



# SURFACE VEHICLE STANDARD

J1051™

MAR2020

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| Issued     | 1974-01 |
| Revised    | 1993-09 |
| Reaffirmed | 2013-08 |
| Stabilized | 2020-03 |

Superseding J1051 AUG2013

## Force-Deflection Measurements of Cushioned Components of Seats for Off-Road Work Machines

### RATIONALE

The technical report covers technology, products, or processes which are mature and not likely to change in the foreseeable future.

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1. **Scope**—This SAE Standard provides a method to obtain consistent force-deflection data of finished (or unfinished, when specified) cushioned components of seats for off-road work machines as listed in SAE J1116. This data may be helpful in maintaining seat comfort characteristics and quality control. There is no intent to establish any acceptance criteria.

## 2. **References**

2.1 **Applicable Publications**—The following publication forms a part of this standard to the extent specified herein. The latest issue of SAE publications shall apply.

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

SAE J1116—Categories of Off-Road Work Machines

SAE TSB 002—Preparation of SAE Technical Reports

SAE REPORT—Format Guidelines for the Electronic Capture of SAE Documents, June 1992

## 3. **Technical Requirements**

### 3.1 **Test Apparatus**

3.1.1 A 200 mm diameter, rigid, flat, or curved indenter (Figure 1 and Figure 2) or a 50 mm diameter, rigid, flat indenter (Figure 1). The indenter force shall be applied through a rigid joint or a swivel joint capable of accommodating the angle of the top surface of the test specimen.

3.1.2 A platform capable of positioning the top surface of the test specimen parallel to and centered with the rigid joint indenter and not to restrict the breathing or normal deformation of the specimen tested (Figure 3). The indenter with the swivel joint may be preferred for tapered or irregular shaped cushions or for a fixed platform (Figure 4).

3.1.3 An apparatus capable of applying forces and measuring the deflection of the indenter into the specimen.