



## Test Monitoring Center

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L-60-1 Information Letter 05-1  
Sequence Number 29  
February 25, 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: L-60-1 Mailing List

SUBJECT: 1. Revised Solvent Specification  
2. Carbon Varnish Rating Procedure  
3. Donated Reference Oil Test Programs/Calibration Period Length Adjustment

1. At the February 2, 2005 L-60-1 Surveillance Panel meeting, the panel approved a motion to revise the cleaning solvent specification. The solvent shall meet the Aromatic Content, Flash Point, and Color specifications for Type II, Class C mineral spirits listed in Specification D235. Test laboratories are also required to obtain a Certificate of Analysis for each batch of solvent. A revised Section 7.5 of Test Method D5704 is attached. This change is effective the date of this information letter.

2. At the February 2, 2005 L-60-1 Surveillance Panel meeting, the panel approved a motion to accept the Gear Oil Rater Task Force rating change recommendations for carbon varnish. A revised Section 11.4.2 and a new Annex A10 are attached. This rating change is to be implemented with the next reference oil test in each laboratory.

3. 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. New Sections 9.3, 9.3.1, 9.3.2, 9.3.3, 9.3.4, and 9.4 are attached. Old Section 9.3 has been renumbered new Section 9.5, old Section 9.4 has been renumbered to new Section 9.6, and old Section 9.5 has been renumbered to new Section 9.7.

Chris Schenkenberger  
Chairman  
L-60-1 Surveillance Panel

John L. Zalar  
Administrator  
ASTM Test Monitoring Center

Attachment

c: [ftp://ftp.astmtmc.cmu.edu/docs/gear/l601/procedure\\_and\\_ils/il05-1.pdf](ftp://ftp.astmtmc.cmu.edu/docs/gear/l601/procedure_and_ils/il05-1.pdf)

Distribution: Email

(Revises Test Method D 5704-04a as amended by Information Letter 04-2)

7.5 *Cleaning Solvent*, Solvent meeting ASTM D 235 – Type II, Class C requirements 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) may be used. Obtain a Certificate of Analysis for each batch of solvent from the supplier.

9.3 *Reference oil test frequency*--Reference oil test frequency may be adjusted due to the following reasons:

9.3.1 *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.

9.3.2 *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.

9.3.3 *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.

9.3.4 *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.

9.4 *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.

**Renumber old 9.3 to new 9.5**

**Renumber old 9.4 to new 9.6**

**Renumber old 9.5 to new 9.7**

11.4.2 Using the current CRC Manual No. 20 as a guide, subdivide the ratable area on each gear face into percentage areas of different carbon depths and varnish intensities.<sup>26</sup> Use the Varnish Rating Procedure in Annex A10 and the CRC Rust/Varnish/Lacquer Rating Scale for Non-Rubbing Parts in CRC Manual No. 20 to determine varnish rating factors for each subdivision containing varnish deposits.

### **A10. L-60-1 Varnish Rating Procedure**

A10.1 Hold the gears at the gear teeth lands to avoid any contact of the rated area. If gloves are needed, only use skin tone colored gloves to hold the gears.

A10.2 Use a cool white type fluorescent 4500° K color temperature light with a minimum illumination level of 200 foot-candles for rating the gears.

A10.3 Adjust the fluorescent rating light to a horizontal position and at a comfortable height for the rater. Project the light downward.

A10.4 Wipe a  $\frac{3}{4}$  in. wide area across the diameter of the face of the gear along the keyway. Wipe the gear five times in the same direction using lint-free material.

A10.5 Hold the gear center bore approximately 4 in. directly beneath the fluorescent rating light.

A10.6 Position the gear such that the keyway and the  $\frac{3}{4}$  in. wiped area is in a vertical position (12:00 and 6:00).

A10.7 Tilt the gear towards the rater approximately 45° from horizontal.

A10.8 Rate the top half of the gear in the  $\frac{3}{4}$  in. wiped area for a rated area of 50%, then rotate the gear 180° and rate the other half of the gear in the  $\frac{3}{4}$  in. wiped area for a total of 100% of the rated area. Do not rate the gear teeth and the spacer bushing contact area.

A10.9 Use any of the three CRC Rust/Varnish/Lacquer Rating Scales (A,B, or C) for Non-Rubbing Parts in CRC Manual No. 20 to determine the varnish rating.

A10.10 Do not use a new gear or the washer nut area of the test gear as a 10.0 rating reference point.

A10.11 Repeat steps A10.4 through A10.10 for each gear (large and small) and gear face (front and back).