ASTM Test Monitoring Center

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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: L-60-1 Mailing List

SUBJECT:
1. Revised Gear Case Cleaning Procedure
2. Revised Carbon Depth Rating Guidelines
3. Editorial Changes to Precision Statement

1. At the January 28, 2004 L-60-1 Surveillance Panel meeting, the panel approved a motion to revise the gear case cleaning procedure allowing the use of steel brushes. A revised Section 8.3 of Test Method D5704 is attached.

2. At the January 28, 2004 L-60-1 Surveillance Panel meeting, the panel approved a motion to revise carbon depth rating guidelines. A revised Section 11.4.3 of Test Method D5704 is attached. Table 1 has been deleted and Tables 2 and 3 have been renumbered accordingly.

3. Subcommittee B Sections 9 and 10 have requested editorial changes to the precision statement. A new footnote has been added to Table 2. Section 16.1.1 has been revised and a new note has been added.

These changes are effective 30 days after the issuance date of this information letter.

Chris Schenkenberger
Chairman
L-60-1 Surveillance Panel

John L. Zalar
Administrator
ASTM Test Monitoring Center

Attachment

c: ftp://ftp.astmtmc.cmu.edu/docs/gears/l601/procedure_and_ils/il04-1.pdf

Distribution: Email

8.3 *Gear Case*—Using the organic cleaning agent (see 7.3), clean the gear case, vent tube, vent tube baffle, retainer bushings, seal sleeves, case cover plate, seal plate, nuts, studs, flat washers, baffle plate, spacer bushings, bearing bushings and clamp, keys, shaft ends, shaft nuts, and catalysts. Nylon bristle brushes, steel brushes, and long pipe cleaners can be used to aid cleaning. Do not use any copper or copper containing brushes or material as a cleaning medium. Following the cleaning procedure with an organic cleaning agent, wash parts thoroughly with cleaning solvent (see 7.5), and finally with a volatile hydrocarbon solvent (see 7.6 or 7.7), to facilitate air drying. Allow parts to air dry.

11.4.3 Rate carbon from 0.00 (heavy carbon) to 0.99 (trace carbon) using an expanded rating scale. Determine the carbon rating factors by referring to the ASTM L-60-1 Rating Aid in CRC Manual 20. Calculate the carbon merit rating by multiplying the rating factor by the percentage area. Report this rating to two decimal places.

Delete Table 1

Renumber Table 2 and 3 to Table 1 and 2 respectively.

Change Table 2 reference to Table 1 in Sections 14.5 and 14.5.1.

Change Table 3 reference to Table 2 in Sections 16.1, 16.1.1, and 16.1.2.

TABLE 2 Reference Oil Test Precision Data—Transformed Units

NOTE—These statistics are based on results obtained on Test Monitoring Center Reference Oils 131–3, 131–4, 143, and 148.

where:

$S_{i.p.}$	=	intermediate precision standard deviation,
i.p.	=	intermediate precision,
S_R	=	reproducibility standard deviation, and
R	=	reproducibility.

Variable	$S_{i.p.}$	i.p.	S_R	R
Viscosity increase[A], ln (% Increase)	0.148	0.414	0.150	0.420
Pentane insolubles[A], ln (% of wt)	0.396	1.109	0.419	1.173
Toluene insolubles[A], ln (% wt)	0.512	1.434	0.516	1.445
Average sludge[A], -ln (10-merit)	0.255	0.714	0.270	0.756
Average carbon varnish[A], ln (merit/(10-merit)	0.360	1.008	0.384	1.075

[A]This parameter is transformed using a natural log. When comparing two test results on this parameter, first apply this transformation to each test result. Compare the absolute difference between the transformed results with the appropriate (intermediate precision or reproducibility) precision limit.

16.1.1 *Intermediate Precision Conditions* — Conditions where test results are obtained with the same test method using the same test oil, with changing conditions such as operators, measuring equipment, test stands, test engines, and time.

Note 4—Intermediate precision is the appropriate term for this test method rather than repeatability which defines more rigorous within-laboratory conditions.

16.1.1.1 *Intermediate Precision Limit (i.p.)*—The difference between two results obtained under intermediate precision conditions that would, in the long run, in the normal and correct conduct of the test method, exceed the values shown in Table 2 in only one case in twenty.

16.1.2 *Reproducibility Conditions* — Conditions where test results are obtained with the same test method using the same test oil in different laboratories with different operators using different equipment.

16.1.2.1 *Reproducibility Limit (R)*—The difference between two results obtained under reproducibility conditions that would, in the long run, in the normal and correct conduct of the test method, exceed the values shown in Table 2 in only one case in twenty.