

	SURFACE VEHICLE RECOMMENDED PRACTICE	SAE J336 SEP2011
		Issued 1968-06 Stabilized 2011-09
		Superseding J336 JUN2001
Sound Level for Truck Cab Interior		

RATIONALE

The Noise, Vibration, and Harshness Committee which owned this report has become inactivated and the technical expertise for the subject report within the Truck-Bus Council is not available at this time. This standard has been transferred to the Total Vehicle Steering Committee to stabilize the standard.

STABILIZED NOTICE

This document has been declared "Stabilized" by the SAE Truck and Bus Total Vehicle Steering Committee and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Newer technology may exist.

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Foreword—This Document has not changed other than to put it into the new SAE Technical Standards Board Format. References were changed from Section 5 to Section 2. All other section numbers have changed accordingly.

1. Scope—This SAE Recommended Practice describes the equipment and procedure for determining the truck cab interior sound level over the upper half of the engine speed range. This practice applies to motor trucks and truck-tractors and does not include construction and industrial machinery.

2. References

2.1 Applicable Publications—The following publications form a part of the specification to the extent specified herein. Unless otherwise indicated, the latest revision of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J184—Qualifying a Sound Data Acquisition System

SAE J1349—Engine Power Test Code—Spark Ignition and Diesel

2.1.2 ANSI PUBLICATION—Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.

ANSI S1.4-1983—Specifications for Sound Level Meters.

2.1.3 ISO PUBLICATION—Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.

ISO 5128—Acoustics Measurement of Noise Inside Motor Vehicle.

2.1.4 FMVSS—Available from the Superintendent of Documents, U. S. Government Printing Office, Mail Stop: SSOP, Washington, DC 20402-9320.

Title 49 CFR 393.94—Vehicle Interior Noise Levels.

3. Instrumentation—The following instrumentation shall be used:

3.1 A sound level meter which meets the Type 1 or S1A requirements of American National Standard, Specification for Sound Level Meters, S1.4-1983.

3.1.1 As an alternative to making direct measurements using a sound level meter, a microphone or sound level meter may be used with a data recorder and/or a graphic level recorder or other indicating instrument, provided that the system used meets the requirements of SAE J184.

3.2 A sound level calibrator accurate within ± 0.5 dB. (See 5.2.3.)

3.3 An engine-speed tachometer accurate within $\pm 2\%$ of full scale.

3.4 An anemometer accurate to $\pm 10\%$ at 19 km/h (12 mph).

4. **Test Procedure**—The following procedure is to be used for the purpose of this SAE Recommended Practice:

4.1 Establish a seat reference point at the intersection of the tangent lines to the predominant surfaces of the undeflected cushion and backrest at the lateral center of the seat (or intended operator location). Adjust the seat to the midpoint of its horizontal and vertical travel.

Locate the microphone, oriented vertically upward, at a point 740 mm (29 in) vertically above the seat reference point and 250 mm (10 in) laterally to the right (to the left for right-hand drive vehicles) of the seat reference point.

Position the driver so that his ear is reasonably aligned with, and approximately 150 mm (6 in) laterally from, the microphone. Seat adjustment may be made to meet this provision.

4.2 Sound level tests may be conducted with or without a trailer or body on the vehicle. The configuration shall be recorded.

4.3 The engine coolant shall be within the manufacturer's recommended operating temperature range during testing.

4.4 Vehicle windows and vents shall be in the fully closed position with all accessories "off."

4.5 The tests shall be conducted on a smooth, dry concrete or asphalt road surface. No large sound-reflecting surfaces should be within 15 m (50 ft) of the test vehicle. Wind speed should not exceed 19 km/h (12 mph). The test personnel should be aware that the direction of the wind relative to the vehicle may have an influence on the measurement.

4.6 Select a transmission and/or axle gear ratio so that approximately 80 km/h (50 mph) is obtained at rated engine speed. "Rated engine speed" is defined as the engine speed at which the engine delivers "Rated Power," as defined in SAE J1349 as specified by the engine manufacturer.

4.7 For each test run, accelerate the vehicle in the selected gear ratio of 4.6 at wide-open throttle from a beginning engine speed of one-half rated engine speed up to rated engine speed. A minimum of four test runs shall be made.

4.8 The applicable reading shall be the highest A-weighted sound level observed during each test run of 4.7. The meter shall be set for "fast exponential-time-averaging" for these measurements. The test run shall be repeated until four sound level readings are obtained with a total range of 2 dB, or less. The reported sound level shall be the average of the four highest readings within a total range of 2 dB, or less. The observer is cautioned to rerun a test run if unrelated peaks should occur because of sounds that are not caused by the vehicle.