code of federal regulations

Transportation

49

PARTS 200 TO 399

Revised as of October 1, 1982

PART 325—COMPLIANCE WITH INTERSTATE MOTOR CARRIER NOISE EMISSION STANDARDS

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AUTHORITY: Sec. 18, 86 Stat. 1234, 1249-1250 (42 U.S.C. 4917).

SOURCE: 40 FR 42437, Sept. 12, 1975, unless otherwise noted.

Subpart A—General Provisions

§ 325.1 Scope of the rules in this part.

(a) The rules in this part prescribe procedures for inspection, surveillance, and measurement of motor vehicles and motor vehicle equipment operated by motor carriers to determine whether those vehicles and that equipment conform to the Interstate Motor Carrier Noise Emission Standards of the Environmental Protection Agency, 40 CFR Part 202.

(b) Except as provided in paragraph (c) of this section, the rules in this Part apply to motor carriers engaged in interstate commerce. The rules apply at any time or under any condition of highway grade, load, acceleration or deceleration.

(c) The rules in this part do not apply to—

(1) A motor vehicle that has a Gross Vehicle Weight Rating (GVWR) of 10,000 pounds (4,536 kg.) or less;

(2) A combination of motor vehicles that has a Gross Combination Weight Rating (GCWR) of 10,000 pounds (4,536 kg.) or less;

(3) The sound generated by a warning device, such as a horn or siren, installed in a motor vehicle, unless such device is intentionally sounded in order to preclude an otherwise valid noise emission measurement;

(4) An emergency motor vehicle, such as a fire engine, an ambulance, a police van, or a rescue van, when it is responding to an emergency call;

(5) A snow plow in operation; or

(6) The sound generated by auxiliary equipment which is normally operated only when the motor vehicle on which it is installed is stopped or is operating at a speed of 5 miles per hour (8 kph) or less, unless such device is intentionally operated at speeds greater than 5 mph (8 kph) in order to pre-

Exhaust systems.
Tires.

AUTHORITY: Sec. 18, 86 Stat. 1234, 1249-42 U.S.C. 4917).

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Subpart A—General Provisions

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A motor vehicle that has a Gross Vehicle Weight Rating (GVWR) of 10,000 pounds (4,536 kg.) or less;

A combination of motor vehicles that has a Gross Combination Weight Rating (GCWR) of 10,000 pounds (4,536 kg.) or less;

The sound generated by a warning device, such as a horn or siren, installed in a motor vehicle, unless such device is intentionally sounded in order to preclude an otherwise valid noise emission measurement;

An emergency motor vehicle, such as a fire engine, an ambulance, a police van, or a rescue van, when it is responding to an emergency call;

A snow plow in operation; or

The sound generated by auxiliary equipment which is normally operated only when the motor vehicle on which it is installed is stopped or is operating at a speed of 5 miles per hour (8 kph) or less, unless such device is intentionally operated at speeds greater than 5 mph (8 kph) in order to preclude an otherwise valid noise measurement. Examples of that type of auxiliary equipment include, but are not limited to, cranes, asphalt, spreaders, ditch diggers, liquid or slurry pumps, auxiliary air compressors, welders, and trash compactors.

§ 325.3 Effective date.

The rules in this part are effective on October 15, 1975.

§ 325.5 Definitions.

(a) *Statutory definitions.* All terms defined in the Noise Control Act of 1972 (Pub. L. 92-574, 86 Stat. 1234) are used as they are defined in that Act.

(b) *Definitions in standards.* All terms defined in § 202.10 of the Interstate Motor Carrier Noise Emission Standards, 40 CFR 202.10, are used as they are defined in that section.

(c) *Additional definitions.* (1) "Hard test site" means any test site having the ground surface covered with concrete, asphalt, packed dirt, gravel, or similar reflective material for more than ½ the distance between the microphone target point and the microphone location point.

(2) "Soft test site" means any test site having the ground surface covered with grass, other ground cover, or similar absorptive material for ½ or more of the distance between the microphone target point and the microphone location point.

(3) "Ground cover" means any of various low, dense-growing plants, such as ivy, myrtle, low weeds, or brush.

(4) "Traffic railing" means any longitudinal highway traffic barrier system installed along the side or median of a highway. For the purpose of this part, a traffic railing must have at least 35 percent of its vertical height, from the ground surface to the top of the railing, open to free space in order to qualify as an acceptable object within a noise measurement test site. Further, for the purposes of this part, posts or other discrete supports shall be ignored when ascertaining open free space.

(5) "Relatively flat" when used to describe a noise measurement site means a site which does not contain significant concave curvatures or slope reversals that may result in the focusing of sound waves toward the microphone location point.

