

## Proposed Regulation Order

Note: This document is printed in a style to indicate changes from the existing provisions. All existing language is indicated by plain type. All additions to language are indicated by underlined text. All deletions to language are indicated by ~~strikeout~~. Only those sections with proposed changes are included.

Amend Article 4.5, Chapter 9, Division 3, Title 13, California Code of Regulations, to read as follows:

### Chapter 9. Off-Road Vehicles and Engines Pollution Control Devices

#### Article 4.5. Off-Road Large Spark-Ignition Engines

#### § 2433. Emission Standards and Test Procedures - Off-Road Large Spark-Ignition Engines.

(a) [No Change]

(b) *Standards.*

(1) (A) *Exhaust Emission Standards.* Exhaust emissions from off-road large spark-ignition engines manufactured for sale, sold, or offered for sale in California, or that are introduced, delivered or imported into California for introduction into commerce, must not exceed:

Exhaust Emission Standards  
(grams per brake horsepower-hour)  
[grams per kilowatt-hour]<sup>(1)</sup>

<i>Model Year</i>	<i>Engine Displacement</i>	<i>Durability Period</i>	<i>HC + NO<sub>x</sub></i>	<i>Carbon Monoxide</i>
2002 <del>and subsequent</del> -2009	≤ 1.0 liter	1,000 hours or 2 years	9.0 [12.0]	410 [549]
<u>2010 - 2013</u>	<u>≤ 1.0 liter</u>	<u>1,000 hours or 2 years</u>	<u>4.8</u> <u>[6.5]</u>	<u>280</u> <u>[375]</u>
<u>2014 and subsequent</u>	<u>≤ 1.0 liter</u>	<u>5000 hours or 7 years</u>	<u>0.6</u> <u>[0.8]</u>	<u>15.4</u> <u>[20.6]</u>
2001 - 2003 <sup>(2),(3)</sup>	> 1.0 liter	N/A	3.0 [4.0]	37.0 [49.6]
2004 - 2006 <sup>(4)</sup>	> 1.0 liter	3500 hours or 5 years	3.0 [4.0]	37.0 [49.6]
2007 - 2009	> 1.0 liter	5000 hours or 7 years	2.0 [2.7]	3.3 [4.4]
2010 and subsequent <sup>(5),(6)</sup>	> 1.0 liter	5000 hours or 7 years	0.6 [0.8]	15.4 [20.6]

- Note:
- (1) For 2006 and previous model years, standards in grams per kilowatt-hour are given only as a reference. For 2007 and subsequent model years, pollutant emissions reported to ARB by manufacturers must be in grams per kilowatt-hour.
  - (2) Small volume manufacturers are not required to comply with these emission standards.
  - (3) Manufacturers must show that at least 25 percent of its California engine sales comply with the standards in 2001, 50 percent in 2002, and 75 percent in 2003.
  - (4) The standards for in-use compliance for engine families certified to the standards in the row noted are 4.0 g/bhp-hr (5.4 g/kW-hr) hydrocarbon plus oxides of nitrogen and 50.0 g/bhp-hr (67.0 g/kW-hr) carbon monoxide, with a useful life of 5000 hours or 7 years. In-use averaging, banking, and trading credits may be generated for engines tested in compliance with these in-use compliance standards. If the in-use compliance level is above 3.0 but does not exceed 4.0 g/bhp-hr hydrocarbon plus oxides of nitrogen or is above 37.0 but does not exceed 50.0 g/bhp-hr carbon monoxide, and based on a review of information derived from a statistically valid and representative sample of engines, the Executive Officer determines that a substantial percentage of any class or category of such engines exhibits within the warranty periods noted in Section 2435, an identifiable, systematic defect in a component listed in that section, which causes a significant increase in emissions above those exhibited by engines free of such defects and of the same class or category and having the same period of use and hours, then the Executive Officer may invoke the enforcement authority under Section 2439, Title 13, California Code of regulations to require remedial action by the engine manufacturer. Such remedial action is limited to owner notification and repair or replacement of defective components, without regard to the requirements set forth in Section 2439(b)(5) or Section 2439(c)(5)(B)(vi). As used in the section, the term "defect" does not include failures that are the result of abuse, neglect, or improper maintenance.
  - (5) For severe-duty engines, the HC+NOx standard is 2.7 g/kW-hr and the CO standard is 130.0 g/kW-hr.
  - (6) Small volume manufacturers are required to comply with these emission standards in 2013.

