SAE International

SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J1222 MAR2012

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Superseding J1222 MAR2007

Speed Control Assurance for Snowmobiles

RATIONALE

The changes incorporated into this revision of J1222 document are to better align current snowmobile technology with this SAE test standard.

5.1.4 Safety related.

1. SCOPE

This SAE Recommended Practice provides minimum requirements and performance criteria for devices to prevent runaway snowmobiles due to malfunction of the speed control system.

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 Publication

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

SAE J33 Snowmobile Definitions and Nomenclature - General

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
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3. DEFINITIONS

3.1 SNOWMOBILE

As defined in SAE Recommended Practice J33.

3.2 RUNAWAY PREVENTION DEVICE

A device, of any type, used to automatically prevent undesirable motion of a snowmobile caused by malfunction or maladjustment of the speed control system.

3.3 THROTTLE CONTROL

A hand-controlled device mounted on the steering control, either a lever type (squeeze grip) or a twist-grip type.

3.4 SPEED CONTROLLER

Devices such as carburetors, fuel injection valves, throttle bodies, etc., used to control the supply of energy (i.e., fuel, spark, etc.) to the prime mover (engine-motor).

3.5 SPEED CONTROL SYSTEM

A complete system used to control engine speed. This includes the throttle control and its means to activate the speed controller, whether it is control linkage, control cable assembly, springs, & brackets or an electronic drive by wire system. Any attachment to the system that affects its operation, such as a warning light switch, safety switch, etc., shall be considered as part of the speed control system.

4. REQUIREMENT OF RUNAWAY PREVENTION DEVICE

4.1 Engine Starting

The runaway prevention device, when tested in accordance with 5.2, shall automatically prevent the vehicle from starting or moving at any speed controller position.

4.2 Normal Operation

The runaway prevention device, when tested in accordance with 5.3, shall automatically interrupt power to the track(s) from any speed controller position on removal of operator's force from the throttle control with or without removing either hand from the steering control.

4.3 Unmanned Snowmobile

The runaway prevention device, when tested in accordance with 5.4, shall automatically interrupt the power to the track(s) when the operator is separated from the vehicle.

5. TEST PROCEDURE

5.1 Test Equipment and Instrumentation

5.1.1 An instrument to measure snowmobile ground speed of the track(s) with an accuracy of ±10% at 24 km/h (15 mph).

5.1.2 A means to support the rear of the snowmobile off the ground which will allow the track(s) to turn freely.

5.1.3 A device or means of simulating the effects of malfunctions of the speed control systems, such that when the operator force to actuate the throttle control is released, it will not let the engine return to idle. Malfunctions examined will include speed controller sticking in an open position, and throttle control mechanism binding or sticking that will not allow the speed controller to return to its idle position.

5.1.3.1 Malfunction of the speed controller shall be accomplished by blocking the butterfly, slide, etc. in a position that simulates a malfunctioning condition or

5.1.3.2 Malfunction of the throttle control or control cable assembly shall be accomplished by fixing the cable where it exits the throttle control housing in a position that simulates a wide open condition.

NOTE: It is suggested that all likely malfunctions be tested and documented.

NOTE: With the skis resting on a flat surface, track coasting is acceptable if power is so low that the track will not continue moving when lowered to a ground surface.

5.1.4 Safety Warning

This is a hazardous test. The tests described in 5.2, 5.3 and 5.4 are to be made by personnel skilled in testing snowmobiles. Safety protection devices shall be used as required.

5.2 Starting Test

5.2.1 Support the rear of the snowmobile off the ground so the track(s) may rotate and restrain the vehicle to prevent potential runaway event.

5.2.2 Verify that the snowmobile is properly set up for normal operation and start engine using manufacturer's recommended starting procedure.

5.2.3 Advance the snowmobile speed controller to obtain a steady track speed greater than 16 km/h (10 mph). Retain the speed controller at this position by the means provided in 5.1.3.

5.2.4 Stop the engine.

5.2.5 Attempt to start the engine and verify that:

5.2.5.1 The engine will not start or if it does

5.2.5.2 Power is not applied to the track(s).

5.2.5.2.1 At the preset speed controller position (listed in 5.2.3) and,

5.2.5.2.2 At the maximum speed controller position

NOTE: With the skis resting on a flat surface, track coasting is acceptable if power is so low that the track will not continue moving when lowered to a ground surface.