

Environmental Protection Agency

§ 610.52

specifications as required. The fully restored retrofitted configuration will then be tested. The device will then be removed from the vehicle and the vehicle set to vehicle manufacturer's specifications. A tuned baseline test will then be conducted.

§ 610.51 Mileage accumulation procedure.

(a) Except as otherwise provided in this part, the mileage accumulation procedure will be that provided in 40 CFR part 86. This mileage accumulation schedule, or a suitable alternate procedure approved by the Administrator, will be used.

(b) Fuel used in the accumulation of mileage will be commercial fuel available in the retail market and shall conform to the requirements of 40 CFR part 86 for mileage accumulation fuel.

(1) The requirements of this paragraph may be modified by the Administrator when it is a fuel or fuel additive that is being tested.

§ 610.52 Maintenance.

(a) Maintenance during the durability evaluation can best be considered in three separate categories:

(1) Normal scheduled vehicle maintenance,

(2) Unscheduled vehicle maintenance, and

(3) Retrofit maintenance.

(b) Normal scheduled vehicle maintenance is the periodic service specified in the original owner's manual supplied to the owner at the time of new vehicle purchase.

(1) Normal periodic engine oil changes, vehicle lubrication, and oil filter changes, as specified in the original owner's manual, will be performed during durability mileage accumulation.

(2) For purposes of this part, the following items of normally scheduled vehicle maintenance will not be performed during the durability mileage accumulation:

- (i) Normal tune-up items:
 - (A) Spark plugs.
 - (B) Condenser.
 - (C) Rotor.
 - (D) Distributor cap.
- (ii) Air Cleaner element.
- (iii) PCV Inspection.

(iv) Dwell and timing check.

(v) Charging circuit check.

(3) Periodic maintenance items specified in the original owner's manual, other than those listed above, may be performed if found to be necessary by the Administrator.

(c) *Unscheduled maintenance.* Because the vehicles used for durability evaluation in this program will probably have considerable mileage accumulation and unknown maintenance prior to inclusion in the program, it can be anticipated that certain vehicle and engine failures may occur, which may be unrelated to the retrofit device. Unscheduled maintenance will be performed only in those cases where a significant and obvious driveability problem has been reported by the driver of the vehicle.

(1) Correction of the following problems will be made as soon as the problems occur:

(i) Tire replacement (same size and type).

(ii) Vehicle body repairs (remote from engine and retrofit).

(iii) Windshield wipers.

(iv) Fluid levels unrelated to retrofit.

(v) Brakes.

(vi) Hoses unrelated to retrofit.

(vii) Belts unrelated to retrofit.

(viii) Suspension failures.

(ix) Wheel alignment.

(x) Steering.

(xi) Wheel bearings.

(xii) Non-engine electrical system.

(xiii) Drivetrain components (U-joints, axles, transmission adjustments, etc.)

(2) Other unscheduled maintenance of the engine or drivetrain may be made as directed by the Administrator. Upon notification of a need for unscheduled maintenance, the Administrator may decide that before and after maintenance fuel economy tests are required.

(d) *Retrofit maintenance.* Maintenance of the retrofit device will normally not be performed during the accumulation of durability mileage of 15,000 miles. However, certain retrofit devices may require periodic maintenance that is directly related to device function. An example is the periodic addition of fluid to the reservoir of a vapor injector. The Administrator will determine whether periodic maintenance will be

allowed, based on his review of available information including the device manufacturer's maintenance instructions to the consumer.

(e) A log of all maintenance shall be kept for every vehicle. These logs will be summarized in the final report by the Administrator.

Subpart F—Special Test Procedures

§ 610.60 Non-standard ambient conditions.

(a) *Extreme temperatures.* For vehicles required to be tested at extreme temperatures, the test sequence described in § 610.41 will be performed using either test track or dynamometer, in ambient temperatures outside the 60° to 90° range specified in § 610.64 as determined by the Administrator. The driveability tests described in § 610.62 may also be performed at non-standard temperatures, as determined to be necessary by the Administrator.

(b) *High altitudes.* Vehicles required to be tested at high altitudes will undergo the tests described in § 610.43 if necessary, on either test track or dynamometer as determined by the Administrator. One test location, at an elevation of no less than 4000 feet, will be selected.

§ 610.61 Engine dynamometer tests.

The Administrator will choose a test procedure or procedures from various engine dynamometer durability test procedures used by research organizations in government, the oil industry, engine manufacturing companies, and independent laboratories.

§ 610.62 Driveability tests.

Driveability assessment (at normal ambient temperatures) of the baseline configuration, of the adjusted configuration (if required by the Administrator), and of the fully retrofitted configuration may be conducted at zero device-miles for all vehicles included in the durability fleet, and at approximately zero device-miles at low ambient temperatures (0 °F-20 °F). Driveability evaluation procedures will be provided by the Administrator when necessary.

§ 610.63 Performance tests.

The effect of a device on a vehicle's performance will be determined by performing wide-open-throttle 0 to 60 mph acceleration tests (at normal ambient temperatures) on the baseline vehicle configuration, on the adjusted configuration (if required), and on the fully retrofitted configuration. Tests will be conducted on a dry, level, smooth-surfaced test track, with appropriate speed-time measuring equipment, on as many vehicles as determined to be necessary.

§ 610.64 Track test procedures.

(a) Cases may arise where it will be necessary to evaluate the fuel economy effects of a retrofit device on a test track, because the effect of the device cannot be adequately tested using the chassis dynamometer procedures. (An obvious example is a device that changes the aerodynamic drag of the test vehicle.) In such cases, testing will be performed on a dry, level, smooth-surfaced test track for such dimensions that the speeds required by the city and highway fuel economy tests may be safely achieved.

(1) Because aerodynamic drag is not a linear function of velocity, it will be necessary to limit testing to times when the wind velocity is less than 5 mph, with gusts less than 10 mph.

(2) Testing will also be limited to ambient temperatures between 60° and 90 °F, and to times when the ambient temperature remains reasonably constant during individual tests. Temperature differences between tests of baseline and retrofit configurations will also be minimized.

(3) Exhaust emissions will not be measured during track testing.

(4) Fuel economy of a vehicle running on a track will be measured using either a volumetric or gravimetric procedure approved by the Administrator.

(5) Vehicle speed and distance will be measured with a "fifth wheel" type of device. Suitable apparatus will be used to generate a permanent record (strip chart recorder, etc.) of the vehicle speed versus time.

(b) *City fuel economy test.* Although essentially the same procedures will be used for track testing as for dynamometer testing, some modifications will