

SOUND LEVEL FOR PASSENGER CARS AND LIGHT TRUCKS — SAE J986

SAE Standard

Report of Vehicle Noise Committee approved July 1967.

1. Scope—This SAE Standard establishes the maximum sound level for passenger cars and light trucks and describes the equipment, test environment, and procedure for determining this sound level.

2. Sound Level Limit—The maximum sound level produced by a new passenger car or light truck of 6000 gvwt or less shall not exceed 86 db, plus a 2 db allowance, on an A-weighted network at 50 ft when measured in accordance with the procedure described herein.

3. Instrumentation—The following instrumentation shall be used for the measurement required:

3.1 A sound level meter which meets the requirements of USASI Standard S1.4-1961, "Specifications for General Purpose Sound Level Meters," except that the C scale frequency response tolerance shall not exceed ± 1.5 dbC in the range 1600-8000 Hz.

3.1.1 Alternatively, a microphone magnetic tape recorder indicating meter system, whose overall response is equivalent to the above, may be used.

3.2 A sound level calibrator (see paragraph 5.5).

3.3 A calibrated windscreen or nosecone (see paragraph 5.4).

3.4 An engine-speed tachometer.

4. Procedure

4.1 Test Site—A suitable test site, which could be considered ideal for purpose of measurements, shall consist of a flat open space free of large reflecting surfaces (such as sign boards, buildings, or hillsides)

located within 100 ft of either the vehicle or the microphone.

4.1.1 During the measurement, the surface of the ground within the measurement area shall be free from powdery snow, long grass, loose soil, or ashes.

4.1.2 Because bystanders may have an appreciable influence on meter response when they are in the vicinity of the vehicle or the microphone, no person other than the observer reading the meter shall be near the vehicle or the microphone.

4.1.3 It is required that the ambient sound level (including wind effects) due to sources other than the vehicle being measured be at least 10 dbA lower than the level of the tested vehicle.

4.1.4 The path of vehicle travel shall be relatively smooth dry concrete or macadam, free of extraneous materials such as gravel.

4.2 Vehicle Operation

4.2.1 For vehicles equipped with automatic or three-speed manual transmissions, all runs shall be conducted in low gear; vehicles equipped with four-speed manual transmissions shall also make runs in second gear. Vehicles which reach maximum rated engine rpm at or before reaching the microphone line shall be tested in the next higher gear.

4.2.2 From an approach speed of 30 mph, a wide-open throttle shall be established at 25 ft from a line through the microphone normal to the vehicle path. The front of the vehicle shall be used as a refer-

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