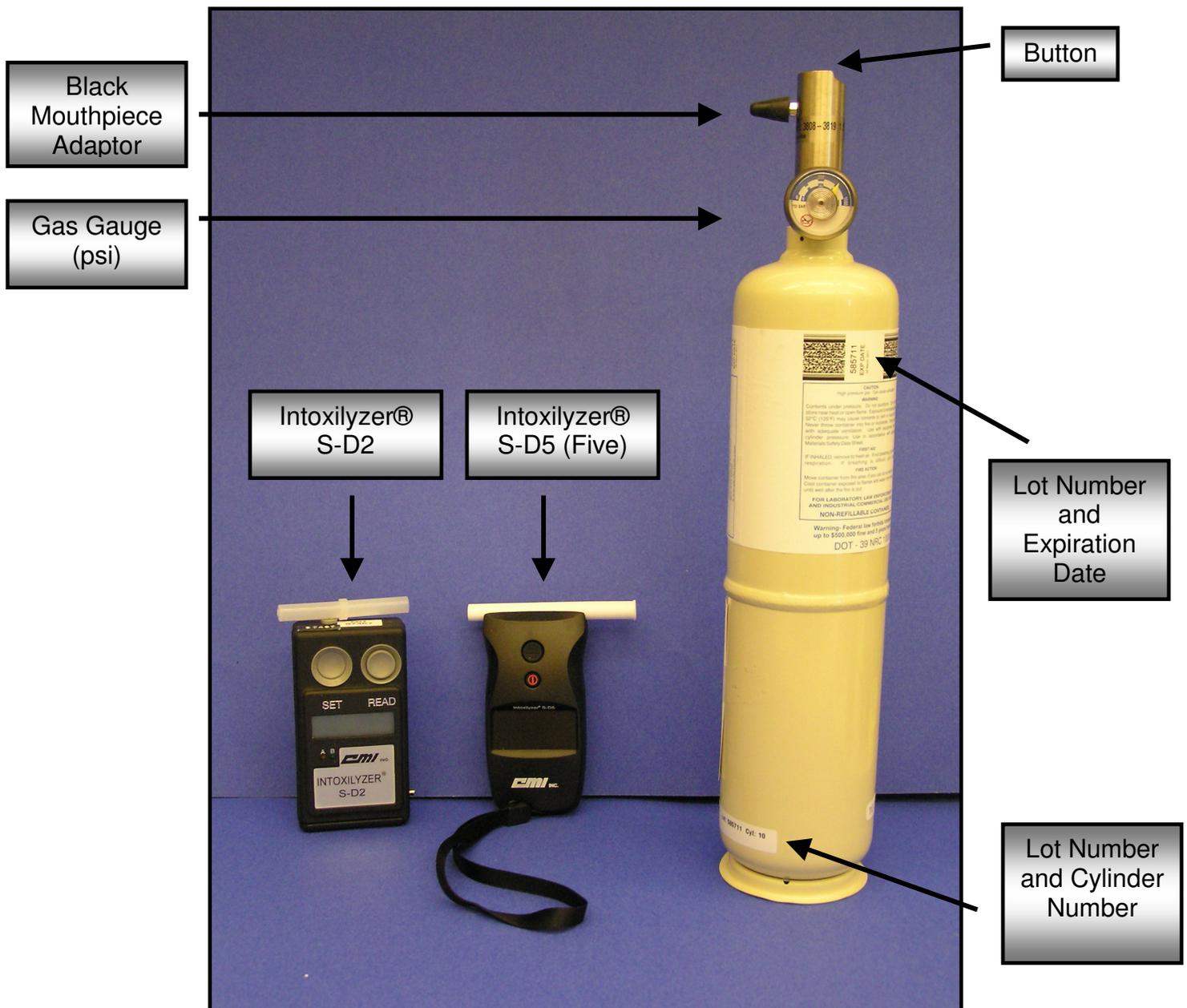




Office of Attorney General
Crime Laboratory Division
2641 East Main Avenue, P.O. Box 937
Bismarck, ND 58502-0937

