

FAQ  
Confirmatory Testing By The Air Resources Board  
Highway Motorcycles, Off-Highway Recreational Vehicles

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**A. What Is Confirmatory Testing?**

Confirmatory testing is emissions testing conducted by the Air Resources Board (ARB) of a manufacturer's test vehicle. In the context of this advisory FAQ, "manufacturer" refers to the party that requests certification and whose name is specified on the certification Executive Order, and confirmatory testing refers to emissions testing by the ARB of a manufacturer's certification test vehicle, or a production vehicle representing the certification test vehicle, during ARB's evaluation of an application for certification prior to issuing an Executive Order.

**B. Why Conducts Confirmatory Testing?**

As authorized by regulation, the ARB can conduct confirmatory emissions testing of the manufacturer's certification vehicle as part of ARB's evaluation of the manufacturer's application for certification.<sup>1</sup> Confirmatory testing by ARB is conducted for any one or a combination of the following reasons: a new manufacturer, marginal compliance with the emission standards, new emission control technology employed, manufacturer's results being too high or too low for the type of emission control systems used (i.e., was manufacturer's testing properly conducted?), or just random selection (i.e., to induce proper testing by manufacturers). The ARB's test results will replace the manufacturer's

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<sup>1</sup> Title 40, Code of Federal Regulation, §86.434-78 (Testing by the Administrator), incorporated by reference into Title 13, California Code of Regulations, §1958 (13CCR 1958) (Exhaust Emission Standards and Test Procedures — Motorcycles and Motorcycle Engines Manufactured on or After January 1, 1978.) and 13CCR 2412 (Emission Standards and Test Procedures – New Off-Highway Recreational Vehicles and Engines).

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emission results in the determination of compliance with the emission standards and the decision to issue the certification Executive Order. All ARB's test results will also be forwarded to the U.S. Environmental Protection Agency.

**C. What If The Certification Test Vehicle Is No Longer Available for Confirmatory Testing By ARB?**

Manufacturers should retain the certification test vehicles for as long as they plan on carrying over the certification data generated by the test vehicles, but should be at least one year for, among other uses, possible confirmatory testing by ARB, new tests by the manufacturer in support of a running change that results in a new worst-case emissions configuration or that affects the vehicle's emission performance.

If the certification test vehicle is no longer available, ARB may allow a production vehicle to be used for confirmatory testing. ARB staff will make arrangements with the manufacturer to randomly select a vehicle. If the selected vehicle is in a crate or otherwise unassembled, the manufacturer will be responsible for assembling the vehicle and for making it ready for testing before delivering it to ARB Haagen-Smit laboratory in El Monte, California. ARB staff may seal or mark certain emissions related parts of the selected test vehicle to ensure its integrity. The vehicle is made test ready by accumulating sufficient mileage (to a mileage point agreed upon in advance by ARB, up to a distance equivalent to the minimum test distance, or MTD, that is specified in the test procedures) to stabilize its engine and emission control systems and, as applicable, by installing the fuel tank heating blanket and thermocouples to measure fuel and fuel vapor temperatures. No maintenance or repair to the test vehicle is allowed without advance ARB approval. With advance notification to ARB staff and with concurrence from ARB staff, the manufacturer may conduct emission testing at the zero-mile point and at the agreed-upon mileage point before delivering the test vehicle to ARB to assure that the test vehicle is in good operating conditions as designed. As applicable if the vehicle is subject to evaporative testing, copies of the fuel and vapor temperature rises conducted by the manufacturer must be submitted upon delivery of the test vehicle to ARB to ensure that the fuel and vapor heating mechanism has been installed and is functioning properly.

When a production vehicle is used for confirmatory testing, modified deterioration factors (DFs) will be applied to the test results to determine the certification emission levels that are then compared to the emission standards to determine compliance. Modified DFs are calculated from the manufacturer's durability data set but are calculated based on the extrapolated emissions at the useful life point and the interpolated emissions at the minimum test distance (MTD) point. [For comparison, the typical certification DFs are calculated based on the extrapolated emissions at the useful life point and the interpolated emissions at the total test distance (TTD) point.]

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**D. What Happens In A Confirmatory Test At ARB?**

ARB test personnel will verify the test vehicle's configuration as described in the certification application. This includes verification of the test vehicle's identification number (VIN) and the part numbers<sup>2</sup> of emission related parts, e.g., carburetor, fuel regulator, exhaust manifold, oxygen sensor, secondary air injection system, catalyst system, fuel tank, gas cap, carbon canister, purge valve. Adjustable parameters, e.g., idle air/fuel mixture screw, will be inspected for its anti-tampering mechanism as approved by the ARB. The crankcase ventilation system will be checked for being a closed system. A test vehicle in an uncertified configuration (e.g., mismatched part numbers, mismatched VIN, mismatched emission control systems) will not be accepted for ARB testing.

The ARB will perform the exhaust, and as applicable, evaporative emission tests, including the preparatory phase, in accordance with the specified test procedures. If approved in advance by ARB, modified test procedures will be performed by ARB, e.g., additional "prep" cycles, alternate shift schedule.

Observation by a manufacturer's representative during official ARB testing is encouraged and welcomed.

