol consumed. Uses weight, amount of alcohol or BAC level, sex, and time.
- e. As concentration increases, the impaired effects from the alcohol become more obvious.
  - The first effects are subtle:
    - Inhibitions fade;
    - Suppression of care;
    - Reduced ability to recognize hazards;
    - Inappropriate response to hazards.
  - Loss of efficiency in simple performance tests
  - Horizontal Gaze Nystagmus becomes apparent
  - Readily observed effects:
    - Lack of coordination;
    - Loss of balance;
    - Emotional instability.
  - At high concentrations unconsciousness and respiratory paralysis can occur.
  - Untreated respiratory paralysis results in death.

- f. The onset and magnitude of the various effects differ among individuals:
  - o Native tolerance;
  - o Use or consumption tolerance.
- g. Because of differences in absorption, elimination and onset of various levels of effect, information about a defendant's actions in the hours prior to a DUI violation can be important evidence.
- h. Long term tolerance aside, there is no known way to increase the rate of elimination of alcohol from the human body.
- i. Once consumed, there is no known way to prevent the effects of alcohol.

### 3.2.7 \*LEGAL ASPECTS

#### A. Legal Context

- 1. DUI laws apply to public and private roadways open to the public. RCW 46.61.005; State v. Day (driving drunk in field not open to public not DUI).
- 2. "Vehicle" is defined by RCW 46.04.670.
- 3. Vehicles which may not be operated intoxicated do not include "mopeds" U.S. v. Dotson (1994) or "bicycles" City of Montesano v. Wells (1995).

#### B. DUI Statute (RCW 46.61.502)

- 1. A person is guilty of driving while under the influence of intoxicating liquor, marijuana, or any drug if the person drives a vehicle within this state:
  - a. And the person has, within two hours after driving, an ethanol concentration of 0.08 or higher as shown by analysis of the person's breath or blood made under RCW 46.61.506; or
  - b. The person has, within two hours after driving, a THC concentration of 5.00 or higher as shown by analysis of the person's blood made under RCW 46.61.506; or
  - c. While the person is under the influence of or affected by intoxicating liquor, marijuana, or any drug; or
  - d. While the person is under the combined influence of or affected by Intoxicating liquor, marijuana, and any drug.

2. Penalty is a gross misdemeanor or Class C felony.
3. DUI Arrest with child in the vehicle.
  - a. Advise communications of the presence of minor children along with their names and dates of birth for Child Protective Service (CPS) notification. Document the presence in the narrative report. Ensure safety of children in release procedures. (Follow department established guidelines)
4. Felony DUI (RCW 46.61.502 (6) It is a class C Felony punishable under chapter 9.94A RCW, or chapter 13.40 RCW if the person is a juvenile, if:
  - a. Person has four or more prior offenses within ten years as defined in RCW 46.62.5055;or
  - b. Person has ever previously been convicted of:
    - o Vehicular homicide while under the influence;
    - o Vehicular assault while under the influence;
    - o An out-of-state offense comparable to Vehicular homicide or Vehicular assault; or
    - o Prior conviction for Felony DUI and Felony Physical Control.
5. Mandatory Booking (RCW 46.61.5055). The person has violated RCW 46.61.502 or RCW 46.61.504 or an equivalent local ordinance and the officer has knowledge that the person has a prior offense as defined in RCW. 46.61.5055 within 10 years. Confirm the arrested subject has a qualifying prior offense (conviction) within 10 years in accordance to RCW 46.61.5055. A prior offense is defined as a conviction of the following:
  - a. DUI (RCW 46.61.502)
  - b. Physical Control (RCW 46.61.504)
  - c. Vehicular Homicide while under the influence
  - d. Vehicular Assault while under the influence
  - e. Charge of Vehicular Homicide, Vehicular Assault, DUI or Physical Control that was reduced to Negligent Driving – First degree, Reckless Driving, Reckless Endangerment.
  - f. An out of state conviction of a violation of i–v (listed above) that would have been a violation if committed in this state.

- g. Deferred sentence or deferred prosecution under RCW 10.05 for any of the above listed violations (whether dismissed or not).
  - o For confirmation, officer should review 10 year abstract of driver's record and Interstate Identification Index (III). Communications can assist with information.
  - o If subject needs medical care, stay with subject at medical facility. Comply with Department guidelines and/or prosecutor instruction.

6. Constitutionality of the breath test statute was affirmed by State v. Brayman.

7. 46.04.015 or 46.61.506 defines ethanol concentration units as:

- a. g/210L breath
- b. g/100 mL blood

C. Physical Control Statute (RCW 46.61.504)

- 1. A person is guilty of being in actual physical control of a motor vehicle while under the influence of intoxicating liquor or any drug if the person has actual physical control of a vehicle within this state:
  - a. And the person has, within two hours after being in actual physical control of the vehicle, an ethanol concentration of 0.08 or higher as shown by an analysis of the person's breath or blood made under RCW 46.61.506; or
  - b. The person has, within two hours after being in actual control of a vehicle, a THC concentration of 5.00 or higher as shown by analysis of the person's blood made under RCW 46.61.506; or
  - c. While the person is under the influence of or affected by intoxicating liquor or any drug; or
  - d. While the person is under the combined influence of or affected by intoxicating liquor and any drug.
- 2. "Safely off the roadway" defense.
  - a. This is an affirmative defense, which means it is a factual issue to be proved by the defense and decided by the jury and may not be decided by the judge in pre-trial motions. Edmonds v. Ostby (1987).
- 3. Penalty is a gross misdemeanor (maximum 364 days in jail/\$5,000 fine).
- 4. Felony Physical Control (RCW 46.61. 504(6)).

D. Driver under twenty-one consuming alcohol or marijuana (RCW 46.61.503).

1. Notwithstanding any other provision of this title, a person is guilty of driving or in physical control of a motor vehicle after consuming alcohol or marijuana if the person operates or is in physical control of a motor vehicle within this state and the person.
  - a. Is under twenty-one years of age; and
  - b. Has within two hours after operating or being in physical control of a motor vehicle; either:
    - o An alcohol concentration of at least 0.02 but less than 0.080 or
    - o A THC concentration above 0.00 but less than the concentration specified in RCW 46.61.502.
2. Analyses of blood or breath samples obtained more than two hours after the alleged driving or being in physical control may be used as evidence that within two hours of the alleged driving or being in physical control, a person had an alcohol or THC concentration in violation of subsection (1) of this statute.
3. Penalty is a misdemeanor or Class C felony:
  - a. The wording “Driver under twenty-one consuming alcohol or marijuana (RCW 46.61.503)” is to be written on the citation if an officer files directly and the prosecution does not file their own complaint.
  - b. If 0.08 BAC or above write for RCW 46.61.502.

E. Driving with alcohol or THC in system - Uniform Commercial Drivers Act (RCW 46.25.110)

1. Notwithstanding any other provision of Title 46 RCW, any person may not drive, operate, or be in physical control of a commercial motor vehicle while having alcohol or THC in their system.
  - a. Issue an out-of-service order valid for 24 hours, per CFR 392.5.
  - b. If 0.040 or more, any measurable amount of THC concentration, or refuse the test, their CDL will be disqualified.
2. Violation of the Act, mandatory, gross misdemeanor.

F. Persons under influence of intoxicating liquor or drug – Evidence Tests (RCW 46.61.506)

1. An alcohol concentration reading less than 0.080 or a THC concentration less than 5.00 may be considered with other evidence for determining if under the influence.
  - a. Breath analysis of a person's alcohol concentration is based upon g/210 L. Blood analysis of a person's alcohol concentration is based upon g/100 mL.
  - b. Blood analysis of the person's THC concentration shall be based upon nanograms per milliliter of whole blood.
2. Breath alcohol testing methods are approved by the state toxicologist. Officers must have a valid permit issued by toxicologist.
3. Breath tests performed on instruments approved by the toxicologist are admissible at trial or administrative proceeding. Criteria for admissibility of breath tests are presented in training outline section PRINCIPLES OF OPERATION.
4. Blood samples may only be obtained by a physician, registered nurse, licensed practical nurse, nursing assistant (18.88A RCW), physician assistant (18.71A RCW), first responder (18.73 RCW), emergency medical technician (18.73 RCW), health care assistant (18.135 RCW), or any trained technician.
5. A person has the right to additional tests administered by any qualified person of their choosing. Failure or inability to obtain additional tests shall not preclude the admission of evidence relating to the test taken at the directions of a law enforcement officer.

G. Implied Consent (RCW 46.20.308)

1. Any person who operates a motor vehicle within this state is deemed to have given consent, subject to the provisions of RCW 46.61.506, to a test or tests of his or her breath for the purpose of determining the alcohol concentration, THC concentration, or presence of any drug in his or her breath if arrested for any offense where, at the time of the arrest, the arresting officer has reasonable grounds to believe the person had been driving or was in actual physical control of a motor vehicle while under the influence of intoxicating liquor or any drug or was in violation of RCW 46.61.503. Neither consent nor this section precludes a police officer from obtaining a search warrant for a person's breath or blood.
2. Statute applies wherever DUI applies.
3. Elements to be met:
  - a. Subject was driving or in physical control of a motor vehicle within state of Washington. (RCW 46.04.320 - motor vehicle, but not trains)

- b. Officer established probable cause that subject was under the influence.
- c. A lawful arrest was made.
- d. Implied consent warnings were read to subject.
  - o Subject refuses to take breath test- license, permit, or privilege to drive will be revoked or denied
    - Refusal may be used in a criminal trial.
    - Apply for a blood search warrant or voluntary consent (for voluntary consent, follow Department and local prosecutor's recommendations).
- e. Subject takes breath test - license, permit, or privilege to drive will be revoked or denied if:
  - o Age 21 or over and test indicates alcohol concentration 0.080 or more or THC concentration of blood is 5.00 or more.
  - o Under age 21 and test indicates alcohol concentration of 0.020 or more or THC concentration of blood is above 0.00.
  - o Under age 21 and in violation of RCW 46.61.502 or 46.61.504.
- f. If a license, permit, or privilege to drive is suspended, revoked, or denied, a person may be eligible to immediately apply for an ignition interlock driver's license.
- g. A subject has a right to additional tests administered by any qualified person of their choosing.
- h. A bright line on refusals (DOL v. Lax, 1995). Once refused, no further testing by the officer needs to be done. The officer determines if a good faith attempt to provide a sample was made or if it is a refusal.
  - o Condensation in the mouthpiece, buzzing/audible beeping sound, and 'Please Blow' stops flashing. If in doubt about the sample acceptance of an instrument the officer can run a test with his breath to check it. Include the ticket with your case report.
- i. Reading the implied consent warnings three times is sufficient. The implied consent warning to be given at the time of arrest need only be "substantially" the same as the wording of the implied consent statute.

- j. Must be read in a language person understands. Ensure the rights are read in the subject's native language. Use language line, or translator, or Spanish DUI Packet.
- k. Expressed confusion by subject, documentation is necessary.
- l. DOL paperwork process for a breath test that is 0.080 or more (adult), 0.020 or more (minor), 0.04 or more (commercial motor driver) or refusals, the officer shall do the following: (The results of both breath samples must meet or exceed the limit.)
  - o Serve the 'Request for DUI Hearing' notice of DOL intent to revoke or deny the person's driver's license.
  - o The person has 20 days to request the hearing with a \$375.00 fee. Not necessary to read form to subject.
  - o Fax or email completed report, breath test document, and supplemental reports to:

Department of Licensing  
Driver Records  
[SwornReports@DOL.WA.GOV](mailto:SwornReports@DOL.WA.GOV)  
Fax: (360) 570-7026

- o For a blood test, submit the report when results are returned to you.
  - o Driver's licenses are no longer to be punched with diamond hole punch.
- H. RCW 46.20.750 Circumventing ignition interlock – Penalty.
1. A person who is restricted to the use of a vehicle equipped with an ignition interlock device and who tampers with the device or directs, authorizes, or requests another to tamper with the device, in order to circumvent the device by modifying, detaching, disconnecting, or otherwise disabling it, is guilty of a gross misdemeanor.
  2. A person who knowingly assists another person who is restricted to the use of a vehicle equipped with an ignition interlock device to circumvent the device or to start and operate that vehicle in violation of a court order is guilty of a gross misdemeanor. The provisions of this subsection do not apply if the starting of a motor vehicle, or the request to start a motor vehicle, equipped with an ignition interlock device is done for the purpose of safety or mechanical repair of the device or the vehicle and the person subject to the court order does not operate the vehicle.

