

**SAFETY STANDARDS
FOR
SNOWMOBILE PRODUCT CERTIFICATION
SSCC/11**

**Sponsored by
Snowmobile Safety and Certification Committee, Incorporated
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INTRODUCTION

The recreation and sport of snowmobiling go back into history more than three decades. However, the snowmobile manufacturing industry did not organize itself until 1965 when it formed the International Snowmobile Industry Association (ISIA). The ISIA had been the focal point for industry activities in all facets of the rapidly growing recreation of snowmobiling until it evolved into the International Snowmobile Manufacturers Association (ISMA) in 1995. ISMA represents manufacturers of snowmobiles in Canada, the United States, Finland and Japan.

As the use of snowmobiles increased, it became apparent that there existed a need for safety programs within the snowmobile industry and within the community of snowmobilers. Very substantial contributions were made by individual snowmobile manufacturing companies in the development of early safety programs. In April 1970, the Society of Automotive Engineers (SAE) was encouraged by the snowmobile manufacturers to form a subcommittee to develop recommended practices to guide all snowmobile manufacturers in the production of safe snowmobiles. In 1971 and 1972, these recommended practices, developed through the SAE and from other sources, began to be assembled by the Safety Engineer Committee of ISIA into a single usable document. This document was finally published by the ISIA in May 1973 as the Manual of Recommended Standards and Engineering Practices for Snowmobiles. At the same time, ISIA published its Recommendations Regarding Snowmobile Use Regulations which addressed itself to the regulation of snowmobiles in use.

In August 1973, the International Snowmobile Council (ISC) was formed in Winnipeg, Manitoba, Canada by a founding group of associations representing snowmobilers at the provincial and state levels in Canada and the U.S., and representing snowmobile dealers, snowmobile distributors, and snowmobile manufacturers. The ISC is a federation of these associations which concerns itself with recommending solutions to problems confronting the individual snowmobiler, his club, and the snowmobile industry.

The ISIA Manual of Recommended Standards and Engineering Practices for Snowmobiles was submitted to ISC members for their review in August 1973 and again in May 1974. Recommended changes from the ISC members were incorporated in the manual.

In June 1973, these same ISIA manual was submitted to the Canadian Federal Department of Transport and to the U.S. Consumer Product Safety Commission and the U.S. Bureau of Outdoor Recreation for their review.

In furtherance of its commitment to safe snowmobiling, the ISIA was instrumental in the formation of the Snowmobile Safety and Certification Committee, Inc.

(SSCC) in May 1974. All persons, organizations, agencies of government or private agencies, corporations or partnerships interested in snowmobile safety, are eligible to become members of the Snowmobile Safety and Certification Committee, Inc. The ISMA now works with the SSCC.

THE PROGRAM

The Snowmobile Safety and Certification Committee, Inc. (SSCC) is a nonprofit membership association which is concerned with one major area of activity:

- The machine, involving product safety;

Product safety relates to the manufacture and delivery to consumers of mechanically sound snowmobiles which will not cause harm to the user or his surroundings if properly used.

This booklet is concerned with the first major area of activity, the development and implementation of minimum voluntary product safety standards for snowmobile manufacture and certification. The SSCC, after months of intensive review and analysis, approved its first set of standards, effective February 1, 1975, which were designated SSCC/1. The second through the ninth editions of the document which incorporated changes were designated SSCC/2, SSCC/3, SSCC/4, SSCC/5, SSCC/6, SSCC/7, SSCC/8, SSCC/9 and SSCC/10 respectively. The eleventh edition of this document has been designated SSCC/11 and was revised to incorporate updated test procedures on March 31, 2012. The provisions of SSCC/11 are set forth, beginning on page 7 of this booklet.

The format of the safety standards contained in SSCC/11 accomplishes the following:

- It establishes broad statements of objectives that will provide guidance for future development, and
- It eliminates any restrictive language that could possibly inhibit the development of future products.

The format presents each standard by first stating the General Requirement. There follows a statement of Rationale, explaining the necessity for the General Requirement. Next, the Current Requirement is expressed as concisely as possible. It is followed by a listing of approved tests which must be used to show compliance with the Current Requirement. The final section presents the Rationale for acceptance of the approved tests.

The requirements specified in this document apply to recreational snowmobiles. Class I (competitive) snowmobiles are not covered by SSCC machine safety standards.

The effective date of SSCC/11 is March, 2013. This means that all snowmobiles of participating manufacturers which are produced after that date will comply with the requirements of SSCC/11. Verification of compliance is achieved by a rigorous system of evaluation of initial and continued compliance with SSCC/11 by an independent laboratory. The United States Testing Company, Inc. has been employed by the Snowmobile Safety and Certification Committee, Inc. as the independent laboratory to certify compliance by participating manufacturers.

All snowmobile models determined to be in compliance with SSCC/11 will bear a permanent certification label as shown in Figure 1 on page 28 of this booklet. This label has white printing on a black background.

Snowmobiles produced after January 1, 1978 that are certified by SSCC may bear a SSCC label at the point of sale to the consumer that describes the sound emission characteristics of the vehicle. This information is being provided to assist consumers in their purchase decisions. The label is in the form of a hand card, with black print on a white background. A sample of such a label is shown in Figures 2 and 3 on pages 29 and 30 of this booklet.

SSCC/11 is an outgrowth of the earlier work done by the snowmobile manufacturing industry to develop minimum standards for the manufacture of snowmobiles. In May 1973, as outlined above, the International Snowmobile Industry Association approved a document entitled Manual of Recommended Standards and Engineering Practices for Snowmobiles. SSCC/11 incorporates the portion of this document that pertains to vehicle safety with changes necessary to establish safety standards which may be enforced through third party, independent certification. It is important that it be noted that SSCC/11 constitutes minimum standards for snowmobiles and components. It can be assumed that these standards will be exceeded by some manufacturers.

Changes will be necessary, on a regular basis, in the provisions of SSCC/11. The SSCC actively solicits and encourages the submission of recommendations for changes, deletions, additions to and clarification in interpretations of SSCC/11. The formal procedural guide starting on page 20 has been prepared to establish procedural safeguards to which there will be strict adherence in dealing with all recommendations.

A brief summary of the procedures to be followed for considering proposed standards revisions is set forth, starting on page 19.

