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T-8 INFORMATION LETTER 05-1
Sequence No. 13

January 17, 2005

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: Cleaning Solvent
Test Fuel
New Stand Calibration
Donated Reference Oil Programs and Calibration Periods
Precision Estimate

Cleaning Solvent

On the December 2, 2004 conference call, the Mack Test Surveillance Panel agreed to change the cleaning material specification listed in Section 7.4 of Test Method D 5967. Since some suppliers of solvent may not provide documentation to verify that degreasing solvent used for this application meets all the parameters in Standard Specification D 235 for Type II Class C, the panel elected to require that the solvent meet D 235 Type II Class C specifications for Aromatic Content, Color and Flash Point. Test laboratories are also required to obtain a Certificate of Analysis for each batch of solvent obtained. Revised Sections 7.4 and A5.5 are attached and are effective the date of this information letter.

Test Fuel

On the December 15, 2004 conference call, the Mack Test Surveillance Panel changed the test fuel from Low Sulfur Reference Diesel Fuel to PC-9 Reference Diesel Fuel. Revised Table 1 is attached as are additions to the Referenced Documents list. This change goes into effect with all reference oil tests that start on or after December 16, 2004.

New Stand Calibration

On the December 15, 2004 conference call, the Mack Test Surveillance Panel changed the new stand requirements by eliminating the two test requirement and replacing it with the 'Reduced K' protocol, which is detailed in the LTMS manual. Revised Section 9.4.2 is attached. This change is effective with all reference oil tests that complete on or after December 16, 2004.

Donated Reference Oil Programs and Calibration Period Adjustments

On November 8, 2004, ASTM Subcommittee D02.B approved a recommendation from the Test Monitoring Board to revise test methods monitored by the Test Monitoring Center regarding the shortening or lengthening of reference oil calibration periods and surveillance panels' use of donated reference oil test programs. This revision provides consistent language for the procedures and clarification to the end users. Accordingly, Section 9.4.4 has been deleted, and new Sections 9.9 and 9.10 (and subsections) have been added and are attached.

Precision Estimate

The date of the precision estimate has been updated. Accordingly, Section 13.1.3 has been revised and is attached.

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Attachment

c: ftp://ftp.astmtmc.cmu.edu/docs/diesel/mack/procedure_and_ils/t8/il05-1.pdf

Distribution: Email

(Revises Test Method D 5967-03 as modified by Information Letter 03-1)

Add the following two ASTM Test Methods to the Referenced Documents listed in Section 2.1

D 664 Test Method for Acid Number of Petroleum Products by Potentiometric Titration[3]

D 2274 Test Method for Oxidation Stability of Distillate Fuel Oil (Accelerated Method)[3]

TABLE 1 PC-9 Reference Diesel Fuel

PROPERTY	TEST METHOD	MINIMUM[A]		MAXIMUM[A]
Sulfur, mass %	D 2622	0.04		0.05
Gravity, °API	D 287 or D 4052	34.5		36.5 (37)
Hydrocarbon Composition, % Vol.				
Aromatics	D 1319 (FIA)	(27) 28		33
Olefin	D 1319 (FIA)		Report	
Cetane Number	D 613	(40) 42		48
Cetane Index	D 4737 & D 976		Report	
Copper Strip Corrosion	D 130			1
Flash Point, °C	D 93	54		
Pour Point, °C	D 97			-18
Cloud Point, °C	D 2500		Report	
Carbon Residue on 10% Residuum, mass %	D 524 (10% Bottoms)			0.35
Water & Sediment, Vol. %	D 2709			0.05
Viscosity, cSt @ 40°C	D 445	2.4		3.0
Ash, mass %	D 482			0.005
Total Acid Number	D 664			0.05
Strong Acid Number	D 664			0.00
Accelerated Stability	D 2274		Report	
Distillation, °C	D 86			
IBP			Report	
10% Vol.			Report	
50% Vol.			Report	
90% Vol.		282		338
EP			Report	

***A*: Minimum/Maximum numbers in parentheses are EPA Certification Fuel Specifications.**

7.4 *Cleaning Materials*— For cleaning parts, use a solvent meeting Specification D 235 for Mineral Spirits, Type II, Class C for Aromatic Content (0-2% vol), Flash Point (142°F/61°C, min) and Color (not darker than +25 on Saybolt Scale or 25 on Pt-Co Scale). Obtain a Certificate of Analysis for each batch of solvent from the supplier. (**Warning—**Combustible. Health Hazard. Use adequate safety precautions with all solvents and cleaners.)

9.4.2 Calibrate a new test stand in accordance with the Lubricant Test Monitoring System (LTMS)[13]. Generally, new test stands require two successful calibration tests. However, provisions do exist within the LTMS to allow new stands to calibrate with one test, based upon previous test experience within the laboratory.

Delete Section 9.4.4

Insert Sections 9.9 and 9.10 (and subsections) shown below.

9.9 *Donated Reference Oil Test Programs* - The surveillance panel is charged with maintaining effective reference oil test severity and precision monitoring. During times of new parts introductions, new or re-blended reference oil additions, and procedural revisions, it may be necessary to evaluate the possible effects on severity and precision levels. The surveillance panel may choose to conduct a program of donated reference oil tests in those laboratories participating in the monitoring system, in order to quantify the effect of a particular change on severity and precision. Typically, the surveillance panel requests its panel members to volunteer enough reference oil test results to create a robust data set. Broad laboratory participation is needed to provide a representative sampling of the industry. To ensure the quality of the data obtained, donated tests are conducted on calibrated test stands. The surveillance panel shall arrange an appropriate number of donated tests and ensure completion of the test program in a timely manner.

9.10 Adjustments to Reference Oil Calibration Periods

9.10.1 *Procedural Deviations* – On occasions when a laboratory becomes aware of a significant deviation from the test method, such as might arise during an in-house review or a TMC inspection, the laboratory and the TMC shall agree on an appropriate course of action to remedy the deviation. This action may include the shortening of existing reference oil calibration periods.

9.10.2 *Parts and Fuel Shortages* - Under special circumstances, such as industry-wide parts or fuel shortages, the surveillance panel may direct the TMC to extend the time intervals between reference oil tests. These extensions shall not exceed one regular calibration period.

9.10.3 *Reference Oil Test Data Flow* - To ensure continuous severity and precision monitoring, calibration tests are conducted periodically throughout the year. There may be occasions when laboratories conduct a large portion of calibration tests in a short period of time. This could result in an unacceptably large time frame when very few calibration tests are conducted. The TMC can shorten or extend calibration periods as needed to provide a consistent flow of reference oil test data. Adjustments to calibration periods are made such that laboratories incur no net loss (or gain) in calibration status.

9.10.4 *Special Use of the Reference Oil Calibration System* - The surveillance panel has the option to use the reference oil system to evaluate changes that have potential impact on test severity and precision. This option is only taken when a program of donated tests is not feasible. The surveillance panel and the TMC shall develop a detailed plan for the test program. This plan requires all reference oil tests in the program to be completed as close to the same time as possible, so that no laboratory/stand calibration is left in an excessively long pending status. In order to maintain the integrity of the reference oil monitoring system, each reference oil test is conducted so as to be interpretable for stand calibration. To facilitate the required test scheduling, the surveillance panel may direct the TMC to lengthen and shorten reference oil calibration periods within laboratories such that the laboratories incur no net loss (or gain) in calibration status.

13.1.3 The test precision as of December 1, 2004 is shown in Table 4.

A5.5 Cleaning solvent that meets the requirements of Section 7.4 is available from local petroleum product suppliers.