I. Special Evidence Warnings:

1. If an individual is unconscious or is under arrest for the crime of felony driving under the influence of intoxicating liquor or drugs under RCW 46.61.502(6), felony physical control of a motor vehicle while under the influence of intoxicating liquor or any drug under RCW 46.61.504(6), vehicular homicide as provided in RCW 46.61.520, or vehicular assault as provided in RCW 46.61.522, or if an individual is under arrest for the crime of driving while under the influence of intoxicating liquor or drugs as provided in RCW 46.61.502, which arrest results from an accident in which there has been serious bodily injury to another person, a breath or blood test may be administered without the consent of the individual so arrested pursuant to a search warrant, a valid waiver of the warrant requirement , or when exigent circumstances exist.
  - a. Apply for a search warrant. If granted, read warrant and special evidence warnings and obtain blood samples.
  - b. Unable to obtain warrant due to exigent circumstances, read the special evidence warnings and obtain blood samples.
    - o Exigent circumstances are emergency situations requiring swift action to prevent imminent danger to life or serious damage to property. Forestall imminent escape of suspect or destruction of evidence. (People V. Ramey)
    - o Exigency will be determined according to each particular case and only applies to special evidence.
  - c. A valid waiver of warrant requirement (voluntary consent) may be sought with District Commander approval based on consultation with the local prosecutor. In these cases the voluntary blood draw consent form must be utilized.
  - d. Only send to DOL the Report of Breath/Blood form when special evidence warnings have been read and the blood was obtained through a search warrant, a valid waiver to the warrant requirement ,or exigent circumstances and the results are a positive per se blood test.
2. Non-felony collisions (blood draw):
  - a. Driver is being treated at hospital and no BAC instrument is available and subject will not be released in time. May apply for a blood search warrant or possibly use valid waiver to the warrant requirement per Department guidelines.
3. DUI – Drug impaired driver (blood draw):
  - a. No alcohol involved, or impairment inconsistent with alcohol level. Follow Department guidelines, DRE process, and seek a blood search warrant. Voluntary consent in accordance to Department and

local prosecutor's recommendations.

- b. If warrant is obtained or voluntary consent has been given, do not send in DUI Arrest Report for Breath/Blood Test because no implied consent warnings were read and DOL cannot suspend their license. If Defendant is convicted the courts will impose the suspension and report it to DOL for action.
  4. If due to a medical reason subject is unable to provide a breath sample apply for a blood search warrant or utilize voluntary consent in accordance to Department and local prosecutor's recommendations.
  5. Missouri v. McNeely: (US Supreme Court)
    - a. Natural dissipation of alcohol in blood stream alone is insufficient to establish an exigency to justify a warrantless search for blood.
- J. Test for alcohol or drugs – Disqualification for refusal of test or positive test. Implied Consent for Commercial Motor Vehicle (46.25.120).
1. A person who drives a commercial motor vehicle within this state is deemed to have given consent, subject to RCW 46.61.506, to take a test or tests of that person's blood or breath for the purpose of determining that person's alcohol concentration or the presence of other drugs.
  2. Officer must have probable cause to believe the driver had alcohol in his or her system or while under the influence of any drug.
  3. Officer shall warn person that a refusal to submit to a test will result in that person being disqualified from operating a commercial motor vehicle under RCW 46.25.090.
  4. Marking of boxes in Implied Consent
    - a. If Commercial Driver and DUI mark boxes in both sections of the form, relating to DUI and Commercial Vehicle.
  5. An officer shall submit a sworn report to DOL if the person refuses testing, submits to a test that discloses an alcohol concentration of 0.04 or more, or has any measurable amount of THC.
- K. DOL Administrative Hearings
1. Civil hearing (preponderance of the evidence).
  2. Hearings are held primarily over the phone. If involves a hearing impaired person, the hearing is held in person and in the county of arrest.

3. The hearing is based on the officer's sworn report. An officer's attendance is not needed unless the officer is subpoenaed to be present. (Exception is for the commercial driver arrest where you will be required to attend). The hearing must be held within 60 days of the arrest (or issuance of notice by DOL if blood).
  - a. The time frame is very short between when DOL requests the report and the hearing date.
4. An Officer's DUI arrest report under declaration and any other evidence accompanying the report shall be admissible without further foundation. Certifications authorized by criminal rules shall be admissible without further foundation.
5. No prosecutor will be in attendance, except in Superior Court. If the case is appealed to Superior Court, will have prosecution representation from the Assistant Attorney General's office.
6. A Hearing Officer may issue subpoenas for attendance. It is permissible for an officer to attend if you notify DOL in advance.
7. Include additional officer's sworn reports for the record. The reports help establish probable cause.
8. DOL requests that if an officer runs a breath test for another officer, a sworn narrative report indicating your involvement in the process be submitted along with the arresting officer's sworn report.
9. Fax or email a copy of your completed sworn report, breath test document, and supplemental reports to the DOL within 72 hours. (Frank v. DOL) allows for a reasonable delay of the 72 hour rule. However, a delay can reduce the amount of days DOL has to schedule and advise the person of the hearing.

L. Miscellaneous Case Law – Breath Test Samples

1. The subject has a right to an attorney before the implied consent test. (State v Wakenight)
2. Right to have attorney actually present within 30 minutes. (State v Fitzsimmons)
3. The subject has a right to a private conversation if they or their attorney request it. (Seattle v Koch)
  - a. Do not jeopardize officer safety.
  - b. You do not need to interrupt the 15 minute observation period if direct observation is not lost. However, if observation is lost, the 15 minute observation period must be started over.

4. If the subject is to be detained and asks for additional tests, refer to local court rules for transportation guidelines. (State v McNichols)
  - a. RCW 46.61.506 states the failure or inability to obtain an additional test by a person shall not preclude the admission of evidence taken.
  - b. If the person is to be released in a timely manner they may go obtain their own test.
  - c. If subject is detained and/or booked and requests additional tests, refer to Department guidelines and local prosecutor recommendations on affording test opportunity.
  - d. Indigent subjects
5. A sample blown into a defective instrument does not relieve the subject of the requirement to give a full test (two samples) at another instrument. (Sunnyside v Sanchez)
6. If one of the two samples required to get a printout is refused it is a refusal. (DOL v Rogers, 1988)

M. Voluntary Blood/Urine/Breath

1. You may want to show a person is clear of alcohol and/or drugs.
2. Obtain a signature for a voluntary sample and indicate circumstances in narrative report.
3. The use of voluntary consent should be in accordance to Department policy and local court jurisdictions preference.

**3.2.8 \*DUI ARREST REPORT**

A. Constitutional Rights

1. Ensure Constitutional Rights have been read to arrested subject. (Read it to a person acting unconscious)
2. Must get translator for non-English/deaf speaking person. Spanish DUI Arrest Report is available for use. May obtain court-approved Spanish language audio files to use in lieu of Spanish DUI Arrest Report written translation.
3. If used, officer signs on "Officer Signature" line and indicates date, time, and location. If read in the field check box and indicate time.
4. If used, have defendant sign or write subject 'refused to sign'.

5. If defendant requests an attorney indicate in specified box. Indicate if able to contact attorney and the time of contact. The attorney's name and phone number should be indicated. If unable, specify reason in provided box.

B. Implied Consent Warning for Breath (Adult, Minor, Commercial)

1. Check appropriate statute box for which the subject is under arrest.
2. Read Implied Consent Warnings for Breath to arrested subject.
3. Officer signs on "Officer's Signature" line and indicates date, time, and location.
4. Have defendant sign or you can write 'refused to sign'.
5. Have defendant mark the YES/NO box indicating if they are willing or not to provide a sample.
6. If subject expressed confusion regarding the warnings, write an explanation on the lines provided.
7. Check box(es) indicating valid permit to operate the applicable evidentiary breath test instrument.
8. Check mouth check related boxes.
9. If PBT was used, check box and indicate reading and time obtained.
10. Indicate after breath test processing whether the subject was booked or released. If released, indicate to whom.
11. If during a breath test interference is detected, this circumstance will invalidate the test. The subject will be required to repeat the test. A subject whose breath registers the presence of interference on two or more successive breaths shall be deemed to have a physical limitation rendering them incapable of providing a valid breath sample. An officer may apply for a search warrant for blood.

C. Special Evidence Warning

1. Five circumstances when blood can be taken by search warrant/exigent circumstances:
  - a. Vehicular Homicide;
  - b. Vehicular Assault;
  - c. Unconscious (DUI/ Physical Control/Minor Driver). If possibly "acting" unconscious read the form anyway;

- d. DUI arrest resulting from an accident with serious bodily injury to another;
  - e. Felony DUI or Felony Physical Control.
2. When taking blood at a hospital you must have probable cause which lead to a warrant or met exigent circumstances.
    - a. Observations at the scene.
    - b. Information from a reliable informant.
    - c. Officer at the scene.
      - o Relay from Communications
  3. Officer signature required on designated line with indicated, date, and time.
  4. Distribution and copy process followed for warrant documentation.
- D. Blood sample collection (State Tox blood kit, gloves)
1. Blood samples may only be obtained by a physician, registered nurse, licensed practical nurse, nursing assistant (18.88A RCW), physician assistant (18.71A RCW), first responder (18.73 RCW), emergency medical technician (18.73 RCW), health care assistant (18.135 RCW), or any trained technician.
    - a. Officer should try to be a witness to the drawing of the blood sample.
      - o This may avoid the need for the approved health care professional to be in court.
      - o Document all critical information (information on DUI Arrest Report) and qualifications regarding person who drew blood sample.
  2. Blood sample must be drawn and placed in a grey top tube.
    - a. Tubes available from State Toxicology Laboratory.
    - b. Expiration date on tube.
    - c. White anti-coagulant powder present in tube. Should not be empty.
    - d. Record evidence information on tube.
    - e. Record evidence and chain of custody information on form.

- f. Use only Toxicology Laboratory mailing kits to mail tubes to the State Toxicology Laboratory.
  - o Postal regulations
  - o Does not need to be refrigerated because the vials contain preservative (note: refrigeration is preferable if blood samples are not transported to the State Toxicology Laboratory for several days).
  - o To prevent transmission of disease, do not touch blood.
- g. Hospital analysis is not approved by the State Toxicologist.
  - o Use ONLY the State Toxicology Laboratory for analysis.

#### E. Voluntary Blood Draw Consent Form

1. Read or have subject read voluntary consent section.
2. Officer signature required along with date and time on designated line.
3. Consenter signature required along with date and time on designated line.
4. Approved health care professional title, name, signature, date, and time indicated on designated line.
5. Distribution and copy process followed for warrant documentation.

#### F. DUI Interview

1. Statements are listed in question form.
2. First and last drink times.
3. Note all responses (answers, sayings, and statements) provided by defendant.
4. Note if defendant invokes right to silence.
5. Observations should be listed in DUI report.

#### G. Pre-Arrest Observations

1. Indicate observations.
2. Indicate native language, understanding, and if interpreter was provided.
3. Passenger information, if obtained.

#### H. Sobriety Tests

1. Fill out Sobriety Test information gathered from arrested subject.

#### I. Narrative

1. Officers may use provided narrative page or can use department approved report form.
2. Perjury clause and officer's signature must be present.

#### J. Request for DUI Hearing

1. For a breath test that is 0.080 or more (adult), 0.020 or more (minor), 0.04 or more (commercial motor driver) or refusals, the officer shall do the following. The results of both breath samples must meet or exceed the limit.
  - a. Serve the 'Request for DUI Hearing' notice of DOL intent to revoke or deny the person's driver's license.
    - o The person has 20 days to request the hearing with a \$375.00 fee. Not necessary to read form to subject.

### 3.2.9 THE DRAEGER ALCOTEST 9510 INSTRUMENT

- A. The Draeger Alcotest 9510 (Draeger) breath test system includes the instrument, dry gas enclosure, dry gas cylinders, plastic mouthpieces and external printer.
  - a. Dimensions
    - o 12.9" x 9.8" and 2.2" (front height) and 7.3" (back height)
    - o Weighs approximately 15.3 lbs.
  - b. Operating Voltages
    - o AC power 90-260 VAC 50/60 Hz
    - o DC power 9 – 15.5 VDC
  - c. On-Off switch
    - o Always leave the instrument on when installed in field.
    - o The switch is not readily accessible to the operator. If the instrument needs to be switched off, contact a technician for instructions.

d. Display

- 4.5" x 3.5" touch screen
- Time and date
- Pressure of both gas cylinders
- Serial number of instrument

e. Breath Tube

- Heated and temperature controlled.
- Does not need to be kept in the storage tray.
- Mouthpiece should only be in breath tube when a sample is being taken.

f. Printer

- The instrument has two printers.
- Internal thermal printer is not used for evidentiary tests.
- Separate laser printer will print two copies of the evidentiary test.
- Operator will be able to reprint an evidentiary ticket up to 90 days after the breath test.

g. Keyboard

- External keyboard is connected via a USB port.

h. External Standard

- Two dry gas cylinders located in the dry gas enclosure, attached to the rear of the instrument.
- Checks the accuracy of the Draeger.
- When the operating cylinder reaches a predetermined level, the instrument will automatically switch to the second cylinder, if other cylinder is empty or expired, the instrument will place itself out of service.
- The operator does not need to perform any checks for verification of the external standard. The instrument controls this test and prints the data on the final document if the sample was within protocol of 0.072-0.088 g/210L, inclusive.

i. Mouthpieces

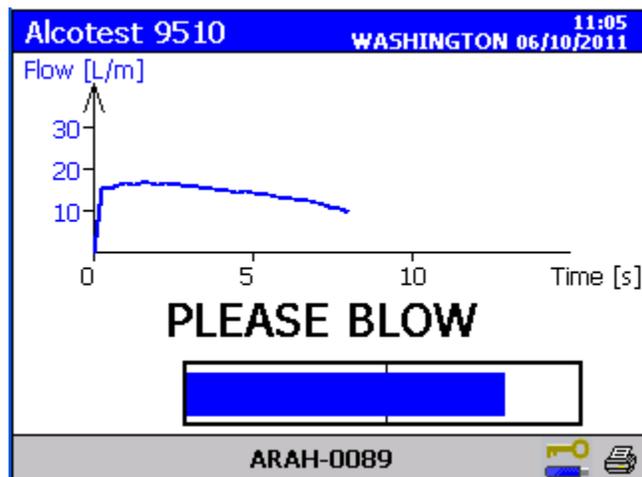
- Plastic mouthpieces with moisture baffles.
- Use the plastic bag to handle the mouthpiece and prevent transmission of diseases.
- Open the bag carefully to leave the mouthpiece ports clear.
- Discard the mouthpiece and bag immediately after the breath sample is accepted.
- Use a new mouthpiece for each sample.

