

## USEPA Emission Standards for Tier 1 - 3 engines

Engine Power (hp)	Model Years	Regulation	Emission Standards (g/hp-hr)						Year the Std Takes Effect
			HC <sup>a, d</sup>	VHC <sup>b</sup>	NOx <sup>a, d</sup>	NMHC+NOx <sup>a</sup>	CO <sup>a</sup>	PM <sup>a</sup>	
50 to <75	1998-2003	Tier 1			6.90				1998
	2004-2007	Tier 2	0.40	0.3996	5.20	5.60	3.70	0.30	2004
	2008-2012	Tier 3	0.20	0.1998	3.3	3.50	3.70	<sup>c</sup>	2008
>75 to <100	1998-2003	Tier 1			6.90				1997
	2004-2007	Tier 2	0.40	0.3996	5.20	5.60	3.70	0.30	2004
	2008-2011	Tier 3	0.20	0.1998	3.3	3.50	3.70	<sup>c</sup>	2007
>100 to <175	1997-2002	Tier 1			6.90				1997
	2003-2006	Tier 2	0.40	0.3996	4.5	4.90	3.70	0.22	2003
	2007-2011	Tier 3	0.20	0.1998	2.8	3.00	3.70	<sup>c</sup>	2007
>175 to <300	1996-2002	Tier 1	1.00	0.9990	6.90		8.50	0.40	1996
	2003-2005	Tier 2	0.40	0.3996	4.5	4.90	2.60	0.15	2003
	2006-2010	Tier 3	0.20	0.1998	2.8	3.00	2.60	<sup>c</sup>	2006
>300 to <600	1996-2000	Tier 1	1.00	0.9990	6.90		8.50	0.40	1996
	2001-2005	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2001
	2006-2010	Tier 3	0.20	0.1998	2.8	3.00	2.60	<sup>c</sup>	2006
>600 to 750	1996-2001	Tier 1	1.00	0.9990	6.90		8.50	0.40	1996
	2002-2005	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2002
	2006-2010	Tier 3	0.20	0.1998	2.8	3.00	2.60	<sup>c</sup>	2006
>750 except generator sets	2000-2005	Tier 1	1.00	0.9990	6.90		8.50	0.40	2000
	2006-2010	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2006
Generator sets >750 to 1200	2000-2005	Tier 1	1.00	0.9990	6.90		8.50	0.40	2000
	2006-2010	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2006
Generator sets >1200	2000-2005	Tier 1	1.00	0.9990	6.90		8.50	0.40	2000
	2006-2010	Tier 2	0.30	0.2997	4.5	4.80	2.60	0.15	2006

### Notes:

<sup>a</sup> Nonroad CI Engine Emission Standards from Title 13, California Code of Regulations, Section 2423 (ARB Executive Order "Std").

<sup>b</sup> VHC = Total Hydrocarbons (THC) minus methane and ethane fractions. Equivalent APCD standard. (Highlighted in Orange) See *Conversion Factors to Hydrocarbon Emission Components*, Report No. NR-002a, US EPA, 5/2003. {VHC = ROC}

<sup>c</sup> Tier 3 PM standards have not yet been adopted. Tier 3 engines must meet the Tier 2 PM standard until the Tier 3 PM standard has been adopted.

<sup>d</sup> Tier 2 and Tier 3 HC and NOx equivalent standards used to determine the NMHC + NOx standard. (Highlighted in blue)