



Test Monitoring Center

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L-37 Information Letter 13-4
Sequence Number 48
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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-37 Surveillance Panel

SUBJECT: 1. Revision to correction factor for use with non-lubrited V1L528 hardware under Canadian test conditions
2. Editorial Revision - Changing Spitting Terminology to Pitting/Spalling

At its May 15, 2013 meeting, the L-37 Surveillance Panel revised the correction factor for use with non-lubrited V1L528 hardware under Canadian test conditions from 0.7885 to 0.7566 in order to ensure that tests with a rating of 4 merits will not be corrected to a final value that can be rounded up to a passing value of 8 merits. Section A6.3.4.3 of D 6121-12 has been updated. This change is in effect for all tests completed on or after May 15, 2013.

Editorial review of Information Letter 13-1 and the test method indicates that the term “spitting” even though commonly recognized by the panel should be replaced with the ASTM Rating Distress Manual 21 terminology of “pitting/spalling”. Sections 12.2.1, 12.2.2.1, Table 1, 12.3.1, 12.3.2, 12.3.4, 12.3.5, A6.3.4.2, A6.3.4.3 and A6.3.4.4 have been revised accordingly and are attached.

Chris Prengaman
Chairman
L-37 Surveillance Panel

Frank Farber
Director
ASTM Test Monitoring Center

Attachment

cc: ftp://ftp.astmtmc.cmu.edu/docs/gear/137/procedure_and_ils/il13-4.pdf

Distribution: Email

12.2.1 Examine the tooth surfaces on the drive side of the pinion and ring gear for the following distresses in accordance with ASTM Distress Rating Manual 21 and Annex A9: burnishing, wear, pitting/spalling, ridging, rippling, scoring, discoloration, corrosion, and deposits. Rate the distress types of wear, rippling, and ridging using the ASTM Photographs for Gear Distress. The photographs shall be an ASTM item TMCGEARDISTRESS2010PR, issued on or after November 9, 2010.^{16,17}

12.2.2.1 The pitting/spalling distress type is assigned a numerical value shown separately in Table A9.1.

Table 1 Transformations

Parameter	Transformation
Ridging	$-\ln(10.5 - \text{merit})$
Rippling	$-\ln(10.5 - \text{merit})$
Pitting/Spalling	$-\ln(10.5 - \text{merit})$
Wear	none

12.3.1 *C1L426/P4L415A nonlubrited gear set*—When using the nonlubrited hardware gear set C1L426/P4L415A, determine a numerical pitting/spalling value, excluding any pitting/spalling value between 9.3 and 9.9, inclusively, in the wear step area of the drive side pinion tooth, as per Annex A10.

12.3.2 *V1L303/P4L514A nonlubrited gear set*—When using the nonlubrited hardware gear set V1L303/P4L514A, determine a numerical pitting/spalling value, excluding any pitting/spalling value between 3.0 and 9.9, inclusive, in the wear step area of the drive side pinion tooth, as per Annex A10.

12.3.4 *V1L528/P4T883A nonlubrited gear set*—When using the nonlubrited hardware gear set V1L528/P4T883A for non-reference oil tests, add 0.3365 to the transformed test result of both pinion ridging and pinion rippling. Rate each pinion tooth for pitting/spalling and report the 4th lowest tooth rating for the final pinion pitting/spalling test result.

12.3.5 *V1L528/P4T883A lubrited gear set*—When using the lubrited hardware gear set V1L528/P4T883A for non-reference oil tests, add 0.3365 to the transformed pinion ridging test result. Rate each pinion tooth for pitting/spalling and report the 2nd lowest tooth rating for the final pinion pitting/spalling test result.

A6.3.4.2 *L247/T758A lubrited gear set*—When using the lubrited hardware gear set L247/T758A for non-reference oil tests, add 0.5878 to the transformed pinion ridging test result and add 0.7340 to the transformed pinion pitting/spalling test result.

A6.3.4.3 V1L528/P4T883A nonlubrited gear set—When using the nonlubrited hardware gear set V1L528/P4T883A for non-reference oil tests add 0.7566 to the transformed pinion rippling test result. Rate each pinion tooth for pitting/spalling and report the 4th lowest tooth rating for the final pinion pitting/spalling test result.

A6.3.4.4 *V1L528/P4T883A lubrited gear set*— When using the lubrited hardware gear set V1L528/P4T883A for non-reference oil tests, add 0.5878 to the transformed test result of both pinion ridging and pinion rippling. Rate each pinion tooth for pitting/spalling and report the 2nd lowest tooth rating for the final pinion pitting/spalling test result. Add 0.3365 to the transformed ring ridging test result.