(B) [No Change]

(C) [No Change]

(2) (A) *Optional Exhaust Emission Standards*. Manufacturers may certify ~~off-road large spark-ignition~~LSI engines manufactured for sale, sold, or offered for sale in California, or that are introduced, delivered or imported into California for introduction into commerce to the following optional low emission standards.

Optional Exhaust Emission Standards  
(grams per brake horsepower-hour)  
[grams per kilowatt-hour]<sup>(1)</sup>

Model Year	Engine Displacement	Durability Period	HC+NOx	Carbon Monoxide
2007 - 2009	> 1.0 liter	5000 hours or 7 years	1.5 [2.0]	4.8 [6.4]

2007 - 2009	> 1.0 liter	5000 hours or 7 years	1.0 [1.3]	8.3 [11.1]
2007 - 2009	> 1.0 liter	5000 hours or 7 years	0.6 [0.8]	15.4 [20.6]
2007 - 2009	> 1.0 liter	5000 hours or 7 years	0.4 [0.5]	15.4 [20.6]
2007 - 2009	> 1.0 liter	5000 hours or 7 years	0.2 [0.3]	15.4 [20.6]
2007 - 2009	> 1.0 liter	5000 hours or 7 years	0.1 [0.1]	15.4 [20.6]
2010 and subsequent	> 1.0 liter	5000 hours or 7 years	0.4 [0.5]	15.4 [20.6]
2010 and subsequent	> 1.0 liter	5000 hours or 7 years	0.2 [0.3]	15.4 [20.6]
2010 and subsequent	> 1.0 liter	5000 hours or 7 years	0.1 [0.1]	15.4 [20.6]

Note: (1) Pollutant emissions reported to ARB by manufacturers must be in grams per kilowatt-hour.

(B) *Field Testing Standards.* The field testing standards for optional emission standard ~~off-road large spark-ignition LSI~~ engines shall be 140 percent of the corresponding ~~OLE~~ optional HC+NOx standard and 150 percent of the corresponding ~~OLE~~ optional CO standard, rounded to the nearest tenth of one gram, using the field testing procedures described in subpart F, Title 40 CFR Section 1048.101(c), as adopted July 13, 2005.

(3) *Crankcase Emissions.* No crankcase emissions shall be discharged into the ambient atmosphere from any new 2001 or later model year off-road LSI engines.

(4) *Evaporative Emission Standards.* ~~Starting in the 2007 model year, engines over one liter that~~ LSI engines that run on a volatile liquid fuel (such as gasoline), must meet the following evaporative emissions standards and requirements starting in the 2007 model year for engines over one liter and starting in the 2014 model year for all LSI engines:

(A) Evaporative hydrocarbon emissions may not exceed 0.2 grams per gallon of fuel tank capacity when measured with the test procedures for evaporative emissions as described in subpart F, Title 40 Code of Federal Regulations (CFR) Sec.1048, as adopted July 13, 2005.

(B) For nonmetallic fuel lines, you must specify and use products that meet the Category 1 specifications in SAE J2260 (issued November 1996).

(C) Liquid fuel in the fuel tank may not reach boiling during continuous engine operation in the final installation at an ambient temperature of 30° C. Note that gasoline with a Reid vapor pressure of 62 kPa (9 psi) begins to boil at about 53° C.

(D) Design-based certification as described in subpart F, Title 40 CFR Sections 1048.105 and 1048.245, as adopted July 13, 2005, may be used instead of generating new emission data.

(c) [No Change]

(d) The test procedures for determining certification and compliance with the standards for exhaust emissions from new model year 2002 through 2009 off-road LSI engines with an engine displacement ~~equal to or~~ less than or equal to 1.0 liter sold in the state are set forth in “California Exhaust Emission Standards and Test Procedures for 1995-2004 Small Off-Road Engines,” as 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. The test procedures for determining certification and compliance with the standards for exhaust and evaporative emissions from new model year 2010 and subsequent LSI engines with an engine displacement less than or equal to 1.0 liter sold in the state are set forth in “California Exhaust and Evaporative Emission Standards and Test Procedures for New 2010 and Later Off-Road Large Spark-ignition Engines (2010 and Later Test Procedure 1048),” adopted March 2, 2007, and last amended [insert date of amendment], and “California Exhaust and Evaporative Emission Standards and Test Procedures for New 2007 and Later Off-Road Large Spark-Ignition Engines (Test Procedures 1065 and 1068),” adopted March 2, 2007.

