



Test Monitoring Center

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Sequence IIIF Information Letter 10-2
Sequence No. 30
June 24, 2010

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: Enhancements for Pre and Post Test Camshaft and Lifter Handling

As a result of a recent electronic ballot, the Sequence III Surveillance Panel approved a change to include enhancements for pre and post test camshaft and lifter measurements. Revised Section 9.11 is shown in its entirety. Section 12.5.9 has been revised to require storage of the cam and lifters.

The attached changes to Test Method D 6984 are effective June 15, 2010.

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Attachments

c: ftp://ftp.astmtmc.cmu.edu/docs/gas/sequenceiii/procedure_and_ils/IIIF/IL10-2.pdf

Distribution: Electronic Mail

Modifies Test Method D6984-10

as amended by Information Letters 09-2 and 10-1

9.11 *Pre-Test Camshaft and Lifter Measurements*—Measure the camshaft lobe height and lifter lengths, prior to engine assembly, according to the following procedure:

9.11.1 Remove camshaft and lifters from laboratory inventory.

9.11.2 Remove camshaft and lifters from original container and packaging and set container and packaging aside for later use. Clean camshaft with degreasing solvent. Do not clean the lifters; wipe the lifters with a clean cloth or towel.

9.11.3 Make the camshaft measurement using Mitutoyo Snap Gauge, model 201-152, and a Mitutoyo Digital Indicator, model 543-252B, 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 dimensional measuring equipment accurate to 0.01 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. 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.

9.11.4 With the camshaft positioned in a set of V-blocks, remove any burrs around the outer edge of the camshaft thrust surface, if necessary. Thoroughly clean the camshaft with degreasing solvent to remove all rust preventative coatings and blow-dry it with clean, dry shop air.

9.11.5 Measure the maximum pre-test dimension of each camshaft lobe, transverse to the camshaft axis to the nearest 0.001 mm. This dimension is at the rear edge of all lobe positions (lobes are numbered from the front to the rear of the camshaft). Record the measurements and temperature at the time of measurement on internal laboratory forms. See 9.7. After measuring, coat the camshaft with build-up oil. Return the camshaft to its original packaging and container until installed in the engine.

9.11.6 Measure the pre-test length of the lifters at the center of the lifter foot to the nearest 0.001 mm. Record the measurements and temperature at time of measurement on internal laboratory forms. See 9.7.

9.11.7 Record the unique serial number for each lifter on internal laboratory forms. See 9.7. Do not use electro-mechanical scribing devices. Do not place any marks on the lifter body or foot. Return the lifters to their original packaging until installed in the engine.

12.5.9 Calculate the cam-plus-lifter wear by adding the values obtained in 12.5.8. Record the results on Form 7, Valve Lifter and Camshaft Wear Results, in standardized report form set (see Annex A5). Store the cam and lifters, the method and length of time for storage are left up to the laboratory.