



SURFACE VEHICLE STANDARD

J2267™

APR2024

Issued 2007-04
Reaffirmed 2017-10
Revised 2024-04

Superseding J2267 OCT2017

Minimum Performance Criteria for Operator Front Protective Structure (OFPS) for Certain Equipment

RATIONALE

SAE J2267 is being revised to update the figures and align the content with related industry OPS standards.

1. SCOPE

- 1.1 This SAE Standard applies to all forestry machines exposed to the hazard of objects penetrating the front of the operator station (other than the roof). This would include:
 - 1.1.1 Front guards for yarders with cabs mounted next to the tower.
 - 1.1.2 Front guards for forestry machines capable of handling material in front of and above the deflection limiting volume (DLV), such as knuckle boom log loaders and swing to tree feller bunchers but excluding rubber-tired or tracked front-end loaders when equipped with buckets or forks with hold down grapple arm(s) and excluding forwarders and clambunk skidders fitted with load bunk headboards meeting the requirements of ISO 11850.
- 1.2 The evaluations are for resistance to penetration of guards or deflection to the point of infringement of the deflection limiting volume (DLV) (refer to SAE J397). The performance requirements of a representative specimen (that is, within the manufacturer's specifications) are based on the performance of proven structures under laboratory evaluation procedures.
- 1.3 The purpose of an operator front protective structure (OFPS) is to protect the operator from boom and load collapse, or head-on collision or impact with logs handled by the machine with the least adverse effect on operator visibility and comfort.
- 1.4 Although OFPS meeting the following criteria may not give protection under all conceivable circumstances in which the machine could be struck from the front, it is expected that protection will be ensured under at least the loading condition specified in the test listed in Section 6.
- 1.5 The protection provided by this document is intended to supplement, but not replace, other types of protection provided by other standards, such as ISO 8084.
- 1.6 The purpose of this document is to establish a consistent, repeatable test procedure and performance requirements for evaluating OFPS intended to provide forestry machine operators with reasonable protection from falling or swinging objects, such as logs.

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Full document details: SAE J2267_202404

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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 J397	Deflection Limiting Volume - Protective Structures Laboratory Evaluation
SAE J1119	Steel Products for Rollover Protective Structures (ROPS) and Falling Object Protective Structures (FOPS)
SAE J1209	Identification Terminology of Mobile Forestry Machines
SAE J3097Z26	Standard for Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways - Safety Standard

2.1.2 ISO Publications

Copies of these documents are available online at <https://webstore.ansi.org/>.

ISO 3471	Earth-moving machinery - Roll-over protective structures - Laboratory tests and performance requirements
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3. FACILITIES AND APPARATUS

3.1 Facilities for Static Test

- 3.1.1 Standard laboratory penetration test object, made of steel, with the shape of the tapered end of the object in Figure 1. The object length shall be at least 75 mm (3 inches).
- 3.1.2 A means of pushing the test object into the front guard.
- 3.1.3 A means of measuring the force exerted to push the object into the front guard.
- 3.1.4 A means of determining if the OFPS or drop test object enters the DLV during the drop test. This may be either of the following.
 - 3.1.4.1 A DLV made of a material which will indicate any penetration by the OFPS. Grease or a similar substance may be put on either the surface of the OFPS guard adjacent to the DLV, or on the surface(s) of the DLV adjacent to the OFPS, to indicate such penetration.
 - 3.1.4.2 A dynamic instrumentation system of sufficient frequency response to indicate the pertinent deflection with respect to the DLV ($\pm 5\%$).
- 3.1.5 A means of simultaneously measuring the deflection distance and the force used to push the object into the OFPS.

