A Program of ASTM International

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ISM Information Letter 13-1
Sequence No. 8
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ASTM consensus has not been obtained on this information letter. An appropriate ASTM ballot will be issued in order to achieve such consensus.

TO: Cummins Mailing List

SUBJECT: New IAS Correction Factors and Reporting Methods and Corrected References for Rating Manual

During the November 19th 2013 Cummins Surveillance Panel conference call it was agreed to change the Injector Adjusting Screw mass loss correction factor. It was decided to use a natural log transformation for IAS with a correction factor of -0.200 for all ISM tests on the newest hardware combination. This hardware consists of Batch B injector push rods, Batch D injector adjusting screws and Batch E crossheads. The first engine kit supplied by the CPD to include all of this hardware was kit #673. All tests using hardware kits #673 and above will use this new correction factor. Sections 11.2.4 and 11.2.5 have been revised and are attached documenting the correction factor and final IAS mass loss value calculation procedure.

Also, as approved by a unanimous email ballot in May of 2013, the references to the rating manual have been updated to reflect the current nomenclature. Sections 2.2 and 11.4.1 have been updated to reference ASTM Deposit Rating Manual 20 instead of CRC Manual 20.

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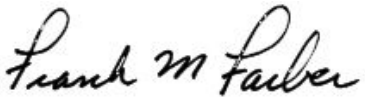

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Attachment

c: ftp://astmtmc.cmu.edu/docs/diesel/cummins/procedure_and_ils/ISM/il13-01-ISM.pdf

Distribution: Email

11.2.4 Calculate the following and report as Average Adjusted to 3.9 % Soot in the main section of Forms 4 and 12, listed in Table A9.1:

$$SAIAS = e^{\ln(OSIAS)+1.7(3.9-AVGSOOT)} \quad (2)$$

where: SAIAS = Injector Adjusting Screw Outlier Screened and Adjusted to 3.9% Average Soot Mass, and

OSIAS = Outlier Screened Injector Adjusting Screw Average Mass Loss value in the Overall Summary, and

AVGSOOT = mathematical average of the nine 25 h soot values (from 0 to 200) h, reported to one decimal.

11.2.5 *Injector Adjusting Screw Correction Factor*

11.2.5.1 For all tests that complete on or after June 28, 2007 on central parts distributor hardware kits 672 and below, add a correction factor of +19.1 mg to the injector adjusting screw mass loss average value adjusted to 3.9 % soot calculated in 11.2.4. Report this corrected value on Form 4 as the final result listed in Table A9.1.

11.2.5.2 For all tests that complete on hardware combinations consisting of Batch B injector push rods, Batch D injector adjusting screws and Batch E crossheads (central parts distributor hardware kits 673 and above), take the natural log of the injector adjusting screw mass loss average value adjusted to 3.9 % soot calculated in 11.2.4 and reported on Form 12, add a correction factor of -0.200 to that value to get the transformed corrected IAS mass loss value and report on Form 4. Finally, back transform this value using the inverse natural log to get the final injector adjusting screw mass loss value in milligrams. Report this value on Form 4 as the final result listed in Table A9.1.

Replace the current Section 2.2 and Footnote 4 with the following:

2.2 *OtherASTM Documents:*
ASTM Deposit Rating Manual 20 (Formerly CRC Manual 20)[4]

[4] For STOCK# TMCMNL20, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org.

11.4.1 Rate the rocker arm cover sludge and the oil pan sludge in accordance with ASTM Deposit Rating Manual 20[4] at the locations specified in Figs. A10.1 and A10.2.