



SURFACE VEHICLE STANDARD

J1161™

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Superseding J1161 NOV2017

(R) Operational Sound Level Measurement Procedure for Snowmobiles

RATIONALE

The committee has agreed upon clarification to the measurement uncertainty. References to SAE J192 have been added to avoid discrepancies between the two standards. Section 7 has been relocated to Section 5 to be aligned with SAE J192 structure.

1. SCOPE

This SAE Standard establishes a uniform test procedure for determining the exterior operational sound level for snowmobiles.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J192 Maximum Exterior Sound Level for Snowmobiles

3. INSTRUMENTATION

Instrumentation per SAE J192 section on instrumentation.

4. TEST SITE

Test site per SAE J192 section on test site.

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SAE WEB ADDRESS:

Full document details: SAE J1161_202103

For more information on this standard, visit
https://www.sae.org/standards/content/J1161_202103

Documents

Document Sharing Hub

5. PROCEDURE

5.1 Snowmobile Operation

A constant speed, as specified as follows, is the basis for establishing the operational sound level of the snowmobile.

5.1.1 For the test, approach the starting point at a steady speed of 24 km/h $\pm$ 4 km/h. When the starting point is reached, maintain this constant speed with throttle held as steady as possible until the end point is reached. The centerline of the snowmobile must not deviate more than 1 m from either side of the centerline of the snowmobile path. Record the engine speed reached.

5.1.2 If the snowmobile is not able to attain the test speed of 5.1.1 because of known and intended design performance limitations, the snowmobile shall be tested with wide open throttle as per the procedure above.

5.2 The sound level meter shall be set for slow response and the A-weighted network.

5.2.1 The applicable reading shall be the highest sound level indicated for the run, between the start point and the end point, ignoring unrelated peaks due to extraneous noise or surface irregularities. Measurement runs can be repeated to eliminate irregularity effects.

5.2.2 Two test runs per vehicle side shall be done; the test readings must be within a 1 dB range per vehicle side. If not, test runs shall be repeated until three test readings are within a 2 dB range per vehicle side.

5.3 During the test period, the atmospheric temperature, barometric pressure, humidity, wind speed, and wind direction shall be recorded at intervals not to exceed 1 hour. Also record test surface conditions.

5.3.1 As a substitute to direct test site measurement of atmospheric temperature, barometric pressure, humidity, wind speed, and wind direction, appropriate weather station data may be recorded under these conditions:

- a. The weather station geographic location is no more than 56.4 km from the test site.
- b. The weather station elevation is within 152.4 m of the test site.

6. DATA PROCESSING AND REPORTING

Data processing and reporting per SAE J192 section on data processing and reporting.

7. ENVIRONMENTAL CORRECTION

Environmental correction per SAE J192 section on environmental correction.

8. GENERAL COMMENT

General comment per SAE J192 section on general comments.

9. NOTES

9.1 Revision Indicator

A change bar (I) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this document. An (R) symbol to the left of the document title indicates a complete revision of the document, including technical revisions. Change bars and (R) are not used in original publications, not in documents that contain editorial changes only.

PREPARED BY THE SAE SNOWMOBILE TECHNICAL COMMITTEE