SAE International

SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J1101 MAR2012

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Superseding J1101 NOV2007

Test Procedure for Parking Stability of Motorcycles

RATIONALE

J1101 has been reaffirmed to comply with the SAE five-year review policy.

1. ***Scope***—Side stands and center stands are designed to support stationary two wheel motorcycles. This SAE Recommended Practice establishes procedures for determining parking surface loading and stability limits as follows:

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

2. ***References***

2.1 Applicable Publications—The following publications form a part of this specification to the extent specified herein. Unless otherwise specified, the latest issue of SAE publications shall apply.

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

SAE J213—Definitions—Motorcycles
SAE J1248—Performance Requirements for Parking Stability of Motorcycles

3. ***Definitions***

3.1 Side Stand—A retractable device which supports a stationary motorcycle by leaving both tires in contact with the parking surface and providing a third contact area with the parking surface on only one side of the motorcycle longitudinal plane of symmetry.

3.2 Center Stand—A retractable device which supports a stationary motorcycle by providing two or more contact areas between the stand and parking surface, with at least one contact area on each side of the motorcycle longitudinal plane of symmetry. The center stand may support the motorcycle entirely, or in conjunction with one or both tires.

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 as determined by the procedure described in 5.2.2 and illustrated in Figure 1.

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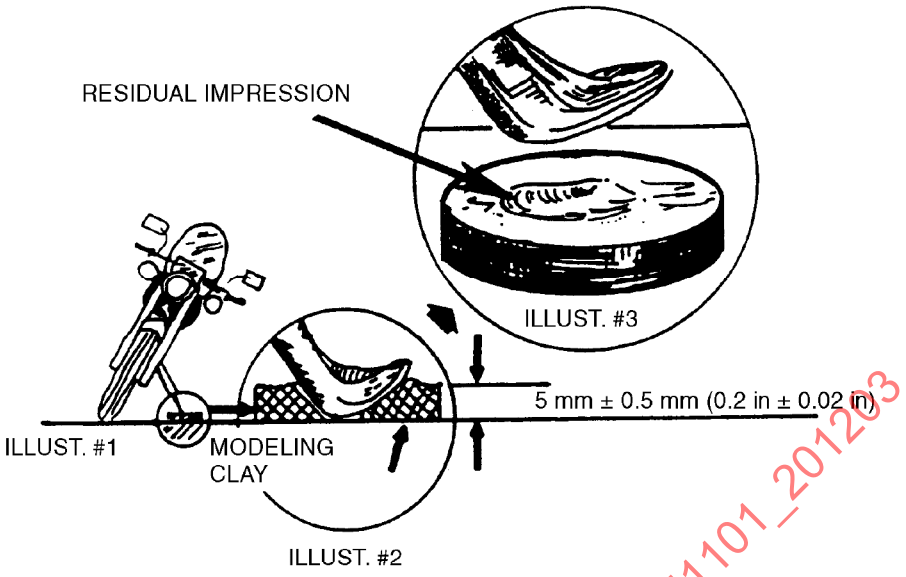

FIGURE 1—SIDE STAND FOOTPAD SURFACE CONTACT DETERMINATION

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. (See Table 1 of SAE J1248.)

3.7 **Roll-Off Angle**—When tilting the parking surface forward about a horizontal axis perpendicular to the motorcycle longitudinal plane of symmetry, the smallest angle of parking surface tilt, measured from the horizontal, at which the side stand or center stand fully retracts unassisted. (See Table 2 of SAE J1248.).

3.8 **Designated Parked Steering Position**—The designated parked steering position shall be the position recommended in the owner's manual or the position at which the steering can be locked to prevent it from rotating.

3.9 **Longitudinal Plane of Symmetry**—A vertical plane as defined in SAE J213.

4. Test Configuration

4.1 The motorcycle shall be parked on the parking surface using the stand to be tested. Stand(s) not to be tested shall be in the fully retracted position.

4.2 The motorcycle shall be at curb weight (see SAE J213).

4.3 The tire pressures shall be set at the manufacturer's recommendation for a single rider.

4.4 The suspension adjustment shall be set to the minimum recommended ride height setting.

4.5 The transmission shall be in neutral for all roll-off tests and in drive gear for all tip-over tests. For motorcycles which would roll during the tip-over test with the transmission in gear, a brake which will prevent the motorcycle from rolling shall be applied.