A Program of ASTM International

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T-12 Information Letter 13-1
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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: Mack Mailing List

SUBJECT: UUXO Hardware Correction Factors

On July 15, 2013, via teleconference, the Mack Test Surveillance panel approved correction factors for the 'UUXO' hardware combination. These correction factors are in effect for all tests using 'UUXO' hardware. Accordingly, sections 11.6.2.1, 11.6.3.1, 11.6.4.4, 11.6.5.1, and 11.6.6.1 have been revised and are attached.

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Attachment
c: ftp://ftp.astmtmc.cmu.edu/docs/diesel/mack/procedure_and_ils/T-12/il13-1.pdf

Distribution: Email

(Revises D7422-13)

11.6.2.1 *Correction Factor for Average Top Ring Mass Loss*—For all tests using the STWN hardware combination that completed on or before May 18, 2011, multiply the average top ring mass loss from 11.6.2 by 0.95 to get the final average top ring mass loss result. For all tests using the STWN hardware combination that completed on or after May 19, 2011 and started before June 5, 2012, multiply the average top ring mass loss from 11.6.2 by 0.92 to get the final average top ring mass loss result. For all tests using the STWN hardware combination that started on or after June 5, 2012, multiply the average top ring mass loss from 11.6.2 by 0.705 to get the final average top ring mass loss result. For all tests using the UUXO hardware combination multiply the average top ring mass loss from 11.6.2 by 0.849 to get the final average top ring mass loss result. Report the data on the appropriate form.

11.6.3.1 *Correction Factor for Average Cylinder Liner Wear*—For all tests using Batch R piston ring and cylinder liner hardware, multiply the average cylinder liner wear from 11.6.3 by 0.58 to get the final average cylinder liner wear result. For all tests using the SWTN hardware combination that completed on or before May 18, 2011, multiply the average cylinder liner wear from 11.6.3 by 0.86 to get the final average cylinder liner wear result. For all tests using the STWN hardware combination that completed on or after May 19, 2011 and started before June 5, 2012, multiply the average cylinder liner wear from 11.6.3 by 0.83 to get the final average cylinder liner wear result. For all tests using the STWN hardware combination that started on or after June 5, 2012, multiply the average cylinder liner wear from 11.6.3 by 0.946 to get the final average cylinder liner wear result. For all tests using the UUXO hardware combination multiply the average cylinder liner wear from 11.6.3 by 0.566 to get the final average cylinder liner wear result. Report the data on the appropriate form.

11.6.4.4 *Correction Factor for ΔLead at EOT* —For all tests using the STWN hardware combination that completed on or before May 18, 2011, determine the final ΔLead at EOT result by applying the correction factor of 0.95 according to the following equation:

$$\Delta Lead_{Final} = \exp[\ (\ln(\Delta Lead) \times 0.95)\ ] \qquad (3)$$

Where:
$\Delta Lead_{Final}$ = final ΔLead at EOT
ΔLead = value calculated per 11.6.4.3, equation (2)

For all tests using the STWN hardware combination that completed on or after May 19, 2011 and started before June 5, 2012, determine the final ΔLead at EOT result by applying the correction factor of 0.92 according to the following equation:

$$\Delta Lead_{Final} = \exp[\ (\ln(\Delta Lead) \times 0.92)\ ] \qquad (4)$$

Where:
$\Delta Lead_{Final}$ = final ΔLead at EOT
ΔLead = value calculated per 11.6.4.3, equation (2)

For all tests using the STWN hardware combination that started on or after June 5, 2012, determine the final ΔLead at EOT result by applying the correction factor of 0.923 according to the following equation:

$$\Delta Lead_{Final} = \exp[\ (\ln(\Delta Lead) \times 0.923)\ ] \qquad (5)$$

Where:
$\Delta Lead_{Final}$ = final ΔLead at EOT
ΔLead = value calculated per 11.6.4.3, equation (2)

For all tests using the UUXO hardware combination determine the final ΔLead at EOT result by applying the correction factor of 0.797 according to the following equation:

$$\Delta Lead_{Final} = \exp[(\ln(\Delta Lead) \times 0.797)] \quad (6)$$

Where:
$\Delta Lead_{Final}$ = final ΔLead at EOT
ΔLead = value calculated per 11.6.4.3, equation (2)

Report the data on the appropriate form.

