



Test Monitoring Center

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Sequence VIE Information Letter 18-3
Sequence Number 7
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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: Sequence VI Surveillance Panel

SUBJECT: Editorial Corrections to Formulas in Annexes A15 and A16

Comments received as part of a recent information letter ballot of revisions to Test Method D8114 identified formulae which did not conform to the ASTM Form and Style Manual. As a result, this information letter is being generated to address the form and style nonconformities for equations A15.1 through A15.5 and A16.1 through A16.5. The text of the revisions is shown in the attachment.

These revisions are effective with the issuance of this letter.

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Attachment

c: http://www.astmtmc.cmu.edu/ftp/docs/gas/sequencevi/procedure_and_ils/VIE/il18-3.pdf

Distribution: Email

Revises D8114-18 as amended by Information Letters 18-1 and 18-2

$$BSFC = \left[\frac{(FF_{av})(9549.3)}{(C_{av})(M_{av})} \right] \quad (A15.1)$$

where:

FF_{av} is the average Fuel flow rate, kg/h,

C_{av} is the average speed, r/min, and

M_{av} is the average torque, N·m

A15.3 Average the *BSFC* measurements of the six steps to 5 decimal places using ASTM rounding.

A15.4 Multiply the average by the nominal power, stage length, and weight factor (below) for Stage 1 and record the answer to 6 decimal places. The unit for this number is kg of fuel consumed.

Percent FEI Test Oil Phase I =

$$\left[\frac{[(BLB2 \times 80\%) + (BLA \times 20\%) - TOI]}{[(BLB2 \times 80\%) + (BLA \times 20\%)]} \right] \times 100 \quad (A15.2)$$

where:

BLB2 is the total fuel consumed, Baseline oil before run 2, kg,

BLA is the total fuel consumed, Baseline oil After Test Oil, kg,

and

TOI is the total fuel consumed, Test Oil Phase I, kg

When *BLB3* is required, Percent FEI Test Oil Phase I =

$$\left[\frac{[(BLB3 \times 80\%) + (BLA \times 20\%) - TOI]}{[(BLB3 \times 80\%) + (BLA \times 20\%)]} \right] \times 100 \quad (A15.3)$$

where:

BLB3 is the total fuel consumed, Baseline oil before run 3, kg,

BLA is the total fuel consumed, Baseline oil After Test Oil, kg,

and

TOI is the total fuel consumed, Test Oil Phase I, kg

Percent FEI Test Oil Phase II =

$$\left[\frac{[(BLB2 \times 10\%) + (BLA \times 90\%) - TOII]}{[(BLB2 \times 10\%) + (BLA \times 90\%)]} \right] \times 100 \quad (A15.4)$$

Where:

BLB2 is the total fuel consumed, Baseline oil before run 2, kg,

BLA is the total fuel consumed, Baseline oil After Test Oil, kg,

and

TOII is the total fuel consumed, Test Oil Phase II, kg

When *BLB3* is required Percent FEI Test Oil Phase II =

$$\left[\frac{[(BLB3 \times 10\%) + (BLA \times 90\%) - TOII]}{[(BLB3 \times 10\%) + (BLA \times 90\%)]} \right] \times 100 \quad (A15.5)$$

Where:

BLB3 is the total fuel consumed, Baseline oil before run 2, kg,

BLA is the total fuel consumed, Baseline oil After Test Oil, kg,

and

TOII is the total fuel consumed, Test Oil Phase II, kg

$$\text{Adjusted FEI1} = FEI1 + \{0.000518 \times [EH_{EOT} - 675]\} \quad (A15.6)$$

Where:

EH_{EOT} = Engine Hours @ end-of-test

$$\text{Adjusted FEI2} = FEI2 + \{0.000518 \times [EH_{EOT} - 675]\} \quad (A15.7)$$

Where:

EH_{EOT} = Engine Hours @ end-of-test

$$BSFC = \left[\frac{(FF_{av})(9549.3)}{(C_{av})(M_{av})} \right] \quad (A16.1)$$

where:

FF_{av} is the average Fuel flow rate, kg/h,

C_{av} is the average speed, r/min, and

M_{av} is the average torque, N·m

$$\left[\frac{(\text{Unweighted } BLB1 - \text{Unweighted } BLB2)}{\text{Unweighted } BLB1} \right] \times 100 \quad (A16.2)$$

When *BLB3* is required then Percent Unweighted Baseline Shift *BLB2* to *BLB3* =

$$\left[\frac{(\text{Unweighted } BLB2 - \text{Unweighted } BLB3)}{\text{Unweighted } BLB2} \right] \times 100 \quad (A16.3)$$

$$\left[\frac{(\text{Unweighted } BLB2 - \text{Unweighted } BLA)}{\text{Unweighted } BLB2} \right] \times 100 \quad (A16.4)$$

When *BLB3* is required then Percent Unweighted Baseline Shift *BLB3* to *BLA* =

$$\left[\frac{(\text{Unweighted } BLB3 - \text{Unweighted } BLA)}{\text{Unweighted } BLB3} \right] \times 100 \quad (\text{A16.5})$$