§ 86.540–90  Exhaust sample analysis.

The following sequence of operations shall be performed in conjunction with each series of measurements:

(a) For CO, CO₂, gasoline-fueled, natural gas-fueled, liquefied petroleum gas-fueled and methanol-fueled motorcycle HC and, if appropriate, NOₓ:

(1) Zero the analyzers and obtain a stable zero reading. Recheck after tests.

(2) Introduce span gases and set instrument gains. In order to avoid errors, span and calibrate at the same flow rates used to analyze the test sample. Span gases should have concentrations equal to 75 to 100 percent of full scale. If gain has shifted significantly on the analyzers, check the calibrations. Show actual concentrations on chart.

(3) Check zeros; repeat the procedure in paragraphs (a) (1) and (2) of this section if required.

(4) Check flow rates and pressures.

(5) Measure HC, CO, CO₂, and, if appropriate, NOₓ concentrations of samples.

(6) Check zero and span points. If difference is greater than 2 percent of full scale, repeat the procedure in paragraphs (a) (1) through (5) of this section.

(b) For CH₃OH (methanol-fueled vehicles), introduce test samples into the gas chromatograph and measure the concentration. This concentration is Cₘₛ in the calculations.

(c) For HCHO (methanol-fueled vehicles), introduce test samples into the high pressure liquid chromatograph and measure the concentration of formaldehyde as a dinitrophenylhydrazine derivative in acetonitrile. This concentration is Cₕₛ in the calculations.

§ 86.542–90  Records required.

The following information shall be recorded with respect to each test:

(a) Test number.

(b) System or device tested (brief description).

(c) Date and time of day for each part of the test schedule.

(d) Instrument operator.

(e) Driver or operator.

(f) Vehicle: Make, Vehicle identification number, Model year, Transmission type, Odometer reading at initiation of preconditioning, Engine displacement, Engine family, Emission control system, Recommended idle RPM, Nominal fuel tank capacity, Inertial loading, Actual curb mass recorded at 0 kilometers, and Drive wheel tire pressure.

(g) Dynamometer serial number: As an alternative to recording the dynamometer serial number, a reference to a vehicle test cell number may be used, with the advance approval of the Administrator, provided the test cell records show the pertinent instrument information.

(h) All pertinent instrument information such as tuning-gain-serial number-detector number-range. As an alternative, a reference to a vehicle test cell number may be used, with the advance approval of the Administrator.