§ 325.7 Allowable noise levels.

Motor vehicle noise emissions, when measured according to the rules of this part, shall not exceed the values specified in Table 1.

TABLE 1.—MAXIMUM PERMISSIBLE SOUND LEVEL READINGS [DECIBEL (A)][1,2]

If the distance between the microphone location point and the microphone target point is—	Highway operations test				Stationary tests	
	Soft site		Hard site		Soft site	Hard site
	35 mi/h or less	Above 35 mi/h	35 mi/h or less	Above 35 mi/h		
35 ft (10.7 m) or more but less than 39 ft (11.9 m)	89	93	91	95	89	91
39 ft (11.9 m) or more but less than 43 ft (13.1 m)	88	92	90	94	88	90
43 ft (13.1 m) or more but less than 48 ft (14.6 m)	87	91	89	93	87	89
48 ft (14.6 m) or more but less than 58 ft (17.1 m)	86	90	88	92	86	88
58 ft (17.1 m) or more but less than 70 ft (21.3 m)	85	89	87	91	85	87
70 ft (21.3 m) or more but less than 83 ft (25.3 m)	84	88	86	90	84	86

[1]The speeds shown refer to measurements taken at sites having speed limits as indicated. These speed limits do not necessarily have to be posted.
[2]This table is based on motor carrier noise emission requirements specified in 40 CFR 202.20 and 40 CFR 202.21.

§ 325.9 Measurement tolerances.

(a) Measurement tolerances will be allowed to take into account the effects of the following factors:

(1) The consensus standard practice of reporting filed sound level measurements to the nearest whole decibel.

(2) Variations resulting from commercial instrument tolerances.

(3) Variations resulting from the topography of the noise measurement site.

(4) Variations resulting from atmospheric conditions such as wind, ambi-

ent temperature, and atmospheric pressure.

(5) Variations resulting from reflected sound from small objects allowed within the test site.

(6) The interpretation of the effects of the above cited factors by enforcement personnel.

(b) Measurement tolerances shall not exceed 2 decibels for a given measurement.

Subpart B—Administrative Provisions

§ 325.11 Issuance, amendment, and revocation of the rules in this part.

The procedures specified in Part 389 of this chapter for the issuance, amendment, or revocation of the Federal Motor Carrier Safety Regulations apply to rulemaking proceedings for the issuance, amendment, or revocation of the rules in this part.

§ 325.13 Inspection and examination of motor vehicles.

(a) Any special agent of the Federal Highway Administration (designated in Appendix B to Subchapter B of this chapter) is authorized to inspect, examine, and test a motor vehicle operated by a motor carrier in accordance with the procedures specified in this part for the purpose of ascertaining whether the motor vehicle and equipment installed on the motor vehicle conforms to the Interstate Motor Carrier Noise Emission Standards of the Environmental Protection Agency, 40 CFR Part 202.

(b) A motor carrier, its officers, drivers, agents, and employees must, at any time, submit a motor vehicle used in its operations for inspection, examination, and testing for the purpose of ascertaining whether the motor vehicle and equipment installed on it conforms to the Interstate Motor Carrier Noise Emission Standards of the Environmental Protection Agency, 40 CFR Part 202.

(c) *Prescribed Inspection Report.* Form MCS-63, Driver-Equipment Compliance Check shall be used to record findings from motor vehicles selected for noise emission inspection by authorized employees.

(d) *Motor Carrier's Disposition of Form MCS 63.* (1) The driver of any motor vehicle receiving a Form MCS 63 shall deliver such MCS 63 to the motor carrier operating the vehicle upon his arrival at the next terminal or facility of the motor carrier, if such arrival occurs within twenty-four (24) hours. If the driver does not arrive at a terminal or facility of the motor carrier operating the vehicle within twenty-four (24) hours he shall immediately mail the Form MCS 63 to the motor carrier. For operating convenience, motor carriers may designate any shop, terminal, facility, or person to which it may instruct its drivers to deliver or forward Form MCS 63. It shall be the sole responsibility of the motor carrier that Form MCS 63 is returned to the Federal Highway Administration, in accordance with the terms prescribed thereon and in paragraphs (d) (2) and (3) of this section. A driver, if himself a motor carrier, shall return Form MCS 63 to the Federal Highway Administration, in accordance with the terms prescribed thereon and in paragraphs (d) (2) and (3) of this section.

(2) Motor carriers shall carefully examine Forms MCS 63. Appropriate corrective action shall be taken on vehicles found to be not in compliance with the requirements of this part.

