

ASTM D-7038 (L-33-1) MOISTURE CORROSION TEST  
SURVEILLANCE PANEL MEETING

November 10, 2020

Teams Meeting

## Meeting Minutes

### I. Call to Order

### II. Approval of Minutes

August 12, 2020 Conference Call, Teams Meeting  
September 16, 2020 Conference Call, Teams Meeting  
October 8, 2020 Conference Call, Teams Meeting

Motion: Matt Sangpeal  
Second: Troy Muransky  
Vote: Unanimous

### III. Business

#### a. Membership review Voting Members

<b>Name</b>	<b>Company</b>
Banas, Rob	ExxonMobil
Beck, Dylan	TMC
Cabaj, Michael	Linamar
Comfort, Allen	US Army CCDC-GVSC
Drlja, Kristijan	Lubrizol
Goyal, Arjun	BASF
La Bond, Jessica	Meritor
Muranski, Troy	AAM
Sangpeal, Matt	Afton
Smith, Dale	Intertek
Warden, Rebecca	SWRI
Ved, Chintan	Ford Motors
Zreik, Khaled	General Motors
Zyski, Amy	Dana

#### b. Removing DANA from the L33-1 ASTM D7038 Procedure

- i. In October a new AAM Axle was approved for testing. The Dana model 30 axle has not been used since 2019, as such it was decided to remove Dana model 30 from the ASTM L33-1 procedure.

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- ii. The committee voted to approve removing Dana from the ASTM D7038 procedure as shown below.

6.2.5 Housing Axle Tube Opening Seals—Since the differential is tested without axle shafts or axle tubes, seal the housing openings. Use a stainless steel plumbing test plug for a 2.9 in. to 3.1 in. pipe diameter. McMasterCarr p/n 2908K28<sup>11,9</sup> with the outer washer and seal ring cut to 74 mm to 79 mm (2.9 in. to 3.1 in.) has been found acceptable. Install a pair of seals in the axle housing openings before installing carrier/case into the axle housing. ~~When using Dana Model 30 hardware rather than the AAM hardware see Fig. A5.2 for an example of construction dimensions for fabricating a pair of suitable seals.~~

8.1 Use 1.0 gal (3.7 L) of fluid for each test. The housing capacity is 91 oz (2.7 L); the remaining oil is used for coating the test parts during assembly. ~~When using Dana model 30 hardware rather than the AAM hardware the housing capacity is 40 oz (1.2 L).~~

~~9.1 When Dana Model 30 hardware is used instead, follow the preparation instructions in Annex A10.~~

11.1.5 Using a syringe, add 67.5 mL  $\pm$  0.6 mL (2.3 oz  $\pm$  0.02 oz) of specified test water to the test unit through the full port valve within 5 min after starting the drive motor. ~~If using Dana Model 30 hardware rather than the AAM hardware add 1.00 oz  $\pm$  0.02 oz (29.6 mL  $\pm$  0.6 mL) instead.~~ Connect the pressure relief system.

TABLE 2 Test Precision

Variable, merits	Intermediate Precision		Reproducibility	
	S <sub>LP</sub> <sup>A</sup>	i.p. <sup>B</sup>	S <sub>R</sub> <sup>A</sup>	R <sup>B</sup>
Rust (Dana) <sup>C</sup>	0.25	0.70	0.25	0.70
Rust (AAM) <sup>D</sup>	0.19	0.52	0.19	0.52

<sup>A</sup> S = standard deviations.

<sup>B</sup> This value is obtained by multiplying the standard deviation by 2.8.

<sup>C</sup> These statistics are based on results obtained on TMC Reference Oil 151-3 from June 24, 2002 to Oct. 1, 2003.

<sup>D</sup> These statistics are based on results obtained on TMC Reference Oil 155-1 from June 15, 2015 to May 2, 2017 using AAM hardware.

(Remove Dana from Table 2)

A10. PREPARATION OF DANA MODEL 30 HARDWARE

(Remove all of Annex A10)

Motion: Jessica La Bond  
Second: Arjun Goyal  
Vote: Unanimous

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c. Critical Parts List

- i. The comment was raised that every time the committee approves a new axle batch the ASTM Procedure requires an information letter. The committee wants to look at possible other solutions that will allow adding axle batches in the future to be a simpler process.
- ii. Option 1 was to use the existing LTMS document. However, the LTMS was written as a document containing the reference oil targets and is not designed to be able to hold hardware batches.
- iii. Option 2 was to use a Critical parts list that would be housed on the TMC website. The critical parts list is a document that could contain the information associated with approved hardware batches.

IV. Additional Discussion / Business?

a. 152-2 (reference oil re-blend)

- i. A discussion ensued about standardizing the process to allow new oils and hardware batches for all Gear Oil tests. The gear oil committees will work on a “best practices” document for future hardware and oil approvals.
- ii. We will start with 1 run on the historical K2XX axles at each of the participating labs and if the data lines up with 155-1, we will vote to roll the 155-2 targets into the 155-1 targets until the N-size is big enough to allow 155-2 to have its own targets.

V. Summary of Action Items

- a. Anthony Lange will get with the TMC to look at setting up a new Critical Parts list for L33 hardware, and if it can be used for all Gear Oil tests.
- b. All 3 labs agreed to run 1 test on the historical K2XX hardware with the new 155-2 oil re-blend before February LRI.

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VI. Adjourn:

Motion: Wes Venhoff  
Second: Allen Comfort  
Vote: Unanimous

Thank you,  
Anthony Lange  
ASTM D-7038 Chairman

ASTM D 7038 L-33-1 SURVEILLANCE PANEL PARTICIPANTS LIST  
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