

Light-Duty Trucks: Tier 0, Tier 1, and Clean Fuel Vehicle (CFV) Exhaust Emission Standards

	Vehicle Type	Emission Category	Vehicle Useful Life													
			5 Years / 50,000 Miles						10 Years / 100,000 Miles							
			NMHC ^a (g/mi)	NMOG (g/mi)	CO ^{b, c}	NOx ^d (g/mi)	PM (g/mi)	HCHO (g/mi)	THC ^{c, e, f} (g/mi)	NMHC ^a (g/mi)	NMOG (g/mi)	CO ^g (g/mi)	NOx (g/mi)	PM (g/mi)	HCHO (g/mi)	
Federal ^{h, i, j}	LDT3	Tier 0	-	-	-	-	-	-	-	0.8	0.67 ^k	-	10	1.7	0.26 ^l	-
		Tier 1	0.32	-	4.4	0.7	-	-	-	0.8	0.46	-	6.4	0.98	0.1	-
	LDT4	Tier 0	-	-	-	-	-	-	-	0.8	0.67 ^k	-	10	1.7	0.13 ^l	-
		Tier 1	0.39	-	5	1.1	-	-	-	0.8	0.56	-	7.3	1.53	0.12	-
Federal Clean Fuel Vehicle (CFV) Program ^{h, i}	LDT3 0-3750 ALVW	LEV	-	0.125 ⁿ	3.4	0.4	-	0.015	-	-	-	0.180 ⁿ	5	0.6	0.08 ^o	0.022
		ILEV ^m	-	0.125	3.4	0.2	-	0.015	-	-	-	0.180	5	0.3	0.08 ^o	0.022
		ULEV	-	0.075 ⁿ	1.7	0.2	-	0.008	-	-	-	0.107 ⁿ	2.5	0.3	0.04 ^o	0.012
	LDT3 3751-5750 ALVW	LEV	-	0.160 ⁿ	4.4	0.7	-	0.018	-	-	-	0.230 ⁿ	6.4	1.0	0.10 ^o	0.027
		ILEV ^m	-	0.160	4.4	0.4	-	0.018	-	-	-	0.230	6.4	0.5	0.10 ^o	0.027
		ULEV	-	0.100 ⁿ	2.2	0.4	-	0.009	-	-	-	0.143 ⁿ	3.2	0.5	0.10 ^o	0.013
	LDT4 5751-8500 ALVW	LEV	-	0.195 ⁿ	5	1.1	-	0.022	-	-	-	0.280 ⁿ	7.3	1.5	0.12 ^o	0.032
		ILEV ^m	-	0.195	5	0.6	-	0.022	-	-	-	0.280	7.3	0.8	0.12 ^o	0.032
		ULEV	-	0.117 ⁿ	2.5	0.6	-	0.011	-	-	-	0.167 ⁿ	3.7	0.8	0.06 ^o	0.016

Notes on following page.

Notes:

Tests Covered: Federal Test Procedure (FTP), cold carbon monoxide (CO), highway, and idle

Effective Model Year: 1981 - 1993, Tier 0

1994 - 1999, Tier 1

1999 - Present, CFV

- a Total hydrocarbon equivalent (THCE) for Tier 0 methanol vehicles, non-methane hydrocarbon equivalent (NMHCE) for other alcohol vehicles.
- b Cold CO emissions for gasoline fueled vehicles shall not exceed 10.0 grams per mile (g/mi) (light-duty vehicle, light-duty truck 1 [LDT1], LDT2) or 12.5 g/mi (LDT3 & LDT4) at 50,000 miles.
- c Certification short test (CST) emissions from gasoline vehicles shall not exceed 100 parts per million HC or 0.50 percent exhaust gas CO at idle and 2500 revolutions per minute at 4,000 miles; compliance statement allowed in lieu of actual test data.
- d Does not apply to diesel-fueled vehicles.
- e THCE for methanol vehicles.
- f Does not apply to compressed natural gas (CNG) vehicles.
- g Idle CO emissions from gasoline, methanol, CNG and liquefied petroleum gas trucks shall not exceed 0.50 percent exhaust gas at 120,000 miles or years; compliance statement allowed in lieu of actual test data.

- h Federal On-board diagnostics system required beginning with 1994 model year vehicles.
- i Tier 1, National Low Emissions Vehicle (NLEV) & CFV vehicles must meet Tier 1 emissions standards at high altitude; Tier 0 vehicles must meet special high altitude standards; compliance statement allowed in lieu of actual test data.
- j Tier 0 and Tier 1 emission standards do not apply to ethanol vehicles.
- k CNG vehicles only.
- l Diesel-fueled vehicles only.
- m Special evaporative requirements apply (5.0 grams maximum with the evaporative system disconnected).
- n Special non-methane organic gas (NMOG) standards apply to dual and flexible fuel vehicles.
- o Diesel-fueled vehicles only.

Code of Federal Regulations (CFR) citations:

- 40 CFR 86 Subpart A
- 40 CFR 86 Subpart R - NLEV program