



SURFACE VEHICLE RECOMMENDED PRACTICE

J45™

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Superseded by J44

Brake System Test Procedure - Snowmobiles

RATIONALE

Document is being cancelled as its content is being transferred into SAE J44.

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1. SCOPE

This SAE Recommended Practice establishes a uniform procedure for the level surface testing of hand-operated brake systems on recreational noncompetitive snowmobiles.

1.1 Purpose

This procedure offers a method of testing snowmobiles on turf. Turf is preferred over snow because test repeatability is more easily obtained. In addition, tests shall be conducted under winter conditions to ensure that the braking systems remain operative and that the vehicle has no undue tendency to lose stability, overturn, or swerve out of a test lane 1.2 m (4 feet) wider than the vehicle when the brakes are applied. The purpose of the document is to establish brake system capabilities with regard to deceleration or stopping distance versus applied brake lever force, as affected by vehicle speed, brake temperature, and usage.

2. REFERENCES

2.1 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

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 J44 Service Brake System Performance Requirements - Snowmobiles

SAE J1282 Snowmobile Brake Control Systems

3. DEFINITIONS

3.1 BRAKE LEVER FORCE

A steady force applied in a direction normal to the handle grip in the plane of rotation of the hand brake lever at a distance no more than 25.4 mm (1 inch) from the end of the control lever. See 5.3.2.

3.2 DECELERATION

Average rate of change of vehicle speed during stopping time. Numerically equal to the initial vehicle speed divided by the stopping time. Does not denote instantaneous deceleration at some time during brake application.

3.3 AVERAGE DECELERATION

Refers to the average of the previous decelerations over the required number of tests.

3.4 INITIAL VEHICLE SPEED

Steady-state vehicle speed immediately prior to brake application.

3.5 STOP INTERVAL

Distance or time between successive brake applications.

3.6 STOPPING DISTANCE

Distance vehicle travels from position where brake is applied to position where vehicle comes to a stop.

3.7 STOPPING TIME

Elapsed time between initial brake application and when vehicle comes to a stop.

3.8 TURF

A consistent and reasonably uniform grass covered surface. In this context, does not include root structure.

4. INSTRUMENTATION

Instrumentation is required to make the following observations:

- a. Brake lever force with an accuracy of $\pm 5\%$.
- b. Specified vehicle speed with an accuracy of ± 3 km/h (± 2 mph).¹
- c. Actual vehicle speed with an accuracy of ± 2 km/h (± 1 mph).²
- d. Stop interval with an accuracy of ± 0.1 km (± 0.05 mile) on distance, ± 5 seconds on time.
- e. Stopping distance or stopping time with an accuracy of $\pm 5\%$.

¹ For example, if a test calls for an initial vehicle speed of 32 km/h (20 mph), a speed less than 29 km/h (18 mph) or more than 35 km/h (22 mph) is not acceptable.

² For example, a recorded actual speed of 34 km/h (21 mph) should be accurate within ± 2 km/h (± 1 mph).