

California Environmental Protection Agency



**Small Off-Road Engine Evaporative Emission Control System
Certification Procedures**

CP - 901

**Certification And Approval Procedures for
Small Off-Road Engine Fuel Tanks**

Proposed: August 8, 2003

**CP-901
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Air Resources Board**

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A set of definitions common to all Certification and Test Procedures are in Title 13, California Code of Regulations (CCR), Section 2752 et seq.

For the purpose of this procedure, the term "ARB" refers to the California Air Resources Board, and the term "Executive Officer" refers to the ARB Executive Officer, or his or her authorized representative or designate.

1. GENERAL INFORMATION AND APPLICABILITY

This document contains the procedures for evaluating and certifying fuel tanks used on equipment that use small off-road engines with displacements less than or equal to 80 cc. This Certification Procedure, CP-901, is proposed pursuant to Section 43824 of the California Health and Safety Code (CH&SC). Small off-road engines are defined in Title 13, California Code of Regulations (CCR), Section 2401 et seq.

1.1 Requirement to Comply with Applicable Codes and Regulations

Certification of any equipment fuel tank by the Executive Officer does not exempt the fuel tank from compliance with other applicable codes and regulations such as state and federal safety codes and regulations.

2. PERFORMANCE STANDARDS AND SPECIFICATIONS

2.1 Performance Standards

A performance standard defines the minimum performance requirements for an equipment fuel tank. Compliance with the maximum allowable permeation performance standard must be demonstrated in order to obtain certification under these Certification Procedures. Title 13, CCR, Section 2755 identifies the performance standard and the affected model year.

3. OPTIONAL PERFORMANCE STANDARDS

Optional performance standards are emission targets that are more stringent than the normal performance standards. Manufacturers that certify equipment fuel tanks to these optional

standards are allowed to affix a unique label to their equipment, which identifies it as low polluting. Title 13, CCR, Section 2757 identifies the optional performance standards.

4. CERTIFICATION OVERVIEW

Fuel tanks of equipment that use spark ignited (SI) small off-road engines with displacements of less than or equal to 80 cc must be certified by the California Air Resources Board (ARB) to be legal for sale and use in California. Executive Orders certifying equipment fuel tanks to the maximum allowable permeation emissions performance standard are valid for only one model year of production. New Executive Orders in each subsequent model year must be obtained from ARB to be legal for sale and use in California. Selling equipment in California before receiving an ARB certification will subject the manufacturer and the selling dealers to ARB enforcement actions as authorized by state laws.

Manufacturers' that certify equipment fuel tanks under these procedures are required to submit test data that documents compliance with the maximum allowable permeation emissions performance standard. A manufacturer must test a minimum of one fuel tank for every engine family for which certification is requested. The fuel tank selected for testing must be of a configuration and material composition such that it is expected to yield the highest permeation emissions within an engine family. The test procedures used to determine compliance with maximum allowable permeation emissions performance standard are described in TP-901, "Test Procedure for Determining Permeation Emissions from Small Off-Road Engine Equipment Fuel Tanks".

5. CERTIFICATION

5.1 Certification Process

5.1.1 Emission-Compliant Fuel Tanks: For each engine family, the equipment manufacturer must select and test an equipment fuel tank to show compliance with the maximum allowable permeation emissions performance standard. The equipment fuel tank selected must use the same method of permeation control and be constructed of the same material as specified in the certification application. In addition, the equipment fuel tank shall be selected such that the fuel tank is expected to exhibit worst-case emissions, (e.g., highest permeation emissions) of all the fuel tanks within the applicable engine family. The ARB may direct the manufacturer to conduct a retest if the original test results indicate marginal (within 5% of the standard) compliance.

5.1.2 Application for Certification: As part of the exhaust emission certification application set forth in "California Exhaust Emission Standards and Test Procedures for 1995 and Later Small Off-Road Engines," adopted March 20, 1999, and last amended _____, the manufacturer must submit to ARB information and permeation test data in the ARB-specified format. To expedite the certification approval, requests for ARB approval of anti-tampering devices, labels, the emission warranty statement, and any modification to the test procedure should be submitted in advance of the application.

5.2 Certification Responsibilities

Under these procedures, equipment manufacturers are required to obtain ARB certification for small off-road engine equipment fuel tanks that are required to adhere to the maximum allowable permeation emissions performance standard and are held liable for complying with all of ARB's certification and emission warranty requirements.

