



Standard Test Method for Evaluation of Automotive Engine Oils in the Sequence IIIE, Spark-Ignition Engine¹

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^{ε1} NOTE—Figure 15 was deleted and Figs. 14 and 17 were corrected editorially in March 1999.

INTRODUCTION

The test method described in this standard can be used by any properly equipped laboratory, without the assistance of anyone not associated with that laboratory. 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 (see Annex A1). 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 imposes such a requirement, in connection with several Army engine lubricating oil specifications.

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

This test method may be modified by means of Information Letters issued by the TMC. In addition, the TMC may issue supplementary memoranda related to the test method (see Annex A1). Users of this test method shall contact the ASTM Test Monitoring Center to obtain the most recent of these.

1. Scope

1.1 This test method covers an engine test procedure for evaluating automotive engine oils for certain high-temperature performance characteristics, including oil thickening, sludge and varnish deposition, and oil consumption, as well as engine wear. Such oils include both single viscosity grade and multiviscosity grade oils which are used in both spark-ignition, gasoline-fueled engines, as well as in diesel engines.²

NOTE 1—Companion test methods used to evaluate engine oil performance for specification requirements are discussed in SAE J304.

1.2 The values stated in either acceptable SI units or in other units shall be regarded separately as standard. The values stated

in each system may not be exact equivalents; therefore, each system must be used independently of the other, without combining values in any way.

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 limitations prior to use.*

1.4 This test method is arranged as follows:

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¹ This test method is under the jurisdiction of ASTM Committee D-2 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.B0.01 on Passenger Car Engine Oils.

The multi-cylinder engine test sequences were originally developed in 1956 by an ASTM Committee D-2 group. Subsequently, the procedures were published in an ASTM special technical publication. The Sequence IIIE method was published as Research Report RR:D02-1225, dated April 1, 1988.

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² ASTM Test Monitoring Center, 6555 Penn Ave., Pittsburgh, PA 15206-4489. For other information, refer to Research Report RR:D02-1225 Multicylinder Test Sequences for Evaluating Automotive Engine Oils—Part 2 Sequence IIIE. This research report and this test method are supplemented by Information Letters and memoranda issued by the ASTM Test Monitoring Center. This edition incorporates revisions in all information letters through No. 98–1.