**3.2.10 Principles of Operation**

- A. \*The Draeger uses both infrared (IR) spectroscopy and fuel cell technology. The subject will provide two samples of breath. Each sample will be tested using both technologies, producing four results. All four results will be printed out on the final breath test printed document.
1. Beers Law states that the concentration of ethanol in a sample is proportional to the IR light absorbed by the subject's breath sample.
    - a. The Draeger measures the IR light transmitted through an empty sample chamber.
    - b. The instrument then measures IR light transmitted through the breath sample.
    - c. The difference is used to calculate the concentration of ethanol in the chamber.
  2. The fuel cell uses an electrochemical process to detect ethanol. The fuel cell is specific for ethanol.
    - a. The fuel cell is located on top of the sample chamber and is heated by the sample chamber.
    - b. At the end of each breath sampling sequence, the sample chamber closes and a portion of the collected sample is then examined by the fuel cell.
    - c. Any ethanol collected by the fuel cell will oxidize and cause a voltage change within the cell which is calculated into a breath alcohol concentration.
  3. The combined use of a fuel cell and IR spectroscopy makes it virtually impossible for an interfering substance, such as acetone, to influence the subject's ethanol reading.

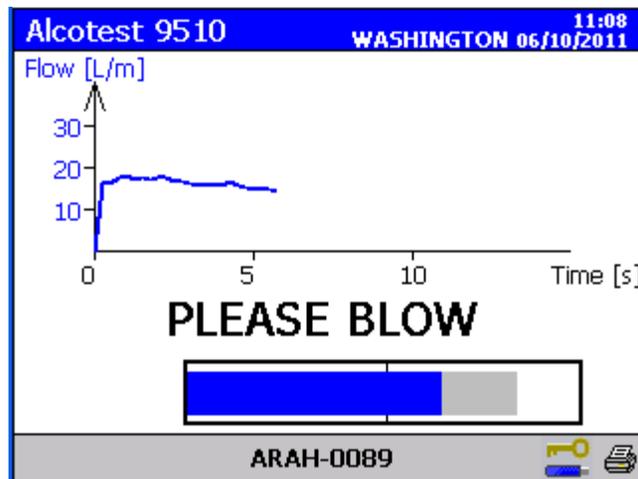
- B. \*When the instrument is ready to begin a test, the screen will display “READY”.
  - 1. The instrument performs 128 diagnostic tests per second. If any of the internal functionality tests were outside of tolerance, a message will appear on the display and the Draeger will not proceed with a test. Below is an example of what may be seen if a diagnostic test does not operate as designed:
    - a. Disabled – call WSP at (number displayed on screen)
    - b. Cal Gas Supply – call WSP at (number displayed on screen)
    - c. Memory Full – call WSP at (number displayed on screen)
- C. \*Draeger checks its Infrared (IR) calibration during each test with an internal standard.
  - 1. A very precise and consistent amount of the radiated IR energy from the IR Source passing through the absorption chamber is attenuated. This resembles the effect alcohol vapor has in the absorption chamber. The instrument computes the drop in IR energy to a corresponding alcohol concentration reading.
- D. \*Accuracy is checked using an external standard sample from a dry gas cylinder.
  - 1. Results are displayed during the external standard phase.
  - 2. Results must be 0.072 to 0.088, inclusive.
  - 3. If the results are not within the required values, the instrument will display “External Standard Out of Range” and the test will abort.
- E. \*Subject Sample Control
  - 1. 15 minute observation period.
  - 2. The most accurate and reliable sample is one of deep lung or alveolar air.
  - 3. An acceptable sample is a product of time and flow rate.
  - 4. A long sample with moderate flow is better than a short, hard blown sample.
  - 5. When the following sampling requirements have been met, the sample can be accepted:
    - a. At least 5 seconds of acceptable sample flow.

- b. At least 1.5 liters breath.
  - c. Minimum slope to BrAC curve.
  - d. Minimum flow rate 4 liters per minute.
6. \*When the alcohol concentration of the sample has peaked then sharply declines during the blow, the display reads “Invalid Sample”.
- a. The test will abort.
  - b. Invalid Sample is recorded in the database.
  - c. The operator must begin a new 15 minute observation and run the test again.
7. Acceptable samples can be achieved by instructing the person, coaching during the blow and monitoring the display on the instrument.
- a. For example, “Blow steadily into the mouthpiece for 10 to 15 seconds. I will tell you when to stop.”
  - b. The flow rate of the subject blowing will be displayed on the upper half of the screen during the test. The graph will have a flow-rate indicator in the vertical axis and a blow time indicator in the horizontal axis.



- c. The volume progress bar is below the “Please Blow” prompt and displays the volume of the sample as it is provided.
  - o When subject starts to blow, a vertical line in the center of the bar will indicate the required minimum sample of 1.5 liters.

- When subject starts to blow on the second breath sample, the volume from the first sample will be displayed as a gray highlight in the bar. See example below:



- When the minimum sampling parameters have been met the frame of the volume progress bar will turn bold.
- F. Blank tests are run before and after every sample that is introduced into the sample chamber. This includes both of the subject's breath samples and the external standard sample.
1. Blank tests ensure that the sample chamber has been completely purged of the previous sample. If blank tests are successful the final printed document will indicate a result of .000.
  2. If following the blank test the instrument's IR measurement detects alcohol in the sample chamber, the display reads "Ambient Fail".
    - a. The test will abort.
    - b. Run test again (no new observation period is needed).
    - c. Some conditions exist that may prevent a complete purge of the sample chamber, for example:
      - Solvents present (e.g. hand cleaner, fingerprint ink, etc.);
      - Person's clothes soaked in alcohol;
      - A mouthpiece left in the breath tube during purge;
      - Poor room ventilation;
      - Person standing next to breath tube during purge;

- Mechanical or electrical problems.
- G. The instrument analyzes the subject's samples to show that they are consistent with an admissible breath test.
1. The four individual breath sample results must be within  $\pm 10\%$  of the mean of all four breath sample results.
    - a. The procedure for this calculation is outlined in WAC 448-16-060
    - b. If samples are outside of 10%, the instrument will display "Samples Outside 10%"
      - Test will abort.
      - Run test again (no new observation is needed).
      - Provide clear instructions on providing samples.
  2. Most differences in sample results are due to sampling differences, not the instrument, for example:
    - a. Breathing patterns;
    - b. Length of the sample blown;
    - c. Consistent instruction and coaching will result in smaller differences between sample results.
- H. When the test protocol has been completed, a breath test document is printed and the operator can be assured that the test results are accurate and reliable.

### 3.2.11 THE PRE-TEST PERIOD

- A. Check the status of the instrument by pressing the green start button.
1. If the display is visible and the "Ready" prompt is visible, no action is required until ready to start the test. If the screen goes dark while you are waiting to start the test, tap the screen.
  2. If the screen is dark, tap the screen to refresh the screen image.
    - a. If the "Ready" prompt is visible, no action is required until ready to start the exam.
    - b. If the "Standby" prompt is visible, press the green start button to initiate the instrument warm up cycle.
    - c. Check the instrument display to ensure there are no error messages

and that the display indicates “Ready” or cycles between “Warming Up” and “Not Ready”.

- B. Prior to starting the breath test, check the breath tube.
  - 1. It should be warm/hot to the touch.
  - 2. If it is cold, advise WSP radio and go to a different instrument.

### 3.2.12 THE OBSERVATION PERIOD

- A. Read the Constitutional/Miranda Rights and Implied Consent Warnings.
- B. Check person's mouth and begin the 15 minute observation using the Draeger clock.
  - 1. The time on the instrument may be different than your watch. Record the exact time from the instrument clock. 16 minutes must pass before the test can begin; this is programmed into the software to assure a complete 15 minutes has occurred. The time on the instrument may be different than your watch. Record the exact time from the instrument clock. 16 minutes must pass before the test can begin; this is programmed into the software to assure a complete 15 minutes has occurred.
  - 2. 15 minute observation period. (Guideline procedures for breath test defined by WAC 448-16-040, State Toxicologist):
    - a. To ensure that any alcohol in the person's mouth has time to dissipate before the samples are taken.
    - b. The person does not have any foreign substances in the mouth. Such determination shall be made by either an examination of the mouth or a denial by the person that he/she has any foreign substances in the mouth.
    - c. Upon checking the person's mouth for foreign objects before starting the 15 minutes, clear the person's mouth of all objects except dental work, and if necessary have the person rinse their mouth. (i.e., chewing tobacco, etc.)
    - d. If the person puts anything into their mouth, smokes, or vomits the mouth must be rechecked and the 15 minutes started over.
    - e. The mouthpiece and the subject's own blood are not foreign objects.
    - f. Tongue Jewelry: ask the subject to remove, if unable or unwilling to request a blood search warrant under the implied consent law (other physical limitation language).

- g. Vomiting may bring alcohol back up to the mouth and may require a new 15 minutes and instructions.
  - h. Observe the subject until the last sample is taken and the process is completed.
- C. The time on the instrument will disappear once 'RUN' is pushed.
- 1. You must keep the person under observation while entering data, etc.
  - 2. Make a note if subject has odor of volatile organic compounds (e.g., paint, thinner, etc.) about his person or clothing. If noted, determine time of last exposure.
  - 3. Read the Constitutional/Miranda Rights and Implied Consent Warnings.
  - 4. Check person's mouth and begin the 15 minute observation using the Draeger clock.
  - 5. The time on the instrument may be different than your watch. Record the exact time from the instrument clock. 16 minutes must pass before the test can begin; this is programmed into the software to assure a complete 15 minutes has occurred.
  - 6. You must keep the person under observation while entering data, etc.
  - 7. Document if the subject has odor of volatile organic compounds (e.g., paint, thinner, etc.) about his or her person or clothing. If able, determine time of last exposure.

### **3.2.13 INSTRUMENT OPERATION**

- A. When the observation period is complete and the display prompts "Ready", press the green start button.
- B. The instrument will conduct a dry gas pressure check and complete a diagnostic check. It will then prompt for data entry.
- C. Data entry can be done using the attached keyboard, the touch screen, the attached bar code reader (license and operator permit only) or a combination of the three.
  - 1. The touch screen's virtual keyboard is only accessible if the keyboard is unplugged.
  - 2. If using the keyboard, press the enter key after each data entry or use the Tab on keyboard to move through the buttons and highlight Next, then Enter.

3. When using the touch screen, tap NEXT on the screen to advance to the next question.
4. To make corrections:
  - a. Using the touch screen, double click on the screen and re-enter data.
  - b. Using the keyboard, use the arrows on the lower right hand side to highlight the item to be corrected, re-enter data.

#### D. Data Entry

1. \*Observation Time
  - a. Enter the time you started the 15 minute observation.
  - b. Use 24 hour time.
  - c. Tap "SUMMARY" on the screen or "Enter" on the keyboard.
    - o If time is correct, tap "SAVE" or "Enter" on the keyboard.
    - o If time is incorrect, double tap "Observation Start Time" and enter correct time. Tap Summary or Done, Enter.
2. \*Operator Observed Subject Entire Time
  - a. Yes – Enter/Next
  - b. No – Enter/Next
    - o Correct – double tap "Operator Observed Subject Entire Time", Yes, Save, Next, Done
    - o If you select Save without correcting, display will show Invalid Data Entry and the test will abort.
3. \*Subject Smoke, Vomit, Put Anything in Mouth
  - a. Yes – Enter/Next
    - o Correct – double tap "Subject Smoke, Vomit, Put Anything in Mouth", No, Save, Next, Done
    - o If you select Save without correcting, display will show Invalid Data Entry and the test will abort.
  - b. No – Enter/Next
4. Citation/Case Number

- a. Enter data
  - b. Any combination of letters/numbers, up to 15 characters
  - c. If no citation, enter NONE.
  - d. Cannot leave blank
  - e. Enter/Next
5. County of Arrest
- a. Enter 1st letter of county.
    - o Keyboard – use arrow keys to scroll through list, Enter
    - o Touch Screen – use drop down menu, select, Next
6. Crime Arrested For
- a. Using the arrows on keyboard or drop down menu on screen, select appropriate crime.
  - b. Select Enter/Next
7. Collision Involved
- a. Keyboard – Select “Y” or “N”, Enter/Next
  - b. Touch Screen – Tap “Yes” or “No”, Enter/Next
8. \*Subject Drinking at Specific Drinking Establishment
- a. If subject gives any answer other than a licensed drinking establishment, select “NO”, Enter/Next.
    - o Using display, scroll down to appropriate answer and touch highlighted entry, Next.
    - o Using keyboard, use the arrows to move through the list and press Enter when the correct response is highlighted.
  - b. If subject provides the name of a licensed drinking location, select “Yes” or “Y” and Enter/Next.
    - o Using the display, tap “Database” on screen.
      - Enter part of drinking location and tap “Search”.
      - Select from list. All drinking locations in the state are in the database and are not segregated by county. Before

continuing, confirm the correct location by confirming the address listed on the lower screen.