5.3 Certification Testing

Prior to the time of production, the fuel tank selected for testing is durability tested and preconditioned as specified in TP-901 to stabilize the permeation emissions. An emission test is then conducted using TP-901 and the results submitted to ARB as part of the certification application. If, after review of the application for certification including all test data submitted by the manufacturer and any other pertinent data or information the Executive Officer determines is necessary, the Executive Officer determines that the application has satisfied the conditions set forth in these procedures, the Executive Officer may approve the application and issue an Executive Order.

5.4 Data Carryover and Carryacross

Subject to ARB approval, the certification permeation emissions data may be carried over, in lieu of new tests, to similar fuel tanks in other engine families in following model years, provided there have been no changes to the equipment fuel tank that could affect the overall permeation emissions. Similar fuel tanks must be manufactured using the same manufacturing process, be of a volume no greater than the certified tank, and use identical materials and additives. Also, subject to ARB approval, the permeation emissions data may be carried across, in lieu of new tests, to a different engine family in the same model year if similar tanks as defined above are used.

6. GENERAL INSTRUCTIONS – FUEL TANK CERTIFICATION

These instructions provide guidance regarding the preparation, submission, and revision of small off-road engine fuel tank certification applications. Only information essential for certification is required in this format. Other information required by the test procedures (e.g., test equipment build records, test and maintenance records, etc.) must be maintained by the manufacturer and made available to the ARB within **30 days** upon request. An application submitted in accordance with these instructions will enable an expedited review by the ARB. Manufacturers must submit all revisions to the application to the ARB for approval. This section covers the following subject matter:

- Where To Submit Applications for Certification
- Letter of Intent (LOI)
- Cover Letter
- Equipment Labeling
- Test Procedure
- Modified Test Procedures
- Certification Test Fuels
- Amendments to the Application
- Running Changes and Field Fixes
- Confidentiality

6.1 Where to Submit Applications For Certification

All certification-related applications and correspondence should be forwarded to:

Mobile Source Operations Division
Air Resources Board
9480 Telstar Avenue, Suite 4
El Monte, California 91731-2988
Attn: Division Chief

6.2 Letter of Intent (LOI)

As part of the exhaust emission certification application set forth in 'California Exhaust Emission Standards and Test Procedures for 1995 and Later Small Off-Road Engines,' adopted March 20, 1999, and last amended _____, a manufacturer shall include information regarding the application for certification for the model-year. This additional information should list planned engine families and the projected dates when the applications will be submitted. The manufacturer's phase-in compliance plan for the Model Year should also be included. Any certification or testing issues that could delay the certification process of any fuel tank may be included in the exhaust emission certification application. Any updates to the manufacturer's certification plan should be submitted in a timely manner.

6.3 Cover Letter

As part of the exhaust emission certification application set forth in 'California Exhaust Emission Standards and Test Procedures for 1995 and Later Small Off-Road Engines,' adopted March 20, 1999, and last amended _____, a cover letter, signed by the manufacturer's authorized representative, must accompany each application. The cover letter should recap highlights about the equipment fuel tank and the engine family, such as its new or carry-over test data status, the use of a new emission control technology, the use of a modified test procedure, or the anticipated start date of production.

6.4 Equipment Labeling

The permeation emissions certification label is an important ARB requirement for identifying certified and legal equipment from those uncertified. The labels are used to assist enforcement activities. The permeation emissions certification label may be integrated with the exhaust emission label and must include an unconditional statement of conformance with the maximum allowable permeation standard and uniquely identify the manufacturer and the engine displacement.

Manufacturers are required to submit samples of the permeation emissions certification labels (or copies) for each evaporative family to ARB for review and approval of the format, content and placement location. Labels must be readily legible and visible on the engine per Title 13 CCR Article 1, Section 2404. The proposed location(s) must be shown by either a drawing or photograph. Detailed written explanations of the label locations are also acceptable. Label samples and proposed label locations may be submitted to ARB for approval in advance of the actual certification application to prevent any certification delay.

6.5 Test Procedure

The test procedures used to determine compliance with the Performance Standards, including equipment provisions and emission test procedures, are specified in TP-901, Test Procedure for Determining Permeation Emissions from Small Off-Road Engine Equipment Fuel Tanks, adopted _____.

6.6 Modified Test Procedure

Any modifications to the prescribed test equipment and/or test procedure due to unique equipment fuel tank designs, laboratory equipment arrangements, facility limitations, etc. must be approved in advance by the Executive Officer and described in the certification application. The use of unapproved test equipment or procedures may result in rejection of generated test data by the Executive Officer.

6.7 Certification Test Fuel

The fuel for emission testing must meet the specifications in the test procedure to reduce emission variations. Testing with unauthorized fuel will result in rejection of the test results. The allowable test fuel specified in TP-901 is Phase II California Reformulated Certification (CERT). The specifications of this certification gasoline are provided in "California Exhaust Emission Standards and Test Procedures For 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles", (Reference #3, Part II, Section 100.3.1).