SAFETY STANDARDS
FOR
SNOWMOBILE PRODUCT CERTIFICATION
SSCC/11

Safety Standards for Snowmobile Product Certification

SSCC/11

1. Scope

The standard sets forth safety requirements and test procedures for the sub-assemblies and assemblies of snowmobiles. Its provisions address subjects related to the safety and protection of snowmobile operators.

2. Reference

Safety Standards for Snowmobile Product Certification -- Supplement.

3. Interpretation

The snowmobile shall comply with the requirements set forth in both the current requirement paragraph and the appropriate listed approved tests.

4. Definitions

Braking Distance -- The distance traveled between the point of first application of the brake control and the point at which the vehicle comes to rest.

Designed or Designed To -- Designed and constructed in such a manner as to be expected in the exercise of reasonable and prudent engineering judgment, and assuming proper maintenance to achieve the desired performance level under normal conditions of operation.

Guard or Shield -- A part or assembly provided for personal safety.

Right--Right Hand; Left--Left Hand -- The designation which refers to the orientation of the vehicle when the operator is at the operator's position, facing forward.

Snowmobile -- A self-propelled vehicle intended for off-road travel primarily on snow, having a curb weight of not more than 453.59 kg (1,000 lb.); driven by track or tracks in contact with the snow; and steered by a ski or skis in contact with the snow; with the following special classes:

Class I, Competitive -- A snowmobile intended solely for use in organized public racing. Racing snowmobiles are snowmobiles advertised and sold by the manufacturer for use on race courses only and not for use on trails. Class I, Competitive snowmobiles are not covered by SSCC machine safety standards.

Class II, Children -- A self propelled vehicle intended for restricted off-road use under adult supervision primarily on snow, by very young persons, as stated and identified by the manufacturer, and limiting its maximum speed of operation on a smooth level, hard packed snow surface to:

Group 1 -- 12.87 km/h (8 mph) for children 6 years or older

Vehicle -- The word "vehicle" is to be interpreted as interchangeable with "snowmobile."

5. Sound Emission

a. *General Requirement.*

Snowmobile sound emissions shall be attenuated to help ensure that the environment is protected from excessive sound pollution.

b. *Rationale for General Requirement.*

Snowmobile sound emissions are the result of exhaust, intake, engine, track and other components. Early vehicles generated sound levels which annoyed people and which brought complaints from bystanders and from environmentalists propounding theories about adverse effects on wildlife. The resultant action was a move to regulation either by requiring mufflers or by establishing mandatory sound level limits.

c. *Current Requirement.*

The sound pressure level shall not exceed 73 decibels on the "A" scale (73 dB(A)) at 15.24 m (50 ft) when traveling at 24.14 km/h (15 mph); and the sound pressure level shall not exceed 78 decibels on the "A" scale (78 dB(A)) at 15.24 m (50 ft) when accelerating at wide open throttle.

d. *Approved Test(s).*

- (1) SAE Recommended Practice J1161, "Operational Sound Level Measurement Procedure for Snowmobiles" (April 2004), except paragraph 6.7 thereof.
- (2) SAE Recommended Practice J192, "Exterior Sound Level for Snowmobiles" (Jan 2013), except paragraph 6.4 thereof.

NOTE: To determine compliance with the current requirement, a value of 2 dB(A), to allow for variations in test sites, temperature gradients, wind velocity gradients, test equipment and inherent differences in nominally identical vehicles, shall be subtracted from the highest average value recorded in accordance with paragraph 5.4 in the case of SAE J1161 and paragraph 5.2.2 in the case of SAE J192.

e. *Rationale for Approved Test(s).*

- (1) SAE Recommended Practice J1161, "Operational Sound Level Measurement Procedure for Snowmobiles," uses standardized vehicle measurement techniques and instrumentation to evaluate the impact of the sound produced on the bystander population. SAE J1161 calls for the snowmobile to travel at 24.14 km/h (15

- mph), a speed which approximates typical operation, this typical sound levels, as judged from analysis of the use cycle data.
- (2) SAE Recommended Practice J192, "Exterior Sound Level for Snowmobiles," uses standardized vehicle sound level measurement techniques and instrumentation to evaluate the impact of the sound produced on the bystander population. SAE J192 calls for the snowmobile to accelerate at wide open throttle, a condition which represents the most extreme (loudest) condition, from the standpoint of sound emission generation.
 - (3) The methods of sound level testing address near typical and worst case contingencies. The loudest case limit acts to reduce the annoyance impact of a single machine. The near typical case limit acts to reduce the disruptive effect made by the total activity of snowmobiling on ambient conditions.

6. Occupant Support System

- a. *General Requirement.*
Snowmobile occupant support systems shall minimize spinal injury.
- b. *Rationale for General Requirement.*
Snowmobiles are intended for use over rough, unprepared terrain. High density use of trails creates moguls which produce rough riding conditions. Undampened vertical acceleration forces transmitted from the vehicle to the operator and passenger could exceed the limits of spinal compression that can be accepted without injury.
- c. *Current Requirement.*
The occupant support system must provide cushioning properties such that the U.S. Air Force injury model will not be subjected to compression deflection exceeding 62.99 mm (2.48 in.). This performance requirement correlates with a 5% incidence of injury for the average seated man described by Brinkly.¹

Class II vehicles are exempted from this requirement.

- d. *Approved Test(s).*
 - (1) SAE Recommended Practice J89, "Dynamic Cushioning Performance Criteria for Snowmobile Seats" (April 2007).

NOTE: There are no approved tests for seats having shapes significantly different from those depicted in SAE J33, "Snowmobile Definitions and Nomenclature -- General" (March 2009)

- e. *Rationale for Acceptance of Approved Test(s).*
 - (1) SAE Recommended Practice J89, "Dynamic Cushioning Performance Criteria for Snowmobile Seats," is appropriate for use

¹ J.W. Brinkly, "Application of Biodynamic Model to Predict Spinal Injuries from Use of Aircraft Ejection Seats." Presented at AFSC Science and Engineering Symposium, October 1971.

in evaluating the seat performance of vehicles described in SAE J33, "Snowmobile Definitions and Nomenclature -- General."