(e) [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, 43105, 43150, 43151, 43152, 43153, 43154, 43205.5, 43210, 43210.5, 43211 and 43212, Health and Safety Code.

## § 2434. Emission Control Labels - 2001 and Later Off-Road Large Spark-ignition Engines

(a) [No Change]

(b) *Applicability.* This section applies to:

(1) (A) 2001 and later model year ~~off-road~~ LSI engines with an engine displacement greater than 1.0 liter, that have been certified to the applicable emission standards pursuant to Section 2433(b).

(B) Notwithstanding Section 2434(b)(1)(A), commencing with the 2014 model year, all new LSI engines that have been certified to the applicable emission standards pursuant to Section 2433(b).

(2) Engine manufacturers and original equipment manufacturers, as applicable, that have certified such engines.

(3) Original equipment manufacturers, regardless of whether they have certified the engine, if their equipment obscures the emission control labels of such certified engines.

(4) 2002 ~~and later~~ model year through 2013 model year LSI engines with an engine displacement less than or equal to 1.0 liter must comply with the applicable labeling specifications set forth in the California Code of Regulations, Title 13, Section 2404.

(c) through (l) [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, 43105, 43150, 43151, 43152, 43153, 43154, 43205.5, 43210, 43210.5, 43211 and 43212, Health and Safety Code.

## § 2435. Defects Warranty Requirements for 2001 and Later Off-Road Large Spark-ignition Engines.

### (a) Applicability.

(1) This section applies to new 2001 and later model year **off-road large spark-ignition LSI** engines with **an** engine displacement greater than 1.0 liter that are certified to the applicable emission standards pursuant to Section 2433(b). The warranty period begins on the date the engine or equipment is delivered to an ultimate purchaser. The use of alternative fuels must not void the warranties on any engine certified to use such fuel. 2002 and later model year **off-road LSI** engines with **an** engine displacement less than or equal to 1.0 liter must comply with the applicable warranty requirements set forth in the California Code of Regulations, Title 13, Section 2405.

(2) Notwithstanding Section 2435(a)(1), commencing with the 2014 model year, this section applies to all new LSI engines that are certified to the applicable emission standards pursuant to Section 2433(b).

(b) General Emissions Warranty Coverage. The manufacturer of each **off-road large spark-ignition LSI** engine must warrant to the ultimate purchaser and each subsequent purchaser that the engine is:

(1) Designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board pursuant to its authority in Chapters 1 and 2, Part 5, Division 26 of the Health and Safety Code; and

(2) Free from defects in materials and workmanship which cause the failure of a warranted part to be identical in all material respects to the part as described in the engine manufacturer's application for certification for a period of:

(A) 2 years or 1,500 hours, whichever occurs first, for 2001-2003 model year certified engines having **an** engine displacement greater than 1.0 liter.

(B) 3 years or 2,500 hours, whichever occurs first, for 2004 and later model year engines having **an** engine displacement greater than 1.0 liter and 2014 and later model year engines having an engine displacement less than or equal to 1.0 liter.

(3) Free from defects in materials and workmanship which cause the failure of a high-cost warranted part to be identical in all material respects to the part as described in the engine manufacturer's application for certification for 2004 and later model year engines having **an** engine displacements greater than 1.0 liter and 2014 and later model year engines having an engine displacement less than or equal to 1.0 liter, for a period of five years or 3,500 hours of operation, whichever occurs first.

(A) Each manufacturer shall identify in its application for certification the "high-priced" warranted parts which (i) are included on the Board's "Emission Warranty Parts List" as last amended February 22, 1985, incorporated herein by reference, and (ii) have an individual replacement cost, at the time of certification, exceeding the cost limit defined in subsection (B). The replacement cost shall

include the cost of the part, labor and standard diagnosis. The costs shall be those of the highest-cost metropolitan area of California.

(B) The dollar value of a high cost part shall be based on the following formula:

$$\text{Cost Limit}_n = \$300 * (\text{CPI}_{n-2} / 118.3)$$

where,

Cost Limit<sub>n</sub> is the cost limit for the applicable model year of the engine rounded to the nearest ten dollars.

n is the model year of the new engines.

n-2 is the calendar year two years prior to the model year of the new engines.

CPI= is the annual average nationwide urban consumer price index published by the United States Bureau of Labor Statistics.

