



Standard Test Method for Evaluation of Engine Oils in a High Speed, Single-Cylinder Diesel Engine—Caterpillar 1R Test Procedure¹

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INTRODUCTION

Any properly equipped laboratory, without outside assistance, can use the test procedure described in this test method. The ASTM Test Monitoring Center (TMC)² provides calibration oils and an assessment of the test results obtained on those oils by the laboratory. By this means, the laboratory will know whether their use of the test method gives results statistically similar to those obtained by other laboratories. Furthermore, various agencies require that a laboratory utilize the TMC services in seeking qualification of oils against specifications. For example, the U.S. Army has such a requirement in some of its engine oil specifications. Accordingly, this test method is written for those laboratories that use the TMC services. Laboratories that choose not to use these services should ignore those portions of the test method that refer to the TMC. Information Letters issued periodically by the TMC may modify this test method.³ In addition, the TMC may issue supplementary memoranda related to the test method.

1. Scope

1.1 This test method covers stressing an engine oil under modern high-speed diesel operating conditions and measures the oil's deposit control, lubrication ability, and resistance to oil consumption. It is performed in a laboratory using a standardized high-speed, single-cylinder diesel engine.⁴

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

1.3 *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 requirements prior to use.* Being an engine test method, this test method does have definite hazards that require safe practices (see Appendix X2 on Safety).

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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 on Automotive Lubricants.

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² ASTM Test Monitoring Center (TMC), 6555 Penn Avenue, Pittsburgh, PA 15206-4489.

³ Users of this test method shall contact the ASTM Test Monitoring Center (TMC) to obtain the most recent information letters.

⁴ Available from Caterpillar Inc., Engine System Technology Development, P.O. Box 610, Mossville, IL 61552-0610.