- Tap “OK”
  - Select Enter/Next
  - Using the keyboard
    - Tab to Database, Enter
    - Type part of the name of the drinking location name and Enter. For example, for “The Monkey Pit,” type monkey.
    - Using arrows, scroll through list.
    - All drinking locations in the state are in the database and are not segregated by county. Before continuing, confirm the correct location by confirming the address listed on the lower screen.
    - When the correct location is selected, Enter/Tab to OK-Enter
    - Tab to Next/Enter
9. PBT Given?
- a. No, Enter, Summary
  - b. Yes, Enter/Next
    - PBT Time
      - Use 24 hour time
      - Enter/Next
    - PBT Result
      - Type decimal and 3 digit result
      - Enter, Summary

E. \*Summary

1. Must scroll through entire list before continuing with data entry.
  - a. Use touch screen or keyboard arrows.
2. This is the only opportunity to correct the data just entered.

3. To make corrections, double tap on the information that needs correcting.
4. Make correction
5. Enter/Next
6. Continue review
7. If the information is correct, tap SAVE or tab to SAVE/Enter.

F. \*Scan Operator Card

1. If “Yes” Enter/Next is selected, operator will be prompted to scan their permit card. Officer’s data will be entered into the database. Use Enter/Next to go through data. If the operator’s permit card is expired, instrument will not allow the test to continue. If the card does not scan properly the test will abort.
2. If “No” is selected, enter data using touch screen or keyboard.
  - a. Operator last name – Enter/Next
  - b. Operator first name – Enter/Next
  - c. Operator middle initial – Enter/Next
  - d. Operator agency code – Enter/Next
3. Summary
  - a. Review, Correct, Save

G. Subject’s Ethnic Group

1. Drop down menu defaults to WHITE.
2. Touch screen, scroll to desired group, Enter/Next.
3. Keyboard, use arrow keys to highlight desired group, Enter/Next.

H. Subject’s Driver License

1. Drop down menu defaults to “Other”.
  - a. Touch screen, scroll to desired state, Enter/Next.
  - b. Keyboard, use arrows to scroll to desired state, Enter/Next.
2. If Washington is selected:

- a. "Scan Subject's WA State Driver License?"
  - o Yes – Prompt to scan, scan license, Summary
  - o No – Prompt for Subject's information
3. If any selection other than Washington is selected, instrument will prompt for the following entries:
  - a. Subject last name – Enter/Next
  - b. Subject first name – Enter/Next
  - c. Subject middle initial – Enter/Next
  - d. Subject date of birth – Enter/Next
  - e. Subject gender – Enter/Next
  - f. Subject driver license number – Enter/Summary
- I. Summary
  1. Review, Correct, Save
- J. \*Ambient Air Check (Blank Test 0.000)
  1. Air is drawn through breath tube to flush the sample chamber. If purge is successful, the final document will print at the end of the sequence with a blank test of 0.000. If the purge is unsuccessful, there are two possible messages. When either message is displayed, ensure that the ambient air is free of alcohol vapors. Error messages are:
    - a. Ambient Fail
      - o Following an Ambient Fail, the instrument will wait one minute and then prompt "Start new test with previously entered data?"
        - If "NO" is selected, instrument will go to "Ready".
        - If "YES" is selected, instrument will continue with the test sequence.
        - If no input is provided within one minute, instrument will time out and revert to "READY".
    - b. Blank Error
      - o Following a Blank Error, the instrument will wait one minute and then prompt "Start new test with previously entered data?"

- If “NO” is selected, instrument will go to “Ready”.
- If “YES” is selected, instrument will continue with the test sequence.
- If no input is provided within one minute, instrument will time out and revert to “READY”.

K. \*Internal Standard Check

1. If the check is satisfactory, the instrument will display “Internal Standard Verified”.
2. If the check is unsuccessful, the instrument will display “Internal Standard Error”.

L. \*Please Blow

1. First subject breath sample.
2. Place new mouthpiece in breath tube.
3. The flow rate of the subject blowing will be displayed on the upper half of the screen during the test.
4. The volume progress bar is below the “Please Blow” prompt and displays the volume of the sample as it is provided.
5. If the sample fails to meet sampling requirements, instrument will display “Take Breath” and return to the “PLEASE BLOW” prompt.
6. If sample meets sampling requirements, the following steps will occur:
  - a. “STOP” will appear on the display.
  - b. “REMOVE MOUTHPIECE” will then be displayed.

M. Ambient Air Check (Blank Test 0.000, same process as above previous Ambient air check).

N. \*Dry Gas Check

1. An external standard sample is taken from one of the two dry gas cylinders in the enclosure behind the instrument.
2. The results must be between 0.072-0.088, inclusive, for the test to proceed.
3. If the results of the internal standard are outside of stated tolerance, the instrument will abort the test and will display “Ext. Standard Failed”, and

place itself out of service. A technician must be notified and the subject must be taken to another instrument for processing.

O. Ambient Air Check (Same process as previous Ambient Air Check)

P. \*Please Blow

1. Second subject breath sample.
2. Place new mouthpiece in breath tube.
3. The flow rate of the subject blowing will be displayed on the upper half of the screen during the test.
4. The volume progress bar is below the “Please Blow” prompt and displays the volume of the sample as it is provided.
5. If the sample fails to meet sampling requirements, instrument will display “Take Breath” and return to the “PLEASE BLOW” prompt.
6. If sample meets sampling requirements, the following steps will occur:
  - a. “STOP” will appear on the display.
  - b. “REMOVE MOUTHPIECE” will then be displayed.

Q. Ambient Air Check (Same process as previous Ambient Air Check)

R. \*Printout Complete?

1. “YES” and Retry” will be on the display.
  - a. Wait for the instrument to print two breath test documents. If no document is produced within 30 seconds, select “Retry” and it should print. If instrument produces two satisfactory documents, select “YES”.
  - b. If instrument has not printed, select “Retry”.
2. “If External Printout Still Not Completed, do you want an internal printout?”
  - a. Yes, test will print from internal printer.
  - b. No, test will abort and start from the beginning.

S.

T. \*Additional Information

1. STOP

2. Before data entry is completed you will be given two choices:
  - a. Continue – test will continue.
  - b. Cancel Test
    - o Continue – test will continue.
    - o Incomplete – Invalid Data Entry, Purging, NO breath test document will print.
3. After data entry is completed you will be given three choices:
  - a. Refusal – Please Wait - Printout
  - b. Incomplete – Please Wait - Printout
  - c. Continue

U. Instrument can print out current DUI packets.

1. Instrument must be in “Ready” mode.
2. Tap “Menu” on the lower left on the display.
3. Tap Maintenance or Tab, highlight “Maintenance” Enter.
4. Double tap “Print DUI Packet” or tab to highlight, Enter.
5. First prompt will be for English version:
  - a. Yes – English version will print.
  - b. No – prompt for Spanish version will appear.
    - o Yes – Spanish version will print.
    - o No – will return to the main “READY” display.

V. \*Copies of prior breath tests

1. Operator can at any time in the next 90 days return to the same instrument and reprint a breath test document.
  - a. Press the “REPRINT” box found in the lower right corner of the display.
    - o If the Sequential Test Number is known, it can be entered in the Record Number box OR.
    - o Use the touch screen to select “Search Text”.

- The operator can type the subject name or the officer's name in the box next to the search prompt, and then tap search box or tab, Enter. All possible sections will appear in a scroll down box. Tap the appropriate test to highlight or use the arrow keys.
- Save
- When the screen returns to Reprint Screen, tap "PRINT" or tab to Print, Enter.
- Press Cancel to return to Main Screen.

W. Instrument will purge before returning to the Ready screen whenever a test is aborted.

### **3.2.14 \*ALCO-SENSOR III and ALCO-SENSOR FST PRELIMINARY BREATH TEST (PBT) INSTRUMENT**

#### A. Introduction

1. The PBT can be a very useful tool for establishing probable cause to arrest for DUI.
2. The PBT can also be useful for enforcing "minor in possession" laws.
3. The PBT is not the evidential breath alcohol test under the implied consent law since it is voluntary and typically performed prior to arrest.
4. Only the Alco-Sensor III and Alco-Sensor FST PBT instruments are approved in the Washington Administrative Code. If an officer's agency uses a different PBT instrument, the agency must contact the State Toxicology Laboratory to determine its acceptability for use.

#### B. Alco-Sensor III Nomenclature

1. Temperature display
2. Set button
3. Read button
4. Digital display
5. Breath intake port
6. Mouthpieces

#### C. Theory of Operation

1. The instrument uses a fuel cell to detect and quantify ethanol.

2. The fuel cell oxidizes the alcohol which releases electrons available for an electrical current flow that is proportional to the concentration of ethanol.
3. The current flow is measured and becomes an index of alcohol concentration.
4. The results are shown on a digital display.

#### D. Alco-Sensor III Steps of Operation

1. Preliminary Considerations
  - a. The PBT is usually the last test administered along the roadside.
  - b. The person must be advised the test is voluntary, and not an alternative to an evidential breath alcohol test. After determining the subject's willingness to do the test, the operator must determine that the subject has not consumed any alcohol in the prior fifteen minutes.
  - c. If subject acknowledges alcohol consumption in the last fifteen minutes then a test should not be administered unless the subject is willing to wait fifteen minutes. This may not be practical and the decision to arrest will need to be based on other information.
    - o The purpose of the 15 minute wait is to guard against mouth alcohol.
2. Open containers visible in the vehicle may corroborate a subject's statement about drinking or not within the last 15 minutes. The observation should be noted in the narrative report.
  - a. Ask the person if they have anything in their mouth, i.e. gum, Mint etc. Ask them to remove it; this is voluntary, we can't force them to remove it.
  - b. Check the temperature display on the instrument; this temperature should display between 20-36° C.
  - c. Push in the "Set" button on the instrument.
3. Blank test: Push and hold the "Read" button and confirm that the displayed results go down to 0.003 or less and remain there. If not, push the "Set" button again and then push and hold the "Read" button. An operator may have to wait a few minutes for this to be accomplished.
4. Push in the "Set" button on the instrument.
5. Attach the mouthpiece in one of the following configurations:

- a. Attach the mouthpiece. Next, attach the mouthpiece to the breath intake port.
  - b. Attach the mouthpiece with one-way valve in the proper direction so that the breath will flow in the proper direction. Reversing the direction will mean that the subject will not be able to exhale into the mouthpiece.
  - c. Demonstrate these configurations to the students.
  - d. Use plastic bags when handling (attaching, removing and disposing of) mouthpieces.
6. Have subject blow at least a five second breath sample. While the subject is still blowing press and hold the "Read" button. This will obtain that last sample of breath. Keep the subject at a safe distance and remember officer safety issues. Monitor flow with back of hand to ensure subject does not suck back (this will not be necessary if using a mouthpiece with a one-way valve).
  7. Keep the "Read" button depressed and observe the displayed result until the peak value is obtained. This may take up to 45 seconds or longer. This is very important to obtain an accurate result.
  8. Record the results to three decimal places in the case report.
  9. Note also in the case report the serial number or the state tag number of the PBT instrument.
  10. Remove and discard the mouthpiece using the plastic bag to handle.
  11. Press the "Set" button and LEAVE in this position until next use.

#### E. Alco-Sensor III Additional Considerations

1. It may take up to five minutes to zero between tests on the PBT. The manufacturer recommends no more than five tests per hour when results are near 0.10. If many low tests (near zero results) are run in a row, over five tests per hour is acceptable.
2. If the PBT displays "888" this means the battery is low. Contact the local PBT Technician for a battery replacement. The battery can last up to 500 tests.
3. The PBT should be stored where it will not encounter extreme heat or cold.
4. Radios should not be transmitted near the PBT when in operation. These signals may bias the test results. Watch for the continuous smooth rise in the results.

5. The PBT instruments must be certified at least every 6 months by a certified PBT Technician. The certification and documentation is important for breath results to be admissible in a probable cause hearing. Instruments may be checked more frequently by the technician. An example would be after a significant arrest where the PBT will be critical evidence. The PBT Technician will use a gas standard to certify the PBT and will follow an approved procedure.
6. Generally, the PBT test results alone should not be the sole basis for the decision to arrest. However, there may be the circumstance (e.g., accident) where it is the sole basis for probable cause.
7. A negative or low PBT test result can help add to the probable cause to believe that the subject is on some other drug and a Drug Recognition Expert (DRE) should be called.
8. Do not allow any samples to be provided by an individual who has been smoking within three minutes. Smoke will ruin the fuel cell costing nearly \$250. When properly used, the fuel cell should last up to 3000 tests.
9. The most common problems encountered with PBT use are:
  - a. Allowing someone to smoke and then blow into the PBT within 3 minutes.
  - b. Breaking off the mouthpiece tip on top of the instrument.
  - c. Leaving the PBT on the vehicle and then driving off and losing or driving over it.
  - d. Failing to keep the READ button depressed long enough to obtain a peak value.
  - e. Not obtaining a deep lung breath sample.
10. Record the time of result, result to the third decimal for later recording on the evidential breath test instrument.

