

	SURFACE VEHICLE RECOMMENDED PRACTICE	
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Dolly Rollover Recommended Test Procedure		

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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Foreword—The objective of this procedure is to subject a test vehicle to a rollover condition. The vehicle and occupant dynamics are recorded using appropriate instrumentation and photographic/video coverage such that the vehicle and occupant kinematics can be observed.

1. Scope—This SAE Recommended Practice describes the test procedure for conducting a rollover test using a dolly fixture designed to laterally trip a vehicle into a roll. Its purpose is to establish a recommended test procedure which will standardize the procedure between different test facilities. A description of the test procedure, test instrumentation, photographic/video coverage, and the rollover fixture is included.

2. References

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

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

SAE J211-1—Instrumentation for Impact Test—Part 1: Electronic Instrumentation

2.1.2 ASTM PUBLICATION—Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM E 274-90—Standard Test Method for Skid Resistance of Paved Surfaces Using a Full-Scale Tire

3. Test Facilities

3.1 Test Site—The test site and facilities should be able to tow and guide the rollover dolly to a constant velocity, decelerate the dolly, and allow for free unobstructed rolling of the test vehicle until it comes to rest. Typically, the test site will be an outdoor, concrete, level surface with a guide rail, towing system, and an energy-absorbing snubber which will decelerate the moving dolly appropriately.

The surface, on which the vehicle will be tripped, and initially contact should be of a uniform concrete construction with a skid number of 75 when tested according to ASTM E 274-90 at 64.4 km/h (40 mph), omitting water delivery as specified in paragraph 8.1 of that method. Typically for a 48 km/h (30 mph) initial velocity, a surface which allows for 50 m (164 ft) of unobstructed rolling is sufficient for most passenger car applications.