(3) Motor carriers shall complete the "Motor Carrier Certification of Action Taken" on Form MCS-63 in accordance with the terms prescribed thereon. Motor carriers shall return Forms MCS-63 to the Director, Regional Motor Carrier Safety Office of the Bureau of Motor Carrier Safety, Federal Highway Administration, at the address indicated upon Form MCS-63 within fifteen (15) days following the date of the vehicle inspection.

[40 FR 42437, Sept. 12, 1975, as amended at 41 FR 10226, Mar. 10, 1976]

Subpart C—Instrumentation

§ 325.21 Scope of the rules in this subpart.

The rules in this subpart specify criteria for sound level measurement systems which are used to make the sound level measurements specified in Subpart D and Subpart E of this part.

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§ 325.23 Type of measurement systems which may be used.

The sound level measurement system must meet or exceed the requirements of American National Standard Specification for Sound Level Meters (ANSI S1.4-1971), approved April 27, 1971, issued by the American National Standards Institute,[1] throughout the applicable frequency range for either:

(a) A Type 1 sound level meter;

(b) A Type 2 sound level meter; or

(c) A Type S sound level meter which has—

(1) A weighing frequency response;

(2) Fast dynamic characteristics of its indicating instrument; and

(3) A relative response level tolerance consistent with those of either a Type 1 or Type 2 sound level meter, as specified in Section 3.2 of ANSI S1.4-1971.

§ 325.25 Calibration of measurement systems.

(a) (1) The sound level measurement system must be calibrated and appropriately adjusted at one or more frequencies in the range from 250 to 1,000 Hz at the beginning of each series of measurements and at intervals of 5-15 minutes thereafter, until it has been determined that the sound level measurement system has not significantly drifted from its calibrated level. Once this fact has been established, calibrations may be made at intervals once every hour. A significant drift shall be considered to have occurred if a 0.3 dB or more excursion is noted from the system's predetermined reference calibration level. In the case of systems using displays with whole decibel increments, the operator may visually judge when the 0.3 dB drift has been met or exceeded.

(2) The sound level measurement system must be checked periodically by its manufacturer, a representative of its manufacturer, or a person of equivalent special competence to verify that its accuracy meets the manufacturer's design criteria.

(b) An acoustical calibrator of the microphone coupler type designed for the sound level measurement system in use shall be used to calibrate the sound level measurement system in accordance with paragraph (a) of this section. The calibration must meet or exceed the accuracy requirements specified in section 5.4.1 of the American National Standard Institute Standard *Methods for Measurements of Sound Pressure Levels* (ANSI S1.13-1971) for field method measurements.

[40 FR 42437, Sept. 12, 1975, as amended at 41 FR 10227, Mar. 10, 1976]

§ 325.27 Use of a windscreen.

A properly installed windscreen, of the type recommended by the manufacturer of the Sound Level Measurement System, shall be used during the time that noise emission measurements are being taken.

Subpart D—Measurement of Noise Emissions; Highway Operations

§ 325.31 Scope of the rules in this subpart.

The rules in this subpart specify conditions and procedures for measurement of the sound level generated by a motor vehicle engaged in a highway operation for the purpose of ascertaining whether the motor vehicle conforms to the Standards for Highway Operations set forth in 40 CFR 202.20.

§ 325.33 Site characteristics; highway operations.

(a) Measurement shall be made at a test site which is adjacent to, and includes a portion of, a traveled lane of a public highway. A microphone target point shall be established on the centerline of the traveled lane of the highway, and a microphone location point shall be established on the ground surface not less than 35 feet (10.7 n) or more than 83 feet (25.3 m) from the microphone target point and on a line that is perpendicular to the centerline of the traveled lane of the highway and that passes through the microphone target point. In the case of a standard test site, the microphone location point is 50 feet (15.2 m) from

[1] Copies of the specification may be secured from the American National Standards Institute, 1430 Broadway, New York, New York, 10018.

the microphone target point. Within the test site is a triangular measurement area. A plan view diagram of a standard test site, having an open site within a 50-foot (15.2 m) radius of both the microphone target point and the microphone location point, is shown in Figure 1. Measurements may be made at a test site having smaller or greater dimensions in accordance with the rules in Subpart F of this part.

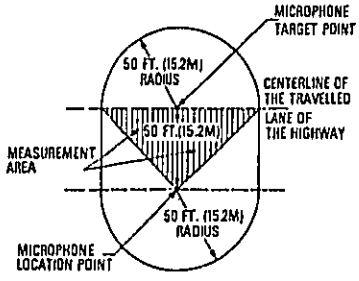

Figure 1
STANDARD TEST SITE; HIGHWAY OPERATIONS

(b) The test site must be an open site, essentially free of large sound-reflecting objects. However, the following objects may be within the test site, including the triangular measurement area:

(1) Small cylindrical objects such as fire hydrants or telephone or utility poles.

