



Standard Test Method for Evaluating the Thermal Stability of Manual Transmission Lubricants in a Cyclic Durability Test¹

This standard is issued under the fixed designation D5579; 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 thermal stability of fluids for use in heavy duty manual transmissions when operated at high temperatures.

1.2 The lubricant performance is measured by the number of shifting cycles that can be performed without failure of synchronization when the transmission is operated while continuously cycling between high and low range.

1.3 Correlation of test results with truck transmission service has not been established. However, the procedure has been shown to appropriately separate two transmission lubricants, which have shown satisfactory and unsatisfactory field performance in the trucks of one manufacturer.

1.4 Changes in this test method may be necessary due to refinements in the procedure, obsolescence of parts, or reagents, and so forth. These changes will be incorporated by Information Letters issued by the ASTM Test Monitoring Center (TMC).² The test method will be revised to show the content of all the letters, as issued.

1.5 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.5.1 *Exception*—When materials, products, or equipment are available only in inch-pound units, SI units are omitted.

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.*

1.7 This test method is arranged as follows:

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¹ This test method is under the jurisdiction of ASTM Committee D02 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.B0.03 on Automotive Gear Lubricants & Fluids.

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² ASTM Test Monitoring Center, 6555 Penn Ave., Pittsburgh, PA 15206-4489. This edition incorporates revisions in all Information Letters through No. 09-3.

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2. Referenced Documents

2.1 ASTM Standards:³

D235 Specification for Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent)

D7422 Test Method for Evaluation of Diesel Engine Oils in T-12 Exhaust Gas Recirculation Diesel Engine

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

2.2 SAE Standard:

³ 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.