



Standard Test Method for Evaluation of Engine Oils for Roller Follower Wear in Light-Duty Diesel Engine¹

This standard is issued under the fixed designation D5966; 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

This test method is continually undergoing changes to reflect refinements in procedure, obsolescence of parts or reagents. These changes or updates, as well as general information regarding the test method, are issued as information letters by the ASTM Test Monitoring Center (TMC). Copies of information letters pertaining to the test method may be obtained by contacting the ASTM Test Monitoring Center.²

The test method can be used by any properly equipped laboratory, without assistance of anyone not associated with that laboratory. However, TMC provides reference 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 imposes such a requirement, in connection with several military lubricant specifications.

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

1. Scope*

1.1 This engine lubricant test method is commonly referred to as the Roller Follower Wear Test. Its primary result, roller follower shaft wear in the hydraulic valve lifter assembly, has been correlated with vehicles used in stop-and-go delivery service prior to 1993. It is one of the test methods required to evaluate lubricants intended to satisfy the API CG-4 performance category. This test has also been referred to as the 6.2 L Test.

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*—Where there is no direct SI equivalent, such as pipe fittings, thermocouple diameters, and NPT screw threads. Also, roller follower wear is measured in mils.

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.B0.02 on Heavy Duty Engine Oils.

Current edition approved May 1, 2013. Published May 2013. Originally approved in 1996. Last previous edition approved in 2012 as D5966 – 12. DOI: 10.1520/D5966-123.

² ASTM Test Monitoring Center, 6555 Penn Ave., Pittsburgh, PA 15206-4489. This edition incorporated revisions contained in all Information Letters through No. 12-1.

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 Table of Contents:

	Section
Scope	1
Referenced Documents	2
Terminology	3
Summary of Test Method	4
Significance and Use	5
Reagents	7
Guidelines on Substitution	7.1
Apparatus	6
Preparation of Apparatus	8
New Engine Preparation	8.1
Installation of Auxiliary Systems and Miscellaneous Components	8.2
Test Procedure	9
Description of Test Segments and Organization of Test Procedure Sections	9.1
Engine Parts Replacement	9.2
Engine Starting Procedure	9.3
Normal Engine Shutdown Procedure	9.4
Emergency Shutdown Procedure	9.5
Unscheduled Shutdown and Downtime	9.6
New Engine Break-In	9.7
Pretest Procedure	9.8
Fifty-Hour Steady State Test	9.9

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