(2) Rural mailboxes.

(3) Traffic railings of any type of construction except solid concrete barriers (see § 325.5(c)(4)).

(4) One or more curbs having a vertical height of 1 foot (.3 m) or less.

(c) The following objects may be within the test site if they are outside of the triangular measurement area of the site:

(1) Any vertical surface (such as billboard), regardless of size, having a lower edge more than 15 feet (4.6 m) higher than the surface of the traveled lane of the highway.

(2) Any uniformly smooth sloping surface slanting away from the highway (such as a rise in grade alongside the highway) with a slope that is less than 45 degrees above the horizontal.

(3) Any surface slanting away from the highway that is 45 degrees or more and not more than 90 degrees above the horizontal, if all points on the surface are more than 15 feet (4.6 m) above the surface of the traveled lane of the highway.

(d) The surface of the ground within the measurement area must be relatively flat (see § 325.5(c)(5)). The site shall be a "soft" test site. However, if the site is determined to be "hard," the correction factor specified in § 325.75(a) of this part shall be applied to the measurement.

(e) The traveled lane of the highway within the test site must be dry, paved with relatively smooth concrete or asphalt, and substantially free of—

(1) Holes or other defects which would cause a motor vehicle to emit irregular tire, body, or chassis impact noise; and

(2) Loose material, such as gravel or sand.

(f) The traveled lane of the highway on which the microphone target point is situated must not pass through a tunnel or underpass located within 200 feet (61 m) of that point.

§ 325.35 Ambient conditions; highway operations.

(a) (1) *Sound.* The ambient A-weighted sound level at the microphone location point shall be measured, in the absence of motor vehicle noise emanating from within the clear zone, with fast meter response using a sound level measurement system that conforms to the rules of § 325.23.

(2) The measured ambient level must be 10 dB(A) or more below that level specified in § 325.7, Table 1, which corresponds to the maximum permissible sound level reading which is applicable at the test site at the time of testing.

(b) *Wind.* The wind velocity at the test shall be measured at the beginning of each series of noise measurements and at intervals of 5-15 minutes thereafter until it has been established that the wind velocity is essentially constant. Once this fact has

(such as a rise in grade alongside highway) with a slope that is les 45 degrees above the horizontal.

Any surface slanting away from highway that is 45 degrees or more not more than 90 degrees above horizontal, if all points on the sur are more than 15 feet (4.6 m) e the surface of the traveled lane e highway.

The surface of the ground within neasurement area must be rela- flat (see § 325.5(c)(5)). The site be a "soft" test site. However, if ite is determined to be "hard," correction factor specified in 75(a) of this part shall be applied measurement.

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he traveled lane of the highway ich the microphone target point ated must not pass through a or underpass located within 200 l m) of that point.

Ambient conditions; highway op- tions.

(1) *Sound.* The ambient A- ed sound level at the micro- location point shall be meas- the absence of motor vehicle manating from within the clear lth fast meter response using a evel measurement system that as to the rules of § 325.23.

The measured ambient level 10 dB(A) or more below that pecified in § 325.7, Table 1, corresponds to the maximum ible sound level reading which cable at the test site at the testing.

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been established, wind velocity measurements may be made at intervals of once every hour. Noise measurements may only be made if the measured wind velocity is 12 mph (19.3 kph) or less. Gust wind measurements of up to 20 mph (33.2 kph) are allowed.

(c) *Precipitation.* Measurements are prohibited under any condition of precipitation, however, measurements may be made with snow on the ground. The ground surface within the measurement area must be free of standing water.

[40 FR 42437, Sept. 12, 1975, as amended at 41 FR 10227, Mar. 10, 1976; 41 FR 28267, July 9, 1976]

§ 325.37 Location and operation of sound level measurement system; highway operations.

(a) The microphone of a sound level measurement system that conforms to the rules in § 325.23 of this part shall be located at a height of not less than 2 feet (.6 m) nor more than 6 feet (1.8 M) above the plane of the roadway surface and not less than 3½ feet (1.1 m) above the surface on which the microphone stands. The preferred microphone height on flat terrain is 4 feet (1.2 m).

(b) (1) When the sound level measurement system is hand-held or is otherwise monitored by a person located near its microphone, the holder must orient himself relative to the highway in a manner consistent with the recommendation of the manufacturer of the sound level measurement system.

(2) In no case shall the holder or observer be closer than 2 feet (.6 m) from the system's microphone, nor shall he locate himself between the microphone and the vehicle being measured.

