



SURFACE VEHICLE RECOMMENDED PRACTICE

J1232™

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Superseding J1232 SEP2000

Passenger and Light Truck Tire Traction
Device Profile Determination and Classification

RATIONALE

The method is mature and relevant and not likely to need revision; therefore, the Committee recommends stabilization.

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Documents

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Foreword—This Document has not changed other than to put it into the new SAE Technical Standards Board Format. References added as Section 2. All other section numbers have changed accordingly.

1. **Scope**—The purpose of this SAE Recommended Practice is to set up a guide as to body, frame, and wheelhouse clearances required to accommodate tire traction devices (e.g., tire chains), and to provide a means of classifying these devices according to their maximum profile. In addition, it enables the vehicle manufacturer to specify the proper traction devices for each vehicle.

This report is intended to apply to passenger cars and light trucks up to 4535 kg (10 001 lb) GVW. This document is not to be construed as approving traction device operation at conditions exceeding manufacturer's specifications, although short periods of such operations may be required for test purposes.

2. **References**—There are no referenced publications specified herein.

3. **Equipment**

- 3.1 **Test Vehicle**—Passenger car or light truck capable of running a tire of a size recommended by the traction device manufacturer for the size of a traction device under consideration. A light truck with rear fenders and bed removed is a convenient test vehicle. Static vertical load on the tire shall be from 85 to 95% of the test tire's T&RA (Tire and Rim Association) load at 180 kPa (26 psig) cold, or vehicle manufacturer's recommendations. All road testing should be conducted on smooth, hard surfaced roads.
- 3.2 **Profile Measurement (Method 1)**—A means of measuring the dynamic profile of the traction device and tire must be provided. A high speed (500 frames per second minimum) motion picture camera has proven satisfactory. The center of the lens system should be placed on the intersection axis of a maximum sidewall plane and a plane normal to the sidewall plane containing the maximum tire radius (point C, Figure 1). The camera may be pivoted about the lens center to show a profile view of at least the sidewall, half the tread, and the traction device. Appropriate measurement scales should appear in the framing for scaling the fly-off. These scales should be in the radial tire plane incorporating the tire section of interest. Generally, the largest profile will be obtained at the rear of the tire. Figure 2 shows a typical test setup.
- 3.3 **Profile Measurement (Method 2)**—An alternate method involves moving guided abradable material (e.g., a 25 mm (1 in) thick plank of 2.4 to 3.2 kg/m³ (1.5 to 2 lb/ft³) rigid polyurethane foam) into the rotating tire against a stop. The guides become part of the unsprung mass and must be rigidly attached to the axle support. After being sculptured by the traction device, the running clearance can be measured statically. Figure 3 shows a typical test setup.