(xxi) Turn off any CVS apparatus (if not already turned off).

(2) *Point-source method.* (i) The test vehicle, with the engine off, shall be moved onto the dynamometer. The vehicle engine compartment cover and any windows, doors, and luggage compartments shall be closed.

(ii) Fans shall be positioned as described in §§ 86.1235–85(b) and 86.1207–96(d).

(iii) The running loss vapor vent collection system shall be properly positioned at the potential fuel vapor vents or leaks of the vehicle's fuel system. Typical vapor vents for current fuel systems are the ports of the evaporative emission canister and the pressure relief vent of the fuel tank (typically integrated into the fuel tank cap).

(iv) The running loss vapor vent collection system may be connected to a PDP-CVS or CFV-CVS bag collection system. Otherwise, running loss vapors shall be sampled continuously with analyzers meeting the requirements of § 86.1207–96(b).

(v) Fans shall be positioned as described in § 86.1207–96(d).

(vi) The vehicle air conditioning system (if so equipped) shall be set to the ''normal'' air conditioning mode and adjusted to the minimum discharge air temperature and high fan speed. Vehicles equipped with automatic temperature controlled air conditioning systems shall be set to operate in ''automatic'' temperature and fan modes with the system set at 72 °F.

(vii) The temperature and pressure recording systems shall be started. Measurement of vapor temperature is optional during the running loss test. If vapor temperature is not measured, fuel tank pressure need not be measured.

(viii) The temperature of the liquid fuel shall be monitored and recorded at least every 15 seconds with the temperature recording system specified in § 86.1207–96(e).

(ix) When the ambient temperature is 95±5 °F (35±3 °C) and the fuel tank temperature is 95±3 °F the running loss test may begin.

(x) The ambient temperature shall be maintained at 95±5 °F (95±2 °F on average) during the running loss test, measured at the inlet to the cooling fan in front of the vehicle; it shall be recorded at least every 60 seconds.

(xi) Fuel temperatures shall be controlled according to the specifications of paragraph (g)(1)(xv) of this section.

(xii) The tank pressure requirements described in paragraph (g)(1)(xvi) of this section apply also to running loss testing by the point source method.

(xiii) The running loss test ends with completion of the third 2-minute idle period.

(xiv) If emissions are collected in bags, the sample bags must be analyzed within 20 minutes of their respective sample collection phases, as described in § 86.137–94(b)(15). The results of the analysis are used in § 86.1243 to calculate the mass of hydrocarbons emitted.

(xv) At the end of the running loss test, turn off all the fans specified in § 86.1207–96(d).

(3) With prior approval of the Administrator, manufacturers may use an alternative running loss test procedure, provided the alternative test procedure is shown to yield equivalent or superior emission results (in terms of quality control, accuracy and repeatability) for the running loss, hot soak and diurnal portions of the three diurnal-plus-hot-soak test sequence. Additionally, the Administrator may conduct certification and in-use testing using the test procedures outlined in paragraph (g)(1) of this section, paragraph (g)(2) of this section or the alternative running loss test procedure as approved for a specific vehicle.

(h) Following the completion of the running loss drive, the vehicle may be tested for hot soak emissions as specified in § 86.1238–96.

[58 FR 16059, Mar. 24, 1993, as amended at 59 FR 48524, Sept. 21, 1994; 60 FR 43905, Aug. 23, 1995; 65 FR 59958, Oct. 6, 2000; 70 FR 72928, Dec. 8, 2005]

§ 86.1235–96 Dynamometer procedure.

Section 86.1235–96 includes text that specifies requirements that differ from § 86.1235–85. Where a paragraph in § 86.1235–85 is identical and applicable to § 86.1235–96, this may be indicated by specifying the corresponding paragraph and the statement ''[Reserved]. For guidance see § 86.1235–85.''

(a) The dynamometer run consists of one dynamometer driving schedule cycle (see § 86.1215 and appendix I of this part) starting not less than 12 nor more than 36 hours after completion of the drive specified in § 86.1232–96. This run includes engine startup (with all accessories turned off) and operation over the driving schedule.

(b) through (i) [Reserved]. For guidance see § 86.1235–85.

[58 FR 16060, Mar. 24, 1993, as amended at 65 FR 59958, Oct. 6, 2000]

§ 86.1236–85 Engine starting and restarting.

(a) *Starting*. (1) The engine shall be started (including choke operation) according to the manufacturers recommended starting procedures in the owner's manual. The initial idle period shall begin when the engine starts.

(2) The operator may use the choke, accelerator pedal, etc., where necessary to keep the engine running.

(3) If the manufacturer's operating instructions in the owner's manual do not specify a warm engine starting procedure, the engine shall be started by depressing the accelerator pedal about half way and cranking the engine until it starts.

(4) If the vehicle does not start after the manufacturer's recommended cranking time (or 10 continuous seconds in the absence of a manufacturer's recommendation), cranking shall cease for the period recommended by the manufacturer (or 10 seconds in the absence of a manufacturer's recommendation). This may be repeated for up to three start attempts. If the vehicle does not start after three attempts, the reason for failure to start shall be determined. If failure to start is an operational error, the vehicle shall be rescheduled for the dynamometer run. If failure to start is caused by a vehicle malfunction, corrective action of less than 30 minutes duration may be taken, and the test continued. When the engine starts, the driving schedule timing sequence shall begin. If failure to start is caused by vehicle malfunction and the vehicle cannot be started, the test shall be voided, the vehicle removed from the dynamometer, and corrective action may be taken. The reasons for the malfunction (if determined) and the corrective action taken shall be recorded.

(b) *Stalling*. (1) If the engine stalls during an idle period, the engine shall be restarted immediately and the driving schedule continued. If the engine cannot be started soon enough to allow the vehicle to follow the next acceleration as prescribed, the driving schedule indicator shall be stopped. When the vehicle restarts, the driving schedule indicator shall be reactivated.

(2) If the engine stalls during some operating mode other than idle, the driving schedule indicator shall be stopped, the vehicle shall then be restarted and accelerated to the speed required at that point in the driving schedule and the driving schedule continued. During acceleration to this point, shifting shall be performed in accordance with § 86.1228–85.

(3) If the vehicle will not restart within one minute, the test shall be voided, the vehicle removed from the dynamometer, corrective action taken, and the vehicle rescheduled for testing. The reason for the malfunction (if determined) and the corrective action taken shall be recorded.

[48 FR 1456, Jan. 12, 1983, as amended at 58 FR 16060, Mar. 24, 1993]

§ 86.1237–85 Dynamometer runs.

(a) The vehicle shall be either driven or pushed onto the dynamometer; however, if driven, the period of engine operation between the end of the diurnal loss test and beginning of the hot soak preparation run shall not exceed 3 minutes, and the vehicle shall be driven at minimum throttle. The dynamometer run shall follow the diurnal heat build by not more than one hour. The vehicle shall be stored prior to dynamometer operation in such a manner that it is not exposed to precipitation (e.g., rain or dew).

(b) The following steps shall be taken for the dynamometer run:

(1) Place drive wheels of vehicle on the dynamometer.

(2) Position the cooling fan(s).

(3) Attach an exhaust tube to the vehicle tailpipe(s).

(4) Start the engine.

(5) Turn on the cooling fan(s).