(C) The cost limit shall be reviewed annually by the Executive Officer. The highest-cost metropolitan area in California shall be identified by the Executive Officer for use in this subsection. If a manufacturer seeks certification of an engine before the applicable annual average CPI is available, the cost limit shall be calculated using the average of the monthly nationwide urban CPI figures for the most recent twelve month period for which figures have been published by the United States Bureau of Labor Statistics.

(D) Each manufacturer shall submit to the Executive Officer the documentation used to identify the "high-priced" warranted parts required in this subsection. The documentation shall include the estimated retail parts costs, labor rates in dollars per hour, and the labor hours necessary to diagnosis and replace the parts.

(4) In the absence of a device to measure hours of use, the engine must be warranted for a period of the years noted above in subsections (2) and (3). If a device to measure hours is used, the engine must be warranted for the number of hours or the number of years noted above in subsections (2) and (3), whichever occurs first.

(c) through (g) [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, 43105, 43150-43154, 43205.5 and 43210-43212, Health and Safety Code.

## § 2436. Emission Control System Warranty Statement.

(a) (1) Each manufacturer must furnish a copy of the following statement with each new ~~off-road large spark-ignition~~ LSI engine with an engine displacement greater than 1.0 liter, that has been certified to the applicable emission standards pursuant to Section 2433(b), using those portions of the statement applicable to the engine. For the 2002 through 2013 model years, Eeach manufacturer must furnish a copy of the warranty statement as set forth in the California Code of Regulations, Title 13, Section 2406(a) with each new off-road large spark-ignition engine with an engine displacement less than or equal to 1.0 liter, using those portions of the statement applicable to the engine.

(2) Notwithstanding Section 2436(a)(1), commencing with the 2014 model year, each manufacturer must furnish a copy of the following statement with each new LSI engine, that have been certified to the applicable emission standards pursuant to Section 2433(b), using those portions of the statement applicable to the engine.

### CALIFORNIA EMISSION CONTROL WARRANTY STATEMENT

#### YOUR WARRANTY RIGHTS AND OBLIGATIONS

The **California Air Resources Board** (and manufacturer's name, optional) is pleased to explain the **emission control system warranty** on your **(model year(s))** (equipment type or off-road large spark-ignition) engine. In California, new off-road large spark-ignition (LSI) engines must be designed, built and equipped to meet the State's stringent anti-smog standards. (Manufacturer's name) must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the carburetor, regulator or fuel-injection system, ignition system, engine computer unit (ECM), catalytic converter and air induction system. Also included may be sensors, hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, (manufacturer's name) will repair your LSI engine at no cost to you including diagnosis, parts and labor.

#### MANUFACTURER'S WARRANTY COVERAGE:

The **(model year(s))** ~~off-road large spark-ignition~~ LSI engines are warranted for **(warranty period)**. If any emission-related part on your engine is defective, the part will be repaired or replaced by (manufacturer's name).

#### OWNER'S WARRANTY RESPONSIBILITIES:

- As the ~~off-road~~ LSI engine owner, you are responsible for the performance of the **required maintenance listed in your owner's manual**. (Manufacturer's name) recommends that you retain all receipts covering maintenance on your off-road engine, but (manufacturer's name) cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- As the ~~off-road large spark-ignition~~ LSI engine owner, you should however be aware that (manufacturer's name) may deny you warranty coverage if your ~~off-road large spark-ignition~~ LSI engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.
- Your engine is designed to operate on (**specific fuel(s)**). Use of any other fuel may result in your engine no longer operating in compliance with California's emissions requirements.
- You are responsible for initiating the warranty process. The ARB suggests that you present your ~~off-road large spark-ignition~~ LSI engine to a (manufacturer's name) dealer as soon as a problem exists. The warranty repairs should be completed by the dealer as expeditiously as possible.

If you have any questions regarding your warranty rights and responsibilities, you should contact (Insert chosen manufacturer's contact) at 1-XXX-XXX-XXXX.

(b) Warranty statement furnishing requirements.

(1) Commencing with the 2001 model year for ~~large off-road large spark-ignition~~ LSI engines with an engine displacement greater than 1.0 liter, each manufacturer must furnish with each new engine a warranty statement that generally describes the obligations and rights of the engine manufacturer and owner under this article. Engine manufacturers must also include in the warranty statement a telephone number the customer may use to obtain their nearest franchised service center.

(2) Commencing with the 2002 model year through 2013 model year for ~~large off-road large spark-ignition~~ LSI engines with an engine displacement less than or equal to 1.0 liter, each manufacturer must furnish with each new engine a warranty statement as set forth in the California Code of Regulations, Title 13, Section 2406(b).