6.8 Amendments to the Application

Any revisions to an application due to typographical errors, corrections, running changes or field fixes, new test data, or additional information must be submitted to ARB. If the changes affect the Certification Summary, the entire application shall be resubmitted to ARB. For the other parts of the application, only the revised information on the affected application pages must be submitted, together with the following for identification purposes:

- Manufacturer Name
- Model Year
- Engine Family
- Process Code (e.g., correction, running change)
- Engine Displacement
- Comments Field (describing the update or change)
- The fields that have been changed or corrected.

6.9 Running Changes and Field-Fixes

Any factory change to an equipment fuel tank during the model-year production that could potentially affect the permeation emissions must be approved by ARB via a manufacturer's submitted running change request. In addition, any post assembly line change to an equipment fuel tank (e.g., at factory warehouses, distribution centers, dealers) must be approved by ARB via a manufacturer's submitted field fix request. A field fix request typically occurs after the model-year production has ended. Running changes and field fixes not approved by ARB will render any affected engine family uncertified and subject the manufacturer to ARB enforcement actions. If the change affects the permeation emissions or results in a new worst-case emissions equipment fuel tank, new test data will be required to demonstrate that the engine family will remain in compliance and a new certification application must be submitted. If the change does not affect the permeation emissions or result in a new worst-case engine family fuel tank, only the affected pages and information fields of the certification application need to be submitted.

6.10 Confidentiality

Any information that is designated by the manufacturer as confidential may not receive automatic treatment for confidentiality unless the manufacturer can justify that the information is truly privileged, confidential business information. California guidelines (Sections 91000-91002, Title 17, California Code of Regulations, and Health and Safety Code Section 39660(e)) will be followed in the handling of confidential information.

6.11 Summary of Certification Process

The applicant shall prepare a summary of the certification process for each certified engine family fuel tank. It shall contain documentation of the successful completion of all applicable

portions of the requirements contained in this Certification Procedure including but not limited to the following:

- All problems encountered throughout the certification process,
- The types of testing performed, and
- The frequency and/or duration of any testing, as appropriate.

Any other pertinent information about the evaluation process shall be contained in the summary.

7. APPLICATION FORMAT INSTRUCTIONS

For information regarding the format of the certification application please see the exhaust emission certification application set forth in "California Exhaust Emission Standards and Test Procedures for 1995 and Later Small Off-Road Engines," adopted March 20, 1999, and last amended _____.

8. DOCUMENTATION OF CERTIFICATION

Documentation of certification shall be in the form of an Executive Order.

The certification Executive Order shall include, at a minimum, the following items.

- A list of approved engines/model(s) under the engine family.
- Applicable Performance Standard and Test Procedures.
- Applicable Operating Parameters and Limitations.
- Tank Volume and Internal Surface Area
- Tank Material (Resin and Additives)
- Tank Treatment Type
- Unique Properties
- Warranty period(s).
- Factory testing requirements, if applicable.

9. CONDITIONS OF CERTIFICATION

Equipment fuel tank certifications shall specify the duration and conditions by which the certification is issued and include a list of all engine models covered by the certification.

9.1 Duration of System Certification

Equipment fuel tanks shall be certified for a period of one model-year.

9.2 Performance Monitoring

During the certification period, any deficiencies identified through complaint investigations, certification or compliance tests, etc., shall be noted in the performance section of the certification file and brought to the attention of the equipment manufacturer. If the deficiencies result in emissions in excess of the applicable standard, the manufacturer may be subject to remedial actions that are accepted and approved by ARB.

10. APPROVAL OF APPLICATION FOR CERTIFICATION

The Executive Officer shall certify only those equipment fuel tanks that can be expected to comply

with the performance standard.

After a review of the complete application for certification and any other information that the Executive Officer requires, the Executive Officer will approve the application for certification if all the foregoing conditions are satisfied.

REFERENCES

1. Title 13, California Code of Regulations, (13 CCR) Sections 2400,2401, and 2752.
2. California Exhaust Emission Standards and Test Procedures For 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, California Environmental Protection Agency, Air Resources Board, El Monte CA, 2000.
3. California Exhaust Emission Standards and Test Procedures for 1995 and Later Small Off-Road Engines, California Environmental Protection Agency, Air Resources Board, El Monte CA, 1999.
4. Test Procedure for Determining Permeation Emissions from Small Off-Road Engine Equipment Fuel Tanks, TP-901, California Environmental Protection Agency, Air Resources Board, Sacramento, CA, 2002.