The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J278

REAF. MAY95

Issued 1971-12
Reaffirmed 1995-05

Superceding J278 OCT84

Submitted for recognition as an American National Standard

SNOWMOBILE STOP LAMP

***Foreword*—**This Document has not changed other than to put it into the new SAE Technical Standards Board Format.

This SAE Recommended Practice is intended as a guide toward standard practice, but may be subject to frequent change to keep pace with experience and technical advances. Hence, its use where flexibility of revision is impractical is not recommended.

***1. Scope*—**This SAE Recommended Practice provides test methods and requirements for the stop lamp on snowmobiles.

2. References

2.1 Applicable Publications—The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J567—Lamp Bulb Retention System
SAE J575—Test Methods and Equipment for Lighting Devices and Components, for use on Vehicles Less than 2032 mm in Overall Width
SAE J576—Plastic Materials for Use in Optical Parts Such as Lenses and Reflectors of Motor Vehicle Lighting Devices
SAE J578—Color Specifications

3. Definitions

3.1 Stop Lamp—Lamp giving a steady light to the rear of a vehicle to indicate the intent of the operator of a vehicle to stop or diminish speed.

3.2 Multiple-Compartment Lamp—A device which gives its indication by two or more separately lighted areas which are joined by one or more common parts such as a housing or lens.

3.3 Multiple Lamp Arrangement—An array of two or more separated lamps on each side of the snowmobile which operate together to give a signal.

SAENORM.COM : Click to view the full PDF of j278_199505

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

QUESTIONS REGARDING THIS DOCUMENT: (412) 772-8512 FAX: (412) 776-0243
TO PLACE A DOCUMENT ORDER; (412) 776-4970 FAX: (412) 776-0790
SAE WEB ADDRESS http://www.sae.org

Copyright 1995 Society of Automotive Engineers, Inc.
All rights reserved.

Printed in U.S.A.

4. Laboratory Requirements

4.1 A multiple compartment lamp or multiple lamps may be used.

4.2 The following sections from SAE J575 are a part of this document.

4.2.1 PARAGRAPH 2.2.1—Samples for Test

4.2.2 PARAGRAPH 2.2.2—Lamp Bulbs

4.2.3 PARAGRAPH 2.2.3—Laboratory Facilities

4.2.4 PARAGRAPH 3.1—Vibration Test

4.2.5 PARAGRAPH 3.2—Moisture Test

4.2.6 PARAGRAPH 3.3—Dust Exposure Test

4.2.7 PARAGRAPH 3.4—Corrosion Test

4.2.8 PARAGRAPH 3.5—Photometry

4.2.9 PARAGRAPH 3.6—Warpage Test on Devices with Plastic Components, except that the lamp is to be operated 5 min on and 5 min off until the total time equals 1 h. If the tail lamp and/or side marker lamps are incorporated in the same device, they shall be operated continuously during the test. (The test is to be conducted in a circulating air type oven.)

4.3 Plastic Materials—Any plastic materials used in optical parts shall comply with the requirements set forth in SAE J576.

4.4 Color Test—The color of the light from a tail lamp shall be red. (See SAE J578.)

4.5 If the stop lamp is optically combined with the tail lamp and a two-filament bulb is used, the bulb shall have an indexing base and the socket shall be designed so that bulbs with nonindexing bases cannot be used. As a matter of information, attention is called to typical sockets shown in SAE J567.

4.6 Photometric Requirements

4.6.1 All beam candela measurements shall be made with the incandescent filament of the signal lamp at least 3.05 m (10 ft) from the photometer screen. The H-V axis shall be taken as parallel to the longitudinal axis of the vehicle. When compartments or lamps are photometered together, the H-V axis shall intersect the midpoint between the optical center (filament).

4.6.2 Beam candela measurements of multiple compartment lamp(s) or multiple lamp arrangements shall be made by either of the following methods:

a. All compartments or lamps may be photometered together, provided that a line from the optical center (filament) of each compartment or lamp to the center of the photometer sensing device does not make an angle of more than 0.6 degree with the photometer (H-V) axis.
b. Each compartment or lamp may be photometered separately by aligning its axis with the photometer and adding the value at each test point.

4.6.3 Table 1 lists design candela requirements for a stop lamp.

SAENORM.COM : Click to view the full PDF of j278_199505

TABLE 1—MINIMUM DESIGN CANDELA REQUIREMENTS

Test Points, degrees	Test Points, degrees	Lighted Sections 1	Lighted Sections 2	Lighted Sections 3
10U and 10D	10L	5	6	8
	V	13	15	18
	10R	5	6	8
5U and 5D	20L	5	6	8
	10L	15	18	20
	5L	25	30	35
	V	35	41	48
	5R	25	30	35
	10R	15	18	20
	20R	5	6	8
H	20L	8	9	10
	10L	20	24	28
	5L	40	48	55
	V	40	48	55
	5R	40	48	55
	10R	20	24	28
	20R	8	9	10

NOTE 1— Specifications are based on laboratories using accurate, rated bulbs during testing.

NOTE 2— Lamps designed to operate on the vehicle through a resistor or equivalent shall be photometered with the listed design voltage of the design source applied across the combination of resistance and filament.

NOTE 3— A multiple device signaling unit gives its indication by two or more separately lighted sections which may be separate lamps or areas that are joined by common parts. The photometric values are to apply when all sections which provide the same signal are considered as a unit.

NOTE 4— When a tail lamp is combined with the stop lamp, the stop lamp shall not be less than three times the candela of the tail lamp at any test point on or above horizontal; except that at H-V, H-5L, H-5R, and 5U-V, the stop lamp shall not be less than five times the candela of the tail lamp.

SAENORM.COM : Click to view the full PDF of j278_199505

5. Installation Requirements—The following requirements apply to the device as used on the snowmobile and are not part of the laboratory test requirements and procedures.

Visibility of the stop lamp shall not be obstructed by any part of the snowmobile throughout the photometric test angles for the lamp, unless the lamp is designed to comply with all photometric and visibility requirements with these obstructions considered. Signal from lamps on both sides of the snowmobile shall be visible through a horizontal angle from 45 degrees to the left to 45 degrees to the right. Where more than one lamp or optical area is lighted on each side of the snowmobile, only one such area on each side need comply. To be considered visible, the lamp must provide an unobstructed projected illuminated area of outer lens surface, excluding reflex, at least 129 mm^2 (2 in^2) in extent, measured at 45 degrees to the longitudinal axis of the vehicle.

PREPARED BY THE SAE SNOWMOBILE COMMITTEE