

NHTSA Technical Note

INITIAL REVIEW OF PASSIVE ALCOHOL SENSOR

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INITIAL REVIEW OF PASSIVE ALCOHOL SENSOR

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INTRODUCTION

The Passive Alcohol Sensor (PAS)*, also known as the "Sniffer," is one kind of breath alcohol measurement device designed to detect whether a person has been drinking or not. The device detects only the presence of alcohol in the air passing over the sensor; it does not measure the amount of alcohol present in the persons breath (like a screening or evidential device). The device does not require a person to blow into a mouthpiece; rather, a person provides a sample by breathing through the nose and/or talking naturally while the unit is held about six inches from his/her face. A small fan pulls air into the unit, where the presence of alcohol is detected.

The information provided by the device might be useful by itself, or in conjunction with other evidence, as the basis for pursuing an investigation of a possible DWI violation which otherwise might not be undertaken. The main objective of using this device would be to increase the number of cases in which an officer is given the basis to pursue a DWI investigation for an already stopped motorist, where he would not otherwise do so.

The major advantage of this type of device is that it does not require the active cooperation of the person being tested. Traditional breath testers (i.e., portable screening and evidential BAC devices) require the person to provide a sample of deep lung air by blowing into a tube. Presumably, the PAS is capable of being used through an automobile window by an officer who is conversing with the driver in order to determine if the driver has been drinking alcohol. However, because the air sample tested by the PAS is a mixture of ambient air and exhaled breath from the driver, there is a possibility that extraneous substances present in the air, but not in the driver's breath, may activate the sensor. Thus, the PAS may give a false indication that alcohol is present in a driver's breath when it is not.

The National Highway Traffic Safety Administration (NHTSA) through a contract with the Transportation Systems Center (TSC) has conducted a preliminary laboratory study of the PAS. The results of this preliminary study revealed several conditions under which the device may respond incorrectly (e.g., in the presence of tobacco smoke, cross winds). In addition, the fact that the PAS is intended for use without the voluntary cooperation of the person being tested raises legal questions concerning possible violation of the driver's rights when the PAS is used for enforcement purposes. Both the legal and operational issues referred to above will be discussed in more detail later in this paper.

* - PAS is a trademark for a patented device (called the "Alcohol Detector") originally produced by the Honda Motor Co., Ltd. The PAS is the only device of this type currently available for use. Because it represents a real, available device the PAS will be the focus of this discussion. However, other passive alcohol sensors could be made and the principles and issues discussed in this paper should apply equally to them.

Interested enforcement agencies and others should be aware that as a result of the design, operating characteristics and intended use of this device, a number of operational and legal issues can and are likely to be raised regarding use of the PAS for enforcement purposes. Many of these issues have serious implications for how the courts might treat use of this device. To our knowledge the data necessary to resolve the operational issues detailed below are not currently available. The Insurance Institute for Highway Safety has funded a small study of this device that looked at some of these issues. The results of that study should be available in the near future. In addition, the NHTSA plans to obtain an independent legal opinion regarding the conditions under which use of the PAS for enforcement purposes is allowable.

We feel it is important that potential users give careful consideration to these issues before reaching a decision regarding use of this device. This paper will describe what we know about the PAS, and raise the major operational and legal issues related to its use for enforcement purposes.

Operationally Oriented Issues

Based on the results of the preliminary laboratory study conducted by TSC, warnings provided by the manufacturer, and consideration of the operating characteristics of the PAS, there is reason to believe that use of the PAS under certain conditions may cause the device to respond incorrectly. These conditions may be grouped into three categories which are described below:

I. Conditions That May Indicate Alcohol Is Present When It Is Not

a) Specificity of the sensor. Because the PAS tests air from the environment (rather than directly from the suspect's lungs) there is a possibility that extraneous substances present in the air may activate the sensor. Preliminary experimental data (from TSC) indicate that the sensor may be responsive to tobacco smoke in the environment (e.g., inside the passenger compartment of a car). In other words, tobacco smoke may trigger the device to indicate that alcohol is present. It is possible that other volatile gases, such as perfumes, after-shave lotions and other cosmetics and perhaps gasoline fumes, may trigger the device to indicate that alcohol is present when it is not.

II. Conditions That May Indicate Alcohol Is Not Present When It Is

The following environmental conditions may cause the PAS to fail to detect alcohol when it is present:

- a) Cross-winds. Preliminary experimental data (from TSC) suggests that cross-winds may blow air containing alcohol vapors (e.g., breath) away from a subject, reducing the device's capacity to "sense" alcohol.
- b) Extreme temperatures. Based on the fact that other portable BAC testers are affected by extreme temperatures (e.g., below freezing or above 90 degrees F.) it is likely that these conditions may cause the amount of alcohol required to trigger the PAS device to increase, (i.e., to cause the device to become less sensitive to alcohol).

