

SURFACE VEHICLE STANDARD

J1101™

SEP2020

Issued 1983-05
Reaffirmed 2012-03
Revised 2020-09

Superseding J1101 MAR2012

Test Procedure for Parking Stability of Motorcycles

RATIONALE

This document is being revised to allow for alternative methods for determination of contact pressure and to provide harmonization of definitions within documents prepared by the SAE Motorcycle Technical Steering Committee. In addition, the classification is being changed from Recommended Practice to Standard.

1. SCOPE

Side stands and center stands are designed to support stationary two-wheel motorcycles. This SAE Standard establishes procedures for determining parking surface loading and stability limits as follows:

- The footprint pressure exerted on a horizontal parking surface by the stand.
- The tilt angle of the parking surface at which tip-over occurs.
- The tilt angle of the parking surface at which roll-off occurs.

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 J1248	Performance Requirements for Parking Stability of Motorcycles
SAE J1451	A Dictionary of Terms for the Dynamics and Handling of Single Track Vehicles (Motorcycles, Scooters, Mopeds, and Bicycles)
SAE J3133	Motorcycle Terminology

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Full document details: SAE J1101_202009

For more information on this standard, visit
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Documents

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3. DEFINITIONS

3.1 SIDE STAND

A retractable device which, when extended, supports a stationary motorcycle by providing a third contact point with the parking surface. Three-point ground support is provided by leaning the motorcycle toward the side stand until it is in contact with the ground. The stand and the motorcycle's two tires are the three contact points. (SAE J3133.)

3.2 CENTER STAND

A mechanical device with two contact surfaces which supports an upright stationary motorcycle by raising the back wheel off the ground. The stand operates against spring tension which retracts the stand to a stowed position when not in use. (SAE J3133.)

3.3 PARKING SURFACE

A rigid flat plane which supports the tested motorcycle. The surface shall have a friction coefficient and/or texture sufficient to preclude sliding of the side or center stand along the surface when performing the tests in 5.1.

3.4 STAND CONTACT PAD AREA

Area of stand contact pad can be determined by the procedure described in 5.2.2 and illustrated in Figure 1. Alternate methods are also possible as described in 5.2.2.

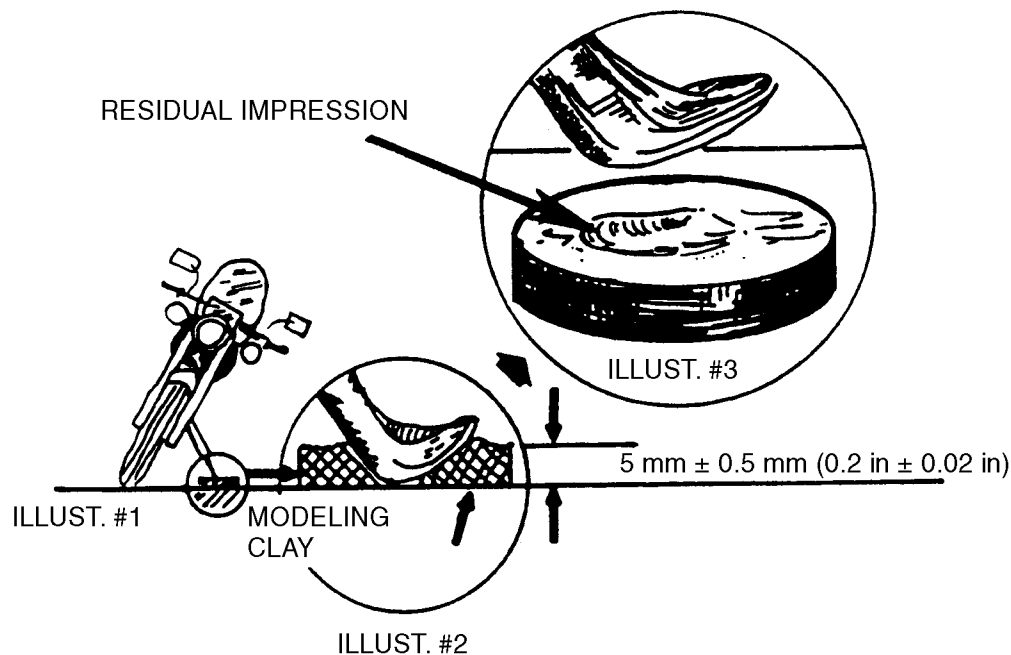


Figure 1 - Side stand footpad surface contact determination

3.5 STAND CONTACT PAD PRESSURE

Force exerted on the parking surface per unit stand contact pad area when the motorcycle is parked, as computed in 5.2.3.

3.6 TIP-OVER ANGLE

When tilting the parking surface about a horizontal axis parallel to the longitudinal plane of symmetry of the motorcycle, the smallest angle of parking surface tilt measured from the horizontal in either direction, at which the normal force between any of the motorcycle contact points (stand or tire) and the parking surface becomes zero. (Refer to Table 1 of SAE J1248.)