(3) Notwithstanding Sections 2436(b)(1) and 2436(b)(2), commencing with the 2014 model year for all new LSI engines, each manufacturer must furnish with each new engine a warranty statement that generally describes the obligations and rights of the engine manufacturer and owner under this article. Engine manufacturers must also include in the warranty statement a phone number the customer may use to obtain their nearest franchised service center.

(c) Each manufacturer must submit the documents required by Subsections (a) and (b) with the manufacturer's preliminary application for new engine certification for approval by the Executive Officer. The Executive Officer may reject or require modification of the documents to the extent the submitted documents do not satisfy the requirements of Subsections (a) and (b). Approval by the Executive Officer of the documents required by Subsections (a) and (b) must be a condition of certification. The Executive Officer must approve or disapprove the documents required by Subsections (a) and (b) within 90 days of the date such documents are received from the manufacturer. Any disapproval must be accompanied by a statement of the reasons therefore. In the event of disapproval, the manufacturer may petition the Board to review the decision of the Executive Officer.

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43102 and 43104, Health and Safety Code.

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**§ 2437. New Engine Compliance and Production Line Testing - New Off-Road Large Spark-ignition Engines Selection, Evaluation, and Enforcement Action.**

(a) Compliance Test Procedures

(1) (A) These procedures apply, commencing with the 2001 model year, to any ~~large off-road spark-ignition~~LSI engine family group (as defined in Sections 2 and 11 of the “California Exhaust Emission Standards and Test Procedures for New 2001 and Later Off-Road Large Spark-ignition Engines”) or any subgroup within an engine family group selected for compliance testing pursuant to this section, with an engine displacement greater than 1.0 liter, that have been certified to the applicable emission standards pursuant to Section 2433 (b). For the 2002 and later through 2013 model years, large off-road spark-ignitionLSI engines with an engine displacement less than or equal to 1.0 liter must comply with the new engine compliance test procedures set forth in the California Code of Regulations, Title 13, Section 2407.

(B) Notwithstanding Section 2437(a)(1)(A), commencing with the 2014 model year, these procedures apply to any LSI engine family group or any subgroup within an engine family group selected for compliance testing pursuant to this section, that have been certified to the applicable emission standards pursuant to Section 2433 (b).

(a)(2) through (a)(13) [No Change]

(b) 2001 and Subsequent Model Cumulative Sum Production Line Test Procedures

(1) (A) The 2001 and subsequent model year ~~off-road large spark-ignition~~LSI engines with an engine displacement of greater than 1.0 liter, that have been certified to the applicable emission standards pursuant to Section 2433(b), are subject to production line testing performed according to the requirements specified in this section. For the 2002 and subsequent through 2013 model years, off-road large spark-ignitionLSI engines with an engine displacement of less than or equal to 1.0 liter, that have been certified for sale in California, must comply with production line testing performed according to the requirements set forth in the California Code of Regulations, Title 13, Section 2407.

(B) Notwithstanding Section 2437(b)(1)(A), commencing with the 2014 model year, all new LSI engines that have been certified to the applicable emission standards pursuant to Section 2433(b), are subject to production line testing performed according to the requirements specified in this section.

(b)(2) through (b)(6) [No Change]

(c) through (f) [No Change]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43017, 43018, 43101, 43102, and 43104, Health and Safety Code.  
Reference: Sections 43013, 43017, 43018, 43101, 43102, 43104, 43105, 43150-43154, 43205.5 and 43210-43212, Health and Safety Code.

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## § 2438 In-Use Compliance Program

- (a) (1) This section applies to new 2004 and later model year ~~off-road large spark-ignition~~LSI engines with an engine displacement greater than 1.0 liter.  
(2) Notwithstanding Section 2438(a)(1), commencing with the 2014 model year, this section applies to all new LSI engines.

(b) through (e) [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, 43105, 43150-43154, 43205.5 and 43210-43212, Health and Safety Code.

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**§ 2439 Procedures for In-Use Engine Recalls for Large Off-Road Spark-Ignition Engines ~~with an Engine Displacement Greater Than 1.0 Liter~~**

(a) through (e) [No Change]

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43102, 43104 and 43105, Health and Safety Code.

Reference: Sections 43000, 43009.5, 43013, 43017, 43018, 43101, 43102, 43104, 43105, 43106, 43107, 43150-43154, 43205 - 43205.5 and 43210-43212, Health and Safety Code.

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