



Test Monitoring Center

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Sequence IVB Information Letter 21-1
Sequence Number 2
January 7, 2021

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 IVB Surveillance Panel

SUBJECT: 1. Clarification of Test Numbering
2. Corrections and Omissions in Balloted Procedure
3. TMC Web Address Change

1. During the July 25, 2020 Conference Call, the Sequence IV Surveillance Panel Conference call, the Panel agreed that tests used for break in and aging are not to be included in the test number. Section 4.1 has been revised to clarify the test numbering system.
2. During the same conference call, it was noted that two sections had been mistakenly omitted from or contained errors in the balloted test method. These sections, the iron adjustment procedure (12.2.5.1) and the assessment of interpretability (12.5.9) are attached.
3. The TMC website has changed to www.astmtmc.org. Sections 7.2, 9.2 and A1.1 have been revised accordingly.

The text of the revisions is shown in the attachment, highlighted in red. These changes went into effect July 25, 2020. The release of this information letter had been pending the publication of the test method, which is now available as D8350-20.

William A. Buscher III
Chairman
Sequence IV Surveillance Panel

Frank M. Farber
Director
ASTM Test Monitoring Center

Attachment

C: http://www.astmtmc.cmu.edu/ftp/docs/gas/sequenceiv/procedure_and_ils/ivb/IL21-001-ivb.pdf

Distribution: Email

Revises Test Method D8350-20

4.1 *Test Numbering Scheme*—Use the test numbering scheme shown below:

AAAAA-BBBBBB-CCCCC

Where:

AAAAA = the stand number

BBBBB = the number of tests since the last reference calibration test on that stand.

CCCCC = the total number of Sequence IVB tests conducted on that test stand.

Example: Test number 6-10-175 represents the 175th Sequence IVB test conducted on test stand 6 and the tenth test since the last calibration test. Consecutively number all tests. Number the stand calibration tests beginning with zero for the BBBBB field. Multiple-length Sequence IVB tests are multiple runs for test numbering purposes, such as double-length tests which are counted as two runs and triple-length tests which are counted as three runs. For example, if test 1-3-28 is a doubled-length test, number the next test conducted on that stand 1-5-30. **Do not include break in (see 11.8) or aging runs (see 11.9) on new engines in the number of tests since the last reference calibration test on that stand or the total number of Sequence IVB tests conducted on that test stand. Maintain separate numbering for those runs.**

7.2 Fuel—Use Haltermann KA24E10 Green test fuel for this test method (**Warning**—Flammable health hazard). It is dyed green to preclude unintentional contamination with other test fuels. Refer to the TMC (www.astmtmc.org). Use approximately 750 L of fuel for each test (24 000 cycles). This fuel has a hydrogen-to-carbon ratio of 1.80 to 1.

9.2 General Engine Assembly Preparations—Refer to the Sequence IVB Engine Assembly Manual, available from the ASTM Test Monitoring Center Website. www.astmtmc.org.

12.5.2.1 Iron adjustment procedure

(a) Run 0 h and 200 h sample measurements sequentially, in duplicate, using the same calibration (that is, as close in time as practical). Background correction, internal standard, and peristaltic pump are required. Use sample dilutions of at least 19+1 mass/mass (that is 19 parts solvent by mass to one part solute test oil by mass). Once a dilution is established, use it for all samples from a test.

(b) Report the average of the two determinations as the final result. If the duplicate determinations are outside the repeatability calculations shown in Table 2 of Test Method D5185, follow the procedure shown in 6.2 of Test Method D3244.

(c) Iron adjustment Use Eq (1) to determine the mass fraction of iron at the end of test (EOT):

$$w(\text{Fe}_{\text{EOT}}) = [w(\text{M}_{\text{SOT}})/w(\text{M}_{\text{EOT}})] \times w(\text{Fe}_{200\text{h}}) \quad (1)$$

where:

$w(\text{Fe}_{\text{EOT}})$ = the mass fraction of iron at the end of test, mg/kg,

$w(\text{M}_{\text{SOT}})$ = the mass fraction of detergent metal, M, at the start of test (SOT), mg/kg,

$w(\text{M}_{\text{EOT}})$ = the mass fraction of detergent metal, M, at the end of test, mg/kg,

$w(\text{Fe}_{200\text{h}})$ = the mass fraction of iron at 200 h, mg/kg.

M denotes the detergent metal, defined as sodium, calcium or magnesium, with the highest concentration in the fresh oil.

12.5.9 *Assessment of Interpretability*—A test is non-interpretable when a lobe failure(s) is identified. Any lobe with a heel-to-toe measurement greater than 20 μm is identified as exhibiting lobe failure.

A1.1 *Nature and Functions of the ASTM Test Monitoring Center (TMC)*—The TMC is a non-profit organization located in Pittsburgh, Pennsylvania and is staffed to: administer engineering studies; conduct laboratory inspections; perform statistical analyses of reference oil test data; blend, store, and ship reference oils; and provide the associated administrative functions to maintain the referencing calibration program for various lubricant tests as directed by TMC Subcommittee D02.B0 and the ASTM Executive Committee. The TMC coordinates its activities with the test sponsors, the test developers, the surveillance panels, and the testing laboratories. Contact TMC through the TMC Director at:

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