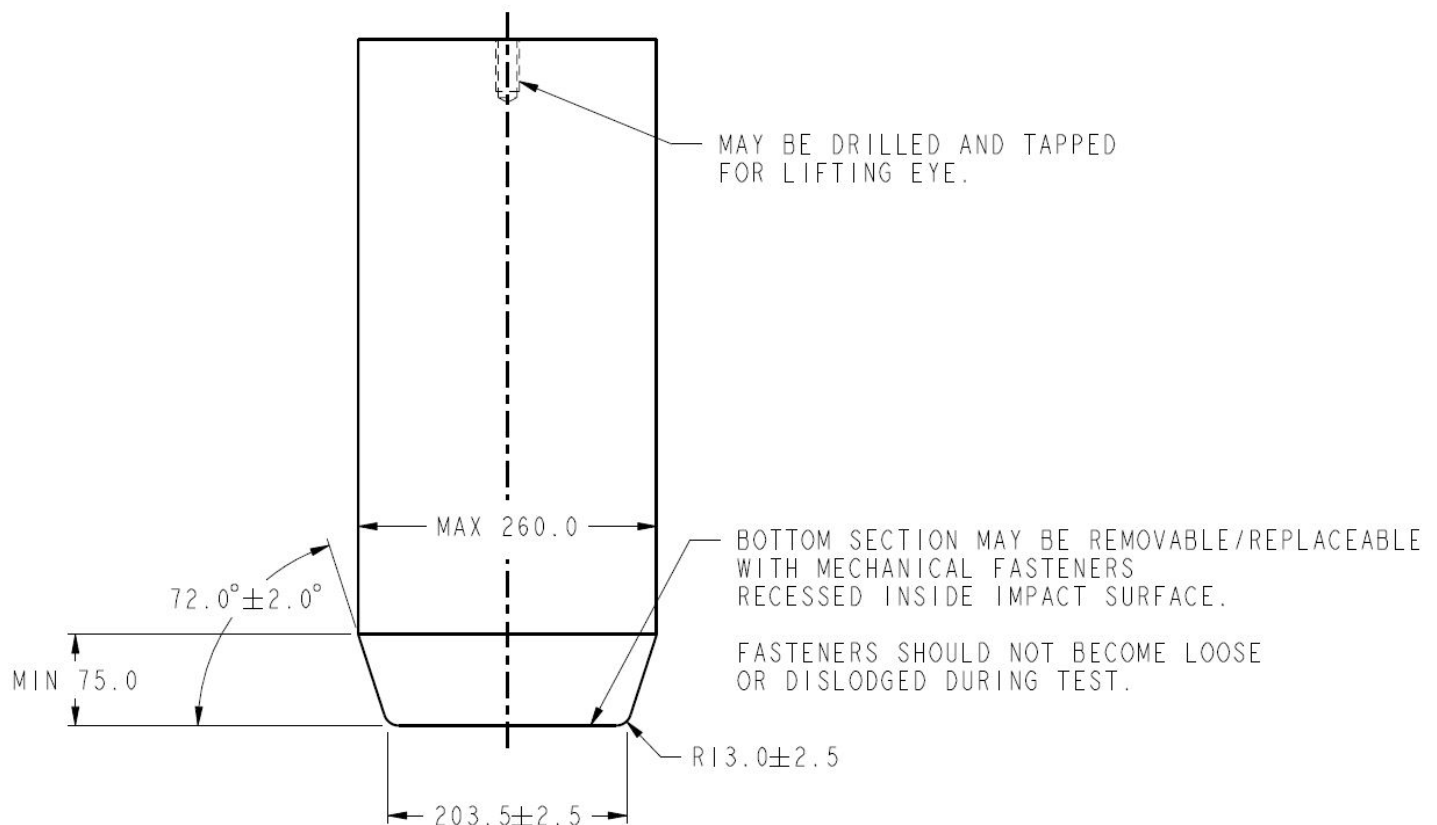


Figure 1 - Standard laboratory drop test object

3.2 Facilities for Optional Dynamic Test

- 3.2.1 A drop test object, made of steel, with a mass not less than 226.8 kg (500 pounds), as shown in Figure 1.
- 3.2.2 A means of raising the drop test object to the required height.
- 3.2.3 A means of releasing the drop test object so that it falls without restraint.
- 3.2.4 A surface of such firmness that it shall not be penetrated by the machine or test bed under the loading of the drop test.
- 3.2.5 A means of determining if the OFPS or drop test object enters the DLV during the drop test, as described in 3.1.4.

4. MACHINE OR TEST BED CONDITION

- 4.1 The OFPS to be tested must be attached to the machine structure in the same manner as it will be attached during machine use. A totally assembled machine is not required; however, the machine structure and frame which support the OFPS must represent the actual machine installation, and the stiffness of the structure and frame must not be less than that of an actual machine.
- 4.2 All detachable panels not part of the OFPS which might be removed on an operating machine shall be removed so that they do not contribute to the strength of the OFPS.
- 4.3 If glazing material is used it may be removed for the test.
- 4.4 Test specimens shall be representative of units within the manufacturer's specifications.