Designation: F559 – 05

Standard Test Method for Measuring Length of Road Test Courses Using a Fifth Wheel[1]

This standard is issued under the fixed designation F559; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This test method covers the determination of the accurate length measurement of road courses used for testing all types of pneumatic tires on various associated vehicles.

1.2 This test method is intended for use on public highways or closed circuit test courses, or both, that cannot be measured practically by surveying techniques.

1.3 Use of this test method requires that the surface of the test course to be measured shall be sufficiently smooth to preclude bounce or hop of the fifth wheel, which will affect the accuracy of the measurement. The normal highway surface is adequate for this test method.

1.4 It is not the intent or scope of this test method to encompass distance measurements of test courses whose surfaces are irregular, broken up, jagged, and so forth, such as rock courses, Belgian block, "rumble" surfaces, and the like. Snow- and ice-covered surfaces also are excluded.

1.5 The values stated in SI units are to be regarded as standard. The values given in parentheses are for information only.

1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

F457 Test Method for Speed and Distance Calibration of Fifth Wheel Equipped With Either Analog or Digital Instrumentation

F538 Terminology Relating to the Characteristics and Performance of Tires

F1082 Practice for Tires—Determining Precision for Test Method Standards[3]

3. Terminology

3.1 *Definitions*—See Terminology F538 for terminology used in this test method.

4. Summary of Test Method

4.1 This test method includes the use of a fifth wheel of known accuracy, incorporating a distance counter that is attached to the test vehicle and used to measure distances traveled by that vehicle.

5. Significance and Use

5.1 Maps, automobile odometers, and highway and distance markers are not sufficiently accurate to describe the length of a route for tire testing purposes. The proposed procedure describes a test method for measuring the length of a road course with sufficient accuracy for tire testing purposes.

6. Apparatus

6.1 *Fifth Wheel*—The fifth wheel shall meet the requirements of Test Method F457 and shall incorporate an odometer or distance counter capable of accumulating the distance of the course to be measured. Preferably, the distance counter readout will be in units of 1 m (3.28 ft) or a minimum of 0.25 revolution of the fifth wheel. In any case, the distance readout shall meet the requirements of Test Method F457.

7. Procedure

7.1 Attach the fifth wheel to the rear of the vehicle at a point not in line with the vehicle wheelpath but midway between the vehicle wheelpaths.

7.2 Adjust the fifth wheel tire inflation pressure to the manufacturer's specification.

7.3 Warm up the fifth wheel by running a minimum of 3 km (2 miles) at approximately 65 km/h (40 mph).

7.4 Calibrate in accordance with Test Method F457.

7.5 With the fifth wheel in contact with the road surface, drive the vehicle to the starting point of the test course to be

[1] This test method is under the jurisdiction of ASTM Committee F09 on Tires and is the direct responsibility of Subcommittee F09.10 on Equipment, Facilities, and Calibration.

Current edition approved Dec. 1, 2005. Published January 2006. Originally approved in 1978. Last previous edition approved in 2000 as F559–95(2000). DOI: 10.1520/F0559-05.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Withdrawn. The last approved version of this historical standard is referenced on www.astm.org.