#### F. Alco-Sensor- FST/ PBT

1. Alco-Sensor- FST Nomenclature
  - a. Mouthpiece:
    - o Insert the closed end of the mouthpiece into the mouthpiece channel, and then rotating the shaft of the mouthpiece downward, the flat side of the mouthpiece and the two holes on the underside of the mouthpiece will naturally align and attach to the appropriate ports on the Alco-Sensor FST.

b. ON Button:

- The ON button labeled with a ( I ) symbol, is the larger of the two buttons on the FST case. The button is located opposite the display and will naturally rest under the operator's forefinger when holding the instrument. To turn the FST on press and hold the button for one second, a beep and or display powering ON will indicate that power up has been successful.

c. The OFF button:

- The OFF button labeled (labeled with an O symbol) is located on the Alco-Sensor FST case beneath the display. Press the button holding it for two seconds to shut the FST off. This will reset the instrument to the standard subject test sequence.

d. Battery:

- The battery cover is located on the base of the Alco-Sensor FST. Two AA batteries should run in excess of 500 tests. When changing the batteries always replace both batteries.

2. Alco-Sensor- FST Steps of Operation

- Attach a clean unused mouthpiece from a sealed bag.
- Depress the power on button and hold for 1 second. The battery strength indicator and temperature in Celsius will be displayed momentarily. To have the display's back lighting illuminate, hold the power on button for an extra second or two.
- The FST/PBT is designed to operate when the UNIT temperature (not ambient temperature) is between 0° C and 50° C. If the temperature is outside of the proper operating range, the instrument will indicate a temperature out of range condition before powering off. If a test must be performed with the FST/PBT, place it in an environment that will bring it to proper operating temperature.
- If the instrument does not have sufficient battery power to perform a test either the instrument display will not power on or (BAT) will be displayed and testing will be disabled.
- If the unit displays (BLN), this is an indication that the instrument is performing a blank test automatically. The unit will then display the result of the blank test. If the blank test is successful, a zero result appears on the display. If it is not successful, a status message E 11 (Air Blank Out Of Range Message) is displayed and the test sequence is aborted.
- When the display shows the icon of a person's head flashing and/or

BLO displayed, instruct the subject to take a deep breath, hold it and then blow steadily through the mouthpiece for as long as he or she can. The icon of the head will stop flashing and a dash appears to the right of the head indicating the instrument senses sufficient breath blow.

- g. Additional dashes will appear as the subject continues to provide a sample. Once three dashes appear an automatic sample will be taken. (It is not necessary for the subject to blow hard but rather a steady or continuous sample is best for sample collection). At the end of the analysis phase a result will be displayed in three digits. The result will be displayed for fifteen seconds before the instrument will power itself off (Remove the mouthpiece).
- h. To turn the instrument off manually press the OFF button for two seconds. The OFF button is the small button directly under the LED display.
- i. To recall the last test result, momentarily press the OFF button and then simultaneously press the ON button. The display will show the first menu item off a list of optional functions that the instrument can perform. The first item on the list is RCL (Recall Last Test). To execute this function, pressing the OFF button will prompt the instrument to alternately display the result from the last test performed with an intermittent displayed RCL.

#### G. Alco-Sensor FST Manual Sampling.

1. In the rare occasion when a subject is unable to provide an adequate breath flow to trigger the automatic sample capture feature, a manual sample capture is possible. This process requires that the operator follow the normal test procedure up to the point that "BLO" is displayed. At this point the operator should instruct the subject on how to provide a sample.
2. As close to the end of the exhalation as possible (but while the subject is still blowing) the operator can collect a manual sample by pressing the ON button.
3. Errors in Manual Testing that must be avoided include capturing a sample after the exhalation has ceased. In all of these cases, a dilute sample will be drawn into the instrument for analysis and a corresponding low or zero result will occur.
4. Multiple tests
  - j. An operator does not have to wait 5 minutes between tests with the FST PBT. An operator can do one test after another.

#### H. Practical Tests

1. Set up simulators/ gas standard for doing the PBT practical tests.
2. Have either the student or a partner provide samples using the simulators.
3. When using simulators, have student hold PBT on side or upside down to keep water from entering the fuel cell. Demonstrate this to students.

### **3.2.15 \*CASE REPORTS**

- A. Clear, thorough and complete case reports are very important.
  1. A case can stand alone on the case report.
  2. Substantiating evidence such as driving, physical test, observations, statements, should make your case prior to even administering the breath test.
  3. Be sure to include all information DOL needs for a hearing. Submit report to DOL within 72 hours.
    - a. Any question about a case that is not answered in the report leaves the defense an opportunity.

### **3.2.16 REVIEW**

- A. Topics to be determined by instructor.
- B. \*When an operator is asked in court what they were taught in Draeger and PBT Operator class, state to the effect: The Draeger and PBT Operator Course is up to sixteen hours and consists of lectures, a practice session, a written exam, and a practical exam. The course covers legal aspects of breath testing, the theories upon which the evidential and preliminary breath test instruments operate and detailed instruction in how to operate the instruments. The Refresher Course covers the same material in an abbreviated four hour course.

### **3.2.17 \*WRITTEN AND PRACTICAL EXAM**

- A. 80% to pass on written exam
- B. Pass / Fail practical exam
- C. Must pass both written and practical exams to become certified.

## **4.0 BREATH TEST TECHNICIAN COURSE**

### **4.1 OBJECTIVE**

The curriculum outlined in this chapter is approved for training individuals as Qualified Breath Test Technicians. Those individuals successfully completing this training course are qualified to perform all areas of responsibility as outlined in the Washington Administrative Code.

For technicians to maintain their certification, a renewal must be completed at least once every three years. This renewal is usually completed through regularly scheduled in-service training.

This recertification may include:

- Review of the most current BTP manuals (Technical, Operations, Quality, Training);
- Presentations from subject matter experts;
- Legal challenges, updates;
- Training from manufacturer representatives of issued equipment;
- Other program related materials;

Training will typically be coordinated by BTP supervisors and approved by the IDS Commander.

### **4.2 TRAINING OUTLINE**

#### **BREATH TEST TECHNICIAN COURSE**

To be presented in up to 164 hours.

#### **4.2.1 INSTRUCTIONAL OBJECTIVES**

- Understand the legal foundation for breath alcohol measurement including the relevant statutes, administrative code and the case law.
- Understand the basic mathematical foundation for the instrumentation and physiology of breath alcohol measurement and interpretation.
- Read and discuss several published articles on forensic breath alcohol analysis.
- Be able to perform computation using Widmark's equation.
- Be familiar with and able to perform computations associated with retrograde extrapolation.

- Learn the key nomenclature for the breath alcohol instruments, simulator, and dry gas components.
- Learn the program policies and procedures as outlined in the Operations Manual, Calibration Technical Manual, Quality Manual, and Training Manual.
- Learn to apply basic statistical computations relevant to the Breath Test Program.
- Become familiar with the basic principles of organic chemistry.
- Learn the theory of the simulator and simulator solutions.
- Learn the theory of dry gas ethanol standards used in breath alcohol testing.
- Understand the theory of electrochemical measurement (fuel cell) used in breath alcohol testing.
- Understand basic infrared theory as applied in breath alcohol instruments.
- Learn basic electronics as applied in the breath alcohol instruments.
- Understand basic principles of quantitative measurement.
- Understand and be able to successfully complete the Quality Assurance Procedure.
- Receive orientation and training at the State Toxicology Laboratory.
- Learn the use of a digital multi-meter for the testing of breath alcohol instruments.
- Learn the use of a barometer for the testing of breath test instruments.
- Learn important safety precautions relevant to the program.
- Learn the technical principles of the breath alcohol instruments.
- Provide hands-on experience working with, repairing and testing the instruments.
- Learn the aspects of providing expert court testimony and experience a mock trial by actually providing testimony.
- Participate in the preparation and conducting of a controlled drinking lab.
- Learn the relevant use and application of laptop computers.
- Become certified as Instructors.

- Learn the procedures for certifying PBT instruments and become certified PBT technicians.
- Successfully pass examinations in each critical area of training along with a final exam.

#### **4.2.2 TRAINING AIDS**

- White/Black board
- DataMaster instruments with simulators
- Draeger Alcotest 9510 breath test instruments with dry gas cylinders and enclosures
- All manuals including: Technical, Operations, Quality, Training, and the Draeger Alcotest 9510 Washington State Technical Manual
- Breath test forms/documents
- Digital multi-meters
- Digital barometers
- Drinking lab forms and materials
- All training outlines
- Alco-Sensor III & Alco-Sensor FST (PBT's) with mouthpieces
- Research literature
- Calculators
- Simulator solutions
- Dry gas ethanol standards
- Laptop computers
- Washington State DUI Arrest Report forms

#### **4.2.3 EXAMINATION**

- All written exams - 80%
- Practical exercises/Competency test(s) - pass/fail

#### **4.2.4 PRE - INSTRUCTION**

- Have a class roster filled out.
- Verify current operator status
- Handout schedule and review
- Arrange for lodging

#### **4.2.5 LEGAL ASPECTS**

- Statutes
- Washington Administrative Code
- Relevant case law

#### **4.2.6 BASIC MATHEMATICAL PRINCIPLES**

- Use of calculators
- Basic algebra
- Mathematical models
- Significant digits
- Rounding and reporting measurement results
- Retrograde extrapolation

#### **4.2.7 WIDMARK'S EQUATION**

- Widmark and his contributions
- Basic equations
- Uncertainty estimates
- Relevant literature
- Alcohol concentration in different beverages

#### **4.2.8 RETROGRADE EXTRAPOLATION**

- General model
- Assumptions

- Computational steps
- Limitations and relevant literature

#### **4.2.9 BASIC STATISTICS**

- Data analysis
- Measures of central tendency
- Measures of variation
- Linear regression
- Descriptive statistics
- Inferential statistics
- Reporting statistical results
- Limitations of statistics

#### **4.2.10 PROGRAM OVERVIEW AND POLICY MANUALS**

- Operations Manual
- Technical Manual
- Training Manual
- Quality Manual
- Proficiency Testing
- Measurement Uncertainty

#### **4.2.11 NOMENCLATURE**

- Instrument nomenclature
- Simulator nomenclature

#### **4.2.12 ORGANIC CHEMISTRY**

- Organic molecules and bond structure
- Molecular formulas
- Ethanol and acetone

- Relevance to infrared absorption
- Relevance to electrochemical fuel cell

#### **4.2.13 SIMULATOR THEORY AND OPERATION**

- Henry's Law
- Mathematical principles
- Solution preparation and testing

#### **4.2.14 Detection Technologies**

##### A. Infrared Theory

1. Infrared spectrum
2. IR spectrum for ethanol and acetone
3. Molecular structure and bonding
4. Theory of infrared absorption
5. Theory of infrared detector
6. Beer-Lambert Law and associated mathematics

##### B. Electrochemical (Fuel Cell) Theory

1. Fuel cell technology
2. Fuel cell components
3. Alcohol specificity
4. Interfering substance discrimination
5. Benefits in combination with infrared technology

#### **4.2.15 TECHNICAL PRINCIPLES OF THE BREATH TEST INSTRUMENT**

##### A. DataMaster/DataMaster CDM Instruments

1. Detector circuitry and signal processing
2. Breath sampling parameters
3. Analog and digital circuitry

4. Software and relevant routines
5. Error messages and interpretation
6. Calibration factors and interpretation

B. Draeger Alcotest 9510

1. System and components
2. Measuring technologies
  - a. Infrared
  - b. Fuel cell
3. Dry gas standard
4. Interfering substances
5. Technical data

**4.2.16 INSTRUMENT MAINTENANCE LAB**

- Instrument nomenclature and assembly
- Troubleshooting and repair remedies
- Perform Quality Assurance Procedure

**4.2.17 CONTROLLED DRINKING LAB**

- Set up for lab and review data to be collected
- Assign personnel and instruments
- Have volunteers complete paperwork
- Collect data, analyze, plot and review on a later day

**4.2.18 EXPERT COURT TESTIMONY AND MOCK TRIAL**

- Review principles of expert court testimony
- Predicate questions
- Challenges to expect
- Mock court testimony

- Review mock court experience

#### **4.2.19 COMPUTER APPLICATIONS**

- Computer application in the program
- Database procedures
- Forms to be completed
- WEBDMS applications

#### **4.2.20 EXTERNAL STANDARD CHANGING PROCEDURES**

- Equipment and supplies
- Procedure
- Paperwork to be completed

#### **4.2.21 PBT CERTIFICATION**

- Equipment necessary
- Procedure
- Paperwork to be completed

#### **4.2.22 OPERATOR INSTRUCTOR TRAINING**

- Outlines to employ
- Class structure and visual aids
- Equipment to be employed
- Paperwork to be completed
- Practical instruction experience

#### **4.2.23 EXAMINATIONS**

- Article review quizzes
- Examination in key subject areas
- Final comprehensive exam – must score 80%
- Competency test(s)

## **5.0 EXTERNAL STANDARD CHANGER COURSE**

### **5.1 OBJECTIVE**

The curriculum outlined in this chapter is approved for training individuals as External Standard Changers. The student must be a currently qualified Breath Test Instrument Operator. Those individuals successfully completing this training course are qualified to change the external standards located at the breath test instruments.

### **5.2 TRAINING OUTLINE**

#### **DATAMASTER SOLUTION CHANGER INSTRUCTION**

To be presented in up to 4 hours.

#### **5.2.1 INSTRUCTIONAL OBJECTIVES**

- To acquaint the student with the operation of the Breath Test Program of the Washington State Patrol.
- To enable the student to perform external standard solution changes.
- The student will demonstrate his/her ability to change DataMaster simulator external standard solutions using correct procedure.
- The student will be trained to record and retain the proper records.
- The student will successfully complete a written exam.

