This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

Designation: D7484 – 19

# Standard Test Method for Evaluation of Automotive Engine Oils for Valve-Train Wear Performance in Cummins ISB Medium-Duty Diesel Engine[1]

This standard is issued under the fixed designation D7484; 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.

## INTRODUCTION

Any properly equipped laboratory, without outside assistance, can use the procedure described in this test method. However, the ASTM Test Monitoring Center (TMC)[2] provides reference oils and an assessment of the test results obtained on those oils by the laboratory. By these means, the laboratory will know whether its 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 imposes such a requirement in connection with several Army engine lubricating oil specifications.

Accordingly, this test method is written for use by laboratories that utilize the TMC services. Laboratories that choose not to use these services may simply ignore those portions of the test method that refer to the TMC.

This test method may be modified by means of information letters issued by the TMC.[2] In addition, the TMC may issue supplementary memoranda related to the method.

ASTM International policy is to encourage the development of test procedures based on generic equipment. It is recognized that there are occasions where critical/sole-source equipment has been approved by the technical committee (surveillance panel/task force) and is required by the test procedure. The technical committee that oversees the test procedure is encouraged to clearly identify if the part is considered critical in the test procedure. If a part is deemed to be critical, ASTM encourages alternative suppliers to be given the opportunity for consideration of supplying the critical part/component providing they meet the approval process set forth by the technical committee.

An alternative supplier can start the process by initiating contact with the technical committee (current chairs shown on ASTM TMC website). The supplier should advise on the details of the part that is intended to be supplied. The technical committee will review the request and determine feasibility of an alternative supplier for the requested replacement critical part. In the event that a replacement critical part has been identified and proven equivalent the sole-source supplier footnote shall be removed from the test procedure.

## 1. Scope*

1.1 This test method, commonly referred to as the Cummins ISB Test, covers the utilization of a modern, 5.9 L, diesel engine equipped with exhaust gas recirculation and is used to evaluate oil performance with regard to valve-train wear.

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

1.2.1 *Exceptions*—SI units are provided for all parameters except where there is no direct equivalent such as the units for screw threads, National Pipe Threads/diameters, tubing size, or where there is a sole source of supply equipment specification.

1.2.2 See also A7.1 for clarification; it does not supersede 1.2 and 1.2.1.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the*

[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 on Automotive Lubricants.

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[2] Until the next revision of this test method, the ASTM Test Monitoring Center will update changes in the test method by means of information letters. Information letters may be obtained from the ASTM Test Monitoring Center, 6555 Penn Avenue, Pittsburgh, PA 15206-4489. Attention Administrator. This edition incorporates revisions in all information letters through No. 19-1. www.astmtmc.cmu.edu.

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

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