



SURFACE VEHICLE RECOMMENDED PRACTICE

J68™

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Superseding J68 APR2017

(R) Tests for Snowmobile Switching Devices and Components

RATIONALE

The SAE J575 tests have been moved to Sections 7 and 8.

1. SCOPE

This SAE Recommended Practice covers standardized basic tests, test methods, and requirements applicable to electromechanical switching devices which may be used on snowmobiles as defined in SAE J33.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

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 J33 Snowmobile Definitions and Nomenclature - General

SAE J45 Brake System Test Procedure - Snowmobiles

SAE J575 Test Methods and Equipment for Lighting Devices for Use on Vehicles Less than 2032 mm in Overall Width

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

- a. Definitions
- b. Vibration Test
- c. Water Intrusion (Moisture) Test
- d. Corrosion Test

SAE J1222 Speed Control Assurance for Snowmobiles

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3. DEFINITIONS

3.1 HEADLAMP BEAM SWITCH

A headlamp beam switch is a driver-controlled device used to select the high- or low-beam headlamp circuit.

3.2 STOP LAMP SWITCH

A stop lamp switch is a device used to energize the stop lamp circuit with the operator actuation of the brake.

3.3 ACCESSORY SWITCH

An accessory switch is a driver-controlled device used to activate accessories (i.e., hand warmers, etc.).

3.4 IGNITION SYSTEM SWITCH

An ignition system switch is a device(s) used to interrupt engine ignition such as: emergency shutoff switch, key switch, or speed control assurance device.

3.5 STARTER MOTOR SWITCH

A starter motor switch is a driver-controlled device used to activate the starter motor.

4. HIGH-TEMPERATURE TEST

4.1 Determine effect of high temperature on the basic function of the switching device.

4.1.1 The switching device shall be exposed to a temperature of $49\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ for a minimum of 2 hours; however, if the switching device is exposed to a higher temperature in service, then the device shall be tested at this higher temperature. (See 4.1.2.)

4.1.2 To determine the maximum temperature to which the switching device is exposed, the snowmobile shall be operated for a minimum of 30 minutes under load, immediately followed by the fade and recovery test of 6.5 of SAE J45 at a temperature of at least $10\text{ }^{\circ}\text{C}$. Use this temperature to conduct 4.1.1. If a minimum ambient of $10\text{ }^{\circ}\text{C}$ cannot be obtained, subtract the available ambient temperature from $10\text{ }^{\circ}\text{C}$ and add this difference to the maximum temperature to which the switching device is exposed.

4.1.3 After conditioning per 4.1.1, the switching device, while still at $49\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$, or the higher service temperature, shall be manually cycled for 10 cycles per the sequence requirements of Table 1. The switching device shall be electrically and mechanically operable during and after each cycle.

4.1.4 The same switching device shall be used for the low-temperature and humidity test (see Section 5).

5. LOW-TEMPERATURE AND HUMIDITY TEST

5.1 Determine effect of low temperature and high relative humidity on the basic function of the switching device.

5.1.1 The switching device shall be exposed to a temperature of $-40\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ for a minimum of 2 hours. Next, after no more than 2 minutes, expose the switching device to an environment of $+21\text{ }^{\circ}\text{C} \pm 6\text{ }^{\circ}\text{C}$ and a relative humidity between 60% and 90% for $30\text{ minutes} \pm 10\text{ minutes}$. Finally, after no more than 2 minutes, return the switching device to a temperature of $-40\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ for $2\text{ hours} \pm 30\text{ minutes}$.

5.1.2 After conditioning per 5.1.1, the switching device, while still at $-40\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$, shall be manually cycled for 10 cycles per the sequence requirements of Table 1. The switching device shall be electrically and mechanically operable during and after each cycle.