



Test Monitoring Center

@ Carnegie Mellon University
6555 Penn Avenue, Pittsburgh, PA 15206, USA

<http://astmtmc.cmu.edu>
412-365-1000

C13 Information Letter 16-1
Sequence No. 8
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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: C13 Mailing List

SUBJECT: Oil Consumption Calculation Clarification

The current C13 procedure is unclear on how to handle the oil consumption regression if there is a shutdown. The procedure directs to not include 4 hours of values after a shutdown, but does not include instructions about using weighted segments similar to what is done in other procedures.

During the May 4th Surveillance Panel meeting it was decided to add some additional detail to the C13 procedure to document more clearly the method used to calculate oil consumption in case there is a shutdown during the test. The change to the procedure is consistent with how all labs were performing the calculation before. Section 11.4 has been updated is attached.

Hind Abi-Akar

Hind Abi-Akar
Project Engineer
Caterpillar, Inc

Frank M. Farber
Director
ASTM Test Monitoring Center

Attachment

c: ftp://ftp.astmtmc.cmu.edu/docs/diesel/cat_c13/procedure_and_ils/il16-01_C13.pdf

Distribution: Email

(Revises Test Method D7549-16)

11.4 Oil Consumption—Using the 6 min oil mass measurements, determine the oil consumption in grams per hour by performing linear regression on the data for each of the ten 50 h periods. The oil consumption for a 50 h period is the slope of the regression line for that same period.

11.4.1 - Exclude the first 4 h of oil mass data following any shutdowns or oil additions from the regression to account for the stabilization of the oil scale.

11.4.2 - If any shutdowns occur during a 50 h period, the result for that 50 h period shall be the weighted average of all the regression slopes that apply to that period. The weighting of a regression slope is the length of run time associated with it. For example, a test experiences a shutdown at test hour 20. The slope for the first period of 16 h (hour 4 to 20) is 14.6 g/h, and the slope for the second period of 26 h (hour 24 to 50) is 28.6 g/h. The weighted average is calculated as follows:

$$OC_{weighted\ average} = \frac{(14.6\text{ g/h})(16\text{ h}) + (28.6\text{ g/h})(26\text{ h})}{(16\text{ h} + 26\text{ h})}$$