Screening Device Calibration Instructions Using Gas Standards



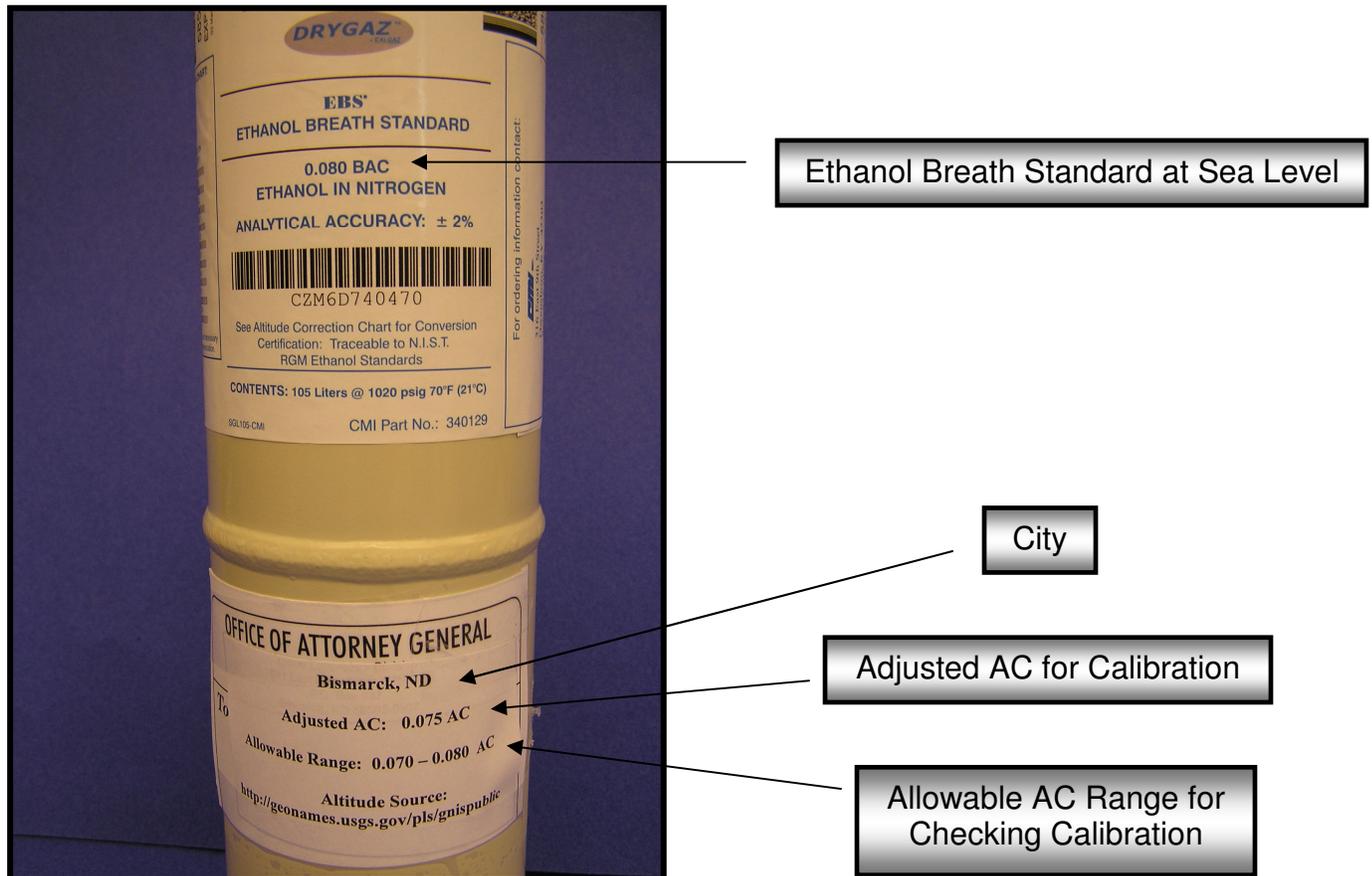
Changes in the North Dakota Breath Testing Program:

We will no longer be making and sending out simulator solutions to use as standards in the breath testing program. Gas cylinders containing a known alcohol concentration will replace the wet bath simulators. Separate gas cylinders will be used for screening devices and Intoxilyzer® 5000 G and Intoxilyzer® 8000 since the regulators for the screening devices provide a lower pressure than the regulators for the Intoxilyzer® 5000 G and Intoxilyzer® 8000.

The Ethanol Breath Standard:

The gas cylinder of the Ethanol Breath Standard contains 0.080 g/210 L of “End Expiratory Breath,” as shown on the gas cylinder label. This value is measured at sea level. Gas expands at altitudes above sea level; therefore, the alcohol concentration must be adjusted down as indicated on the gas cylinder at levels above sea level. We have obtained the altitudes of the cities of North Dakota and computed the adjusted alcohol concentration for each of the cities.

We have attached an “Office of Attorney General” label to the gas cylinder sent to your location. The label indicates the name of your city, the alcohol concentration adjusted for the altitude of your city, and the allowable range when checking the calibration of your screening device.



Certification of the Ethanol Breath Standard:

Each lot number of Ethanol Breath Standards used for DUI, APC, BUI, HUI, SUI, and OTR must be certified by the State Toxicologist. The standards will be analyzed at the Crime Laboratory. A label indicating the **lot number**, **cylinder number**, and **expiration date** will be attached to the cylinder. An operator should contact the Crime Laboratory when the pressure of the cylinder nears 25 p.s.i. or a few weeks prior to the expiration date to ensure a replacement cylinder is available.

