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Sequence IVA Information Letter No. 01-1
Sequence No. 5
May 22 , 2001

TO: Sequence IVA Mailing List

SUBJECT: Rocker Cover Cooling System Flow Measurement

This Information Letter implements action items approved by the Sequence IVA Surveillance Panel. This Information Letter addresses specific parts and procedures pertaining to quality, consistency, performance, and accountability of test parts as part of the ongoing effort by the panel to ensure continual process improvement of the Sequence IVA test.

Rocker Cover Cooling System Flow Measurement

At the November 15, 2000 meeting of the Sequence IVA Surveillance Panel, the panel approved a motion to implement the proposed rocker cover coolant flow measurement equipment (or equivalent flow measurement equipment) on the downstream side of the cover. Also implemented was an air bleed device on the upstream side of the cover. Temperature measurement is not required. In addition, flow data will be added to the Report Forms and Data Dictionary. The revised data dictionary and report form set are effective on July 16, 2001.

In addition, the data dictionary and report form set are being removed from the Test Procedure, as has been done in other GF-3 test areas. This has been done so that revisions to the data dictionary or report form set can be made in a more timely manner. Future updates to the data dictionary and report form set will be issued via TMC Memorandum, rather than via Information Letter. The revised data dictionary and report form set are available for download from the TMC Web Page at ftp://tmc.astm.cmri.cmu.edu/datadict/iva/.

New sections 6.3.8.6, 14.1, 14.1.1, and 14.3 of the Sequence IVA Test Procedure, Draft 4, are attached. The procedure change is effective two months after the date of this information letter.

Larry M. Bendele
Chairman
Sequence IVA Surveillance Panel

John Zalar
Administrator
ASTM Test Monitoring Center

Attachments

c: ftp://www.tmc.astm.cmri.cmu.edu/documents/gas/sequenceiv/procedures_and_ils/ivail01-1-5
Data Communications Committee Information Letter Mailing List

{The Sequence IVA Test Procedure is not in ASTM Standard format at this time and does not contain complete footnotes, appendices, etc. Therefore, properly numbered footnotes, figures, and such cannot be identified at this time for the revisions listed below. Instead, the necessary footnotes and figures for the changes contained in this Information Letter have been identified with letters, rather than proper figure and footnote numbers. These footnotes and figure numbers are only appropriate to the sections listed in this Information Letter and will be corrected to the appropriate numbers when the Test Procedure is revised into ASTM Standard format.}

6.3.8.6 Jacketed Rocker Cover Coolant System

A portion of total coolant system flow is routed through the jacketed rocker cover. A tee fitting is installed at the exit of the coolant heat exchanger, to allow the coolant flow to split into two circuits (main circuit to the engine thermostat housing & secondary circuit to the jacketed rocker cover). The secondary circuit enters the front of the jacketed cover and exits the rear of the cover. Near the front of the rocker cover, an automatic air bleed vent[A] shall be installed. The secondary circuit flow rate is limited at the exit by the installation of a 2-way control valve, ½" nominal internal diameter size, with a flow coefficient rating (C_v) of 1.25[B]. It should be configured for "fail-safe" open position. Prior to the flow control valve, a flow meter[C] shall be installed in the system. Flow rates data acquisition shall be measured according to the requirements specified in 11.1 and reported in the test report. The secondary flow joins the primary flow at the suction side of the coolant system pump. Refer to the schematic of the cooling system shown in Figure A.

[A] A WATTS ¼" FV-4 (4A821) Automatic Float Vent has been found suitable. It is available from common industrial supply houses. An equivalent may be used.

[B] A Research ½" ID 2-way, trim C, flow control valve has been found suitable. It is available from Badger Meter Inc., P.O. Box 581390, Tulsa, OK 74158. (918) 836-8411.

[C] A BARCO #1-298, 1" ID flowmeter has been found suitable. It is available from Hyspan Precision Products Inc., 1685 Brandywine Ave., Chula Vista, CA 91911. (619) 421-1355. An equivalent may be used.

14.1 Report Format

Use the latest version of the standardized report form set and data dictionary, as approved by the ASTM Data Communications Committee, for reporting the test results for test oils and reference oils, and for summarizing the operational data.

14.1.1 Standard Report Form Set Source

The latest version of the report form set may be downloaded separately from the ASTM Test Monitoring Center Web Page at http://tmc.astm.cmri.cmu.edu/ or can be obtained in hardcopy format from the TMC.

14.3 Electronic Data Dictionary Source

The latest version of the report form set may be downloaded separately from the ASTM Test Monitoring Center Web Page at http://tmc.astm.cmri.cmu.edu/ or can be obtained in hardcopy format from the TMC. This dictionary is to be utilized for electronic transmission of final report data according to the ASTM Data Communications Committee Electronic Test Report Transmission Model to the end-user, or to the Test Monitoring Center for calibration tests.

Figure A

Sequence IVA
Cooling System Schematic