7. Controls

- a. *General Requirement.*
Snowmobiles shall be equipped with control systems that provide the operator with the means to accelerate, decelerate, maintain or change direction, and stop the vehicle. An alternate means is required for emergency stops.
- b. *Rationale for General Requirement.*
The actuation process and location of the controls which increase vehicle speed and stop the vehicle are standardized in order to facilitate the operator learning process and reduce the possibility of confusion under stress conditions.
- c. *Current Requirement.*
The vehicle shall be equipped with a throttle control system, a brake control system, and an emergency control system. An automatic device shall be incorporated that prevents snowmobile runaway due to malfunction of the speed control system or as an alternate, an emergency stop switch designed to provide an instantaneous interruption of the engine ignition system shall be provided. Such emergency stop switch shall be readily accessible and designed for activation by the operator's right hand about the normal steering position and it shall maintain interruption once activated without continuous contact with a braking system which, when the vehicle is traveling on packed snow or a uniform grassy surface, at a speed of 32.19 km/h (20 mph) carrying an operator of at least 77.11 kg (170 lb.), will stop in less than 12.19m (40 ft) or lock the traction belt(s) when the brake control is activated by the operator with a force of 111.20 N (25 lbf) or less.

Every children's snowmobile shall, while traveling on packed snow or on a uniform grassy surface and carrying a driver having a mass between 40.82 and 49.89 kg (90 and 110 lb.), be capable of

- (1) stopping in not more than 6.10 m (20 ft) from an initial steady speed of 12.87 km/h (8 mph); or
- (2) locking its traction belt or belts when the brake control is activated by the operator with a maximum force of 44.48 N (10 lbf) from an initial steady speed of 12.87 km/h (8 mph).

The braking system of a children's snowmobile shall without failure withstand a force of at least 222.40 N (50 lbf) when applied to the brake lever.

- d. *Approved Test(s).*
 - (1) SAE Recommended Practice J92, "Snowmobile Throttle Control Systems" (August 2010).
 - (2) SAE Recommended Practice J1282, "Snowmobile Brake Control Systems" (April 2012).

- (3) SAE Recommended Practice J1222, "Speed Control Assurance for Snowmobiles" (March 2012).
 - (4) SAE Recommended Practice J68, "Tests for Snowmobile Switching Devices and Components" (Feb 2004).
 - (5) SAE Recommended Practice J44, "Service Brake System Performance Requirements-Snowmobiles"(Feb 2009)
 - (6) SAE Recommended Practice J45, "Brake System Test Procedure-Snowmobiles"(May 2009)(children's snowmobiles only).
- e. *Rationale for Acceptance of Approved Test(s).*
- (1) SAE Recommended Practice J92, "Snowmobile Throttle Control Systems," establishes sample size and test procedures which evaluate the throttle control system, after exposure to high temperatures and low temperatures, in terms of strength and fatigue resistance qualities.
 - (2) SAE Recommended Practice 1282, "Snowmobile Brake Control Systems," establishes sample size and test procedures which evaluate the brake control system, after exposures to high temperatures and low temperatures, in terms of strength and fatigue resistance qualities.
 - (3) SAE Recommended Practice J1222, "Speed Control Assurance for Snowmobiles," establishes test procedures to evaluate the performance of the automatic runaway prevention device when the engine is started, under normal operation, and during unmanned operation.
 - (4) SAE Recommended Practice J68, "Tests for Snowmobile Switching Devices and Components," establishes sample size and test procedures which evaluate vibration and corrosion tests from SAE J575 and temperature, moisture and endurance test for emergency shut-off switches. The time, temperature and relative humidity specified in the moisture tests are intended to simulate switch freeze-up conditions. The cycling required for the endurance tests is considered to be higher than what could be accumulated during the life of a snowmobile. The specified voltage drops indicate a level that would not cause excessive switch heat or degrade stop lamp lighting performance.
 - (5) SAE Recommended Practice J44, "Service Brake System Performance Requirements-Snowmobiles," is used to establish performance requirements for hand-operated brake systems on recreational, non-competition snowmobiles.
 - (6) SAE Recommended Practice J45, "Brake System Test Procedure-Snowmobiles," is used to prescribe only the application of the brake lever force on a children's snowmobile.

8. Fuel System

- a. *General Requirement.*
Snowmobiles shall be equipped with a system which provides for storage and delivery of uncontaminated fuel to the engine.
- b. *Rationale for General Requirement.*
Contaminated fuel reduces engine reliability and could cause engine failure. The system must take into consideration the effects of operational loading, changes in the functional service properties of the fuel, possible deterioration of the fuel due to chemical exposure, and possible deterioration of the materials used in the system components due to environmental conditions.
- c. *Current Requirement.*
Snowmobiles shall be equipped with a fuel tank and attachments in compliance with SAE Recommended Practice J288, "Snowmobile Fuel Tanks."
- d. *Approved Test(s).*
SAE Recommended Practice J288, "Snowmobile Fuel Tanks" (March 2008).
- e. *Rationale for Acceptance of Approved Test(s).*
SAE Recommended Practice J288, "Snowmobile Fuel Tanks," evaluates leakage, flammability, the softening point, brittleness, impact strength, permeability, and the effects of temperature extremes.

9. Shields and Guards

- a. *General Requirements.*
Snowmobiles shall be equipped with means to minimize the possibility of injury to the operator, passenger or bystander through inadvertent contact with power driven parts.
- b. *Rationale for General Requirements.*
Engines, belt drives and other power driven parts operating at high speeds present a risk of injury to operators, passengers and bystanders through bodily contact or entanglement of loose items of clothing.

Engine or drive system failure during high speed operation presents the risk of injury to operators, passengers or bystanders from escaping fragments which may result from the component which failed.

- c. *Current Requirement.*
 - (1) Physical Contact -- Power driven parts of the engine, clutch and drive system, with the exception of the vehicle track and sprocket system, shall be isolated by consoles, shields or guards of sufficient size, shape and configuration designed so as to prevent their physical contact with the operator, passengers or bystanders during normal use of the snowmobile. All consoles, shields and guards shall be in position and the hood closed. Compliance with this requirement shall be determined by using SSCC 58, "Probe Test for Contact with Power Driven Parts."