(c) The microphone of the sound level measurement system shall be oriented toward the traveled lane of the highway at the microphone target point at an angle that is consistent with the recommendation of the system's manufacturer. If the manufacturer of the system does not recommend an angle of orientation for its microphone, the microphone shall be oriented toward the highway at an angle of not less than 70 degrees and not more than perpendicular to the horizontal plane of the traveled lane of the highway at the microphone target point.

(d) The sound level measurement system shall be set to the A-weighting network and "fast" meter response mode.

[40 FR 42437, Sept. 12, 1975, as amended at 41 FR 10227, Mar. 10, 1976]

§ 325.39 Measurement procedure; highway operations.

(a) In accordance with the rules in this subpart, a measurement shall be made of the sound level generated by a motor vehicle operating through the measurement area on the traveled lane of the highway within the test site, regardless of the highway grade, load, acceleration or deceleration.

(b) The sound level generated by the motor vehicle is the highest reading observed on the sound level measurement system as the vehicle passes through the measurement area, corrected, when appropriate, in accordance with the rules in Subpart F of this part. (Table 1 in § 325.7 lists the range of maximum permissible sound level readings for various test conditions.) The sound level of the vehicle being measured must be observed to rise at least 6 dB(A) before the maximum sound level occurs and to fall at least 6 dB(A) after the maximum sound level occurs in order to be considered a valid sound level reading.

[40 FR 42437, Sept. 12, 1975, as amended at 41 FR 10227, Mar. 10, 1976]

Subpart E—Measurement of Noise Emissions; Stationary Test

§ 325.51 Scope of the rules in this subpart.

(a) The rules in this subpart specify conditions and procedures for measuring the sound level generated by a vehicle when the vehicle's engine is rapidly accelerated from idle to governed speed at wide open throttle with the vehicle stationary, its transmission in neutral, and its clutch engaged, for the purpose of ascertaining whether the motor vehicle conforms to the Standard for Operation Under Stationary Test, 40 CFR 202.21.

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(b) The rules in this subpart apply only to a motor vehicle that is equipped with an engine speed governor.

(c) Tests conducted in accordance with the rules of this subpart may be made on either side of the vehicle.

§ 325.53 Site characteristics; stationary test.

(a) (1) The motor vehicle to be tested shall be parked on the test site. A microphone target point shall be established on the ground surface of the site on the centerline of the lane in which the motor vehicle is parked at a point that is within 3 feet (.9 m) of the longitudinal position of the vehicle's exhaust system outlet(s). A microphone location point shall be established on the ground surface not less than 35 feet (10.7 m) and not more than 83 feet (25.3 m) from the microphone target point. Within the test site is a triangular measurement area. A plan view diagram of a standard test site, having an open site within a 50-foot (15.2 m) radius of both the microphone target point and the microphone location point, is shown in Figure 2.

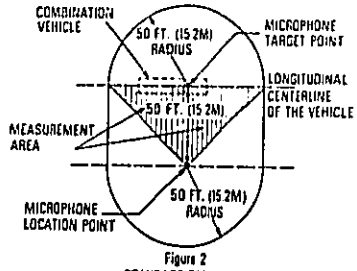

Figure 2
STANDARD TEST SITE; STATIONARY TEST

(2) Measurements may be made at a test site having smaller or greater dimensions in accordance with the rules in Subpart F of this part.

(b) The test site must be an open site, essentially free of large sound-reflecting objects. However, the following objects may be within the test site, including the triangular measurement area:

(1) Small cylindrical objects such as fire hydrants or telephone or utility poles.

(2) Rural mailboxes.

(3) Traffic railings of any type of construction except solid concrete barriers (see § 325.5(c)(4)).

(4) One or more curbs having a height of 1 foot (.3 m) or less.

(c) The following objects may be within the test site if they are outside of the triangular measurement area of the site:

(1) Any vertical surface, regardless of size (such as a billboard), having a lower edge more than 15 feet (4.6 m) above the ground.

(2) Any uniformly smooth surface slanting away from the vehicle with a slope that is less than 45 degrees above the horizontal.

(3) Any surface slanting away from the vehicle that is 45 degrees or more and not more than 90 degrees above the horizontal, if all points on the surface are more than 15 feet (4.6 m) above the surface of the ground in the test site.

(d) The surface of the ground within the measurement area must be relatively flat. (See § 325.5(c)(5)). The site shall be a "hard" site. However, if the site is determined to be "soft," the correction factor specified in § 325.75(b) of this part shall be applied to the measurement.

[40 FR 42437, Sept. 12, 1975, as amended at 41 FR 10227, Mar. 10, 1976]

§ 325.55 Ambient conditions; stationary test.

