SAE International™

SURFACE VEHICLE RECOMMENDED PRACTICE

J1222 REV. MAR2007

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Superseding J1222 MAY1995

Speed Control Assurance for Snowmobiles

RATIONALE

The changes incorporated into the J1222 document are mostly from observations made from conducting the test and lessons learned. Safety issues have also been addressed by some of the changes.

5.1.4 Test explanation, simplification.

5.1.4.1 and 5.1.4.2 Experience has shown these two scenarios will cover most all of the situations encountered in years of snowmobile operation and in conducting this test.

5.2.6 Safety related

5.3.4 Safety related

5.3.5 Clarification for conducting the test procedure.

1. SCOPE

This SAE Recommended Practices intended to provided minimum requirements and performance criteria for devices intended to prevent snowmobile runaway due to malfunction of the speed control system.

2. REFERENCES

2.1 Applicable Publication

The following publication forms a part of the specification to the extent specified herein. Unless otherwise indicated the latest revision 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

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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, etc., used to control the supply of energy (fuel) to the prime mover (engine-motor).

3.5 Speed Control System

A complete system used to control engine speed. This includes the throttle control, control linkage, control cable assembly, springs, and brackets necessary for operation of the system. Any attachment to the system that affects its mechanical 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 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 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 leaves 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.

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5.1.3 A level (±3% grade) test course of sufficient length to conduct the test. Any reasonable surface consisting of snow or turf will suffice.

5.1.4 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 controler sticking in an open position, and throttle control or control cable assembly binding or sticking that will not allow the speed controller to return to its idle position.

5.1.4.1 Malfunction of the speed controller shall be accomplished by blocking the butterfly or slide in a position that simulates a wide open condition

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

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

5.1.5 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.

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 5.1.4.

5.2.4 Stop the engine and deactivate the runaway prevention device.

5.2.5 Determine a starting procedure that allows the engine to start with the speed controller in the set position determined in 5.2.3 and verify the the track(s) turn(s) in excess of 16 km/h (10 mph).

5.2.6 Stop the engine and Reactive the runaway prevention device.

5.2.7 Using the starting procedure determined in 5.2.5, verify that:

5.2.7.1 The engine will not start with the runaway prevention device activated; or if it does,

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

5.2.7.2.1 At the preset speed controller position and,

5.2.7.2.2 At the maximum speed controller position.

NOTE: With the skis resting on a 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 as described in 5.1.3.

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