- (2) Shielding -- Adequate shielding shall be provided to protect the operator, passengers or bystanders in the case of failure of those parts of the drive train known as belts, gears, and chains should a part or parts be ejected from said components or in the case of breakage of such belts, gears or chains as employed.
- (3) Transmission Guards -- Shielding and guards of centrifugal clutches, drive pulleys, driven pulleys, torque converters or similar mechanisms shall be employed and designed so that in the event of a failure of component structures, etc., no component can be expected to leave the engine and/or drive compartment in a manner to injure the operator, passenger or bystander.
- (4) Heat Protection --Such additional guards or shields shall be provided to prevent inadvertent contact by the occupant(s) with any exposed components sufficiently hot to cause burns during normal operation of the vehicle with all such components in position and fastened.
- d. *Approved Test(s).*
 - (1) SAE Recommended Practice J1279 "Snowmobile Drive Mechanisms" (Aug 2010).
 - (2) SSCC-58, "Probe Test for Contact with Power Driven Parts" (Nov 2010).
- e. *Rationale for Acceptance of Approved Test(s).*
 - (1) SAE Recommended Practice J1279 "Snowmobile Drive Mechanisms" provides minimum requirements and tests for evaluating the structural integrity of snowmobile drive mechanisms (that is, drive pulleys, driven pulleys, torque converters, centrifugal clutches, or similar mechanisms).
 - (2) SSCC-58, "Probe Test for Contact with Power Driven Parts," provides an objective means, through the use of a finger probe, to determine the accessibility of power driven parts which could, upon inadvertent contact by an operator, passenger or bystander, inflict injury.

10. Lighting System

- a. *General Requirement.*
Snowmobiles shall be equipped with a lighting system which provides the means for adequate illumination, identification, and signaling.
- b. *Rationale for General Requirement.*
The significant percentage of use of snowmobiles during periods of inadequate natural light requires a means for illumination and identification that will reduce the possibility of collision with other vehicles and objects, and a means for signaling the operator's intentions to others.
- c. *Current Requirements.*
 - (1) Headlamps, tail lamps, reflective devices and associated equipment shall be provided and shall comply with SAE Recommended Practice J292, "Snowmobile and Snowmobile

- Cutter Lamps, Reflective Devices, and Associated Equipment,” except headlamp beam switches and brake light switches.
- (2) Headlamp beam switches shall be tested in accordance with requirements of SAE Recommended Practice J68, “Tests for Snowmobile Switching Devices and Components.”
 - (3) The brake light switch shall be tested in accordance with requirements of SAE Recommended Practice J68, “Tests for Snowmobile Switching Devices and Components.”
 - (4) The insulated cables comprising electrical wiring circuits should be protected by rubber, plastic, nonmetallic tape, or braid covering, or other means capable of withstanding severe abrasion, except where otherwise protected or not in potentially abrasive contact with metal surfaces. The electrical wiring assembly shall, where practicable, be grouped together, be properly supported, and be located so that no portion is in contact with the carburetor, metallic fuel lines, the exhaust system, moving parts, or sharp edges. Any edges of metal members subject to contact with cables shall be rounded or protected to prevent possible damage to the cables by cutting or abrasion.
 - (5) Reflectors provided for rear and side marking shall comply with the requirements of SAE Recommended Practice J292, “Snowmobile and Snowmobile Cutter Lamps, Reflective Devices, and Associated Equipment.”
 - (6) Class II vehicles shall comply with the requirements of SSCC-62, “Children’s Snowmobile Lighting.”
- d. *Approved Test(s).*
- (1) SAE Recommended Practice J292, “Snowmobile and Snowmobile Cutter Lamps, Reflective Devices and Associated Equipment.” (Sep 2008).
 - (2) SAE Recommended Practice J68, “Tests for Snowmobile Switching Devices and Components” (Feb 2004).
 - (3) SAE Recommended Practice J277, “Maintenance of Design Voltage -- Snowmobile Electrical Systems” (Aug 2010).
 - (4) SAE Recommended Practice J278, “Snowmobile Stop Lamp” (March 2011).
 - (5) SAE Recommended Practice J279, “Snowmobile Tail Lamp (Rear Position Lamp)” (March 2011).
 - (6) SAE recommended Practice J280, “Snowmobile Headlamps” (March 2011).
 - (7) SAE Recommended Practice J575, “Test Methods and Equipment for Lighting Devices and Components For Use On Vehicles Less Than 2032 mm In Overall Width” (April 2010).
 - (8) SAE Recommended Practice J576, “Plastic Materials for Use in Optical Parts Such As Lenses and Reflectors of Motor Vehicle Lighting Devices” (Feb 2010).
 - (9) SAE Standard J578, “Color Specification” (Dec 2006).

- (10) SAE Standard J592, "Sidemarker Lamps for Use on Road Vehicles Less Than 2032 mm in Overall Width" (Mar 2009).
 - (11) SAE Standard J594, "Reflex Reflectors" (Feb 2010).
 - (12) SSCC-62, "Children's Snowmobile Lighting" (Nov 2010).
- e. *Rationale for Acceptance of Approved Test(s).*
- (1) SAE Recommended Practice J292, "Snowmobile and Snowmobile Cutter Lamps, Reflective Devices and Associated Equipment," describes requirements for headlamps, tail lamps, reflective devices and associated equipment.
 - (2) SAE Recommended Practice J68, "Tests for Snowmobile Switching Devices and Components," establishes sample size and test procedures which evaluate vibration and corrosion tests from SAE J575 and a temperature, moisture and endurance test for headlamp beam switches and brake light switches. The time, temperature, and relative humidity specified in the moisture tests are intended to simulate switch freeze-up to verify that the switch will function under freeze-up conditions. The cycling required for the endurance tests is considered to be higher than what could be accumulated during the life of a snowmobile. The specified voltage drops indicate a level that would not cause excessive switch heat or degrade stop lamp lighting performance.
 - (3) SAE Recommended Practice J277, "Maintenance of Design Voltage -- Snowmobile Electrical Systems," provides a test method and voltage limits for snowmobile electrical power systems.
 - (4) SAE Recommended Practice J278, "Snowmobile Stop Lamp," provides test methods and requirements for snowmobile stop lamps. Tests for photometric performance, lens material, and lens color are included. Requirements for installation are also included.
 - (5) SAE Recommended Practice J279, "Snowmobile Tail Lamp (Rear Position Lamp)," provides test methods and requirements for snowmobile tail lamps. Tests for photometric performance, lens material, and lens color are specified. Requirements for installation are included.
 - (6) SAE Recommended Practice J280, "Snowmobile Headlamps," provides test methods and requirements for snowmobile headlamps. It includes tests for aiming, and photometric performance and requirements for headlamp mounting.
 - (7) SAE Recommended Practice J575, "Test Methods and Equipment For Lighting Devices and Components For Use On Vehicles Less Than 2032 mm In Overall Width," provides tests, test methods, and requirements for light equipment in general. It specifies vibration, moisture, dust, corrosion, and out of focus tests for lighting devices.
 - (8) SAE Recommended Practice J576, "Plastic Materials for Use in Optical Parts Such As Lenses and Reflectors of Motor Vehicle

- Lighting Devices, “provides tests , test methods, and requirements for plastic lens and optical parts of motor vehicle lighting devices.
- (9) SAE Standard J578, “Color Specification,” provides a specification for colors employed in external motor vehicle lighting equipment. It applies to the overall light color emitted from a device.
 - (10) SAE Standard J592, “Clearance, Side Marker, and Identification Lamps,” provides photometric performance requirements and material tests for side marker lamps.
 - (11) SAE Standard J594, “Reflex Reflectors,” provides photometric performance requirements and material tests for unit reflex reflectors.
 - (12) SSCC-62, “Children’s Snowmobile Lighting,” provides requirements for headlamp, identification light(s) and reflectors used on children’s snowmobiles.

