



§ 2403. Exhaust Emission Standards and Test Procedures – Small Off-Road Engines.

(a) [No Change]

(b) (1) [No Change]

(2) Low-emitting Blue Sky Series engine requirements.

*Voluntary standards.* Engines may be designated “Blue Sky Series” engines by meeting:

(A) All applicable requirements of this Article, and

(B) The following voluntary exhaust emission standards, which apply to all certification and compliance testing. Blue Sky Series engines shall not be included in the averaging, banking, and trading program. Zero-emission small off-road equipment may certify to the Blue Sky Series emission standards. Manufacturers of zero-emission small off-road equipment are not required to perform emissions testing, but must file an application of certification and comply with the administrative requirements outlined in the 2005 and Later Test Procedures “California Exhaust Emission Standards and Test Procedures for 2005 and Later Small Off-Road Engines,” adopted July 26, 2004, and as last amended February 24, 2010, to certify their equipment for sale in California.

(3) In lieu of meeting the requirements of subsection 2403(b)(2)(B), manufacturers of zero-emission small off-road equipment may obtain zero-emission equipment credits as detailed in section 2408.1.

\* \* \* \*

Voluntary Emission Standards  
(grams per kilowatt-hour)

<i>Model Year</i>	<i>Displacement Category</i>	<i>Hydrocarbon plus Oxides of Nitrogen</i>	<i>Carbon Monoxide</i>	<i>Particulate *</i>
2005 and subsequent	<50 cc	25	536	2.0
	50 - 80 cc, inclusive	36	536	2.0
2007 and subsequent	>80 cc - <225 cc	5.0	549	
2008 and subsequent	≥225 cc	4.0	549	

\* Applicable to all two-stroke engines

(43) Evaporative emission requirements for small off-road engines are specified in Title 13, Chapter 15, Article 1.

(c) [No change.]

(d) The test procedures for determining compliance with the standards for exhaust emissions from new small off-road engines are set forth in "California Exhaust Emission Standards and Test Procedures for 1995-2004 Small Off-Road Engines," adopted March 20, 1992, and last amended July 26, 2004 or "California Exhaust Emission Standards and Test Procedures for 2005 and Later Small Off-Road Engines," adopted July 26, 2004, as applicable and as last amended February 24, 2010, which is incorporated herein by reference.

(e) Averaging. For new 2000 and subsequent model year small off-road engines, a manufacturer may comply with the standards established in paragraph (b), above, by choosing either to certify an engine family to the standards or to use the corporate average described below.

(1) For each model year, the corporate average value for a pollutant is defined by the following equation:

$$\frac{\sum_{j=1}^n (\text{FEL}_j)(\text{Sales}_j)(\text{Power}_j)(\text{Load Factor})(\text{EDP}_j) - \text{credits expended}}{\sum_{j=1}^n (\text{Sales}_j)(\text{Power}_j)(\text{Load Factor})(\text{EDP}_j)} = \text{AVG}$$

where

- n = the number of small off-road engine families.
- FEL = the Family emission level for an engine family.
- Sales<sub>j</sub> = eligible sales of engine family *j*.
- Power<sub>j</sub> = sales-weighted maximum modal power, in horsepower or kilowatt as applicable, of engine family *j*, or an alternative approved by the Executive Officer.
- EDP<sub>j</sub> = Emissions durability period of engine family *j*, in hours.
- AVG = For a given pollutant (HC+NO<sub>x</sub>, CO, or Particulate Matter), a manufacturer's corporate average of the exhaust emissions from those California small off-road engines subject to the California corporate average pollutant exhaust emission standard, as established by an Executive Order certifying the California production for the model year. Engines certified to voluntary standards of 2403 (b)(2) are not eligible for corporate averaging.
- Credits expended = HC+NO<sub>x</sub> or Particulate Matter credits, as defined in sections 2408 and 2409, that are expended by the manufacturer to adjust the corporate average. This term has no meaning for any pollutants other than HC+NO<sub>x</sub> and Particulate Matter.
- Load Factor = For Test Cycle A and Test Cycle B, the Load Factor = 47% (i.e., 0.47). For Test Cycle C, the Load Factor = 85% (i.e., 0.85). For approved alternate test procedures, the load factor must be calculated according to the Load Factor formula found in paragraph (f)(1) of section 2408.

(2) [No Change]

(3) [No Change]

(f) to (h) [No Change]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43102 and 43104, Health and Safety Code. Reference: Sections 43013, 43017, 43018, 43101, 43102, 43104, 43150-43154, 43205.5 and 43210-43212, Health and Safety Code.