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L-33-1 Information Letter 26-1
Sequence Number 37
October 30, 2026

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-33-1 Surveillance Panel

SUBJECT: ASTM D7038 (L33-1)

During the in-person meeting held on February 11, 2026, the L-33-1 Surveillance Panel agreed to several modifications to the procedure. These include;

1. Revised Section 6.2.6 to incorporate the addition of a second cooling fan during the Motoring Phase of the procedure.
2. Removal of a sentence in Section 9.2.2.1 that referenced GM, GMC, and Chevrolet service manuals, as it is no longer applicable.
3. Removal of a sentence in Section 9.2.2.4 that details the gasket positioning orientation due to a change in the 31XX axle batch that eliminated the hook in the gasket.
4. Modification of Table A6.1 to incorporate temperature and fan speed parameters as they are both critical parameters.
5. Modification of section A6.2 to address storage downtime limits as discussed during recent LRI meetings.
6. Modification of section A6.3 to include the addition of the oven fan speed as it is a critical parameter.
7. Modification of section A7.8 to specify use of the cover plate rating template which has been approved by the L-33-1 Surveillance Panel.

Anthony Lange
Chairman
L-33-1 Surveillance Panel

Jeffrey A. Clark
Executive Director
ASTM Test Monitoring Center

Attachment

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(Revises Test Method D 7038-25)

(1) ***Revise Section 6.2.6, Temperature Control System, Motoring phase -***

During the motoring phase, the bulk oil temperature is sensed by a resistance temperature device (RTD) or thermocouple (E,J, or K type). The controller switches on a pair of 250W lamps or cooling fan, or both, that are directed toward the differential as needed to control bulk oil temperature at 180 °F 6 1 °F (82 °C 6 0.6 °C). Up to two ~~A~~ household-type electric fans having 12.0 in. (310 mm) diameter blades has been shown to provide acceptable cooling capability. Fig. A5.3 shows an example of the location of the heat lamp pair and the cooling fan. Fig. A5.4 shows the location of the temperature sensor in the differential
housing.

(2) Revise Section 9.2.2.1, Drive Pinion Shaft Installation -

Assemble the drive pinion shaft with its bearings and install it in the housing following the guidelines in **9.2.2**. ~~A late model GM, GMC, or Chevrolet service manual may be used for assembly details not included here.~~

(3) Revise Section 9.2.2.4, Cover Plate, Seal, Temperature Probe, and Pressure Control Valve Installation -

Install the cover plate with a new TFE fluorocarbon gasket, pre-wetted with the test oil on both sides (see **6.2.4**). Use a new TFE fluorocarbon cover plate gasket for every test. ~~Orient the gasket such that the hook on the gasket is nearest the tapped vent hole in the axle housing.~~

(4) Revise Table A6.1 of the test method -

Table A6.1 Critical Operating Parameters Deviation Limits		
Parameter	Motoring	Storage
Temperature	5%	4%
Fan Speed	NA	1%

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(5) Revise Section 6.2, Downtime Limits -

~~**A6.2.3** Do not calculate percent deviations during downtime occurrences.~~

A6.2.3 Oven Storage Phase – downtime is not possible during this phase of the test due to rust continuing to expand regardless of other conditions.

A6.2.3.1 If any power loss occurs and the DAQ is not recording, use the first temperature reading at the restoration of power for any percent deviation calculations.

A6.2.3.2 If any power loss occurs and the DAQ is not recording, assume fan speed is zero for any percent deviation calculations.

A6.2.4 Durning motoring phase, do not calculate percent deviations during downtime occurrences. During the oven storage phase, percent deviation should be calculated at all times even if the DAQ or oven lose power.

(6) Revise Section A6.3, Deviation from Test Operating Parameters -

A6.3.1 Sump temperature and oven fan speed are ~~is~~ critical parameters for this test method.

(7) Revise Section A7.8 -

A7.8 Rate the cover plate (Area 4) with the corresponding rating template ~~shown in **Fig. A5.14**~~ from the critical parts list referenced in section 6.2.