

Environmental Protection Agency

§ 86.230-94

§ 86.225-94 [Reserved]

§ 86.226-94 Calibration of other equipment.

The provisions of § 86.126 apply to this subpart.

§ 86.227-94 Test procedures; overview.

The provisions of § 86.127-94 (a), (b), and (e) apply to this subpart.

§ 86.228-94 Transmissions.

The provisions of § 86.128-79 apply to this subpart.

§ 86.229-94 Road load force, test weight, and inertia weight class determination.

(a) Flywheels, electrical forces, or other means of simulating test weight as shown in the table in this paragraph shall be used. If the equivalent test weight specified is not available on the dynamometer being used, the next higher equivalent test weight (not to exceed 250 pounds) available shall be used. Light-duty vehicles over 5750 lbs. loaded vehicle weight shall be tested at a 5,500 lb. equivalent test weight.

Loaded vehicle weight (pounds)	Equivalent test weight (pounds)	Inertia weight class (pounds)
Up-1,062	1,000	1,000
1,063-1,187	1,125	1,000
1,188-1,312	1,250	1,250
1,313-1,437	1,375	1,250
1,438-1,562	1,500	1,500
1,563-1,687	1,625	1,500
1,688-1,812	1,750	1,750
1,813-1,937	1,875	1,750
1,938-2,062	2,000	2,000
2,063-2,187	2,125	2,000
2,188-2,312	2,250	2,250
2,313-2,437	2,375	2,250
2,438-2,562	2,500	2,500
2,563-2,687	2,625	2,500

Loaded vehicle weight (pounds)	Equivalent test weight (pounds)	Inertia weight class (pounds)
2,688-2,812	2,750	2,750
2,813-2,937	2,875	2,750
2,938-3,062	3,000	3,000
3,063-3,187	3,125	3,000
3,188-3,312	3,250	3,000
3,313-3,437	3,375	3,500
3,438-3,562	3,500	3,500
3,563-3,687	3,625	3,500
3,688-3,812	3,750	3,500
3,813-3,937	3,875	4,000
3,938-4,125	4,000	4,000
4,126-4,375	4,250	4,000
4,376-4,625	4,500	4,500
4,626-4,875	4,750	4,500
4,876-5,125	5,000	5,000
5,126-5,375	5,250	5,000
5,376-5,750	5,500	5,500
5,751-6,250	6,000	6,000
6,251-6,750	6,500	6,500
6,751-7,250	7,000	7,000
7,251-7,750	7,500	7,500
7,751-8,250	8,000	8,000
8,251-8,750	8,500	8,500
8,751-9,250	9,000	9,000
9,251-9,750	9,500	9,500
9,751-10,000	10,000	10,000

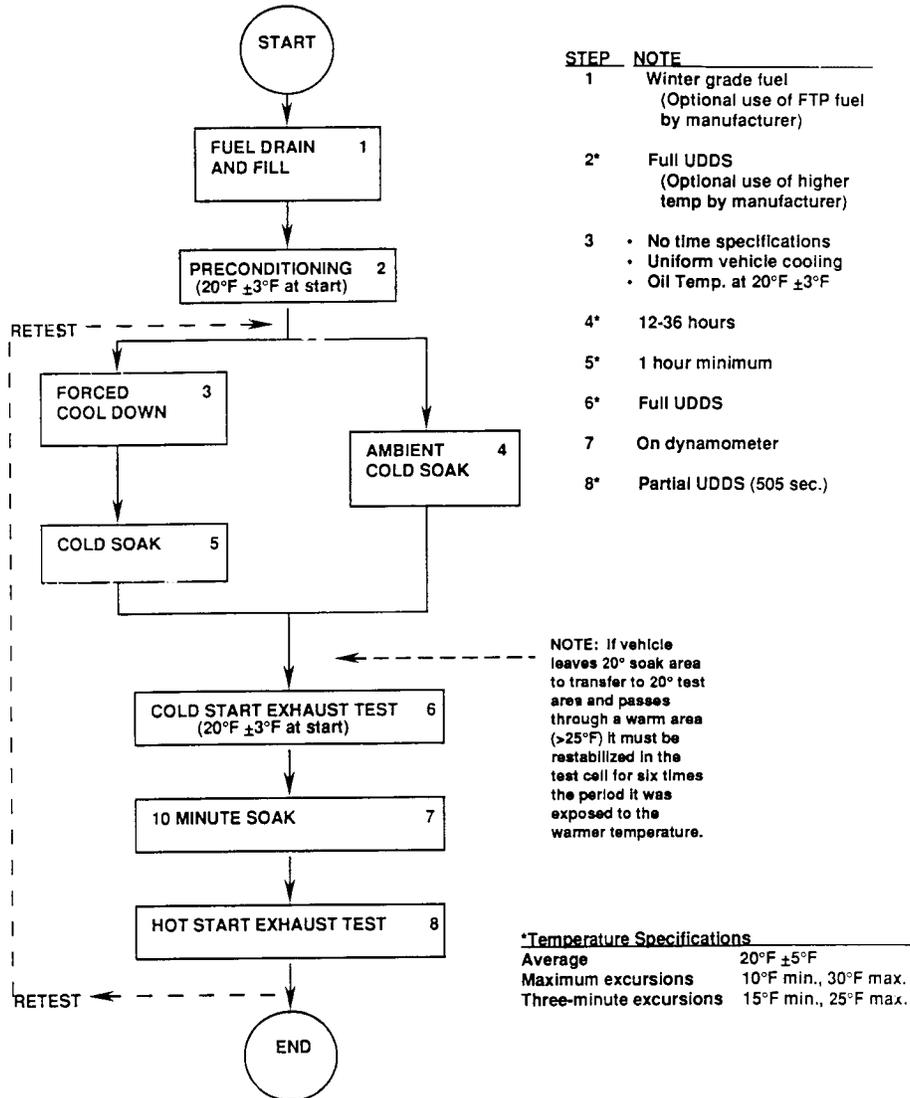
(b) A dynamometer which meets the specifications of § 86.208-94(a) shall be adjusted to simulate the operation of a vehicle on the road at 20 °F (-7 °C). Such adjustment may be based on a determination of the road load force profile at 20 °F (-7 °C). Alternatively, the adjustment may be based on a 10 percent decrease in the target coastdown time that is used for FTP testing.

