SURFACE VEHICLE RECOMMENDED PRACTICE

J1012™	DEC2023

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Superseded by J3078/3

Operator Enclosure Pressurization System Test Procedure

RATIONALE

This SAE Recommended Practice has been cancelled and is superseded by SAE J3078/3.

CANCELLATION NOTICE

This technical report has been declared “CANCELLED” as of December 2023 and has been superseded by SAE J3078/3. By this action, this document will remain listed in the respective index, if applicable. Cancelled technical reports are available from SAE.

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

This SAE Recommended Practice is being proposed as a dual number between ISO and SAE because the results of the test will be equivalent. The differences in the documents are as follows:

The scope of J1012 (Section 1) encompasses all off-road self-propelled equipment - ISO 3737 (Section 1) is limited to agricultural tractors and self-propelled machines.
Section 5.3 of J1012 allows one occupant to be in the cab during the test - Section 4.3 of ISO 3737 specifies the enclosure to be unoccupied.

1. Scope—This SAE Recommended Practice establishes a uniform test procedure for evaluating performance of operator enclosure pressurization systems for construction, general-purpose industrial, agricultural, forestry, and specialized mining machinery as categorized in SAE J1116 for off-road, self-propelled work machines.

1.1 Purpose—The purpose of this document is to outline a procedure which will provide a uniform measurement of operator enclosure pressurization.

2. References

2.1 Applicable Publications—The following publications form a part of the specification to the extent specified herein. Unless otherwise indicated the lastest revision of SAE publications shall apply.

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

SAE J1116 JUN86—Categories of Off-Road Self-Propelled Work Machines

2.1.2 ISO PUBLICATION—Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.

ISO 3737-1976—Agricultural tractors and self-propelled machines—Test method for enclosure pressurization systems

2.2 Related Publication—The following publication is provided for information purposes only and is not a required part of this document.

2.2.1 SAE PUBLICATION—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J1503 JUL86—Performance Test for Air Conditioned, Heated, and Ventilated Off-Road Self-Propelled Work Machines

3. Definitions

3.1 Pressurization—The pressure differential between the static pressure inside and outside of the operator enclosure.

3.2 Pressurization System—Means used to pressurize the operator enclosure including any components which will influence the performance of the system. Blowers, filters, duct work, heat exchangers, etc., will be included if the pressurizer is used to provide air flow through these units.

4. Test Equipment

4.1 A manometer to measure pressurization. Its maximum error shall not exceed ± 10%.

4.2 A voltmeter to monitor voltage in the pressurizer electrical system during the test. Its maximum error shall not exceed ± 2%.

5. Test Conditions

5.1 The pressurizer system shall be completely powered by the standard equipment on the test machine, with the engine operating at rated speed. The voltage at the blower terminals shall be no more than 20% above the nominal rating of the system. (Example: 14.4 V for a 12 V system.)

5.2 All machine accessories pertinent to operation of the enclosure, enclosure components, air filters, and blowers shall be standard production parts or equivalent, adjusted within the manufacturer's specification limits. Clean air filters are recommended since the amount of dirt in the filter may affect pressurization.

5.3 No more than one occupant may be inside of the operator enclosure during the test.

6. Test Procedure

6.1 The operator enclosure shall be equipped with all applicable equipment (see 3.2). The pressurizer system shall be operated using maximum outside air, with the maximum blower speed setting. Any automatic pressurization controls shall not be locked out. The pressurization system shall be in operation for a minimum of 15 min prior to obtaining data.

6.2 To obtain uniform results, neither the cooling nor heating system shall be in operation during the pressurization system tests.

6.3 The blower voltage, ambient temperature, barometric pressure, wind velocity, and wind direction in relation to the machine centerline shall be recorded for reference only.