11. Passenger Handgrips

- a. *General Requirement.*
Each passenger occupying a designated passenger location shall be provided the means for maintaining his position on the vehicle.
- b. *Rationale for General Requirement.*
Snowmobiles are intended for use over rough terrain. The forces caused by the ground surface conditions and the inertial forces produced by the acceleration and deceleration may have an unstabilizing effect on the passenger. The passenger must be given a means to avoid falling from the vehicle without the need of holding onto the operator.
- c. *Current Requirement.*
Every designated seating position except that of the driver shall be provided with:
 - (1) A single non-rigid handgrip located immediately in front of the seating position and large enough to be gripped by both hands of an occupant wearing winter gloves or mitts; or
 - (2) Two handgrips located in a convenient, accessible position, one on each side of the seating position, and each large enough to be gripped by one hand of an occupant wearing winter gloves or mitts.
 - (3) Each handgrip referred to in (1) and (2) shall comply with the loading and durability test requirements (paragraphs 4.3 and 5.0) of SAE Recommended Practice J1062, “Snowmobile Passenger Handgrips.” Ambient conditions for the tests specified in paragraphs 4.3 and 5.0, SAE J1062 shall be 21.11°C (20°F).
 Class II vehicles are exempted from these requirements.
- d. *Approved Test(s).*
SAE Recommended Practice J1062, “Snowmobile Passenger Handgrips” (Apr 2008).
- e. *Rationale for Acceptance of Approved Test(s).*

SAE Recommended Practice J1062, "Snowmobile Passenger Handgrips," provides specifications for the loading tensile forces applied in the vertical plane and the horizontal plane and specifies the tensile load and number of repetitions for a durability cycle test.

12. General Hazards

a. *General Requirements.*

All external surfaces of a snowmobile shall be of such a configuration and shape so as to minimize injury to a person coming in contact with the vehicle.

Vehicles without passenger capacity shall be prominently marked.

b. *Rationale for General Requirement.*

Physical contact between operators, passengers and bystanders and a snowmobile is expected during use and inspection. These parties have a valid expectation that edges and protrusions which are the intentional result of design or the inadvertent result of production processes will not cause injury during the contacts.

Passenger capacity information is intended to eliminate vehicle overload.

c. *Current Requirement.*

- (1) All levers and controls shall have blunt ends. No switch, control, console, or steering control shall have sharp edges or sharp protrusions or be so positioned so as to be hazardous to the operator or passengers under conditions of normal use.
- (2) Snowmobiles designed and produced for use by one person will be so identified through use of a permanent statement, visible from the operator's position, affixed to the external surface of the machine, to the following effect; "This vehicle is designed for operator only -- no passengers."
- (3) If the children's snowmobile is equipped with a windshield, the material of the windshield shall be capable of meeting, without fracturing or permitting particles to break loose when cracking occurs,
 - (a) A flexure test consisting of bending a 304.80 mm (12 in) square flat sheet sample soaked at -29°C (-20°F) for 1 h 180 degrees around a 38,10 mm (1.50 in) radius, and
 - (b) an impact test consisting of impacting a 304.80 mm (12 in) by 304.80 mm (12 in) square flat sheet sample soaked at -29°C (-20°F) for 1 h with a 1.25 kg (2.75 lb) device from a height of 914.40 mm (36 in) where the contact surface of the device is spherical with a maximum radius of 25.40 mm (1 in) and the sample is uniformly supported on a flat, hard, nonresilient surface.
- (4) The edges of a children's snowmobile windshield which are

- exposed to the operator or bystander shall have an edge radius of not less than 3.18 mm (1/8 in).
- (5) The nominal central portion of the children's snowmobile steering mechanism or handlebars between the throttle and the brake control levers facing the operator's position shall be covered by impact absorbing non-rigid material of at least 6.35 mm (1/4 in) thick.
 - (6) A label of plaque shall be permanently affixed to a children's snowmobile in a conspicuous location specifying operation under adult supervision, prohibition of use on public trails, and pre-operation checks covered in the operator's handbook.

13. Vehicle Identification Numbers

- a. *General Requirement.*
The Recommended Practice provides direction for uniform content and structure of vehicle identification numbers assigned to each snowmobile.
- b. *Rationale for General Requirement.*
 - (1) This recommended practice describes the characteristics of the VIN number system to be used for snowmobiles.
 - (2) The VIN should be considered in the context of a world manufacturers identifier to establish a unique vehicle identity.
- c. *Current Requirement.*
 - (1) SSCC-53 Snowmobile Identification Numbering System (Nov 2010)

14. Identification of Snowmobile Exhaust Systems

- a. *General Requirement*
The snowmobile will have certification markings on the exhaust silencer in a spot that is visible and is resistant to alteration.
- b. *Rationale*
Snowmobiles are built to specifications for sound emissions by the manufacturers. If a snowmobile exhaust system is modified after purchase with different parts other than those originally installed, those parts should meet the same specifications so that a snowmobile is still in compliance with SSCC standards for sound.
- c. *Current Requirement*
 - (1) SSCC-63 Identification of Snowmobile Exhaust Systems (Nov 2010)
- d. The SSCC Exhaust Labeling is not required for Class II Children's Snowmobile.

PROCEDURAL GUIDE
FOR CONSIDERATION OF PROPOSED
SNOWMOBILE SAFETY STANDARD REVISIONS

1.1 SSSC ESTABLISHED PROCEDURAL GUIDE FOR CONSIDERING PROPOSED STANDARDS REVISIONS.

It is assumed that recommendations for revisions in the Standard will come primarily from two different sources. The first of these will be from persons and/or organizations who are familiar with the snowmobile Standard and have the capability of phrasing the proposed change in the language of the Standard. The second source will be those persons who are not familiar with the Standard, but who do have ideas for revision. These persons who may not be able to reduce their recommendation to standards' language may simply submit their recommendation in a letter form.

