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TABLE 1

Device categories	Characteristics adversely affected
Fuel-Air System	
Carburetors and fuel injection systems	All.
Air-fuel ratio modifiers (e.g., air bleeds) ...	All.
Atomization devices (acoustic and mechanical).	All.
Vapor Injectors	All.
Choke controls	1, 2, and 4.
Air filters	1, 2, and 4.
Fuel-air distribution systems (intake manifolds).	1, 2, and 4.
Fuel pressure regulators	All.
Ignition System	
Spark plugs	All.
Spark timing control systems	All.
Spark duration control systems	1, 4.
Spark energy sources	1, 4.
Emission Control Systems	
Exhaust gas recirculation (EGR) systems	All.
After-treatment devices	1, 2, and 4.
Drivetrain	
Tires	1.
Overdrive units	All.
Torque converter lockups	1, 2, and 4.
Exhaust System	
Headers	1.
Tuned exhaust systems	1.
Accessories	
Cooling fan or cooling fan couplings	1.
Cold start aids (e.g., engine heaters)	1.
Lubrication	
Oil filters	3.
Vehicle Body	
Aerodynamic drag reduction devices	1.
Miscellaneous	
Modification to valve timing	All.
Retrofit prechambers	All.
Fuel additives	All.
Other miscellaneous	Potentially all.

(d) In the absence of sufficient information from the device manufacturer on this topic or if the Administrator's preliminary analysis indicates that testing is necessary to determine the nature or extent of possible adverse effects of device installation and use on vehicle operation and performance, the Administrator will require such tests to be conducted prior to the publication of a complete evaluation of the device.

[44 FR 17946, Mar. 23, 1979, as amended at 49 FR 18489, May 1, 1984]

§ 610.22 Device integrity.

The integrity of a device will be evaluated with respect to:

(a) The extent to which device manufacture is standardized by means of drawings, specifications, and other fabrication and quality assurance controls;

(b) The degree of sensitivity of device effectiveness to deterioration under exposure to normal operating conditions.

(c) The susceptibility of the device to deterioration of effectiveness under abnormal operating conditions;

(d) The effect upon its surroundings of device malfunction which may be reasonably anticipated to occur in actual use; and

(e) The extent to which test data support (b), (c) and (d).

§ 610.23 Operator interaction effects.

The device will also be evaluated with respect to:

(a) The degree of sensitivity of device effectiveness to variances in installation, operation and maintenance;

(b) The adequacy of manufacturer-furnished instructions for minimizing variances in installation, operation and maintenance;

(c) The extent to which device installation or use, or the effects of such installation or use, relate to Federal emission control regulations;

(d) Effects on the performance, safety, or occupant comfort of the retrofitted vehicle, and on that of other vehicles; and

(e) The relationship between total cost of ownership of the device (purchase price plus maintenance costs) and the cost savings realizable from its fuel economy effects.

§ 610.24 Validity of test data.

The Administrator will make a determination as to the validity of manufacturer-furnished test data on the basis of:

(a) The correlation between the test procedures used by the manufacturer or testing agent and the procedures prescribed in subpart D;

(b) The choice of test vehicle(s) as representative of the manufacturer's claim for operation and/or principles of operation;

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(c) The degree of control exercised over ambient and operating conditions in the tests, including vehicle calibrations;

(d) Accuracy and precision of the measurement techniques and instrumentation used in the tests;

(e) Disclosure of all test data acquired on the device, whether representing positive, negative, or inconclusive results;

(f) Qualifications and independence of the testing agent; and

(g) The extent to which test data include evaluation of the durability of the device, or its effect on vehicle durability.

§ 610.25 Evaluation of test data.

Valid manufacturer-furnished test data will be evaluated with respect to:

(a) Vehicle applicability;

(b) Dependence of device effects upon vehicle type;

(c) Device effects on fuel economy, and on emissions, with statistical or other caveats as established by the data base;

(d) Definition of claims which can be made based on the available data; and

(e) Substantiation of specified claims made by the manufacturer.

Subpart C—Test Requirement Criteria

§ 610.30 General.

(a) If the Administrator determines, by the criteria given in subpart B, that the claims made for a device are not supported by existing test data or other information, the Administrator will request the manufacturer to furnish additional information, and may design a test program to investigate those areas where claims appear to be erroneous or unsupported or where adverse effects due to use of the device are suspected.

(b) In cases where the Administrator determines on the basis of the preliminary analysis that a device either can have no significant beneficial effect on fuel economy, or will have an adverse effect on emissions, he may elect not to design a test program or test the device and to publish only his preliminary analysis and conclusions.

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(c) If the evaluation was initiated upon application of a manufacturer (as described in § 610.12(c)) and the manufacturer elects not to have the device tested, the Administrator's preliminary analysis and conclusions will be published.

(d) For each device that the Agency intends to test, the Administrator will give the manufacturer prior notice by mail of the Agency's intent to test the device and provide the manufacturer the opportunity to attend the test sessions and to comment on the specific test design and results.

[44 FR 17946, Mar. 23, 1979, as amended at 49 FR 18489, May 1, 1984]

§ 610.31 Vehicle tests for fuel economy and exhaust emissions.

(a) The tests described in subpart D, E, or F may be conducted if existing data or other information are insufficient to support claims for a device in any of these areas:

(1) Degree of improvement in fuel economy

(2) Effect on exhaust emissions

(3) Vehicle applicability

(b) The Administrator may determine that, in certain cases, tests using engine dynamometers are adequate for determining the effect of a device. Examples of such cases are given below.

(1) *Long-term effects.* In some cases, it may be necessary for the engine to operate for several thousand miles before the effectiveness can be adequately measured. In such cases an engine dynamometer will permit a less expensive and better controlled durability and economy test than one in which a vehicle must be driven on a durability route and then tested on a chassis dynamometer or test track.

(2) *Durability requirements.* Aspects of engine durability can be efficiently determined using specialized engine testing rather than through durability mileage accumulation in a vehicle. A number of standard engine tests are presently used which can be incorporated into this requirement.

(c) When in the judgment of the Administrator a device cannot satisfactorily be evaluated using either dynamometer or track versions of the City Fuel Economy Test and the Highway