#### **5.2.2 REFERENCE MATERIALS**

- Breath Test Program Technical and Training Manuals
- Title 448 WAC

#### **5.2.3 TRAINING AIDS**

- Black/White board
- DataMaster instrument
- Guth simulators
- Handouts and supplies
- External standard solutions

#### **5.2.4 WRITTEN AND PRACTICAL EXAMINATIONS**

- Final written exam covering lecture material - must score 80%.

- Laboratory practical examination - must demonstrate competency in solution change procedure.

### **5.2.5 INTRODUCTION**

- A. Overview of Breath Test Program and the External Standard Changer's role.

### **5.2.6 OPERATOR REFRESHER REVIEW**

- A. Review basic principles of instrument operation.

### **5.2.7 LEGAL CONSIDERATIONS**

- A. Provide copies and review WAC rules that relate to simulator solution changing.

### **5.2.8 SCIENTIFIC PRINCIPLES THAT APPLY TO THE DATAMASTER**

- A. Infrared Spectroscopy
  - 1. Beer's Law
- B. Henry's Law
  - 1. Volume not critical but temperature is.

### **5.2.9 THE DATAMASTER PROTOCOL**

- A. Sample acceptance parameters
- B. Blank tests
- C. Internal and external standards
- D. Two samples
  - 1.  $\pm 10\%$  of the mean
- E. Printed breath test document

### **5.2.10 SIMULATOR**

- A. Nomenclature
- B. Thermometer
- C. Solution preparation, testing and certification
- D. Simulator Solution Changing Procedure
  - 1. Review in detail the procedure in the BTP Technical Manual.

2. Review the F1/F2 functions in detail.
- E. Demonstrate changing solution.
1. Clean and dry simulator elements and jar.
  2. Check evidence tape on bottle for tampering.
  3. Pour contents of plastic bottle into simulator jar.
  4. Reattach jar to simulator top housing.
  5. Attach batch number label from plastic bottle to simulator.
  6. Review data entry format for Breath Test Program personnel.

#### **5.2.11 SUPERVISORY KEYS AND FUNCTION**

- A. Set - Advance
- B. FI - F2
- C. Copy
- D. Supervisory tests
- E. Abort - Never abort during Ambient Zero.

#### **5.2.12 REPORTS AND FORMS**

- A. Simulator Solution Replacement Record located on the BTP Maintenance Database

#### **5.2.13 PRACTICAL LABORATORY**

- A. Solution change procedure

#### **5.2.14 REVIEW AND FINAL EXAM**

#### **5.2.15 ISSUE NECESSARY EQUIPMENT AND PAPERWORK**

## **6.0 PRELIMINARY BREATH TEST (PBT) TECHNICIAN COURSE**

### **6.1 OBJECTIVE**

The Curriculum outlined in this chapter is approved for training individuals as PBT Technicians. The student must be a currently qualified Breath Test Instrument Operator. Those individuals successfully completing this training course are qualified to certify PBT instruments and be issued a permit card by the Washington State Toxicologist.

### **6.2 TRAINING OUTLINE**

#### **COURSE FOR ALCO-SENSOR III AND FST PBT TECHNICIAN**

To be presented in up to 4 hours.

#### **6.2.1 INSTRUCTIONAL OBJECTIVES**

- Understand the legal support and use of the PBT in the context of DUI enforcement.
- Understand the theory of operation of the Alco-Sensor III and Alco-Sensor FST PBT instrument.
- Qualify the student initially as a qualified PBT Operator prior to the PBT Technician training.
- Learn to diagnose and repair some common problems encountered with the PBT.
- Learn to test the PBT for accuracy according to the methods approved by the State Toxicologist.
- Understand the theory and operation of the gas standard devices which contain known alcohol standards and are used for testing the PBT instruments.
- Learn how to retain records regarding the regular testing of PBT instruments.
- Understand the role of the PBT Technician in the total DUI enforcement program.
- Successfully complete a written exam (80% minimum).
- Successfully demonstrate the ability to properly test and calibrate both Alco-Sensor III PBT and Alco-Sensor FST PBT according to the State Toxicologist protocols.

#### **6.2.2 TRAINING AIDS**

- White/Black board

- PBT instruments (both Alco-Sensor III and Alco-Sensor FST PBT) with gas standard equipment.
- PBT white tube mouthpieces
- 9 volt and AA batteries
- Digital multi-meter
- Forms for entering PBT test record results
- Small flat head screw driver

### **6.2.3 EXAMINATION**

- Written exam – 80% minimum score
- Practical demonstration

### **6.2.4 PRE-INSTRUCTION**

- Have a class roster completed.
- This course is designed to train the student to perform the periodic testing of PBT instruments as required in the Washington Administrative Code (WAC) to allow for their admissibility as probable cause devices.
- Successful completion of the course will qualify the student to test and perform minor repairs to the Alco-Sensor III and Alco-Sensor FST PBT instrument.
- The students permit card will show their status as a PBT Technician.
- The student must already be a qualified PBT operator.

### **6.2.5 INTRODUCTION**

- The WAC allows for use of the Alco-Sensor III and Alco-Sensor FST PBT device as a screening test for probable cause.
- In order for a law enforcement officer to use the PBT results the WAC require that the PBT instruments be periodically tested by a qualified PBT Technician.
- You will be trained in the theory and operation of the PBT instrument along with how and when to test them and the associated records to keep.
- You will need to test the PBT instruments at least every 6 months. They may be tested more often. An operator may bring a PBT to you for testing if its use will be critical in a particular case.

## 6.2.6 ALCO-SENSOR III & ALCO-SENSOR FST PRELIMINARY BREATH TEST INSTRUMENT OPERATION

### A. Introduction

1. The PBT can be a very useful tool for establishing probable cause to arrest for DUI.
2. The PBT can also be useful for enforcing “minor in possession/ consumption” laws.
3. The PBT is not an alternative to the evidential breath alcohol test under the implied consent statute since it is voluntary and typically performed prior to arrest.

B. Only the Alco-Sensor III and FST PBT instruments are approved in the Washington Administrative Code (WAC 448-15). If your agency uses a different PBT instrument you must contact the State Toxicologist to determine its acceptability for use.

### C. Alco-Sensor III Nomenclature

1. Temperature display
2. Set button
3. Read button
4. Digital display
5. Breath intake port – this is easily broken off and care must be taken when attaching and removing mouthpieces.
6. Mouthpiece
7. Potentiometer used for calibration

### D. Alco-Sensor FST Nomenclature

1. On button
2. Off button
3. Digital display
4. Breath intake port
5. Lanyard/Rubber cover
6. Mouthpiece

#### E. Theory of Operation

1. The instrument uses a fuel cell to detect and quantify ethanol.
2. The fuel cell oxidizes the alcohol which releases electrons available for an electrical current flow that is proportional to the concentration of alcohol.
3. The current flow is measured and becomes an index of alcohol concentration.
4. The results are shown on a digital display.

F. Current case law prohibits the use of the PBT for evidential purposes. The State Toxicologist has indicated that the PBT may be used as an approved screening device, intending that it may be used for developing probable cause for arrest.

#### G. Steps of Operation (Alco-Sensor III and Alco-Sensor FST)

1. Preliminary Considerations – Reference PBT Operator Course
2. Check the temperature display – should read between 20-36° C.
3. Depress “SET” button.
4. Press and hold the “READ” button and confirm that the displayed results read 0.003 or less and remain there. If not, push the “SET” button again and wait up to 1 minute, then press and hold the “READ” button. You may have to try this several times over a period of a few minutes.
5. Depress the “SET” button.
6. Attach the mouthpiece.
7. Have subject blow and attempt to get at least a 5 second sample. While subject is still blowing press the “READ” button. This should be done as the subject is running out of breath but still blowing. This will obtain that last portion of the breath sample for analyzing. Keep subject at a safe distance and remember officer safety issues. Monitor air flow with the back of hand to ensure subject does not suck back (this will not be necessary if using a mouthpiece with a one way valve).
8. Keep the “READ” button depressed and observe the displayed result until a stable result is displayed. This may take up to 45 seconds or longer. This is very important to obtain an accurate result.
9. Record the results to three decimal places as displayed in your case report.

10. Note also in your case report the serial number or the state tag number of the PBT instrument.
11. Press the “SET” button and LEAVE in this position until next use.
12. Remove and discard mouthpiece.
13. It may take up to five minutes for the Alco-Sensor III PBT to zero between tests. The manufacturer recommends no more than five tests per hour when results are near 0.100 g/210L. An operator may not be able to perform replicate testing at close time intervals when subjects have a breath alcohol result of 0.100 g/210L or higher. If several low test results (near zero) are performed in a row, then more than five tests per hour is acceptable.
14. If the PBT displays “888” this means the battery is low. Replace with 9.0 volt fresh battery. The battery can last up to 500 tests.
15. The PBT should be stored where it will not encounter extreme temperatures.
16. Radios should not be transmitted near PBT when in operation. These RFI signals may bias the test results. Watch for a continuous smooth rise in the results.
17. The PBT instruments must be tested at least every 6 months by a qualified technician. It is very important that you provide your PBT instrument to the technician so this can be done and proper records kept. This will be important if your results are to be admissible in a probable cause hearing. The instruments can be checked more frequently by the Technician and you may want to have this done following a significant arrest where the PBT will be critical evidence. The Technician will use a gas standard. Wet bath simulators are not to be used to certify PBT’s.
18. Generally the PBT test results alone should not be the sole basis for the decision to arrest.
19. A negative PBT test result can help add to the suspicion that the subject is on some other drug and a Drug Recognition Expert (DRE) should be called if other indicators are present.
20. Do not allow any samples to be provided by an individual who has been smoking within three minutes. Smoke will ruin the fuel cell costing nearly \$300.00. When properly used, the fuel cell should last up to 3000 tests.
21. The most common problems encountered with PBT’s.

#### H. Steps of Operation Alco-Sensor FST PBT

1. Preliminary Considerations – Reference PBT Operator Course
2. Push the “ON” button turning the PBT on.
3. Watch as PBT will automatically check the temperature and perform a blank test.
4. When PBT displays “BLO” attach a plastic mouthpiece to the PBT’s breath intake port.
5. Obtain a breath sample from the subject, have them attempt to blow for at least 5 seconds. If the subject provides a proper sample the FST PBT will automatically take the sample and analyze it. Remember, if subject is unable to provide a quality sample the operator can press the “ON” button while subject is still blowing to manually accept the sample. Keep subject at a safe distance and remember officer safety issues.
6. Record the results to three decimal places as displayed in your case report.
7. Note in your case report the serial number, or the state tag number of the PBT instrument.
8. Remove and discard the mouthpiece.

I. Practical Tests

- J. Utilizing both Alco-Sensor III and Alco-Sensor FST PBT instruments have students perform at least one practice and one practical test on each PBT.

### 6.2.7 GAS STANDARD EQUIPMENT NOMENCLATURE AND USE

A. Nomenclature

1. Gas cylinder
  - a. Contains a known concentration of ethanol (a #2 type of gas).
  - b. Concentrations near a nominal value of 0.08 g/210L.
  - c. Store cylinder in the upright position.
  - d. Cylinders are not refilled; upon reaching the expiration date or emptying of gas you shall dispose of cylinders following local disposal or recycling regulations.
2. Regulator
  - a. After attaching regulator observe pressure, if below 300 psi then replace the cylinder.

- b. Remove the regulator when transporting.
3. True Cal Device
  - a. An instrument that monitors barometric pressure and provides a corrected estimate of the ethanol concentration.

#### **6.2.8 CERTIFICATION PROTOCOL (ALCO-SENSOR III PBT)**

- A. Refer to Alco-Sensor III and Alco-Sensor FST PBT Certification protocol in WSP Breath Test Program Technical Manual: The steps are as follows:
  1. Obtain certified and a current, non-expired gas standard cylinder with a nominal concentration of 0.08 g/210L ( $\pm 0.002$ ).
  2. If using a Tru-Cal device, this the device will determine the estimated concentration. This will be the value used to certify and calibrate the PBT. If not using a Tru-Cal device, refer to the altitude chart on the side of the cylinder for the correct reference value.
  3. Verify the PBT temperature is between 20° and 36° ~~degrees~~ C.
  4. Depress the “SET” button, then press and hold the “READ” button.
  5. The digits should read 0.003 or less within 10 seconds. If the digits do not read 0.003 or less, depress the SET button again, wait one minute and press and hold the READ button again.
  6. Attach mouthpiece to the gas standard and provide a sample, allow 3-5 seconds of gas flow.
  7. Push and hold the READ button while the sample is still being provided. Continue to hold the read button until the result stabilizes.
  8. Observe digital reading to determine if acceptably accurate.
    - a. If the results are within  $\pm 0.010$  g/210L of the reference value for the gas standard, the PBT is properly calibrated and acceptably accurate.
    - b. If the result is not within the acceptable limits, proceed to step 10.
  9. Record the following information:
    - a. PBT serial number and/or state tag number (if applicable)
    - b. 3 digit results
    - c. Gas standard batch or lot number and expiration date

- d. Date of certification
- e. Whether or not the instrument required recalibration
  - o Not all instruments will require recalibration during the certification process. If instrument does not require recalibration then skip the recalibration procedure.