§ 86.230-94 Test sequence; general requirements.

(a) *Sequence steps.* Figure C94-1 shows the steps encountered as the test vehicle undergoes the procedures subsequently described, to determine conformity with the standards set forth.

Figure C94-1

Cold CO Test Procedure



(b) *Driving schedule.* The Urban Dynamometer Driving Schedule (UDDS) test procedure (see § 86.115 and appendix I to this part) is used for vehicle preconditioning and testing.

(c) *Ambient temperature level.* (1) Ambient temperature levels encountered by the test vehicle shall average 20 °F ± 5 °F (-7 °C ± 2.8 °C) and shall not be less than 10 °F (-14 °C) nor more than

30 °F (−1 °C) during vehicle preconditioning, except for preconditioning performed in accordance with § 86.232(a)(7), and during all emission testing.

(2) The ambient temperature reported shall be a simple average of the test cell temperatures measured at constant intervals no more than one minute apart. Before the driving cycle may begin, the test cell temperature shall be 20 °F ± 3 °F (−7 °C ± 1.7 °C) when measured in accordance with paragraph (e)(2) of this section. The temperature may not exceed 25 °F (−4 °C) or fall below 15 °F (−9 °C) for more than three consecutive minutes during the test.

(d) *Vehicle positioning.* The vehicle shall be approximately level during all phases of the test sequence to prevent abnormal fuel distribution.

(e) *Engine compartment cooling.* (1) Fixed speed air cooling of the engine compartment with the compartment cover open shall be utilized during testing that is conducted by the Administrator and, optionally for certification testing, by the manufacturer. If a separate movable fan is used, it shall be squarely positioned within 12 inches (30.5 centimeters) of the front of vehicles with front engine compartments. In the case of vehicles with rear engine compartments (or if special designs make the normal front engine positioning impractical), the cooling fan shall be placed in a position to provide sufficient air to maintain vehicle cooling. The fan capacity shall normally not exceed 5,300 cfm (2.50 cubic meters per second). If, however, the manufacturer showed (as provided in § 86.135-94(b)) that additional cooling is necessary, the fan capacity may be increased or additional fans used if approved in advance by the Administrator. The cooling air temperature shall be measured at the inlet to the fan.

(2) In lieu of using a separate fan, an air handling system that is integral with the test cell may be used provided comparable air movement is obtained. The cooling air temperature shall be measured in the center of a vertical plane that is located approximately 2 feet in front of the vehicle.

(3) The manufacturer may use, for certification testing, alternative en-

gine compartment cooling fans or systems, including those which provide a variable air flow, if the manufacturer has determined that comparable results are obtained.

(f) *Heater and defroster usage.* The heater and defroster may be used at any temperature and fan settings.

§ 86.231-94 Vehicle preparation.

The provisions of § 86.131-90 apply to this subpart.

§ 86.232-94 Vehicle preconditioning.

(a) The vehicle shall be moved to the test area and the following operations performed:

(1) The fuel tank(s) shall be filled to approximately the prescribed "tank fuel volume" with the test fuel specified § 86.213. If the existing fuel in the fuel tank(s) does not meet the specifications contained in § 86.213, the existing fuel must be drained prior to the fuel fill. The test fuel shall be at a temperature less than or equal to 60 °F. For the operations in this paragraph (a)(1), the evaporative emission control system shall neither be abnormally purged nor abnormally loaded.

(2) For operation on a 48-inch (1.22 metre) diameter single roll dynamometer, the drive wheel tires shall be inflated to the pressure recommended by the tire manufacturer. For operation on a twin-roll dynamometer, the drive wheel tires may be inflated to a gauge pressure of 40 psi (276 kPa). The drive wheel tire pressures shall be reported with the test results.

(3) The fuel in the vehicle shall be stabilized at 20 °F ± 10 °F (−7 °C ± 5.6 °C) prior to the start of the driving cycle except when vehicle preconditioning is performed in accordance with paragraph (a)(7) of this section.

(4) The vehicle shall be placed, either by being driven or pushed, on a dynamometer and operated through one UDDS cycle.

(5) For those unusual circumstances where additional preconditioning is desired by the manufacturer, such preconditioning may be allowed with the advance approval of the Administrator.

(6) The Administrator may also choose to conduct additional preconditioning. The additional preconditioning shall consist of one or more