



Test Monitoring Center

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Sequence IIIG Information Letter 11-4
Sequence No. 34
November 29, 2011

ASTM consensus has not been obtained on this information letter. An appropriate ASTM ballot will be issued in order to achieve such consensus.

TO: Sequence III Mailing List

SUBJECT: 1. Engine Cooling System Strainer
2. Correction to Camshaft and Lifter Measurement Device Accuracy

1. During the November 3, 2011 Sequence III Surveillance Panel Conference call, the panel agreed to allow the use of a strainer in the engine coolant system. Section 6.6.1 has been revised to allow the use of a strainer and to define a strainer suitable for this application.
2. During the September 8, 2011 Conference call, the panel agreed to a change in camshaft and lifter measurement device accuracy listed in 9.11.3.1. Section 9.11.6 specifies that measurements be made to the nearest 0.001 mm, while Section 9.11.3.1 currently states to use a measurement device accurate to 0.01 mm. Section 9.11.3.1 has been revised to use a measurement device accurate to 0.001 mm. Also, existing Section 9.11.3.1 has been split into 9.11.3.1 and 9.11.3.2 for better clarity. Finally, section 9.11.3 was modified to include a footnote providing supplier information for the snap gauge and digital indicator.

The attached changes to Test Method D 7320 are effective November 3, 2011.

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Engine Oil Test Development and Support
GM Powertrain Materials Engineering

Frank M. Farber
Administrator
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Attachments

c: [ftp://ftp.astmtmc.cmu.edu/docs/gas/sequenceiii/procedure_and_ils/IIIG/IL11-4.pdf](http://ftp.astmtmc.cmu.edu/docs/gas/sequenceiii/procedure_and_ils/IIIG/IL11-4.pdf)

Distribution: Electronic Mail

Modifies Test Method D7320-11
as amended by Information Letters 10-5, 11-1, 11-2 and 11-3

6.6.1 *Engine Cooling System*—The Fluid Conditioning Module system supplies non-pressurized coolant at a flow rate of 160 L/min and controls temperature at 115 °C at the engine coolant outlet. The system incorporates the following features: pump, vortex-type flow meter, flow control and three-way control valves, external heating and cooling systems, and low-point drains.

6.6.1.1 The system integrates with the test stand data acquisition and control computer for process control and maintains the specified engine coolant temperature and flow.

6.6.1.2 Strainers may be installed in the system to prevent introduction of casting sand and other debris into the stand instrumentation. A Miller-Leaman, part number MLS03 Thompson Strainer¹², 50-mesh strainer has been found to be suitable. The system should be flushed with clean water at least once each reference period.

9.11.3 Make the camshaft measurement using Mitutoyo Snap Gauge, model 201-152²⁵, and a Mitutoyo Digital Indicator, model 543-252B²⁵, to measure the camshaft lobes. Make the lifter measurement with a digital indicator equipped with a Mitutoyo 4.3 mm flat tip, model 131-259 mounted in a indicator stand. Equip the indicator stand with a V-block that is rigidly mounted to the base and locates the lifter with its center axis in line with the digital indicator. Store the camshaft and lifters in a temperature-controlled room, before making dimensional measurements, for at least 90 min to ensure temperature stabilization.

9.11.3.1 Use Mitutoyo Digital Indicator for measurement accurate to 0.001 mm. Before each measurement session, use standards traceable to the National Institute of Standards and Technology, to ensure measuring equipment accuracy. Include standards having length values within 1.3 mm of the typical lifter and lobe measurement taken.

9.11.3.2 Use the same equipment and standards post-test measuring as were used for pre-test measuring. If a calibration shift between the pre-test and post-test measurements is detected, evaluate the shift to determine the effect on the wear measurement. Record the results of the evaluation and any corrective action taken.

¹²A suitable strainer is available from the following supplier. Miller-Leaman, 800 Orange Avenue, Daytona Beach, FL 32114

Renumber existing footnotes 12 through 23 as 13 through 24

²⁵The sole source of the of the apparatus known to the committee at this time is Mitutoyo America Corp, 945 Corporate Blvd, Aurora, IL 60502.

Renumber existing footnotes 24 through 28 as 26 through 30