

each analyzer the zero and span response for each range used during the preceding test or test segment.

(c) If during the test, the filter element(s) were replaced or cleaned, a vacuum check must be performed per § 86.328 immediately after the span checks. If the vacuum side leak check does not meet the requirements of § 86.328 the test is void.

(d) Read and record the post-test data specified in § 86.337(e).

(e) For a valid test, the analyzer drift between the before-test and after-test (before-segment and after-segment for Diesels) span checks for each analyzer must meet the following requirements:

(1) The span drift (defined as the change in the difference between the zero response and the span response) must not exceed 2.0 percent of full-scale chart deflection for each range used;

(2) The zero response drift must not exceed 2.0 percent of full-scale chart deflection for each range used above 155 ppm (or ppm C), or 3 percent of full-scale chart deflection for each range below 155 ppm (or ppm C).

(Secs. 206, 301(a), Clean Air Act as amended (42 U.S.C. 7525, 7601(a)))

[42 FR 45154, Sept. 8, 1977, as amended at 44 FR 16917, Mar. 20, 1979; 46 FR 50496, Oct. 13, 1981; 47 FR 49807, Nov. 2, 1982]

§ 86.343-79 Chart reading.

(a) A computer or any other automatic data processing device(s) may be used as long as the system meets the requirements of this subpart.

(b) Determine the location on the chart of the analyzer responses corresponding to the end of each mode.

(c) For gasoline-fueled engines, determine whether the test cycle was run in accordance with § 86.335 by observing either chart event marks, speed trace, torque trace, or concentration traces. The test will be invalidated if there is a deviation of more than:

(1) 2 seconds from the specified time for each CT mode, and 4 seconds for all other modes; or,

(2) Two percent of maximum torque during the exhaust gas sampling period (last 10 seconds on each nonclosed throttle gasoline-fueled engine mode); or

(3) 5 percent of maximum torque during the remainder of the mode, excluding the first 35 seconds of the mode; or

(4) 200 rpm during the first 10 seconds of each mode, or 100 rpm during the remainder of each mode.

(d) Determine chart deflections.

(1) Locate the last 10 seconds of each gasoline-fueled engine mode except CT. Locate the last 50 seconds of each gasoline-fueled engine CT mode. For all Diesel engine modes locate the last 60 seconds.

(2)(i) Divide the last 10 seconds or 60 seconds, whichever is applicable, into a minimum of 10 equally spaced increments. Determine the chart deflection of each increment for the CO₂, CO, HC, and NO_x analyzers.

(ii) Option for Diesel engine modes. If the deviation from a straight line (other than instrument noise) during this 60 seconds is less than ±5 percent of full-scale, the average chart deflection may be determined by eye. The average value (one number) may then be used in lieu of the 10 values required by paragraph (d)(2)(i) of this section.

(3) Other methods of determining the chart deflection of the analyzers may be used only with prior approval by the Administrator.

(e) Determine CO₂, CO, HC, and NO_x concentrations for each mode.

(1) If the option in paragraph (d)(2)(ii) of this section is employed, then those chart deflections for both linear and non-linear analyzers may be substituted for the average chart deflection in step (e)(2).

(2) For linear instruments, average the chart deflections determined in paragraph (d)(2)(i) of this section. Determine the concentration for this average chart deflection using calibration data.

(3) For non-linear instruments, calculate concentrations for each chart deflection determined in paragraph (d)(2)(i) of this section. Take the average of these concentrations for each mode.

(4) For purposes of this paragraph, calibration data includes calibration curves, linearity curves, span-gas responses, and zero-gas responses.

[42 FR 45154, Sept. 8, 1977, as amended at 47 FR 49813, Nov. 2, 1982]