



Standard Test Method for Evaluation of Diesel Engine Oils in the T-10 Exhaust Gas Recirculation Diesel Engine¹

This standard is issued under the fixed designation D 6987; 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 is commonly referred to as the Mack T-10.² This test method covers an engine test procedure for evaluating diesel engine oils for performance characteristics, including lead corrosion and wear of piston rings and cylinder liners.

1.2 This test method also provides the procedure for running an abbreviated length test, which is commonly referred to as the T-10A. The procedures for the T-10 and T-10A are identical with the exception of the items specifically listed in Annex A8. Additionally, the procedure modifications listed in Annex A8 refer to the corresponding section of the T-10 procedure.

1.3 The values stated in either SI or inch-pound units are to be regarded separately as the standard. Within the test method, the inch-pound units are shown in parentheses when combined with SI units.

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 A7 for specific Safety Precautions.

2. Referenced Documents

2.1 ASTM Standards:³

- D 86 Test Method for Distillation of Petroleum Products at Atmospheric Pressure
- D 93 Test Methods for Flash Point by Pensky-Martens Closed Cup Tester

- D 97 Test Method for Pour Point of Petroleum Products
- D 129 Test Method for Sulfur in Petroleum Products (General Bomb Method)
- D 130 Test Method for Detection of Copper Corrosion from Petroleum Products by the Copper Strip Tarnish Test
- D 235 Specification for Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent)
- D 287 Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)
- D 445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (the Calculation of Dynamic Viscosity)
- D 482 Test Method for Ash from Petroleum Products
- D 524 Test Method for Ramsbottom Carbon Residue of Petroleum Products
- D 613 Test Method for Cetane Number of Diesel Fuel Oil
- D 664 Test Method for Acid Number of Petroleum Products by Potentiometric Titration
- D 976 Test Methods for Calculated Cetane Index of Distillate Fuels
- D 1319 Test Method for Hydrocarbon Types in Liquid Petroleum Products by Fluorescent Indicator Adsorption
- D 2274 Test Method for Oxidation Stability of Distillate Fuel Oil (Accelerated Method)
- D 2500 Test Method for Cloud Point of Petroleum Products
- D 2622 Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-Ray Fluorescence Spectrometry
- D 2709 Test Method for Water and Sediment in Distillate Fuels by Centrifuge
- D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter
- D 4485 Specification for Performance of Engine Oils
- D 4737 Test Method for Calculated Cetane Index by Four Variable Equation
- D 4739 Test Method for Base Number Determination by Potentiometric Titration
- D 5185 Test Method for Determination of Additive Elements, Wear Metals, and Contaminants in Used Lubricating Oils and Determination of Selected Elements in Base Oils by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)

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 The ASTM Test Monitoring Center (TMC) will update changes in this test method by means of Information Letters. This edition includes all Information Letters through 02-2. Information Letters may be obtained from the ASTM Test Monitoring Center, 6555 Penn Ave., Pittsburgh, PA 15206-4489, Attention: Administrator.

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.