



## Test Monitoring Center

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T-12 Information Letter 21-1  
Sequence No. 22  
September 30, 2021  
**Corrected**

*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: WXYPD Hardware Correction Factors Update

On September 9, 2021 via teleconference, the Mack Test Surveillance panel approved correction factors for average liner wear and oil consumption 'WXYPF4945E' hardware combination. Accordingly, sections 11.6.2.1, 11.6.3.1, 11.6.4.3, 11.6.4.4, 11.6.5.1 and 11.6.6.1 have been revised and are attached.

The revised text of the relevant sections of D7422-19 are attached. This change is effective immediately.

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ASTM Test Monitoring Center

Attachment

c: [http://www.astmtmc.cmu.edu/ftp/docs/diesel/mack/procedure\\_and\\_ils//T-12/il21-1-T12.pdf](http://www.astmtmc.cmu.edu/ftp/docs/diesel/mack/procedure_and_ils//T-12/il21-1-T12.pdf)

Distribution: Email

## Ballot proposal for revision of D7422-19

Text added to the standard is shown in red and text deleted is shown in blue and with strikethrough.

*Revise section 11.6.2.1 as follows:*

- (8) For all tests using ~~the~~ VXYPD and subsequent hardware combinations multiply the average top ring mass loss from 11.6.2 by 0.846 to get the final average top ring mass loss result.  
Report the data on the appropriate form.

*Revise section 11.6.3.1 as follows and renumber all equations accordingly:*

- (9) For all tests using the WXYPF4945E hardware combination determine the final average liner wear result by applying the correction factor of 0.761 according to the following equation:

$$ALW_{\text{Final}} = e^{0.761 \ln ALW} \quad (3)$$

where:

$ALW_{\text{Final}}$  = final Average Liner Wear,  $\mu\text{m}$

$ALW$  = value calculated per 11.6.3  $\mu\text{m}$

Report the data on the appropriate form.

*Revise section 11.6.4.4 as follows:*

- (8) For all tests run on VXYPD and subsequent hardware combinations, determine the final  $\Delta\text{Lead}$  at EOT result by applying the correction factor calculated according to the following equations:

If  $OC_{100-300} > 65.0$  g/h

$$\Delta\text{Lead}_{\text{Final}} = e^{(0.03234(65.0 - OC_{100-300}) + \ln \Delta\text{Lead})} \quad (12)$$

If  $OC_{100-300} \leq 65.0$  g/h

$$\Delta\text{Lead}_{\text{Final}} = \Delta\text{Lead} \quad (13)$$

where:

$\Delta\text{Lead}_{\text{Final}}$  = final  $\Delta\text{Lead}$  at EOT, ppm

$\Delta\text{Lead}$  = value calculated per Eq 3 (11.6.4.3) ppm

$OC_{100-300}$  = average oil consumption calculated in 11.6.6, g/h

Report the data on the appropriate form.

*Revise section 11.6.5.1 as follows:*

- (8) For all tests run on VXYPD **and subsequent hardware combinations**, determine the final  $\Delta Lead$  (250 to 300) h result by applying the correction factor calculated according to the following equations:

If  $OC_{100-300} > 65.0$  g/h

$$\Delta Lead(250-300)_{Final} = e^{(0.04089(65.0-OC_{100-300}) + \ln \Delta Lead_{250-300})} \quad (22)$$

If  $OC_{100-300} \leq 65.0$  g/h

$$\Delta Lead(250-300)_{Final} = \Delta Lead(250-300) \quad (23)$$

where:

$\Delta Lead(250-300)_{Final}$  = final  $\Delta Lead$  (250 to 300) h, ppm

$\Delta Lead(250-300)$  = value calculated per 11.6.5, ppm

$OC_{100-300}$  = average oil consumption calculated from 11.6.6, g/h

Report the data on the appropriate form.

*Revise section 11.6.6.1 as follows and renumber all equations accordingly:*

- (9) For all tests using the WXYPF4945E hardware combination determine the final oil consumption result by applying the correction factor of 0.907 according to the following equation:

$$OC = e^{0.907 \ln OC_{100-300}} \quad (32)$$

where:

$OC$  = final oil consumption, g/h

$OC_{100-300}$  = average oil consumption from 11.6.6, g/h

Report the data on the appropriate form.