

§610.21

(e) Evaluation of test data; as these concepts are explained in §§ 610.21 through 610.25 respectively.

§610.21 Device functional category and vehicle system effects.

(a) The devices evaluated in this program are organized into categories for purposes of definition and establishment of evaluation criteria and test procedures, and to indicate which vehicle functional characteristics (other than fuel economy) may be adversely affected by installation or use of the device.

(b) A device's category will be based on:

(1) Engineering principles governing operation of the device;

(2) Interaction between the device and specific vehicle/engine operating characteristics; and

(3) Constraints with respect to vehicle applicability of the device.

(c) The device categories and the vehicle functional characteristics which may be adversely affected are noted for each device category in Table I. The notation for each characteristic is as follows:

| | |
|------------------------|---|
| Exhaust emissions..... | 1 |
| Driveability..... | 2 |
| Durability..... | 3 |
| Performance..... | 4 |

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. |

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TABLE 1—Continued

| Device categories | Characteristics adversely affected |
|--|------------------------------------|
| 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).