III. Conditions That May Damage the PAS, Making It Inoperable

- a) Rain/Snow. The manufacturer clearly states that the sensor is easily damaged by exposure to rain. Any precipitation (rain or snow) getting onto the sensor may damage the device. We do not know whether the condensation of water on the sensor from high humidity or fog may be a problem.
- b) Fragility. The manufacturer clearly warns the user not to drop the device, as the delicate sensor can be easily damaged. If police drop the device during routine patrol activities, or leave it unsecured in the trunk of their patrol car, it may be damaged and generate no readings at all.

A final operational consideration potential users should be aware of is that as currently manufactured, the PAS can only be used to detect the presence of alcohol. It can not be set to respond only to breath alcohol concentrations above the legal limit (i.e., 0.10%). Our preliminary study of the PAS (at TSC) indicates it is very sensitive, responding to breath alcohol concentrations below 0.05%. Thus, it can not be used like a screening device might be used to determine whether a suspect has a BAC above a given level.

Possible Legal Issues

The obvious advantage of a device like the PAS is that it does not require the active cooperation of the driver being tested. Evidential and screening BAC testers, of course, do require the driver's cooperation, and infact, under the law his/her voluntary agreement to be tested. That the PAS is intended to be used without the driver's consent raises certain legal questions. NHTSA currently has plans to obtain an independent legal assessment of these legal issues which are described briefly below:

- I. The use of this device might be considered by the courts as a "search." The use of other types of breath testing devices (i.e., evidential and screening) has been deemed a search by the courts. As a result, BAC testing is governed by the Fourth Amendment and is required to be based upon a reasonable suspicion that the driver was impaired by alcohol. The question of whether the use of this device will be considered a search depends on whether the examination of exhaled breath is considered to intrude into a driver's reasonable expectation of privacy.

It is likely that the use of this device will be characterized as "an extension of an officer's nose" and, therefore, similar to the use of binoculars and flashlights, which are considered by the courts as nonsearches. If this is the case, then use of the device would fall under the "plain view" doctrine to which the Fourth Amendment does not apply (i.e., things in plain view of a police officer, who is lawfully in a position to observe them, are not protected by the Fourth Amendment). However, if it is considered a search and, therefore, requires a reasonable suspicion that the driver was impaired by alcohol, then there would be no reason to use the device in preference over a more sophisticated breath test device (i.e., a screening or evidential breath tester).

It is possible that even if the use of the device was held to be a search by the courts, that they might consider it a "limited" search. As a limited search, less justification for its use would be needed than is required by more intrusive test devices (breath test devices that require the active cooperation of the suspect to provide a sample of deep lung air). Thus, its use (in a non-discretionary fashion) at a roadblock or safety checkpoint might be permissable even when there was no cause to believe that a particular driver had been drinking. Similarly, the use of the

device by a police officer might be found reasonable, when only minimal cause to believe a driver was impaired by alcohol existed (e.g., presence of an empty alcoholic beverage container in the vehicle). In this last example, there might not be enough justification for an arrest or to request a breath test under implied consent laws (which generally require at least a reasonable suspicion of DWI), but sufficient cause would exist for a limited search to determine alcohol presence by use of this device.

- II. A second consideration concerns whether the use of this device is considered a "test" for determining the presence/concentration of alcohol in a driver's breath under the provisions of implied consent laws. If this was the case, use of the device under implied consent laws would require the consent of the driver and reasonable grounds to believe that a DWI violation had occurred. In States without a pre-arrest breath testing statute, the use of this device (or any other breath test device) prior to an arrest would not be allowed. After an arrest, an officer would obviously choose to use an evidential breath tester rather than this screening device. Similarly, in those States with laws that allow only a single test to be required of a DWI suspect, an officer would, undoubtedly, use an evidential tester rather than the sniffer.

Potential Impact on Enforcement-Deterrence Programs
from Immediate Application

- I. The unresolved problems and issues noted above could be the basis for a court challenge to the use of the device. Without supporting data and a prepared defense, a legal challenge might be successful now and would make it more difficult to introduce the device in the future, even if the problems are eventually resolved.
- II. In the event of a successful court challenge to its use, or the rejection of its evidence because of operational problems, there may be a loss of credibility of alcohol enforcement efforts that would detract from a general deterrence program.
- III. Because of its likely newsworthiness, the use of this device might have a beneficial effect as part of a general deterrence program, even if it did not substantially increase arrests. Its introduction might contribute to the publicity of a general deterrence program that relied on other techniques for improved enforcement. However, the expected publicity value would have to be balanced against the potential damage (see above) that could result.

RECOMMENDATION

Clearly, there are a number of outstanding legal and operational questions regarding use of the PAS by police officers. Until and unless they have been satisfactorily resolved, we do not recommend use of the PAS for enforcement purposes.