#### 10. Recalibrating the Alco-Sensor III PBT

- a. If the result is outside  $\pm 0.010\text{g}/210\text{L}$  of the reference value, first zero the instrument to 0.003 or less, then turn the calibration screw clockwise two full turns.
- b. Re-introduce the gas standard and while holding the READ button, turn the calibration screw counter-clockwise slowly to the reference value of the gas standard. Avoid adjusting below the reference gas standard value during this procedure.
- c. Repeat steps 1 through 10 as often as necessary to obtain results within the acceptable range.
- d. If results are acceptable, only one test is necessary.

11. The PBT instruments are to be certified at least every 6 months.

12. If display on Alco-Sensor III PBT reads "888" the 9 volt battery needs to be replaced.

- a. 9 volt battery should be tested with a multi-meter at the time of each certification. You do not need to remove the battery. Just place the leads across the battery and you should observe at least 9.0 volts. If less than 9.0 volts replace the battery.

### 6.2.9 CERTIFICATION PROTOCOL (ALCO-SENSOR FST PBT)

- A. Refer to Alco-Sensor III and Alco-Sensor FST PBT Certification protocol in the WSP Breath Test Program Technical Manual. The steps are as follows:
  - 1. Obtain certified and non-expired gas standard cylinder with a nominal concentration of  $0.08\text{ g}/210\text{L}$  ( $\pm 0.002$ ).
  - 2. If using a Tru-Cal device, the device will determine the estimated concentration. This will be the value that the PBT will be used to certify and calibrate the PBT. If not using a Tru-Cal device, refer to the altitude chart on the side of the tank for the correct reference value.
  - 3. Verify the PBT temperature is between 20 and 36° C.

4. Attach a new mouthpiece and power the PBT on by pressing and holding both the ON and OFF button simultaneously.
5. The display should show the RCL message, which is the first option in the function menu. Momentarily depress and release the ON button until the displayed message reads ACC.
6. With ACC on the display press the OFF button to select the accuracy check option. The temperature will be displayed. Ensure a Blank Test result of 0.000 g/210L is displayed. A flashing ACC message will appear.
7. While the display is flashing ACC, make an airtight connection between the delivery tube of the regulator and the open end of the mouthpiece.
8. Depress the regulator control button for approximately 7 seconds. At approximately 5 seconds depress and release the ON button (while the gas continues to flow) to manually accept the sample.
9. If the results are within  $\pm 0.010$  g/210L of the reference value for the gas standard, the PBT is properly calibrated and acceptably accurate and only one test is necessary. Proceed to the record keeping steps.
10. If the result is not within the acceptable limits, proceed to the calibration process.
11. Recalibrating the FST PBT
  - a. Temperature must be between 20 and 36° C.
  - b. Attach a new mouthpiece and power the PBT on by pressing and holding both ON and OFF buttons simultaneously.
  - c. The display should read RCL, which is the first option in the function menu. Momentarily depress and release the ON button until the displayed message reads CAL.
  - d. Once CAL is displayed, depress the OFF button, this will initiate the calibration sequence.
  - e. Temperature will be displayed, ensure a Blank Test result of 0.000 g/210L is displayed. A flashing CAL message will appear.
  - f. While the display is flashing CAL, make an airtight connection between the delivery tube of the regulator and the open end of the mouthpiece.
  - g. Depress the regulator control button for approximately 7 seconds. At approximately 5 seconds depress and release the ON button (while the gas continues to flow) to manually accept the sample.

- h. The result will automatically be displayed. If the result equals the expected reference value, depress the OFF button. You will see that each time you depress the OFF button, the cursor moves from the left most digit of the display to the right. After depressing the button three times, the value displayed will be accepted as the calibration value and will flash three times before the PBT will power down.
- i. If the result does not match the expected reference value of the gas standard you will need to adjust the displayed result to the proper value. The result displayed will have the digit furthest to the left flashing. If the flashing digit is incorrect, press and release the ON button as many times as necessary to cycle the displayed digit to the correct number. When the digit is correct, press the OFF button to move the flashing digit to the right. After you have adjusted the digit furthest to the right and the OFF button is depressed, the new calibration value will be flashed on the display three times. If you need to adjust this number further, press the OFF button again while the entire calibration number is flashing. This will display the most recently entered number with the digit furthest to the left flashing. If the calibration value is correct and you have not pressed the OFF button a second time, after the third flash the new calibration value will be accepted.
- j. Cycle the power on the instrument OFF and ON and repeat the certification process to verify the accuracy of the PBT instrument.

#### **6.2.10 RECORD KEEPING**

- A. Complete Alco-Sensor III and FST PBT Certification Record
- B. Record results to three decimal places.
- C. Be sure to note if instrument was recalibrated.
- D. Record the expiration date and value of the gas standard.

#### **6.2.11 PRACTICAL AND WRITTEN EXAMS**

- A. Have student use gas standard devices to test both Alco-Sensor III and Alco-Sensor FST PBT's and properly record the information.
- B. Written exam (must obtain 80%).

## **7.0 BREATH TEST INSTRUMENT INSTRUCTOR COURSE**

### **7.1 OBJECTIVE**

The curriculum outlined in this chapter is approved for training individuals as Instructors. The student must be a currently qualified Breath Test Instrument Operator. Those individuals successfully completing this training course are qualified to train other individuals as certified Operators.

### **7.2 TRAINING OUTLINE**

#### **INSTRUCTOR COURSE FOR DATAMASTER INSTRUMENT**

To be presented in up to 16 hours. (Instructor Course).

To be presented in up to 8 hours (Instructor Refresher Course).

The topics marked with an asterisk (\*) must be covered in the Instructor Refresher Course. Additional content from this outline may be incorporated as necessary.

Training in this chapter is specific to the DataMaster and DataMaster CDM. Only Breath Test Technicians currently trained on the technical aspects of the Draeger will provide training on the Draeger instruments.

#### **7.2.1 INSTRUCTIONAL OBJECTIVES:**

- \*The student will have a thorough understanding of the DataMaster program.
- The student will understand the basic principles of infrared spectroscopy as it relates to the DataMaster.
- The student will understand the basics of the Beer/Lambert Law.
- The student will understand where infrared energy fits in the whole electromagnetic spectrum.
- \*The student will understand the basic relationship between infrared energy and its absorption by ethanol.
- \*The student will know the basic nomenclature of the DataMaster.
- \*The student will be familiar with the 'Error Message' codes and what they mean.
- \*The student will understand how the DataMaster evaluates the presence of acetone.
- \*The student will understand how the DataMaster evaluates for the presence of mouth alcohol.
- \*The student will be familiar with the data entry questions and their meaning.

- \*The student will be familiar with the steps on instrument operation and its purpose.
- \*The student will be able to explain the breath sampling parameters used in the instrument.
- \*The student will know the importance and meaning of the external standard.
- \*The student will know the importance of the simulator temperature and how to properly read, report, and instruct in this regard.
- \*The student will be knowledgeable of the legal aspects of breath testing to include: Statues, WAC's, Case Law (and current case law and Breath Test Program updates for refresher)
- \*The student will be aware of common troubleshooting problems as they relate to operation.
- The student will be able to teach the entire outline used in the Operator classes.
- \*The student will be thoroughly familiar with the exams given in the Operator classes and be able to discuss them.
- The student will know how to conduct an Operator class.
- The student will know how to conduct a Refresher class.
- \*The student will pass an examination with 80% and be qualified as a DataMaster Instructor.

### **7.2.2 INTRODUCTION**

- A. This unit of instruction is designed to make you a competent Infrared Breath Test Instructor by giving you a better understanding of the DataMaster instrument.
- B. Class Handouts:
  - 1. Operator outline/exam
  - 2. Operator Refresher outline/exam
  - 3. Data entry questions

### **7.2.3 \*LEGAL ASPECTS**

- A. DUI law, minor law, commercial driver's act
- B. Implied Consent law

C. Case law

**7.2.4 NOMENCLATURE**

A. \*Heated Breath Tube

1. Heated so it is warm/hot to the touch. Approximately 50° C but not a required temperature.
2. Heated to prevent condensation from forming in the tube.
3. Loss of heat has no apparent effect on the breath test results but could cause 'Ambient Fail'.

B. Five-Way Valve

1. Directs the vapor flow path for the simulator and breath samples into the sample chamber at the appropriate times.

C. Sample Chamber

1. The IR path is 1.1. meters long through the use of mirrors and is said to be 'folded.'
2. Its heat range is 48° C – 52° C inclusive. If the temperature is outside this range the instrument will display a message.
3. The sample chamber holds 50 mL. As air is blown through the chamber the excess air is vented through a one-way valve, not a closed system. When there is no more flow the air in the chamber becomes static and that's when the last three quarter second measurements are taken and averaged for that sample's reading.
4. Infrared light source located at one end with the detector located at the far end.

D. \*Filters

1. Alcohol and Interference filters narrow the infrared energy to two wavelengths. 3.37 and 3.44 microns.
2. Quartz standard/plate (Internal Standard) ensures that the instrument is working properly by checking the value received with a value which is stored into memory during calibration.

E. Detector

1. Is made from a photosensitive material.

2. Reads the amount of infrared energy which is transmitted through the sample chamber.

### 7.2.5 CHEMICAL PRINCIPLES

- A. The DataMaster is a forensic breath testing instrument which uses infrared spectroscopy to measure breath alcohol.
- B. Infrared spectroscopy is an analytical technique used to quantify the interaction between infrared light and organic molecules.
  1. Organic molecules are those which contain carbon.
  2. Infrared describes a particular range of electromagnetic radiation.
  3. Wavelength and energy are inversely related, as the wavelength increases energy decreases.
- C. Ethanol molecules consist of six hydrogen, two carbon, and one oxygen atom arranged in a fixed order.
- D. When a molecule is exposed to infrared light the bonds between the atoms will oscillate-vibrate in a regular way. This phenomenon is known as absorbance.
  1. This is dependent on the wavelength of infrared energy.
  2. A graph of absorbance versus wavelength is known as the infrared spectrum.
  3. Not all wavelengths of infrared are equally absorbed by a chemical substance.
- E. Absorbance is directly proportional to concentration (Beer/Lambert Law)
  1. DataMaster relates absorbance to transmittance.

### 7.2.6 \*STEPS OF OPERATION

- A. After the operator has completed the 15 min. observation period and has pushed RUN, answered the 15 data questions plus Review Data Y/N? the instrument will display 'Purging'.
  1. Room air is being drawn through the breath tube into the sample chamber and being vented out of the one-way valve.
  2. Ensures that the sample chamber is clear of any alcohol from a previous test.
- B. Instrument displays 'Ambient Zeroing'

1. If any atmospheric alcohol is present the instrument will set that to zero.

C. Blank Test

1. Instrument checks the sample chamber for contaminants.

D. Internal Standard

1. The quartz plate is pulled into the path of the infrared light and the value is checked against that at the time of calibration.

E. Instrument asks for subject sample. Sample is provided.

1. Lung capacity varies from individual to individual, 1 to 5L, approximately 2100mL for women and 2900mL for men.
2. An end expiratory breath is ensured by sample acceptance parameters. BrAC versus time curve (BrAC measured every ¼ second), measures breath flow rate, time (min. 5 seconds), and volume minimum of 1.5L.
3. If mouth alcohol is present the BrAC curve will peak sharply and then decline to actual deep lung BrAC. This produces a negative slope which the instrument measures and displays 'Invalid Sample.'
4. If the subject is unable (or unwilling) to provide an adequate sample within 2 minutes the instrument will ask if the subject is refusing the test. If 'N' is indicated or nothing is entered at all, the test is ended and an 'Incomplete' is printed on the breath test document.

F. Alcohol molecules in the breath sample absorb the infrared light in proportion to the amount of alcohol in the sample.

1. This is a direct measurement of the amount of alcohol in the breath.
2. Instrument uses two wavelengths of infrared light to achieve specificity for breath alcohol. Other organic compounds absorb at these wavelengths but no compound found in human breath will have the same ratio at these wavelengths as ethanol.
3. If the absorption ratio falls outside of these specifications the display will indicate the presence of an interferant.

G. Infrared energy which is transmitted through the sample will be detected and measured by the detector.

1. The detector converts the infrared energy to electrical energy.

H. Electrical energy is sent to the central processing unit.

1. A-D convertor converts the electrical energy (analog in form) to digital form for the micro-processing.
  2. Digital signals placed into formula which calculates the amount of alcohol per 210L of breath. These results are displayed on the screen, sent to the printer memory and stored in the memory.
- I. 'Analyzing' appears after alcohol has been introduced into the chamber.
- J. The 'Purging' appears again.
1. If the instrument cannot purge down to within .003 of original value during the first purge then 'System Won't Zero' is displayed and the test aborted.
  2. Instrument runs purge – blank test four times during the testing procedure. Before and after each sample.
- K. Instrument runs 'External Standard'.
1. External Standard test is independent check on operation and calibration of instrument.
  2. Temperature must be 34° C +/- .2° C and its value must fall between .090 and .110 g/210L inclusive. Emphasize that the operator visually checks the thermometer at the time they answer the question through the keyboard.
  3. The scale on the thermometer must be thoroughly understood and the units clearly reported: 34° C +/- .2° C.

Note: The simulator uses a mercury thermometer to measure the temperature. If the thermometer is broken there is a risk of mercury poisoning. A WSP technician must be notified immediately if this happens. Point out to operators the sections of the code book: General Information and Emergency Information.

