A Program of ASTM International

Test Monitoring Center

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L-37 Information Letter 09-1
Sequence Number 38
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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 Mailing List

SUBJECT:
1. Revisions to Preparation of Apparatus Procedure
2. Revision to Percent Deviation Calculation
3. Chipping Definition

1. The L-37 Surveillance Panel approved revisions to the preparation of apparatus procedure via email ballot on February 6, 2009. Old Sections 8.2.5, 8.2.6, 8.2.7, and 8.4 of Test Method D 6121 have been deleted. New Sections 8.2.5, 8.2.6, and 8.2.7 are attached.

2. At the February 11, 2009 L-37 Surveillance Panel meeting, the panel revised the procedure for calculating percent deviation. A revised Annex A8.3.2 of Test Method D 6121 is attached.

3. At the February 19, 2009 L-37 Teleconference Surveillance Panel meeting, the panel approved a definition for chipping. A new Section 3.1.15 and Annex A9.3.7 of Test Method D 6121 are attached.

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

Galen Greene
Chairman
L-37 Surveillance Panel

John L. Zalar
Administrator
ASTM Test Monitoring Center

Attachment

c: ftp://ftp.astmtmc.cmu.edu/docs/gear/l-37/procedure_and_ils/il09-1.pdf

Distribution: Electronic Mail

(Revises Test Method D 6121-08b)

Delete Old 8.2.5

New 8.2.5 Install axle shafts in test unit.

Delete Old 8.2.6

New 8.2.6 Lubricate the carrier bearing, pinion bearings, differential gears, and the ring and pinion gears using 6.0 ± 0.1 pt (2.8 ± 0.05L) of test lubricant.

Delete Old 8.2.7

New 8.2.7 Install the axle cover plate with gasket (apply sealant, if needed). Do not drain the oil and recharge the test axle once the test oil has been charged to the axle.

Delete 8.4

A8.3.2 Calculate the percent deviation as follows:

$$\text{percent out} = \sum_{i=1}^{n} \left(\frac{Mi}{0.5R} \times \frac{Ti}{D} \right) \times 100 \qquad \text{(A8.1)}$$

where:

Mi	=	magnitude of test parameter out from specification limit at occurrence *i*,
R	=	test parameter specification range,
Ti	=	length of time the test parameter was outside of specification range at occurrence *i*, (*Ti* is assumed to be no less than the recorded data-acquisition frequency unless supplemental readings are documented.), and
D	=	test or test phase duration in same units as *Ti*.

3.1.15 *Chipping, n – Ring and pinion gears* - A condition caused in the manufacturing process in which a small irregular cavity is present only at the face/crown edge interface. The edge-chipping phenomenon occurs when sufficient fatigue cycles accumulate after tooth surface wear relieves the compressive residual stress on the tooth profile side of the profile-to-topland interface. Chipping within 1 mm of the face/crown edge interface is to be called chipping, not pitting/spalling. **CRC Rating Manual No. 21**

A9.3.7 *Chipping* — Note chipping observations in the comment section of the test report.