

Recommendations for Children's Snowmobile —SAE J1038 FEB80

SAE Recommended Practice
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RECOMMENDATIONS FOR CHILDREN'S SNOWMOBILE—SAE J1038 FEB80

SAE Recommended Practice

Report of the Snowmobile and All-Terrain Vehicle Committee, approved December 1975, last revised February 1980.

1. Introduction

1.1 Purpose—The purpose of this SAE Recommended Practice is to set forth minimum safety and reliability criteria for use in the design of a children's snowmobile as defined by SAE J33. Requirements not directly related to operator safety are not included, unless they are to delineate the intended purpose of the vehicle as distinct from a small sized regular snowmobile.

1.2 Scope—This recommended practice establishes the test procedures, performance requirements, and criteria necessary to evaluate minimum safety and reliability requirements of a children's snowmobile as identified in Section 1.3.

1.3 Definition of Children's Snowmobile—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.

2. General Criteria

2.1 Security Lock—A secure means of rendering the snowmobile inoperable so that it cannot be started (or operated) without the use of a removable key, or such other device, shall be provided.

2.2 Speed—Maximum speed shall be limited to 8 mph (13 km/h) for those vehicles intended for use by children six years old or older—Group 1; and 15 mph (24 km/h) for children ten years old or older—Group 2 when operating on a smooth, level, hard-packed snow surface.

2.3 Seating—Seating capacity shall be limited to one child.

2.4 Fuel Capacity—Fuel tank shall be limited to 0.5 gal (2.0 l) capacity.

2.5 Steering Padding—The nominal central portion of the steering mechanism or handlebars between the throttle and brake control levers facing the operator's position shall be covered by impact absorbing nonrigid material at least $\frac{1}{4}$ in (6 mm) thick.

2.6 Controls—All levers and controls shall have blunt ends. No switch, control or console shall have sharp edges or protrusions hazardous to the operator under conditions of normal use.

2.7 Ski-Tips—The forward end or projection of the ski commonly known as the ski-tip shall have no edge radius less than $\frac{1}{8}$ in (3 mm) in size.

2.8 Windshield—The vehicle may be manufactured without a windshield. If so equipped, the windshield material shall meet these requirements:

2.8.1 FLEXURE TEST

- a) Sample size is 12 in (30 cm) by 12 in (30 cm) square, flat sheet.
- b) Soak sample at -20°F (-29°C) for 1 h.
- c) Bend sample 180 deg around a 1.50 in (38 mm) radius.

2.8.2 IMPACT TEST

a) Use 12 in (30 cm) by 12 in (30 cm) flat sheet sample, not the same sample used in 2.8.1 Flexure Test.

b) Soak sample at -20°F (-29°C) for 1 h.

c) Place sample on flat, hard, nonresilient surface, such that it is uniformly supported from underneath.

d) Impact with a 2.75 lb (1.25 kg) weight from a height of 36 in (90 cm). The contact surface of the weight shall be spherical with a radius of 1.0 in (25 mm) maximum.

2.8.3 ACCEPTANCE—Cracking of the samples is allowable, provided that no particles break loose from the material. Fracturing of the material is not acceptable.

2.8.4 EDGE RADIUS—Windshield edges which are exposed to the operator or bystanders must have a minimum edge radius of $\frac{1}{8}$ in (3 mm).

2.9 Warning Labels—The following information shall be contained in the owner's/operator's manual or be displayed by a label or plaque permanently affixed to the vehicle:

2.9.1 OPERATION—This vehicle is intended for restricted off-road use (during daylight hours) under adult supervision primarily on snow by very young persons of not less than * years of age. Its use on public streets, roads and highways may be hazardous.

*Indicate applicable age.

2.9.2 Do not start or operate this vehicle without guards and shields provided or with hood not latched in place.

2.9.3 This vehicle is not intended to carry passengers.

2.9.4 Verify proper operation of all controls before starting the engine.

2.9.5 PROTECTIVE CLOTHING—When operating this vehicle, the operator shall wear suitable protective clothing including an approved safety helmet and visor or goggles.