4. The solutions are made by the State Toxicology Laboratory, are assigned a batch number and have affidavits sent with them.
5. Instrument pumps air through simulator and samples headspace (vapor above solution.) A known air-water partition ratio exists in the headspace (Henry's Law.) Once the sample enters the sample chamber its alcohol content is determined in exactly the same way as the subject sample.
6. Instrument analyzes, then purges the chamber and is ready for second subject sample. After the final blank test the breath test document is printed out.

### 7.2.7 \*TROUBLESHOOTING

#### A. Ambient Fail, System Won't Zero

1. If messages appear on the display, restart the test.
2. To avoid this problem purge the instruments between classes and blow the moisture out of the simulator tubing.
3. If there is a recurring problem contact a Technician.

#### B. Printer and breath test document problems.

1. If a breath test document does not feed out properly check to see if the operator has inserted it properly. Push CPY to get a copy of the last test.
2. No printing on breath test document – the ribbon may be worn or out of its track. Call a technician.
3. The breath test document does not feed into printer. Check to see if the document is inserted properly.

#### C. Invalid Sample

1. May be a result of improper sample delivery.
2. If this is a recurring problem, call a technician.

#### D. Radio Interference

1. Check that no one is transmitting on a radio, and restart the test.

#### E. Calibration Error

1. If it appears, it is often the traveling arm that holds the quartz that is sticking. Try additional tests. If it is a recurring problem notify a Technician.

#### F. If any of the following messages are displayed the instrument will not function. Call a technician.

1. Fatal System Error
2. RAM/CRC Error
3. Not Calibrated
4. Temperature High or Low
5. Pump Error

6. Blank Error
7. Data Memory Battery Low

### **7.2.8 PRACTICAL**

- A. \*Review appropriate Training Outline for conducting a Breath Test Instrument Operator course.
- B. \*Review all handouts.
- C. \*Review Operator Exams in detail.
- D. Assign each student a section of the Training Outline for conducting a course of instruction in Infrared Breath Test Refresher training to teach in front of the class. (Approximately 20 minutes each)
- E. Critique each student and allow the class to comment.

### **7.2.9 \*ADDITIONAL CONSIDERATIONS**

- A. Have a legible class roster completed for each operator class instructed. Rosters should be sent to the Seattle Breath Test Program, or to your local technician for entry into the training system.
- B. Operator and Refresher students must obtain 80% on their exams to pass.
- C. Be sure each student conducts an acceptable practical test on the DataMaster.
- D. Operator cards are valid for 3 years. There is a 90 day grace period but let operators know that they should not count on a refresher class being available during their grace period, so do not WAIT.

### **7.2.10 \*WRITTEN EXAMINATION**

- A. Must obtain 80% on the instructor exam.
- B. If a student fails to score at least 80%, a review shall be conducted and the test retaken.

## **8.0 DRAEGER ALCOTEST 9510 OPERATOR TRANSITION TRAINING**

### **8.1 OBJECTIVE**

This outline will train currently certified breath test instrument operators in the operation of the Draeger Alcotest 9510 (Draeger) evidential breath test instrument. Individuals that have a current (non-expired) permit card will be eligible for this training. The training does not replace or substitute as an Operator Refresher course, and will only cover training specific to the functionality for completing evidential breath test on the instrument.

### **8.2 TRAINING OUTLINE**

#### **DRAEGER ALCOTEST 9510 OPERATOR TRANSITION TRAINING**

To be presented in up to 3 hours.

#### **8.2.1 INSTRUCTIONAL OBJECTIVES**

- To certify current breath test instrument operators in the operation of the Draeger Alcotest 9510 (Draeger).
- Understand the differences between the DataMaster/DataMaster CDM and the Draeger.
- Understand the principles of operation of the Draeger.
- Develop the student's skill in operating the Draeger.
- Provide an opportunity for hands on practice with an approved breath test instrument.

### **8.3 TRAINING AIDS**

- Projector and PowerPoint presentation
- Draeger instrument/s
- Operator Manual

#### **8.3.1 INTRODUCTION**

##### **A. DRAEGER ALCOTEST 9510 BREATH TEST INSTRUMENT OVERVIEW**

1. The Draeger instruments were selected by the Washington State Patrol as the new evidential breath test instrument in 2009.
2. Each instrument system includes the instrument, dry gas enclosure, dry gas cylinders, plastic mouthpieces, and external printer.

3. Dimensions
  - a. 12.9" wide X 9.8" deep X 2.2" tall (front height) and 7.3" tall (back height)
  - b. Weight: Approximately 15.3 lbs.
4. Operating Voltages
  - a. AC power 90-260 VAC 50/60 Hz
  - b. DC power 9-15.5 VDC
5. Display
  - a. 4.5" x 3.5" touch screen
  - b. Time and date
  - c. Pressure of both gas cylinders
  - d. Serial number of instrument
6. Breath tube
  - a. Heated and temperature controlled
  - b. Mouthpiece should only be in breath tube when sample is being provided.
7. Printer
  - a. The instrument has two printers.
  - b. Internal thermal printer is not used for evidentiary tests.
  - c. Separate laser printer will print two copies of the evidentiary test.
  - d. Operator will be able to reprint an evidentiary ticket up to 90 days after the breath test.
8. Keyboard
  - a. External keyboard is connected via a USB port.
9. External Standard
  - a. Two dry gas cylinders located in the dry gas enclosure, attached to the rear of the instrument.
  - b. Checks the accuracy of the Draeger.

- c. When the operating cylinder reaches a predetermined level, the instrument will automatically switch to the second cylinder.
- d. The operator does not need to perform any checks for verification of the external standard. The instrument controls this test and prints the data on the final document if the sample was within protocol of 0.072-0.088 g/210L, inclusive.

#### 10. Mouthpieces

- a. Plastic mouthpieces with moisture baffles.
- b. Use the plastic bag to handle the mouthpiece and prevent transmission of diseases.
- c. Open the bag carefully to leave the mouthpiece ports clear.
- d. Discard the mouthpiece and bag immediately after the breath sample is accepted.
- e. Use a new mouthpiece for each sample.

#### **8.3.2 DATAMASTER/DATAMASTER CDM & DRAEGER ALCOTEST 9510 COMPARISON**

- A. Both instruments use infrared technology to detect and quantify ethanol although at different wavelengths in the infrared spectrum.
- B. Draeger instrument also uses electrochemical (fuel cell) technology to detect and quantify ethanol.
  - 1. Similar to technology used in PBT.
  - 2. Fuel cell is ethanol specific.
  - 3. Useful tool detection of interfering substances.
- C. Sampling parameters are same as the DataMaster instruments.
- D. Error messaging was kept the same as the DataMaster instruments.
- E. Draeger instruments will utilize a certified dry gas standard (nitrogen, ethanol gas) in place of the external standard simulator solutions.
  - 1. No more temperature checks on solution.
  - 2. No more beeping from digital simulators due to error.
  - 3. Dry gas will be housed on backside of instrument in locked compartment.

4. Dry gas values are less susceptible to concentration depletion.
5. Dry gas values are ambient pressure dependent, instrument has internal barometer to ensure pressure compensation. Operator doesn't need to do anything.
6. Dry gas must read 0.072-0.088 g/210L, inclusive. If out of range, instrument will abort test and place itself out of service.

F. Data entry features

1. Draeger uses a card scanner to collect:
  - a. Operator information from certification card
  - b. Subject information from driver's license
2. Drinking locations:
  - a. Operator can type in last known establishment.
  - b. A list will populate from best matches of typed data.
  - c. Operator selects appropriate establishment and information auto entered.
3. Recommend use of keyboard rather than touchscreen whenever possible to preserve the long term operation of touchscreen.

G. The operator has the ability to print a breath test document from evidential tests.

1. Tests will be stored for up to 90 days by the instrument.
2. Select "Reprint" from the main menu on the READY screen.
3. Operator may choose test based on sequential test number (if known) or by placing a partial name into the "SEARCH" field. Once a list of names has displayed, select the test from the touch screen and the document will be printed.
4. Current DataMaster instruments can only print the last test run on the instrument. Once the RUN button is pressed, the document may never be reproduced.

### 8.3.3 OPERATION OF INSTRUMENT

A. Green button to wake instrument.

B. Data entry options:

1. OBSERVATION START TIME
  - a. Use time from instrument display.
  - b. 16 minutes from displayed time must be completed to ensure a full 15 minute observation period.
  - c. Instrument will not allow continuing process until this time is met.
2. OPERATOR OBSERVED SUBJECT ENTIRE TIME?
  - a. Yes or No
  - b. If “No” selected, instrument will not allow process to continue without completing the observation period.
3. SUBJECT SMOKE, VOMIT, OR PUT ANYTHING IN MOUTH?
  - a. Yes or No
  - b. If “Yes” selected, instrument will not allow process to continue without completing the observation period.
4. CITATION/CASE NUMBER
  - a. Enter as appropriate
5. COUNTY OF ARREST
  - a. Drop down screen and select appropriate county or type in and make selection.
6. CRIME ARRESTED FOR
  - a. Choose from displayed options.
7. COLLISION INVOLVED?
  - a. Yes or No
8. SUBJECT DRINKING AT A SPECIFIC DRINKING ESTABLISHMENT?
  - a. Yes or No
  - b. If “Yes”, instrument will ask you to type in last known location.
  - c. A list will populate based on the information entered.
    - o The populated list will include all establishments with any of the name or partial name listed. Example: Operator enters Robin Seattle, any establishment that has “Robin” and “Seattle” within

that listing will populate in the list. Operator can scroll through list to find the correct establishment and select.

9. PBT GIVEN?

- a. Yes or No
- b. If yes, follow prompts to enter remaining data (PBT Results).

10. SUMMARY?

- a. Must scroll down to view all data and if correct, select save.
- b. If you discover something entered in error, select that section and make the appropriate correction.

11. SCAN OPERATOR CARD?

- a. Yes or No
- b. If yes, follow prompts, insert operator permit card into the card reader.
- c. If no, instrument will provide data entry sequence for entering operator data by hand.

12. SUBJECT ETHNIC GROUP?

- a. Select the appropriate option from the display.

13. SUBJECT DRIVERS LICENSE STATE

- a. Select the appropriate state from the drop-down menu.
- b. If you choose Washington, instrument will provide an option to scan the driver license for automatic data entry of subject (name, DOB, license number).
- c. For out of state licenses, or not using the option of scanning of a Washington driver license (no license on person at time of arrest) the appropriate data entry fields will display for the operator to provide the entries.

C. Check breath tube temperature to ensure warm or hot to touch.

1. This temperature is monitored by the CPU within the instrument and will not allow a test if it is not operating/functioning correctly.

D. If operator feels the tube is not warm or hot to the touch, notify WSP and place instrument out of service.

- E. Use clean sterile mouthpiece.
  - 1. New mouthpiece for each sample provided by the subject.
  - 2. After sample accepted, immediately discard mouthpiece.
- F. When instrument displays “PLEASE BLOW”, have the subject provide a deep lung sample, usually 10-15 seconds of breath.
  - a. Volume bar will identify if the sampling parameters have been met.
  - b. Subject has two minutes to provide sample before the instrument times out and ask if subject refused (same protocol as DataMaster instrument).
  - c. Second sample provides visual within volume bar for similar volume for similar samples.
  - d. If subject has chosen to refuse the breath test the operator should press the “STOP” button on the display screen. The operator should then choose the option of “Refusal”. Choosing this option will produce a document indicating “SUBJECT REFUSED”.
    - o Other options after pressing the “STOP” button include “Incomplete” or “Continue”. An Incomplete test will produce a document stating “INCOMPLETE.” Continue will take the instrument back to the “PLEASE BLOW” screen.

G. Complete Breath Test

- 1. A complete breath test is defined by RCW 46.61.506 and WAC 448-16-050.
- 2. Once a test is complete the following items must be present on the document to ensure the validity of the results:
  - a. Data entry
  - b. Blank test with a result of .000
  - c. Internal standard verified
  - d. First breath sample provided by subject
  - e. Blank test with a result of .000
  - f. External standard test. Result must be between .072 and .088, inclusive
  - g. Blank test with a result of .000

- h. Second breath sample provided by subject
- i. Blank test with a result of .000
- j. Printout of results

Each of the above subject samples and the external standard test will have two results. One infrared reading for each result and one fuel cell result for each.

#### H. Status messages

1. Often referred to as “error messages”.
2. See the “STATUS MESSAGES AND REMEDIES” page from the Draeger Alcotest 9510-Operator’s Manual posted at each instrument location for instructions.
3. Many messages are identical to those used in the DataMaster instrument. Example: Ambient Fail, Invalid Sample, Samples outside of 10%.
4. Contact WSP at the number provided at the instrument or the local WSP communications center to request service on the instrument.

### 8.3.4 PRACTICAL TESTS

- A. Complete at least four practical tests on provided instruments.
- B. Use permit cards and sample driver licenses provided for data input.

### 8.3.5 QUESTIONS AND FOLLOW UP

- A. Call or contact your local Breath Test Technician with any questions or instrument problems.
- B. If unable to find information, contact local WSP communications center to leave message.
- C. May also email at [breathtest@wsp.wa.gov](mailto:breathtest@wsp.wa.gov) NOTE: This is not monitored daily, only during regular business hours. Indicate agency, city or county, so questions may be forwarded to appropriate technician for response.