(a) (1) *Sound.* The ambient A-weighted sound level at the microphone location point shall be measured, in the absence of motor vehicle noise emanating from within the clear zone, with fast meter response using a sound level measurement system that conforms to the rules of § 325.23.

(2) The measured ambient level must be 10 dB(A) or more below that level specified in § 325.7, Table 1, which corresponds to the maximum permissible sound level reading which is applicable at the test site at the time of testing.

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437, Sept. 12, 1975, as amended at 27, Mar. 10, 1976]

Ambient conditions; stationary

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(b) *Wind.* The wind velocity at the test site shall be measured at the beginning of each series of noise measurements and at intervals of 5-15 minutes thereafter until it has been established that the wind velocity is essentially constant. Once this fact has been established, wind velocity measurements may be made at intervals of once every hour. Noise measurements may only be made if the measured wind velocity is 12 mph (19.3 kph) or less. Gust wind measurements of up to 20 mph (33.2 kph) are allowed.

(c) *Precipitation.* Measurements are prohibited under any conditions of precipitation, however, measurements may be made with snow on the ground. The ground within the measurement area must be free of standing water.

[40 FR 42437, Sept. 12, 1975, as amended at 41 FR 28267, July 9, 1976]

§ 325.57 Location and operation of sound level measurement systems; stationary test.

(a) The microphone of a sound level measurement system that conforms to the rules in § 325.23 shall be located at a height of not less than 2 feet (.6 m) nor more than 6 feet (1.8 m) above the plane of the roadway surface and not less than 3½ feet (1.1 m) above the surface on which the microphone stands. The preferred microphone height on flat terrain is 4 feet (1.2 m).

(b) When the sound level measurement system is hand-held or otherwise monitored by a person located near its microphone, the holder must orient himself relative to the highway in a manner consistent with the recommendation of the manufacturer of the sound level measurement system. In no case shall the holder or observer be closer than 2 feet (.6 m) from the system's microphone, nor shall he locate himself between the microphone and the vehicle being measured.

(c) The microphone of the sound level measurement system shall be oriented toward the vehicle at an angle that is consistent with the recommendation of the system's manufacturer. If the manufacturer of the system does not recommend an angle of orientation for its microphone, the microphone shall be oriented at an angle of not less than 70 degrees and not more than perpendicular to the horizontal plane of the test site at the microphone target point.

(d) The sound level measurement system shall be set to the A-weighting network and "fast" meter response mode.

[40 FR 42437, Sept. 12, 1975, as amended at 41 FR 10227, Mar. 10, 1976]

§ 325.59 Measurement procedure; stationary test.

In accordance with the rules in this subpart, a measurement shall be made of the sound level generated by a stationary motor vehicle as follows:

(a) Park the motor vehicle on the test site as specified in § 325.53 of this subpart. If the motor vehicle is a combination (articulated) vehicle, park the combination so that the longitudinal centerlines of the towing vehicle and the towed vehicle or vehicles are in substantial alinement.

(b) Turn off all auxiliary equipment which is installed on the motor vehicle and which is designed to operate under normal conditions only when the vehicle is operating at a speed of 5 mph (8 kph) or less. Examples of such equipment include cranes, asphalt spreaders, liquid or slurry pumps, auxiliary air compressors, welders, and trash compactors.

(c) If the motor vehicle's engine radiator fan drive is equipped with a clutch or similar device that automatically either reduces the rotational speed of the fan or completely disengages the fan from its power source in response to reduced engine cooling loads, park the vehicle before testing with its engine running at high idle or any other speed the operator may choose, for sufficient time but not more than 10 minutes, to permit the engine radiator fan to automatically disengage when the vehicle's noise emissions are measured under stationary test.

(d) With the motor vehicle's transmission in neutral and its clutch engaged, rapidly accelerate the vehicle's engine from idle to its maximum governed speed with wide open throttle. Return the engine's speed to idle.

(e) Observe the maximum reading on the sound level measurement system during the time the procedures specified in paragraph (d) of this section are followed. Record that reading, if the reading has not been influenced by extraneous noise sources such as motor vehicles operating on adjacent roadways.

(f) Repeat the procedures specified in paragraphs (d) and (e) of this section until the first two maximum sound level readings that are within 2 dB(A) of each other are recorded. Numerically average those two maximum sound level readings. When appropriate, correct the average figure in accordance with the rules in Subpart F of this part.

(g) The average figure, corrected as appropriate, contained in accordance with paragraph (f) of this section, is the sound level generated by the motor vehicle for the purpose of determining whether it conforms to the Standard for Operation Under Stationary Test, 40 CFR 202.21. (Table 1 in § 325.7 lists the range of maximum permissible sound level readings for various test conditions.)

