the analyzer is 20 percent of that measured in step 5. There must be at least 10 percent unreacted NO at this point. Record the concentration of residual NO.

8) Switch the oxides of nitrogen analyzer to the NOX mode and measure total NOX. Record this value.

9) Switch off the NOX generation but maintain gas flow through the system. The oxides of nitrogen analyzer will indicate the NOX in the NO+O2 mixture. Record this value.

10) Turn off the NOX generator O2 (or air) supply. The analyzer will now indicate the NOX in the original NO in N2 mixture. This value should be no more than 5 percent above the value indicated in step 4.

11) Calculate the efficiency of the NOX converter by substituting the concentrations obtained into the following equation:

Percent Efficiency = \left[1 + \left(\frac{a - b}{c - d}\right)\right] \times 100

where:

a = concentration obtained in step (8).

b = concentration obtained in step (9).

c = concentration obtained in step (6).

d = concentration obtained in step (7).

If converter efficiency is not greater than 90 percent corrective action will be required.

(b) Initial and periodic calibration.

Prior to its introduction into service and monthly thereafter, if oxides of nitrogen are measured, the chemiluminescent oxides of nitrogen analyzer shall be calibrated on all normally used instrument ranges. Use the same flow rate as when analyzing samples. Proceed as follows:

1) Adjust analyzer to optimize performance.

2) Zero the oxides of nitrogen analyzer with zero grade air or zero grade nitrogen.

3) Calibrate on each normally used operating range with NO in N2 calibration gases with nominal concentrations of 15, 30, 45, 60, 75, and 90 percent of that range. Additional calibration points may be generated. For each range calibrated, if the deviation from a least-squares best-fit straight line is 2 percent or less of the value at each data point, concentration values may be calculated by use of a single calibration factor for that range. If the deviation exceeds 2 percent at any point, the best-fit non-linear equation which represents the data to within 2 percent of each test point shall be used to determine concentration.

(b) [Reserved]

§ 86.527–90 Test procedures, overview.

Other test equipment used for testing shall be calibrated as often as required by the manufacturer or as necessary according to good practice. Specific equipment requiring calibration is the gas chromatograph and flame ionization detector used in measuring methanol and the high pressure liquid chromatograph (HPLC) and ultraviolet detector for measuring formaldehyde.

§ 86.528–90 Calibration of other equipment.

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§ 86.527–90 Test procedures, overview.

(a) The procedures described in this and subsequent sections are used to determine the conformity of motorcycles with the standards set forth in subpart E of this part.