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Overhead Protection for Agricultural Tractors - Test Procedures and Performance Requirements - SAE J167a

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**SAE STANDARD
APPROVED FEBRUARY 1974**



OVERHEAD PROTECTION FOR AGRICULTURAL TRACTORS—TEST PROCEDURES AND PERFORMANCE REQUIREMENTS—SAE J167a

SAE Standard

Report of Tractor Technical Committee approved July 1970 and last revised February 1974.

1. Purpose—The purpose of this standard is to establish the test and performance requirements of a protective frame or enclosure with overhead cover designed for wheel-type agricultural tractors to minimize the frequency and severity of operator injury resulting from accidental upsets and overhead hazards during normal operation. General requirements for the protection of operators are specified in SAE J333.

2. Scope

2.1 Fulfillment of the intended purpose requires conformance to paragraphs 5 and 6 of SAE J168, and the following additional requirements:

2.1.1 A drop test to verify the effectiveness of the overhead cover in protecting the operator from falling objects.

2.1.2 A crush test to verify the effectiveness of the structure in protecting the operator from large vertical loads.

2.2 The test procedures and performance requirements outlined in this standard are based on currently available engineering data.

3. Definitions

3.1 An agricultural tractor is defined in paragraph 2.1 of SAE J333.

3.2 Tractor weight is defined in paragraph 3.2 of SAE J168.

4. Description—The protective frame or enclosure to which this standard applies is a structure generally comprised of uprights mounted to the tractor and attached to an overhead cover extending above and over the operator's seat and conforming generally to Fig. 1.

5. Specifications for Overhead Cover—Overhead cover may be constructed of a solid material. If grid or mesh is used, the largest permissible opening shall be such that a 1.5 in (38 mm) diameter circle is the maximum circle that can be inscribed between the elements of the grid or mesh.

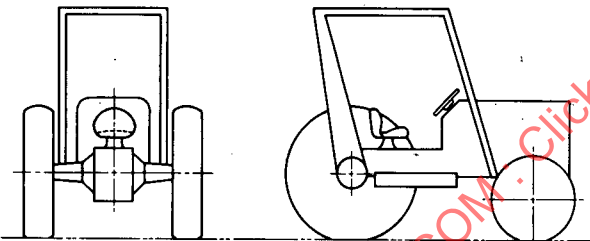


FIG. 1—TRACTOR WITH TYPICAL PROTECTIVE FRAME AND OVERHEAD COVER

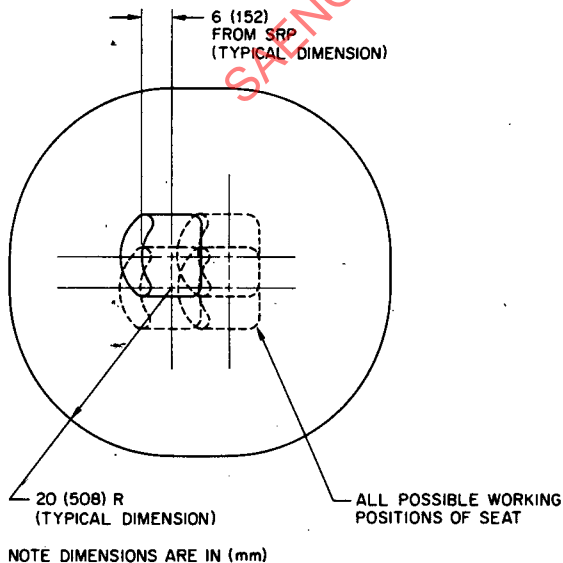


FIG. 2—ZONE OF PROTECTION FOR DROP TEST

6. Test Procedures

6.1 General—Appropriate and applicable test procedures are specified in paragraphs 5.1, 5.2, 5.3, and 5.4 of SAE J168.

6.2 Drop Test Procedure

6.2.1 The overhead cover shall be subjected to a drop test using a

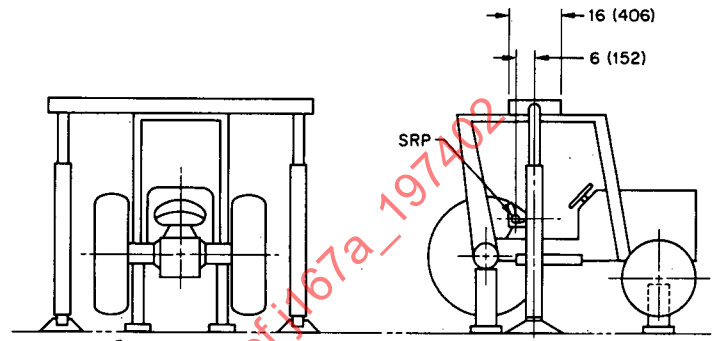


FIG. 3—METHOD OF LOAD APPLICATION FOR CRUSH TEST

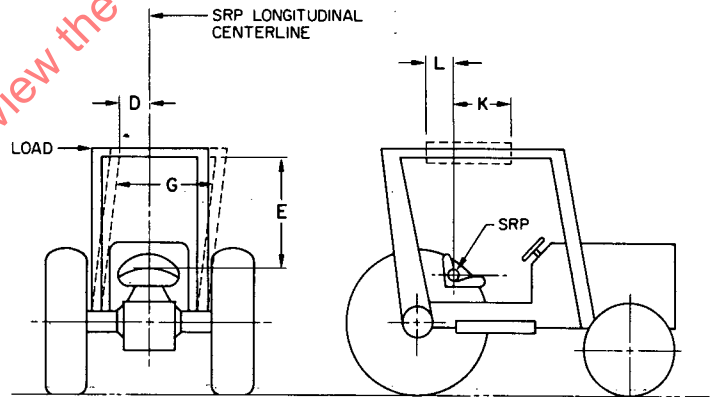


FIG. 4—SIDE LOAD APPLICATION

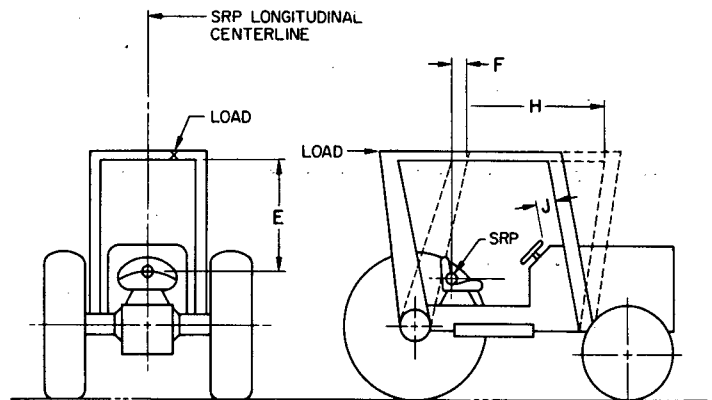


FIG. 5—REAR LOAD APPLICATION