2.9.6 SPEED—This vehicle can be operated between 0 and * mph (* km/h). However, it is recommended that its speed be regulated by the means provided as illustrated in the owner's/operator's manual.

*Indicate maximum speed, not to exceed 15 mph (24 km/h).

2.10 Durable Labels—Labels must meet the specifications as stated in

ANSI B71.1-1972, Section 7.

2.11 Owner's/Operator's Manual—The Owner's/Operator's Manual should comply with ISIA Recommendation for Snowmobile Owner's Manual (4/14/72). In addition, the manual shall illustrate the means by which the vehicle's maximum speed may be limited.

3. Equipment and Performance Requirements

3.1 Speed Control—A mechanism operated by a removable key or other such device shall be provided to control the maximum speed of the vehicle as indicated in 2.2 and limited by the age of the children for which the vehicle is intended as identified by the manufacturer in 2.9.1.

3.2 Shields and Guards—Power driven parts of the engine, clutch, and drive system with the exception of the vehicle track and sprocket systems adjacent to the track shall be isolated by consoles, shields or guards of sufficient size, shape and configuration so as to prevent their physical contact with the occupant or bystanders or with any loose clothing worn by the occupant or bystanders during normal use of the vehicle with all consoles, shields and guards in position and with the hood closed.

Further, adequate shielding shall be provided to protect the occupant 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 or chains as employed.

As concerns centrifugal clutches, drive pulleys, driven pulleys, torque converters or similar mechanisms, shielding shall be consistent with the requirement of SAE Recommended Practice J93; or said components shall withstand being spun about their axis of rotation at an rpm equal to 1.5 times the maximum horsepower rpm of the prime mover and times any effective drive ratio. This rpm shall be maintained for 2 min.

Such additional guards or shields shall be provided to prevent inadvertent contact by the occupant with any exposed components at a temperature above 150°F (71°C) during normal operation of the vehicle with all consoles, guards and shields in position and the engine hood closed.

3.3 Lighting

3.3.1 A lighting system on Group 1 machines is optional. If they are so equipped, the system shall meet the following requirements:

3.3.1.1 At least one white headlight which shall provide a beam that complies with the minimum photometric candle power requirements set out below when tested in accordance with SAE J280.

HEADLAMPS

Test Point Position in Degrees	Minimum Photometric Candlepower Requirement
1/2 D—V	500
1-1/2 D—6L to 9R	300
1-1/2 D—9L to 9R	150
3 D—15L to 15R	100

3.3.1.2 One or two red identification lights on the rear centerline or symmetrically disposed about the rear centerline, in accordance with SAE Standard J592, "Clearance, Side Marker, Identification, and Parking Light," that shall be illuminated during headlight operation. No stop light shall be required.

3.3.1.3 With engine running at manufacturer's recommended idle speed, all lights shall be visible from a distance of 300 ft (91 m) at night with normal atmospheric conditions.

3.3.2 A lighting system on Group 2 machines is mandatory and shall meet the requirements as specified in SAE J278, "Snowmobile Stop Lamp;" SAE J279, "Snowmobile Tail Lamp;" SAE J280, "Snowmobile Headlamp;" SAE J292, "Snowmobile and Snowmobile Cutter Lamps, Reflective Devices and Associated Equipment;" and SAE J277 "Maintenance of Design Voltage—Snowmobile Electrical Systems."

3.4 Reflectors—Except as noted, reflectors shall conform to the requirements of SAE J292, "Snowmobile and Snowmobile Cutter Lamps, Reflective Devices, and Associated Equipment."

Two red reflectors, one on each side as far to the rear as practicable and not less than 6 in (15 cm) above the ground. A reflector of any color except red on each side forward of the handlebars or steering mechanism, not less than 10 in (25 cm) above the ground.

If the vehicle is not equipped with a headlight, one white reflector on the front centerline, or two white reflectors symmetrically disposed about the front