



## Test Monitoring Center

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Sequence IIIF Information Letter 07-2

Sequence No. 25

May 21, 2007

***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. Change in Test Procedure Designation  
2. Metrication of Table A4.1

1. On April 27, 2007, the Sequence III Surveillance Panel approved a change in the designation of the test used for conducting viscosity evaluations using the IIIF Test Method. The current procedure is called IIIFVIS and has been changed to IIIFVS. This change was made at the request of users of the test.
2. When issued, Table A4.1 was not in SI units. Table A4 has been revised to reflect SI units for all methods referenced.

The attached changes to Test Method D 6984 are effective the date of this information letter.

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Attachments

c: [ftp://ftp.astmtmc.cmu.edu/docs/gas/sequenceiii/procedure\\_and\\_ils/IIIF/IL07-2.pdf](ftp://ftp.astmtmc.cmu.edu/docs/gas/sequenceiii/procedure_and_ils/IIIF/IL07-2.pdf)

Distribution: Electronic Mail

## **X2. SEQUENCE IIIFVS TEST PROCEDURE**

X2.1 *Overview*- The Sequence IIIFVS test procedure was developed to support the viscosity increase requirements for Heavy Duty Diesel Category CJ-4 (Specification D 4485). The Sequence IIIFVS test procedure consists of examining the percent viscosity increase data obtained at the end of a normal 80-h Sequence IIIF test method. No parts ratings or measurements are required in the Sequence IIIFVS test procedure. A separate Sequence IIIFVS report form set is available from the TMC for reporting Sequence IIIFVS test results. Do not use the Sequence IIIF Report Form Set to report Sequence IIIFVS test results.

X2.2 *Preparation of Apparatus*- Prepare the Sequence IIIFVS test engine in the same manner as a Sequence IIIF test engine. No special preparations are required or permitted on test engines for Sequence IIIFVS use. Do not perform Camshaft and Lifter Measurements, as outlined in Section 9.11, for the Sequence IIIFVS test procedure.

### **X2.3 Calibration**

X2.3.1 There is no stand-alone calibration system for the Sequence IIIFVS test procedure. Any stand that is considered calibrated for Sequence IIIF testing shall be considered calibrated for Sequence IIIFVS testing.

X2.3.2 No special calibration of stand instrumentation is required for Sequence IIIFVS testing.

X2.3.3 Apply Sequence IIIF percent viscosity increase Severity Adjustments (SA) to Sequence IIIFVS results.

X2.3.4 A Sequence IIIFVS test procedure start counts as one run against the Sequence IIIF calibration period in which it is run.

X2.4 *Test Procedure*- Conduct the Sequence IIIFVS test procedure in a calibrated IIIF test stand.

X2.5 *Determination of Result*- Determine the test result using Sections 12.6, 12.12 and 12.13.

X2.6 *Test Reporting*- Report the Sequence IIIFVS result using the standard report form set, available from the TMC.

### **X2.7 Precision & Bias**

X2.7.1 Test precision for the IIIFVS test procedure is assumed to be the same as that established for the Sequence IIIF test method, which is based on reference oil test results (for operationally valid tests) monitored by the TMC. The Sequence IIIF Surveillance Panel reviews the data semiannually; contact the TMC for current industry data.

X2.7.2 Bias for the IIIFVS test procedure is assumed to be the same as that determined by applying an accepted statistical technique to Sequence IIIF test method reference-oil test results. When a significant bias is determined, an SA is permitted for non-reference oil test results.

A4.1 Sequence III Test Fuel Analysis (Haltermann HF003 Test Fuel)

TEST	METHOD	UNITS	HALTERMANN HF003 Specs		
			MIN	TARGET	MAX
Distillation - IBP	ASTM D86	°C	23.9		35
5%		°C			
10%		°C	48.9		57.2
20%		°C			
30%		°C			
40%		°C			
50%		°C	93.3		110.0
60%		°C			
70%		°C			
80%		°C			
90%		°C	151.7		162.8
95%		°C			
Distillation - EP		°C			212.8
Recovery		vol %		Report	
Residue		vol %		Report	
Loss		vol %		Report	
API Gravity (@60°F/60°F)	ASTM D4052	°API	58.7		61.2
Density (@15°C)	ASTM D4052	kg/L	0.734		0.744
Reid Vapor Pressure	ASTM D5191	kPa	60.8		63.4
Reid Vapor Pressure	ASTM D323	kPa		Report	
Carbon	ASTM D3343	wt fraction		Report	
Carbon	ASTM E191	wt fraction		Report	
Hydrogen	ASTM E191	wt fraction		Report	
Hydrogen/Carbon ratio	ASTM E191	mole/mole		Report	
Oxygen	ASTM D4815	wt %			0.05
Sulfur ppm	ASTM D5453	mg/kg	3		15
Lead	ASTM D3237	mg/L			2.6
Phosphorus	ASTM D3231	mg/L			1.3
Composition, aromatics	ASTM D1319	vol %	26.0		32.5
Composition, olefins	ASTM D1319	vol %			10.0
Composition, saturates	ASTM D1319	vol %		Report	
Particulate matter	ASTM D5452	mg/L			1
Oxidation Stability	ASTM D525	minutes	240		
Copper Corrosion	ASTM D130				1
Gum content, washed	ASTM D381	mg/100mL			5
Fuel Economy Numerator/C Density	ASTM E191		2401		2441
C Factor	ASTM E191			Report	
Research Octane Number	ASTM D2699		96.0		
Motor Octane Number	ASTM D2700			Report	
Sensitivity			7.5		
Net Heating Value, btu/lb	ASTM D3338	J/kg		Report	
Net Heating Value, btu/lb	ASTM D240	J/kg		Report	
Color	VISUAL	1.75 ptb		Report	Red