

	<b>SURFACE VEHICLE RECOMMENDED PRACTICE</b>	<b>J278</b>	<b>REV. MAR2006</b>
		Issued 1971-12 Revised 2006-03	
		Superseding J278 MAY1995	
<b>Snowmobile Stop Lamp</b>			

#### RATIONALE

The section reference numbers to the required SAE J575 tests have been renumbered to agree with the latest J575 numbers.

A correction has been made in conversion from inches to centimeters in paragraph 5 – Installation Requirements.

#### FOREWORD

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 document 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, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), [www.sae.org](http://www.sae.org).

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

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### 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.

### 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 Section 3

Definitions.

#### 4.2.2 Section 3.2

Bulbs.

#### 4.2.3 Section 4.1

Vibration Test.

#### 4.2.4 Section 4.2

Moisture Test.

#### 4.2.5 Section 4.3

Dust Test.

#### 4.2.6 Section 4.4

Corrosion Test.

#### 4.2.7 Section 4.5

Photometry.

#### 4.2.8 Section 4.6

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.)

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#### 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.

TABLE 1 - MINIMUM DESIGN CANDELA REQUIREMENTS

Test Points, degrees	Test Points, degrees	Lighted Sections	Lighted Sections	Lighted Sections
		1	2	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.

## 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.