



Standard Test Method for Evaluation of Diesel Engine Oils in T-8 Diesel Engine¹

This standard is issued under the fixed designation D5967; 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 an engine test procedure for evaluating diesel engine oils for performance characteristics, including viscosity increase and soot concentrations (loading).² This test method is commonly referred to as the Mack T-8.

1.2 This test method also provides the procedure for running an extended length T-8 test, which is commonly referred to as the T-8E and an abbreviated length test, which is commonly referred to as T-8A. The procedures for the T-8E and the T-8A are identical to the T-8 with the exception of the items specifically listed in [Annex A8](#) and [Annex A9](#) respectively. Additionally, the procedure modifications listed in [Annex A8](#) and [Annex A9](#) refer to the corresponding section of the T-8 procedure.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3.1 *Exceptions*—Where there is no direct SI equivalent such as the units for screw threads, National Pipe Threads/diameters, tubing size, sole source equipment suppliers, and oil consumption in grams per kilowatt-hour.

1.4 *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.* See [Annex A6](#) for specific safety precautions.

1.5 A Table of Contents follows:

Scope	1
Referenced Documents	2
Terminology	3
Summary of Test Method	4

¹ This test method is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.B0.02 on Heavy Duty Engine Oils.

Current edition approved Oct. 1, 2015. Published October 2015. Originally approved in 1996. Last previous edition approved in 2015 as D5967 – 15. DOI: 10.1520/D5967-15A.

² The ASTM Test Monitoring Center will update changes in this test method by means of Information Letters. This edition incorporates revisions contained in all information letters through 15–1. Information letters may be obtained from the ASTM Test Monitoring Center, 6555 Penn Avenue, Pittsburgh, PA 15206-4489, Attention: Administrator.

Significance and Use	5
Apparatus	6
General Description	6.1
The Test Engine	6.2
Mack Test Engine	6.2.1
Engine Cooling System	6.2.2
Engine Oil System	6.2.3
Auxiliary Oil System	6.2.4
Crankcase Aspiration	6.2.5
Blowby Meter	6.2.6
Air Supply and Filtration	6.2.7
Fuel Supply	6.2.8
Intake Manifold Temperature Control	6.2.9
Engine Fluids	7
Test Oil	7.1
Test Fuel	7.2
Engine Coolant	7.3
Cleaning Materials	7.4
Preparation of Apparatus at Rebuild	8
Cleaning of Parts	8.1
Valves, Seats, Guides, and Springs	8.2
Cylinder Liner, Piston, and Piston Ring Assembly	8.3
Injectors and Injection Pump	8.4
Assembly Instructions	8.5
Measurements	8.6
Laboratory and Engine Test Stand Calibration/Non-Reference Requirements	9
Calibration Frequency	9.1
Calibration Reference Oils	9.2
Test Numbering	9.3
New Laboratories and New Test Stands	9.4
Calibrated Laboratories and Test Stands	9.5
Calibration Test Acceptance	9.6
Failing Calibration Tests	9.7
Non-Reference Oil Test Requirements	9.8
Procedure	10
Pretest Procedure	10.1
Engine Start-Up	10.2
Engine Shutdown	10.3
Test Cycle	10.4
Oil Addition/Drain	10.5
Oil Samples	10.6
Oil Consumption Calculations	10.7
Fuel Samples	10.8
Periodic Measurements	10.9
Blowby	10.10
Centrifugal Oil Filter Mass Gain	10.11
Oil Filter ΔP Calculation	10.12
Post Test	10.13
Inspection of Fuel and Oil During Test	11
Oil Inspection	11.1
Fuel Inspections	11.2
Oil Consumption	11.3
Report	12
Reporting Test Results	12.1
Deviations from Test Operational Limits	12.2
Electronic Transmission of Test Results	12.3
Plots of Operational Data	12.4

*A Summary of Changes section appears at the end of this standard