



SURFACE VEHICLE STANDARD

J1793™

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Self-Propelled Sweepers and Scrubbers
Tank and Hopper Capacity Rating

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

STABILIZED NOTICE

This document has been declared "Stabilized" by the SAE MTC2, Sweeper, Cleaner, and Machinery Committee and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Newer technology may exist.

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1. SCOPE

This SAE Standard applies to self-propelled sweepers and scrubbers as defined in SAE J2130-1 and J2130-2.

1.1 Purpose

The purpose of the document is to provide uniform methods for determining the capacity of debris hoppers and fluid tanks used on self-propelled sweepers and scrubbers. The methods declared result in realistic useable volume measures.

2. REFERENCES

2.1 Applicable Documents

The following publication form 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 J2130-1 Identification of Self-Propelled Sweepers and Cleaning Equipment Part 1 - Machines with a Gross Vehicle Mass Greater than 5000 kg

SAE J2130-2 Identification of Self-Propelled Sweepers and Cleaning Equipment Part 2 - Machines with a Gross Vehicle Mass Up to 5000 kg

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3. DEFINITIONS

3.1 HOPPER

The debris container of a self-propelled sweeper.

3.2 STRUCK VOLUME (SV)

With the machine on level ground, the volume enclosed by the interior surfaces of the sweeper hopper with a struck plane running parallel to the ground and coincident with the lowest edge of the hopper material inlet (see Figure 1).

3.3 HEAPED VOLUME FOR PNEUMATIC SWEEPERS (HV)

The volume above the struck volume enclosed within the following planes:

A plane developed 150 mm from and parallel to the air exhaust screen with the same plan view dimensions. Combined with; Planes emanating from the exhaust screen plane perimeter and meeting the intersections between the struck-plane and the hopper side panels (see Figure 1).

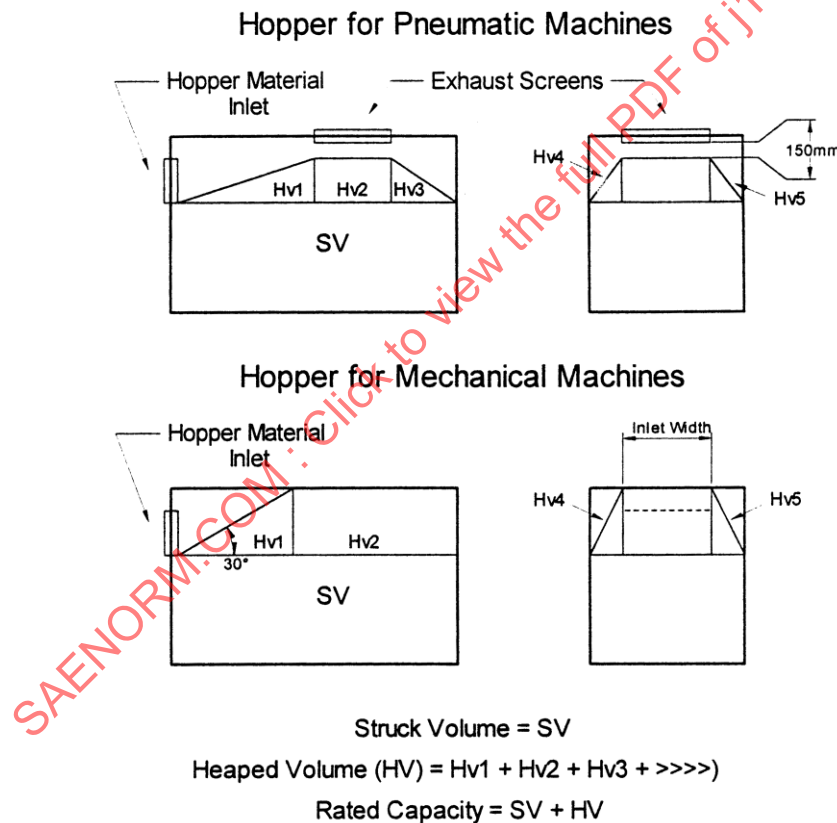


FIGURE 1 - METHOD OF CALCULATION

3.4 HEAPED VOLUME FOR MECHANICAL SWEEPERS (HV)

The volume above the struck volume enclosed within the following planes:

A plane developed by the full width of the hopper inlet intersecting the lower edge of the inlet and sloping upwards at 30 degrees to intersect with the hopper roof. Combined with; a plane bounded by the hopper roof away from the hopper inlet and left and right side planes emanating from the sloping and roof plane perimeter meeting the intersections between the struck-plane and the hopper side panels (see Figure 1).

3.5 RATED CAPACITY

The sum of the struck volume (SV) and heaped volume (HV) (see Figure 1).

3.6 DUST CONTROL WATER TANK

The tank on a self-propelled sweeper that contains water used for dust control.

3.7 SOLUTION TANK

The tank of a self-propelled scrubber that contains water or cleaning solution to be distributed to the surface being cleaned.

3.8 DUST CONTROL WATER OR SOLUTION TANK CAPACITY

The volume of water the tank can hold, without loss through splashing during normal operation of the machine, less the amount that cannot be drained because of stand pipes, etc. Normal operation includes starting, stopping, turning as well as climbing and descending rated grades.

3.9 RECOVERY TANK

The tank of a self-propelled scrubber that contains the water or cleaning solution recovered from the surface being cleaned.

3.10 RECOVERY TANK CAPACITY

The volume of fluid the tank holds at the point where the vacuum to the tank is shut-off to prevent fluid from entering the suction fan or vacuum system. This is to be measured with the machine at rest. If multiple recovery tanks are used, then the volume of the interconnecting piping is to be included in the total capacity.

3.11 BLADDER TANK

A single tank which provides solution and recovery fluid tank functions by incorporating an expandable or movable wall to provide separate chambers.

3.12 BLADDER TANK SOLUTION FLUID CAPACITY

Capacity as measured in 3.9 with no fluid in the recovery compartment of the bladder.

3.13 BLADDER TANK RECOVERY FLUID CAPACITY

Capacity as measured in 3.11 with no fluid in the solution compartment of the bladder.