11.6.5.1 *Correction Factor for ΔLead (250 to 300) h* —For all tests using the STWN hardware combination that completed on or before May 18, 2011, determine the final ΔLead (250 to 300) h result by applying the correction factor of 1.03 according to the following equation:

$$\Delta Lead\ (250\text{-}300)_{Final} = \exp[(\ln(\Delta Lead\ 250\text{-}300) \times 1.03)] \quad (7)$$

Where:
$\Delta Lead\ (250\text{-}300)_{Final}$ = final ΔLead (250 to 300) h
ΔLead (250-300) = value calculated per 11.6.5

For all tests using the STWN hardware combination that completed on or after May 19, 2011 and started before June 5, 2012, determine the final ΔLead (250 to 300) h result by applying the correction factor of 0.93 according to the following equation:

$$\Delta Lead\ (250\text{-}300)_{Final} = \exp[(\ln(\Delta Lead\ 250\text{-}300) \times 0.93)] \quad (8)$$

Where:
$\Delta Lead\ (250\text{-}300)_{Final}$ = final ΔLead (250 to 300) h
ΔLead (250-300) = value calculated per 11.6.5

For all tests using the STWN hardware combination that started on or after June 5, 2012, determine the final ΔLead (250 to 300) h result by applying the correction factor of 0.956 according to the following equation:

$$\Delta Lead\ (250\text{-}300)_{Final} = \exp[(\ln(\Delta Lead\ 250\text{-}300) \times 0.956)] \quad (9)$$

Where:
$\Delta Lead\ (250\text{-}300)_{Final}$ = final ΔLead (250 to 300) h
ΔLead (250-300) = value calculated per 11.6.5

For all tests using the UUXO hardware combination determine the final ΔLead (250 to 300) h result by applying the correction factor of 0.700 according to the following equation:

$$\Delta Lead\ (250\text{-}300)_{Final} = \exp[(\ln(\Delta Lead\ 250\text{-}300) \times 0.700)] \quad (10)$$

Where:
$\Delta Lead\ (250\text{-}300)_{Final}$ = final ΔLead (250 to 300) h
ΔLead (250-300) = value calculated per 11.6.5

Report the data on the appropriate form.

11.6.6.1 *Correction Factor for Oil Consumption*—For all tests using the STWN hardware combination that completed on or before May 18, 2011, determine the final oil consumption result by applying the correction factor of 0.96 according to the following equation:

$$OC = \exp[\ (\ln(OC_{100\text{-}300}) \times 0.96)\ ] \qquad (11)$$

Where:
OC = final oil consumption
$OC_{100\text{-}300}$ = average oil consumption from 11.6.6

For all tests using the STWN hardware combination that completed on or after May 19, 2011 and started before June 5, 2012, determine the final oil consumption result by applying the correction factor of 0.95 according to the following equation:

$$OC = \exp[\ (\ln(OC_{100\text{-}300}) \times 0.95)\ ] \qquad (12)$$

Where:
OC = final oil consumption
$OC_{100\text{-}300}$ = average oil consumption from 11.6.6

Report the data on the appropriate form.

For all tests using the STWN hardware combination that started on or after June 5, 2012, determine the final oil consumption result by applying the correction factor of 0.961 according to the following equation:

$$OC = \exp[\ (\ln(OC_{100\text{-}300}) \times 0.961)\ ] \qquad (13)$$

Where:
OC = final oil consumption
$OC_{100\text{-}300}$ = average oil consumption from 11.6.6

Report the data on the appropriate form.

For all tests using the UUXO hardware combination determine the final oil consumption result by applying the correction factor of 0.916 according to the following equation:

$$OC = \exp[\ (\ln(OC_{100\text{-}300}) \times 0.916)\ ] \qquad (14)$$

Where:
OC = final oil consumption
$OC_{100\text{-}300}$ = average oil consumption from 11.6.6

Report the data on the appropriate form.