

AIR RESOURCES BOARD

HAAGEN-SMIT LABORATORY
9528 TELSTAR AVENUE
EL MONTE, CA 91731-2990
PHONE: (818) 575-6800

MANUFACTURERS ADVISORY CORRESPONDENCE #94-05



August 9, 1994

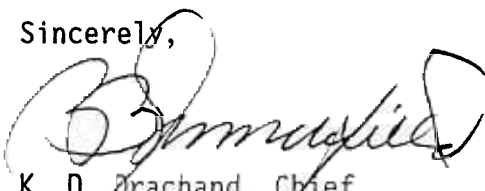
TO: ALL MANUFACTURERS OF UTILITY AND LAWN AND GARDEN EQUIPMENT ENGINES
ALL OTHER INTERESTED PARTIES

SUBJECT: Emission Control Part Identification for Utility and Lawn and Garden
Equipment Engines (ULGEs)

This letter transmits a Manufacturers Advisory Correspondence (MAC) which provides guidance regarding the Air Resources Board (ARB) requirement for the identification of emission control parts used on ULGEs. The ARB has found that the use of part numbers is one of the most effective methods for fulfilling this requirement. If a manufacturer does not wish to use part numbers, alternative methods are allowed but must be approved by the ARB as part of the certification process. All methods must demonstrate that certified ULGEs are representative of production ULGEs.

If you have further questions on this matter, please contact Mr. Duc Nguyen, Manager, Certification Section, or Mr. Dean Hermano, staff, at (818) 450-6103.

Sincerely,

for 
K. D. Drachand, Chief
Mobile Source Division

Enclosure

State of California
AIR RESOURCES BOARD

SUBJECT: Emission Control Part Identification for Utility and Lawn and Garden Equipment Engines (ULGEs).

APPLICABILITY: All ULGEs Produced On or After January 1, 1995, for Sale in California.

- REFERENCES:
1. "California Exhaust Emission Standards and Test Procedures for 1995 and Later Utility and Lawn and Garden Equipment Engines," amended April 8, 1993.
 2. Title 13, California Code of Regulations, Section 2407 (13 CCR 2407).

[References to the above documents are indicated by brackets]

DISCUSSION: Production ULGEs are required to be representative of the certification ULGEs with respect to the fuel system, emission control system components, exhaust after-treatment devices, or any other device or components that can reasonably be expected to influence exhaust emissions [Reference 1, Part I, Section 30(a)(2)(i)(A)(3)]. The Air Resources Board (ARB) has found through experience with the on-road motor vehicle program that the use of part numbers is one of the most effective methods to identify tampering or misbuilds of engines during field investigations or, as required [Reference 2, Paragraph (a)(12)], during new engine compliance testing.

The ARB has found the use of part numbers to be helpful in effectively tracking assembly-level components including, but not limited to, carburetors, injection pumps, spark plugs, distributors, and air and fuel filters. In contrast, it is not necessary for ULGE manufacturers to identify certain sub-components such as mixture adjustment screws, carburetor jets, fuel lines or gaskets to assure representativeness since these components are typically part of an assembly which have an overall part number. For example, in the case of mixture screws and carburetor jets, their separate identification is not required because they are part of the carburetor assembly which is identified by the carburetor's part number; the use of the proper jets has presumably been assured by the manufacturer's or supplier's quality control check (e.g., carburetor bench flowing).

MANUFACTURERS ADVISORY CORRESPONDENCE #94-05

In the case of sub-components that are designed to prevent the tampering of adjustable, emission-related parameters beyond their specified ranges (e.g., a limiter cap that is press-fitted onto an idle mixture screw), the ARB does believe that part numbers are necessary. Additionally, carburetor bodies that are cast with different stopper embossments but are otherwise identical should have different part numbers if the embossments alter the allowable range of calibration for such sub-components.

If a manufacturer elects to use part numbers to assure the representativeness of its production engines, the manufacturer should report these part numbers in its application for certification. Such part numbers should be permanently attached to the part. A manufacturer should not use its inventory numbers for this purpose because these numbers are not separately stamped on the parts and thus do not allow for accurate field verification.

If a manufacturer does not wish to use part numbers, it is incumbent that the manufacturer demonstrate to the ARB's satisfaction that production ULGEs are representative of the certification ULGEs. The ARB believes that one way a manufacturer could satisfy this requirement would be by providing, in its applications for certification, calibration curves with production tolerances, and the material construction and production processes of the emission control parts. The manufacturer would need to confirm that the emission control parts used on the certification engine conform to these specifications by providing data, including actual flow-stand data, if applicable, obtained from the engine's parts. Furthermore, it would be the manufacturer's responsibility to demonstrate that all ULGEs chosen for compliance testing conform to these specifications [Reference 2, Paragraph (a)(12)]. This could be achieved by providing data obtained from the emission control parts of the selected compliance engines.

Manufacturers may propose to use other identification methods; all alternative methods would be reviewed during the certification process to determine their equivalence to those aforementioned. The ARB has found certain methods to be unacceptable. For example, a carburetor's dimensional diagrams or qualitative descriptions are unacceptable because they fail to convey calibrations. The use of color is another unacceptable method since color distinction is dependent on perception which can be influenced by the surroundings, and the color itself may change over time.

POLICIES: I. Part Numbers

1. To assure that production engines are representative of certified test engines, manufacturers are encouraged to

use part numbers to identify assembly-level components or some other equally reliable method. If a manufacturer elects to use part numbers, the emission control parts should be identified in a manufacturer's application for certification by alphanumeric characters that are stamped, embossed or otherwise permanently attached to each emission-related component. A manufacturer's inventory number should not be used; however, manufacturers may indicate these inventory numbers in parentheses next to the actual part numbers as supplemental information.

2. The identified parts should be at assembly level (for example, the carburetor, injection pump, spark plug, distributor); a part number should account for any differences in its design, such as different stopper embossments on a carburetor. Air and fuel filters should be identified if constructed with an external casing or if being part of an assembly unit that does not allow the element to be replaced independently. Identification of individual sub-components (e.g, carburetor jets, gaskets) or minor sub-assemblies is not necessary.
3. Tamper resistance methods must be identified if applied to parameters that are adjustable. Part numbers for non-adjustable or sealed parameters are not required.

II If a manufacturer elects to not use permanent part numbers, the manufacturer should demonstrate to the ARB's satisfaction that production ULGEs are representative of the certification test ULGEs by providing the following information, or information of equal reliability:

- 1.a. Calibration curves with production tolerances, and descriptions of the material construction and production processes of the emission control parts shall be provided in the application for certification.
 - b. Data confirming that the certification test engine was built and calibrated in conformance with these specifications. Actual bench data should be submitted if applicable.
 - c. Data confirming that any production engine chosen for compliance testing meets the certified specifications, pursuant to 13 CCR 2407(a)(12). Actual bench data should be submitted if available.
2. Other methods to demonstrate that certified ULGEs are representative of production ULGEs can be used if approved by the ARB as part of the certification process.