1.2 ANY INTERESTED PARTY SUBMITS ACTUAL LANGUAGE CHANGES PROPOSED IN THE STANDARDS AND RATIONALE FOR CHANGE.

This is the routine approach to changing the Standard, whereby an interested party, either manufacturer, government official, distributor, dealer, snowmobiler, or other person or organization being familiar with the Standard, submits specific recommendations to augment or amend the Standard. Factual data and rationale for the change must be provided in a form suitable for duplication and distribution, and should contain the complete argument. The submission will be in three parts:

- Reference to the specific section and paragraph to be changed, added to, or deleted.
- The actual language to be incorporated as a new standard.
- The reasons for the change and all supporting test data.

1.3 SUGGESTED CHANGES SUBMITTED TO CHAIRMAN, SSSC. ACKNOWLEDGED.

All proposed changes are submitted to: Chairman, Snowmobile Safety and Certification Committee, Inc., 1640 Haslett Road, Suite 170, Haslett, Michigan 48840, U.S.A.

All submissions shall be acknowledged by the Chairman. He will be responsible for ensuring that appropriate action is completed by scheduling action and monitoring results.

1.4 PROPOSAL REVIEWED FOR SIGNIFICANCE TO SAFETY IMPROVEMENTS. INPUT FROM LABORATORY, TECHNICAL COMMITTEE, AND CONSULTANT SOUGHT.

Each proposal shall be evaluated to determine its effects upon safety. Many recommendations can be expected that will not directly relate to safety improvement, but rather will be related to product performance, or appearance, or other non-safety elements. This review will be accomplished by SSCC staff with input from the laboratory, Technical Committee or such consultants whose input may be helpful.

1.5 OUTSIDE PARTY RAISES ISSUES OR CONCERN FOR SAFETY. NO FORMAL LANGUAGE.

There must be a way for outside parties to bring issues forward for consideration by SSCC without having to follow the precise format of the Standard. All such written communications received from any source are forwarded to the Chairman, SSCC for action.

1.6 CHAIRMAN, SSCC RECEIVES ISSUES AND ACKNOWLEDGES.

All issues presented by outside parties will be logged and scheduled for review. The receipt of all such communications will be acknowledged and a description of the course of action to be taken to resolve the issue will be made to the party presenting the issue under consideration.

1.7 PROPOSAL REVIEWED FOR SIGNIFICANCE TO SAFETY IMPROVEMENTS. INPUT FROM LABORATORY, TECHNICAL COMMITTEE AND CONSULTANT SOUGHT. ACTUAL STANDARDS LANGUAGE PREPARED IF POSSIBLE.

The same procedure as set forth in 1.4 will be followed in this case with an additional step: the preparation of the recommendation into formal Standards' language by the SSCC staff.

1.8 SSCC BOARD OF DIRECTORS REVIEWS DATA TO DETERMINE IF IMMEDIATE ACTION IS NEEDED.

The SSCC Board of Directors will review the proposed standard, along with the SSCC staff evaluation as to its relationship to snowmobile safety, and will make its judgment as to whether or not the proposal is related to safety matters, and if so, whether routine action or emergency action is required in further processing the recommendation.

1.9 TECHNICAL COMMITTEE AND CONSULTANT REVIEW CPSC AND OTHER DATA AND RECOMMENDED CHANGES.

It is contemplated that individuals and/or organizations will be employed from time to time by SSCC to review snowmobile accident data, whether in the hands of the U.S. Consumer Product Safety Commission, from other governmental, or private sources in both Canada and the United States. Such outside consultants will, from time to time, make specific recommendations directly to the SSCC Board of Directors. The Technical Committee will also originate such recommendations.

1.10 TESTING LABORATORY RECOMMENDS CHANGES BASED ON TESTING EXPERIENCE.

The Laboratory, in the course of its evaluation of snowmobile models and in the conduct of its obligations under the Certification Program, will develop recommendations for revisions in the Standard which it will make directly to the SSCC Board of Directors.

2. ROUTINE ACTION TAKEN AT REGULAR SSCC MEETING.

This is the beginning step taken by the SSCC Board of Directors not requiring emergency action.

2.1 TECHNICAL COMMITTEE ANALYZES SUGGESTIONS AND REVISES STANDARD. ASSEMBLES TECHNICAL, ECONOMIC AND HAZARD DATA AS APPROPRIATE.

Each recommended revision is received by the Technical Committee of SSCC from the SSCC Board of Directors. Data which are supplied with the proposal are reviewed for accuracy and completeness. New data are obtained as appropriate from any relevant source, including outside consultants, the Society of Automotive Engineers, other Standards' writing bodies, and the Laboratory. The Technical Committee may initiate face to face discussions with persons submitting proposed revisions. Those proposals which are not feasible technically are not included in a proposed revision and the offeror is so notified and supplied with the analyses. The Technical Committee may negotiate with the offeror to adjust the language of the proposal to provide the most viable document. The anticipated time required to complete this step is 60 days to 270 days. As with all anticipated times noted herein, these times are goals only that are believed to be reasonable for the performance of the necessary efforts.

2.2 CONSULTANT, SAE, OTHERS.

Many suggested revisions in review by the Technical Committee will require the application of special expertise, which is only available from outside consultants. The design implications of a recommendation may require, in addition to the engineering and technical analysis, an appraisal of its economic impact on manufacturers who may be called upon to finally implement the recommendation. The Society of Automotive Engineers has since 1970 had a Subcommittee engaged in the development of recommended practices for snowmobile manufacturing. It is anticipated that a very close cooperation will exist between the SAE and the SSCC Technical Committee. Additionally, one of the most critical elements in the evaluation of a recommended revision is its contribution to snowmobile safety. Even though a recommendation is feasible from an engineering standpoint, it may, in balance, offer additional hazards to a snowmobiler or to the environment in which snowmobiling occurs, so as to make its approval undesirable.

2.3 TESTING LABORATORY

Not only must a proposed revision of SSCC/11 contribute to snowmobile safety, and be technically feasible to implement but also must be susceptible to repetitive testing in order to permit the Laboratory to certify compliance with it after its incorporation into SSCC/11. Consequently, the Laboratory will be involved in the initial analysis by the SSCC Technical Committee of many recommendations for change.