**E. Timing of Confirmatory Testing.**

Preferably, a manufacturer is encouraged to preview with ARB certification staff its certification plan for the upcoming model-year before submitting the first application. The certification preview can be done via a meeting, via a teleconference with or without the aid of the GOTO-Meeting presentation, or via a letter. Through the certification preview process, the manufacturer's certification plan (e.g., timing, product offerings, new test data or carry-over data, special and modified test procedures including durability test plans) is described to ARB staff. Such preview information greatly assists ARB staff in planning the schedule for the confirmatory testing of the manufacturer's test vehicles to meet the manufacturer's certification timing and marketing plans and in timely processing the applications submitted subsequently (e.g., no delay due to questions by ARB staff concerning a test plan or a modified test procedure that has been resolved in advance through the certification preview process).

If there is no certification preview plan, the ARB certification staff will have to decide on whether or not to conduct a confirmatory test during the review of the certification application and then to schedule it for the next available time slot in the queue, which

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<sup>2</sup> The part numbers to be verified by ARB staff are those found on the parts. In the public version of the certification application, it is acceptable to provide the part numbers by the manufacturer's inventory part numbers. However, the protected CBI (confidential business information) version of the certification application must provide both the actual part numbers found on the parts and the manufacturer's inventory numbers.

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might not fit the manufacturer's certification and marketing plans. Therefore, for manufacturers that do not provide ARB its certification preview plan, it is recommended that the manufacturer contacts the assigned ARB certification engineer soon after submitting an application to inquire about the possibility of being subject to ARB confirmatory testing.

ARB typically requests a manufacturer to deliver the test vehicle to the Haagen-Smit laboratory in El Monte, California two weeks before the scheduled test week. The test vehicle will be released to the manufacturer shortly after successfully completing and passing the tests.

If the test vehicle failed any test, the manufacturer will be notified and invited to a meeting with ARB staff to discuss the results and available options. If a retest is agreed upon by ARB, the test vehicle is released to the manufacturer to diagnose the failure and perform the necessary repairs that has been authorized by ARB staff. The retest will be scheduled as soon as possible by ARB.

If a test vehicle delivered to ARB is not in a test-ready condition and has to be returned to the manufacturer for the necessary work, it will be rescheduled for the next available time slot in the queue upon returning to ARB.

To ensure that an ARB confirmatory test is conducted in a timely manner, these steps may be taken to prepare the vehicle before the vehicle is delivered to the ARB.

#### **F. Vehicle Instrumentation.**

The evaporative test procedure requires the fuel and fuel vapor to be heated and their temperatures to be monitored and kept within specified limits. Thus, the test vehicle must be instrumented for such evaporative test, including installation of the fuel and vapor heating devices, thermocouples. A test vehicle not instrumented may be grounds for ARB to disqualify the vehicle for a confirmatory test. It is ARB's policy to request the manufacturer to provide copies of the charts for the fuel and vapor temperatures during the manufacturer's certification test to assure that the instrumentation of the test vehicle as provided to ARB is compatible with the test procedures.

#### **G. Drain Fuel Tank Before Delivering To ARB.**

When the test vehicle is transported with fuel in the tank, the fuel may spill on the vehicle or migrate into the carbon canister. When this happens, the measured emissions will be adversely affected. Therefore, it is recommended that the test vehicle's fuel tank be drained before it is delivered to ARB.

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**H. Fuel Tank Heating Blanket Power Plug.**

The ARB laboratory's heating blanket power receptacle is a standard U.S. style, 120-volt a.c. outlet. (Fig. 1) If the heating blanket's power plug is not a standard 2- or 3-prong plug, the manufacturer should provide the necessary adaptor cords.



Fig. 1

**I. Ensure The Test Vehicle Is In A Test Ready Condition.**

The test vehicle must be delivered to ARB in a startable, drivable, and test ready condition. The vehicle must be fully assembled, tires properly inflated, battery charged, and, with the exception of the drained fuel tank mentioned above, all fluids filled to proper levels.

**J. No Unauthorized Maintenance Or Vehicle Alterations.**

The test vehicle must be delivered to ARB "as is" in the configuration of its last emission test, or, in the case of a production vehicle being used as the test vehicle, "as received" at the retail or wholesale establishment. Other than modifications required solely to install the fuel tank heating mechanism and the fuel and vapor thermocouples, maintenance on or alteration to the test vehicle is not allowed without prior ARB approval.

**K. How Does ARB Handle Test Vehicles Equipped With A Manual Fuel Petcock?**

ARB considers a manual fuel petcock as an adjustable parameter. Per regulation and ARB policy, ARB will test vehicles with an adjustable parameter in any conditions it deems appropriate or possible in-use. Accordingly, ARB will test vehicles equipped with a manual fuel petcock with the petcock in the open position.

**L. Special Test Procedures.**

Any deviation from the standard test procedures must be justified by the manufacturer, and receive ARB approval prior to testing. For example, a manufacturer may request additional vehicle preconditioning, or an alternate shift schedule for manual transmission vehicles.

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**M. Other Issues.**

TBD

**N. Contacts**

Questions or comments related to this FAQ can be directed to:

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