[40 FR 42437, Sept. 12, 1975, as amended at 41 FR 10226, Mar. 10, 1976]

Subpart F—Correction Factors

§ 325.71 Scope of the rules in this subpart.

(a) The rules in this subpart specify correction factors which are added to, or subtracted from, the reading of the sound level generated by a motor vehicle, as displayed on a sound level measurement system, during the measurement of the motor vehicle's sound level emissions at a test site which is not a standard site.

(b) The purpose of adding or subtracting a correction factor is to equate the sound level reading actually generated by the motor vehicle to the sound level reading it would have generated if the measurement had been made at a standard test site.

§ 325.73 Microphone distance correction factors.[1]

If the distance between the microphone location point and the microphone target point is other than 50 feet (15.2 m), the maximum observed sound level reading generated by the motor vehicle in accordance with § 325.39 of this part or the numerical average of the recorded maximum observed sound level readings generated by the motor vehicle in accordance with § 325.59 of this part shall be corrected as specified in the following table:

TABLE 2—DISTANCE CORRECTION FACTORS

If the distance between the microphone location point and the microphone target point is	The value dB(A) to be applied to the observed sound level reading is—
35 feet (10.7 m) or more but less than 39 feet (11.9 m)	−3
39 feet (11.9 m) or more but less than 43 feet (13.1 m)	−2
43 feet (13.1 m) or more but less than 48 feet (14.6 m)	−1
48 feet (14.6 m) or more but less than 58 feet (17.7 m)	0
58 feet (17.7 m) or more but less than 70 feet (21.3 m)	+1
70 feet (21.3 m) or more but less than 83 feet (25.3 m)	+2

§ 325.75 Ground surface correction factors.[1]

(a) *Highway operations.* When measurements are made in accordance with the rules in Subpart D of this part upon a test site which is "hard," a correction factor of 2 dB(A) shall be subtracted from the maximum observed sound level reading generated by the motor vehicle to determine whether the motor vehicle conforms to the Standards for Highway Operations, 40 CFR 202.20.

(b) *Stationary Test.* When measurements are made in accordance with

[1]Table 1, in § 325.7 is a tabulation of the maximum allowable sound level readings taking into account both the distance correction factors contained in § 325.73 and the ground surface correction factors contained in § 325.75.

'3 Microphone distance correction ctors.[1]

he distance between the micro- : location point and the micro- : target point is other than 50 15.2 m), the maximum observed level reading generated by the vehicle in accordance with 19 of this part or the numerical ;e of the recorded maximum ob- l sound level readings generated e motor vehicle in accordance 325.59 of this part shall be cor- as specified in the following

: 2—DISTANCE CORRECTION FACTORS

Distance between the microphone point and the microphone target point is	The value dB(A) to be applied to the observed sound level reading is—
47 m) or more but less than 39 feet	
9 m) or more but less than 43 feet	−3
1 m) or more but less than 48 feet	−2
6 m) or more but less than 58 feet	−1
7 m) or more but less than 70 feet	0
3 m) or more but less than 83 foot	+1
	+2

Ground surface correction fac- '

Highway operations. When ements are made in accordance e rules in Subpart D of this on a test site which is "hard," a on factor of 2 dB(A) shall be ed from the maximum ob- ound level reading generated motor vehicle to determine the motor vehicle conforms Standards for Highway Oper- 0 CFR 202.20.

tationary Test. When meas- s are made in accordance with

1. In § 325.7 is a tabulation of the allowable sound level readings o account both the distance cor- tors contained in § 325.73 and the rface correction factors contained

the rules in Subpart E of this part upon a test site which is "soft," a correction factor of 2 dB(A) shall be added to the numerical average of the recorded maximum observed sound level readings generated by the motor vehicle to determine whether the motor vehicle conforms to the Standard for Operation Under Stationary Test, 40 CFR 202.21.

§ 325.77 Computation of open site requirements—nonstandard sites.

(a) If the distance between the microphone location point and the microphone target point is other than 50 feet (15.2 m), the test site must be an open site within a radius from both points which is equal to the distance between the microphone location point and the microphone target point.

(b) Plan view diagrams of nonstandard test sites are shown in Figures 3 and 4. Figure 3 illustrates a test site which is larger than a standard test site and is based upon a 60-foot (18.3 m) distance between the microphone location point and the microphone target point. (See § 325.79(b)(1) for an example of the application of the correction factor to a sound level reading obtained at such a site.) Figure 4 illustrates a test site which is smaller than a standard test site and is based upon a 35-foot (10.7 m) distance between the microphone location point and the microphone target point. (See § 325.79(b)(2) for an example of the application of the correction factor to a sound level reading obtained at such a site.)