2.4 REVISED STANDARD PREPARED FOR DISTRIBUTION. PETITIONERS INFORMED OF OUTCOME.

Upon completion of the initial review and development of a recommended change in SSCC/11 the recommendation, along with any revisions offered by the Technical Committee, is prepared in a document for distribution. The offeror is provided a copy and informed of his opportunity for comment.

2.5 REVISED STANDARD DISTRIBUTED FOR PUBLIC COMMENT TO ISMA MEMBERS AND TO INTERESTED INDIVIDUALS.

The proposed revisions in the Standard which have been incorporated in a single document will be distributed to snowmobile manufacturers and other organizations and individuals known to have a specific interest in snowmobile standards. The anticipated time for return of comment is 60 days.

2.6 TECHNICAL COMMITTEE CONSIDERS ALL COMMENTS; REVISES STANDARD; ANSWERS ALL COMMENTS.

All comments received with regard to a proposed revision of the Standard will be seriously considered by the Technical Committee. It may accept some comments and reject others. However, it will answer all comments, giving its reasons for the incorporation of those comments in the Standard or the reasons for rejecting the comments. The anticipated time required to complete this step is 30 days to 90 days.

2.7 SECOND REVISION SENT TO ALL RESPONDENTS WITH LOGIC FOR ACCEPTING OR REJECTING COMMENTS.

All persons or organizations that submitted comments on the first public distribution of the proposed revision will receive a copy of the report of the Technical Committee containing a record of the action taken by the Technical Committee of the first comments. The persons and organizations receiving this report will be invited to submit their further comments which must be limited to the actions taken by the Technical Committee on the first round of comments. The anticipated time for return of comments is 30 days.

2.8 TECHNICAL COMMITTEE MAKES FINAL ADJUSTMENTS. DOCUMENTS UNRESOLVED COMMENTS.

The Technical Committee will receive all final comments, evaluate them, and make final adjustments in the proposed revisions. It will incorporate its reason for the action taken on the final comments. Any unresolved issues will be stated in the final recommendation regarding the revised standards. At this point, the final document is prepared, incorporating all supporting data, and is then presented to the SSCC Standing Committee for Snowmobile Standards. The anticipated time required to complete this step is 30 days to 60 days.

2.9 SSCC STANDING COMMITTEE FOR SNOWMOBILE STANDARDS REVIEWS PROPOSAL AND ALL COMMENTS. RECOMMENDS FINAL ACTION. TWO-THIRDS MAJORITY REQUIRED TO APPROVE.

This Committee is a standards' review body. It will include manufacturers, representatives of snowmobile organizations, representatives of the general public and representatives of the government. Where possible the makeup of the representatives will be balanced between the United States and Canada. It will be the responsibility of this Committee to review the final recommendation of the Technical Committee, including all of the supporting data, and make a recommendation to the SSCC Board of Directors to either approve or reject the final recommendation of the Technical Committee. The anticipated time required to complete this step is 30 days.

2.10 FINAL REVISED STANDARD VOTED ON BY SSCC BOARD MEMBERS, PARAGRAPH BY PARAGRAPH. TWO-THIRDS MAJORITY REQUIRED

FOR PASSAGE. DECISION MADE ON UNRESOLVED COMMENTS.
ALL INFORMED OF RESULTS. EFFECTIVE DATE SET.

The SSCC Board of Directors, at its regular annual meeting, reviews the final draft standard, paragraph by paragraph, and votes on each provision, with a two-thirds majority needed for passage. Should a specific paragraph be rejected, the reasons for rejection will be clearly stated. It is anticipated that all parties who have participated in the proceedings will be advised of the outcome within 15 days. Except by unanimous consent of the Board of Directors otherwise, the effective date of a new or revised standard shall be no sooner than February 1 of the following year, nor later than February 1 of the second following year.

3. EMERGENCY PROCEDURE INSTITUTED.

THIS IS THE BEGINNING POINT FOR PROCESSING EMERGENCY CHANGES TO THE STANDARD.

3.1 TECHNICAL COMMITTEE ANALYZES PROPOSAL, ASSEMBLES RELEVANT DATA, AND PREPARES REVISIONS TO STANDARD.

This procedure is identical to that set forth in 2.1 above except that the process is greatly expedited. The anticipated time required to complete this step is 30 days.

3.2 COORDINATION WITH CONSULTANT, TEST LABORATORY, SAE AND OTHERS.

All available talent will be made available to support the Technical Committee review as necessary. In cases involving emergency changes, there is no question about the general notice of the change in the Standard; the only issue is the final language.

3.3 REVISED STANDARD PREPARED FOR DISTRIBUTION.
PETITIONERS INFORMED OF OUTCOME.

The product of the review by the technical committee is prepared in a document and presented for general distribution.

3.4 REVISED STANDARD DISTRIBUTED FOR PUBLIC COMMENT TO ISMA MEMBERS AND TO INTERESTED INDIVIDUALS.

This is comparable to Section 2.5 above except that the time for response is shortened. The anticipated time for return of comments is 30 days.

3.5 TECHNICAL COMMITTEE MAKES FINAL ADJUSTMENTS.
DOCUMENTS UNRESOLVED COMMENTS.

The Technical Committee combines the review of comments as set forth under sections 2.6 and 2.8 above. It must at this point prepare the final recommendation to the SSCC Standing Committee for Snowmobile Standards.

3.6 SSCC STANDING COMMITTEE FOR SNOWMOBILE STANDARDS
REVIEWS PROPOSAL AND ALL COMMENTS. RECOMMENDS FINAL
ACTION. TWO-THIRDS MAJORITY REQUIRED TO APPROVE.

In this instance, the responsibility of the SSCC Standing Committee for Snowmobile Standards is identical to that set forth under paragraph 2.9 above.

3.7 REVISED STANDARD VOTED ON BY SSCC BOARD OF DIRECTORS.
UNANIMOUS CONSENT REQUIRED FOR PASSAGE. PARAGRAPHS
NOT RECEIVING UNANIMOUS CONSENT TRANSFERRED FOR
ROUTINE ACTION. DECISIONS MADE ON UNRESOLVED
COMMENTS. ALL INFORMED OF RESULTS. EFFECTIVE DATE SET.

