Designation: D 5579 – 04

An American National Standard

Standard Test Method for Evaluating the Thermal Stability of Manual Transmission Lubricants in a Cyclic Durability Test[1]

This standard is issued under the fixed designation D 5579; 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. 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:

	Section
Scope	1
Referenced Documents	2
Terminology	3
Summary of Test Method	4
Significance and Use	5
Apparatus	6
Test Transmission	6.2
Transmission Mounts	6.3
Oil-Circulating System	6.4
Oil Return Hole	6.5
Air Pressure Controls	6.6
Drive System	6.7
Instrumentation	6.8
Thermocouple Placement	6.9
Reagents and Materials	7
Safety	8
Preparation of Apparatus	9
Cleaning of Parts	9.1
Assembly	9.2
Calibration	10
Transmission and Test Stand Calibration	10.1
Reference Oils	10.2
Reference Oil Test Frequency	10.3
Instrumentation Calibration	10.4
Shift Time Calibration	10.5
Operating Procedure	11
System Flush and Charge	11.1
Test Operation	11.2
Shut-Down Procedure	11.3
Transmission Disassembly	11.4
Determination of Test Results	12
Failure Criteria	12.1
Shifter Fork Wear	12.2
Test Validity Determination	12.3
Report	13
Precision and Bias	14
Keywords	15
Test Validity Calculations and Limits	Annex A1
Test Kit Parts	Annex A2
HTCT Test Report Forms and Data Dictionary	Annex A3
Manual Transmission Cyclic Durability Test Parts Inspection and Wear Measurements	Annex A4

2. Referenced Documents

2.1 *ASTM Standards:* [3]

D 235 Specification for Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent)

2.2 *SAE Standard:*

SAE J308 Axle and Manual Transmission Lubricants[4]

2.3 *Military Standard:*

MIL-L-2105 Lubricating Oil, Gear, Multipurpose[5]

[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 on Automotive Lubricants.

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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. 03-1.

[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.

[4] Available from Society of Automotive Engineers (SAE), 400 Commonwealth Dr., Warrendale, PA 15096-0001.

[5] Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098.

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