

**RECOMMENDED
PRACTICE SAE J1174**

APPROVED AS ANSI/SAE J1174 - 1979
BY AMERICAN NATIONAL
STANDARDS INSTITUTE

**Operator Ear Sound Level
Measurement Procedure
for Small Engine Powered
Equipment — SAE J1174**

SPONSORED BY:
SOCIETY OF AUTOMOTIVE ENGINEERS, INC.

PUBLISHED BY:
SOCIETY OF AUTOMOTIVE ENGINEERS, INC., 400 Commonwealth Drive, Warrendale, PA 15096

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Approved by AMERICAN NATIONAL STANDARDS INSTITUTE May 17, 1979

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OPERATOR EAR SOUND LEVEL MEASUREMENT PROCEDURE FOR SMALL ENGINE POWERED EQUIPMENT—SAE J1174

SAE Recommended Practice

Report of Specialized Vehicle and Equipment Sound Level Committee approved October 1977. Rationale statement available.

1. Scope—This SAE Recommended Practice establishes the instrumentation and procedure to be used in measuring the operator ear sound level for engine powered equipment under 15 kW (20 bhp). The sound levels obtained by using this procedure are representative of the sound levels generated by the equipment under typical operating conditions. It is intended to include equipment such as lawn mowers, snow blowers, and tillers. It is not intended to include equipment designed primarily for operation on highways or within factories or buildings, or vehicles such as motorcycles, snowmobiles, and pleasure motorboats that are covered by other SAE Standards or Recommended Practices.

This procedure does not cover chain saws.

This SAE Recommended Practice may also be used when measuring the operator ear sound level of similar equipment powered by electricity or other power sources.

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

2.1 A precision sound level meter which meets the Type 1 requirements of American National Standard Specification for Sound Level Meters, S1.4-1971.

2.2 A sound level calibrator (see paragraph 4.3.3).

2.3 The microphone shall be used with a foam windscreen. The windscreen shall not affect the overall reading by more than ± 0.5 dB(A) for the sound source that is being measured (see paragraph 4.4).

2.4 An anemometer or other device for measurement of ambient wind speed.

2.5 An engine speed indicator (accuracy $\pm 1\%$ of full range).

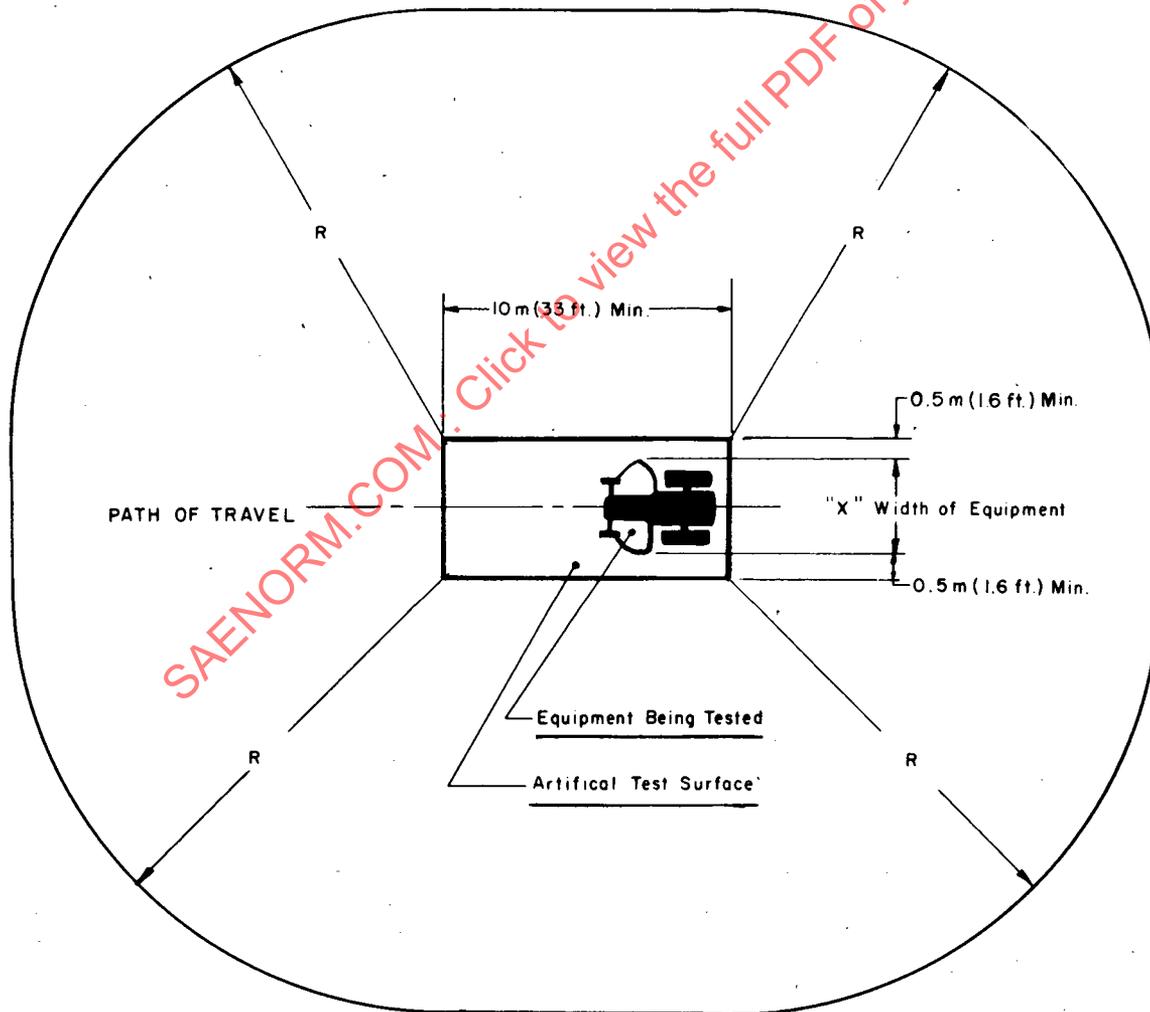
2.6 A thermometer for measurement of ambient temperature.

3. Procedure

3.1 Test Site—The test area shall consist of a flat open space free from the effects of signboards, buildings, or hillsides for at least 15 m (50 ft) from the measurement zone.

3.1.1 The minimum dimensions of the measurement zone are 1.0 m (3.3 ft) wider than the equipment being tested and 10 m (33 ft) long for moving tests. (See Fig. 1.)

3.1.2 The entire surface of the measurement zone shall be a synthetic surface mounted to 19 mm (3/4 in) exterior plywood or 13 mm (1/2 in) marine plywood with a suitable adhesive.



$R = 15 \text{ m (50 ft.) minimum}$

FIG. 1—TEST SITE

The ϕ symbol is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. If the symbol is next to the report title, it indicates a complete revision of the report.