The SSCC Board of Directors, at its regular annual meeting or at a special meeting, reviews the final draft standard, paragraph by paragraph, and votes on each provision, with a unanimous vote needed for passage. Should a specific paragraph be rejected, the reasons for rejection will be clearly stated. It is anticipated that all parties who have participated in the proceedings will be advised of the outcome within 15 days. Except by unanimous consent of the Board of Directors otherwise, the effective date of a new or revised standard shall be no sooner than February 1 of the following year, nor later than February 1 of the second following year.

4. APPEALS PROCEDURE.

The decision of the SSCC Board of Directors on a proposed revision to Safety Standards for Snowmobile Product Certification may be appealed to the SSCC Regular Members by the party making the initial recommendation for change. Such an appeal shall be presented in writing at the Annual Meeting of SSCC Members. The decision of the SSCC Regular Members will be final.

Figure 1. Certification Label to Be Affixed to Each Snowmobile Model Determined to Be in Compliance with All Safety Standards.

(Actual Size)



Figure 2: Label to be affixed to each snowmobile at its Point of Sale to the consumer. Certified by the SSCC describing the Sound Emission Characteristics of the Vehicle.

(Actual Size)

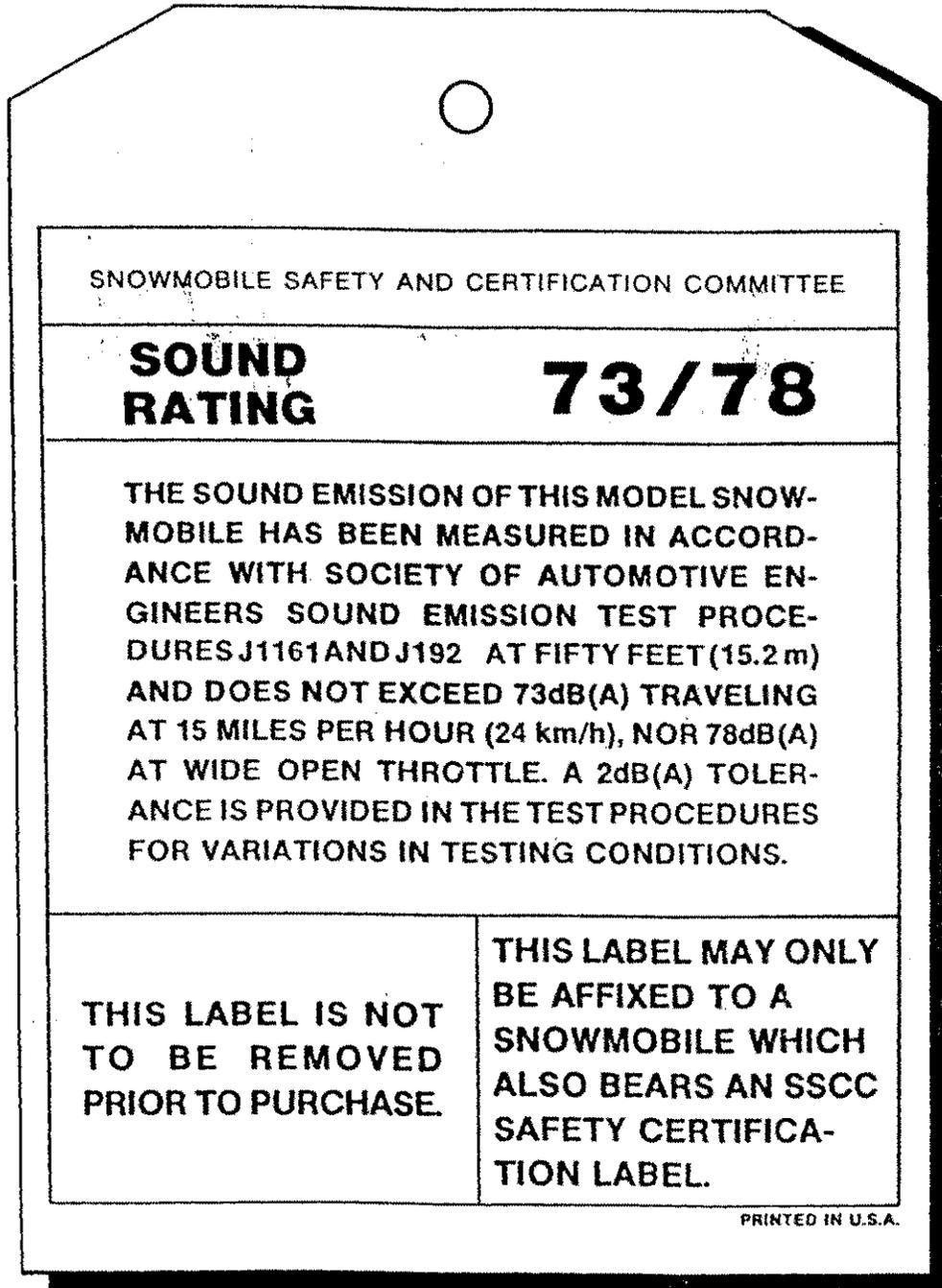


Figure 3: Label to be affixed to each snowmobile at its Point of Sale to the consumer. Certified by the SSCC describing the Sound Emission Characteristics of the Vehicle.

(Actual Size)
(Reverse of Figure 2)

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"SNOWMOBILE SAFETY AND CERTIFICATION COMMITTEE"	
NIVEAU SONORE	73/78
<p>LE NIVEAU SONORE DE CE MODÈLE DE MOTONEIGE A ÉTÉ MESURÉ CONFORMÉ- MENT AUX ESSAIS SUR L'INTENSITÉ SO- NORE J1161 ET J192 DE L'ASSOCIATION DES INGÉNIEURS EN AUTOMOBILE, À UNE DISTANCE DE 50 PIEDS (15.2m), ET NE DÉPASSE PAS 73 dB(A) À UNE VITESSE DE 15 MILLES À L'HEURE (24 km/h), OU 78 dB(A) AU RÉGIME MAXIMUM. LES CONDITIONS DE VÉRIFICATION POUVANT VARIER, UNE MARGE DE TOLÉ- RANCES DE 2 dB(A) EST PRÉVUE.</p>	
NE PAS ENLEVER CETTE ÉTIQUETTE AVANT LA VENTE.	N'APPOSER CETTE ÉTI- QUETTE QU'AUX MOTONEIGES POR- TANT L'ÉTIQUETTE DE CERTIFICATION DU SSCC.
<small>IMPRIMÉ AUX ÉTATS-UNIS</small>	