

**Environmental Protection Agency**

**§ 86.337-79**

idle torque recorded for the calculations in §86.345 shall be zero.

(h) If the operating conditions specified in paragraph (a) of this section for modes 2 through 8, and 10 through 16 cannot be maintained, the Administrator may authorize deviations from the specified load conditions. Such deviations shall not exceed 5 percent of the maximum torque at the test speed. The minimum deviations, above and below the specified load, necessary for stable operation shall be determined by the manufacturer and approved by the Administrator prior to the test run. Emission tests shall be performed by operating the engine at the higher ap-

proved load setting during cycle 1 and at the lower approved load setting during cycle 2. The weighting factors shall be as specified in paragraph (a) of this section.

(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; 47 FR 49813, Nov. 2, 1982]

**§ 86.336-79 Diesel engine test cycle.**

(a) The following 13-mode cycle shall be followed in dynamometer operation tests of heavy-duty Diesel engines. Gasoline-fueled engines are covered in §86.335.

Test Segment	Mode No.	Engine Speed	Observed torque (percent of maximum observed)	Time in mode (minutes)		Maximum cumulative time (minutes)
				Minimum	Maximum	
1	1	Curb-idle	.....	4.5	6.0	42
1	2	Intermediate	..... 2	4.5	6.0	
1	3	.....do	..... 25	4.5	6.0	
1	4	.....do	..... 50	4.5	6.0	
1	5	.....do	..... 75	4.5	6.0	
1	6	.....do	..... 100	4.5	6.0	
1	7	Curb-idle	.....	4.5	6.0	
2	8	Rated	..... 100	4.5	6.0	36
2	9	.....do	..... 75	4.5	6.0	
2	10	.....do	..... 50	4.5	6.0	
2	11	.....do	..... 25	4.5	6.0	
2	12	.....do	..... 2	4.5	6.0	
2	13	Curb-idle	.....	4.5	6.0	

(b) During each mode the specified speed shall be held to within 50 rpm. Torque for each mode must be held at the specified value ±2 percent of the maximum torque observed. For example, mode 4 torque shall be held between 48 and 52 percent of maximum torque (50 ±2%).

(c) If the operating conditions specified in paragraph (b) of this section for modes 3, 4, 5, 9, 10, and 11 cannot be maintained, the Administrator may authorize deviations from the specified load conditions. Such deviations shall not exceed 10 percent of the maximum torque at the test speed. The minimum deviations, above and below the specified load, necessary for stable operation shall be determined by the manufacturer and approved by the Administrator prior to the test run. Emission tests shall be performed at each of the approved load settings, one above and one below the operating conditions

specified in paragraph (a) of this section. The emission values obtained shall be calculated in accordance with §86.345 except that the weighting factor shall be 0.04.

(d) If the Administrator determines that an engine shall be tested as an automatic transmission code engine, then a load shall be applied by the dynamometer during the idle modes (1, 7, and 13) such that the engine speed is decreased from the recommended dynamometer-idle speed to the recommended curb-idle speed. The engine-idle torque recorded for the calculations in §86.345 shall be zero.

**§ 86.337-79 Information.**

The following information, as applicable, shall be recorded for each test:

(a) *Engine description and specification.* A copy of the information specified in this paragraph must accompany each engine sent to the Administrator