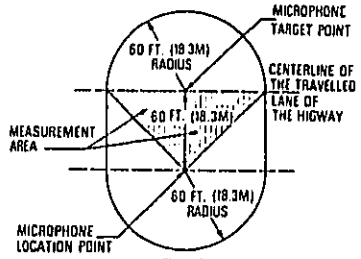

Figure 3
NON-STANDARD TEST SITE;
(60 FT (18.3M) DISTANCE BETWEEN
MICROPHONE LOCATION AND TARGET POINTS)

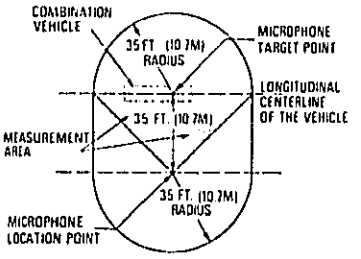

Figure 4
NON-STANDARD TEST SITE;
(35 FT (10.7M) DISTANCE BETWEEN
MICROPHONE LOCATION AND TARGET POINTS)

§ 325.79 Application of correction factors.

(a) If two correction factors apply to a measurement they are applied cumulatively.

(b) The following examples illustrate the application of correction factors to sound level measurement readings:

(1) *Example 1—Highway operations.* Assume that a motor vehicle generates a maximum observed sound level reading of 86 dB(A) during a measurement in accordance with the rules in Subpart D of this part. Assume also that the distance between the microphone location point and the microphone target point is 60 feet (18.3 m) and that the measurement area of the test site is acoustically "hard." The cor-

rected sound level generated by the motor vehicle would be 85 dB(A), calculated as follows:

86 dB(A)	Uncorrected reading
+1 dB(A)	Distance correction factor
−2 dB(A)	Ground surface correction factor
85 dB(A)	Corrected reading

(2) *Example 2—Stationary test.* Assume that a motor vehicle generates maximum sound level readings which average 88 dB(A) during a measurement in accordance with the rules in Subpart E of this part. Assume also that the distance between the microphone location point and the microphone target point is 35 feet (10.7 m), and that the measurement area of the test site is acoustically "soft." The corrected sound level generated by the motor vehicle would be 87 dB(A), calculated as follows:

88 dB(A)	Uncorrected average of readings
−3 dB(A)	Distance correction factor
+2 dB(A)	Ground surface correction factor
87 dB(A)	Corrected reading

Subpart G—Exhaust Systems and Tires

§ 325.91 Exhaust systems.

A motor vehicle does not conform to the visual exhaust system inspection requirements, 40 CFR 202.22, of the Interstate Motor Carrier Noise Emission Standards, if inspection of the exhaust system of the motor vehicle discloses that the system—

(a) Has a defect which adversely affects sound reduction, such as exhaust gas leaks or alteration or deterioration of muffler elements, (small traces of soot on flexible exhaust pipe sections shall not constitute a violation of this subpart);

(b) Is not equipped with either a muffler or other noise dissipative device, such as a turbocharger (supercharger driven by exhaust gases); or

(c) Is equipped with a cut-out, bypass, or similar device, unless such device is designed as an exhaust gas driven cargo unloading system.

§ 325.93 Tires.

(a) Except as provided in paragraph (b) of this section, a motor vehicle does not conform to the visual tire inspection requirements, 40 CFR 202.23, of the Interstate Motor Carrier Noise Emissions Standards, if inspection of any tire on which the vehicle is operating discloses that the tire has a tread pattern composed primarily of cavities in the tread (excluding sipes and local chunking) which are not vented by grooves to the tire shoulder or circumferentially to each other around the tire.

(b) Paragraph (a) of this section does not apply to a motor vehicle operated on a tire having a tread pattern of the type specified in that paragraph, if the motor carrier who operates the motorvehicle demonstrates to the satisfaction of the Director of the Bureau of Motor Carrier Safety or his designee that either—

(1) The tire did not have that type of tread pattern when it was originally manufactured or newly remanufactured; or

(2) The motor vehicle generates a maximum sound level reading of 90 dB(A) or less when measured at a standard test site for highway operations at a distance of 50 feet (15.3 m) and under the following conditions:

(i) The measurement must be made at a time and place and under conditions specified by the Director or his designee.

(ii) The motor vehicle must be operated on the same tires that were installed on it when the inspection specified in paragraph (a) of this section occurred.

(iii) The motor vehicle must be operated on a highway having a posted speed limit of more than 35 mph (56.3 kph).

(iv) The sound level measurement must be made while the motor vehicle is operating at the posted speed limit.