OFFICE OF ATTORNEY GENERAL CRIME LABORATORY DIVISION Toxicology Section/Breath Alcohol Program		Form: <u>BrF-009</u>
ETHANOL BREATH STANDARD		
Lot No. #####	Cyl No. ###	Exp Date MMDDYYYY
Simulates the Equivalent of 0.080% Blood Alcohol (0.080 g/100 mL of Blood or 0.080 g/210 L of End Expiratory Breath).		
<u>Acceptable Range: 0.075 - 0.085 g/210L End Expiratory Breath</u>		
MM DD, 2009	<u>Margaret A. Pearson, State Toxicologist</u>	

Adjusting the Calibration With the Ethanol Breath Standard:

When adjusting the calibration of your Intoxilyzer® S-D2 or S-D5, use the adjusted alcohol concentration value located on the “Office of Attorney General” label. (The adjusted alcohol concentration for all of the cities in North Dakota will fall between 0.071 and 0.079 AC.) See the following pages for detailed instructions.

**Caution: Use safety precautions when handling pressurized gas cylinders—
Refer to the MSDS sheet provided with each gas cylinder.**

Checking the Calibration With the Ethanol Breath Standard:

When checking the calibration of your Intoxilyzer® S-D2 or S-D5, use the allowable range of 0.07# ± 0.005 AC (e.g. 0.075 ± 0.005 or 0.070 – 0.080 AC) indicated on the “Office of Attorney General” label.

Operation of the Screening Device:

Once the screening device is calibrated, the instrument may be used anywhere (regardless of the altitude). The value displayed on the screening device will be used to determine if further tests are needed. No correction of a subject's breath alcohol concentration will be needed.

Operation of the Gas Cylinder:

1. Remove the plastic cap from the gas cylinder.
2. Screw the regulator into the gas cylinder.
3. Attach the screening device mouthpiece to the black adaptor of the regulator.
4. Depress the top button of the regulator (instead of blowing through the wet bath simulator containing solution) to deliver the alcohol standard. The cylinder will deliver accurate alcohol concentrations down to 25 p.s.i.



Connecting the Screening Device to the Gas Cylinder

Do Not Cover the Restricted End of the Mouthpiece

Storage of the Gas Cylinder Between Calibrations:

1. Remove the regulator from the gas cylinder.
2. Replace the plastic cap on the cylinder.
3. Place the regulator in a cabinet or drawer to avoid dropping it.
4. Place the gas cylinder on its side in a cabinet or a drawer.

Disposal of the Gas Cylinder:

1. Empty the remaining gas from the cylinder by depressing the top button on the regulator.
2. Remove and store the regulator.
3. Dispose of the empty gas cylinder in a local landfill or recycle it at a scrap metal business.

Note: Do Not Return the Used Gas Cylinder to the Office of Attorney General, Crime Laboratory Division

For additional information, refer to your Intoxilyzer® S-D5 training course DVD.

Adjusting Calibration of the Intoxilyzer® S-D2 With a Gas Standard:

1. Check if Fuel Cell is Clear of Alcohol
Depress and hold the “Read” button for at least 10 seconds. If the display reads less than 0.002 AC, proceed with calibration. If not, depress and lock in “Set” button and then repeat step 1.
2. Depress and Lock in “Set” Button
The Intoxilyzer® S-D2 will now accept a standard sample.
3. Attach Clean Mouthpiece
Any fluid in the mouthpiece may alter calibration.
4. Attach Mouthpiece to Black Adaptor on the Gas Regulator
5. Deliver the Gas Standard
Press the button on the top of the gas regulator for about 5 seconds. **Continue to deliver the gas standard.**
6. Capture the Alcohol Standard
Depress and hold the “Read” button while delivering the gas standard. Stop delivering the gas standard after 2-3 seconds. **Continue to hold in the “Read” button.**
7. Observe the Display
The operator should place a small screwdriver in the adjustment screw of the instrument.
8. Adjust the Peak Alcohol Concentration
Immediately after the introduction of a good sample, the numbers on the display should increase rapidly. Within a few seconds, the numbers will slow and eventually stop increasing. Approximately three or four seconds later, the numbers will begin to decrease. Prior to this decrease, the calibration screw must be adjusted so the instrument displays the **Adjusted Alcohol Concentration (0.07#)** found on the “Office of Attorney General” label on the gas cylinder.
If the displayed value is too high, the screw should be turned clockwise. If it is too low, the screw should be turned counterclockwise. If the displayed numbers begin to decrease before this adjustment is made, calibration should be attempted again.
9. Turn Off the Intoxilyzer® S-D2
Depress and lock in the **“Set” button.**