

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

For LRI #168
February 7, 2013
Automation Alley
Troy, MI

AGENDA

- I. Call to Order
- II. Approval of minutes
August 8, 2012
- III. Business
 - a. Next Generation Hardware test run review
Thanks SWRI
- IV. New Business?
- V. Summary of Action Items
- VI. Summary of Motions and Votes
- VII. Adjourn Motion

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Minutes

I. Call to Order

II. Approval of minutes

August 8, 2012

Motion: Bruce McGlone

Second: Brian Koehler

Vote: Unanimous

III. Business

Motion to change the voting member of Lubrizol from Larry Hamilton to
Matt Umerley

Motion: Larry Hamilton

Second: Thomas Gottwald

Vote: Unanimous

Next Generation Hardware test run review

Thanks to SWRI for running the first test

The committee discussed the SWRI test results using the TMC 123-2 a failing result oil and 2.5% specified water using an AAM axle described a K2XX 8.6" but is actually a GMT900 part 40049816 rev D third member. We began by discussing the photographs (attached) of the rated and were impressed with the severity of the results. They seem to be in line with the current severity level of severity with the Dana Model 30 using the same oil in the test. We also determined that we need to purchase axles to properly continue the screening of this new axle batch using the AAM product. We agree based on the initial results to continue the screening tests using the same already tested axles and new bearings and seals to run the alternate oil and Intertek agrees to run their AAM axle with both a passing and failing oil, to complete testing tests by March 15. Once both tests are finished the test and the results are available for the interested parties to have a sit down meeting in late March to review and discuss the next steps including a firm review of methodology for all labs to use in the future matrix of testing. In the mean time the chair is to make contact with AAM and get pricing for an order of axles to open the testing to all the labs and pursue a matrix of results using the AAM axle. The chair offered to get pricing info and hold a conference call to review the AAM contact by Feb 21. All four labs agree based on this one result to buy 10 axles each to continue with the screening process of the AAM axle for the replacement L-33 D7038 test unit. In addition to purchase of the axles a test matrix was considered and a motion was formed.

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Motion: Each lab participating in the screening of the new axle will run 3 passing and 3 failing oils to complete a matrix of testing to evaluate the viability of the axle to replace the model 30 axle.

Motion: Jerry Gropp
Second: Brian Koehler
Vote: Unanimous

Lastly the committee formed a working group to expedite the process of moving forward with the testing and verification process. Volunteers?:

Matt Umerley LZ
Brian Koehler SWRI
Thomas Gottwald Afton
Dale Smith Intertek

IV. New Business?

V. Adjourn Motion

Motion: Thomas Gottwald
Second: Brian Koehler
Vote: Unanimous

**L-33-1 Performance Test for Evaluating the Moisture Corrosion
Tendencies of Automotive Gear Lubricants
Form 1
Test Result Summary Sheet**



Laboratory: SR	Motoring Stand: E	Storage Box No.: 15A	Storage Box Run No.E: 0022
Start Date:	Date Completed:	End of Test Time:	Test Length: 0
Oil Code:			
TMC Oil Code:	Laboratory Oil Code:	Viscosity Grade:	
Latest Information Letter Test Was Run Under: 09-2		Gear Version: V01.1	
Pinion Batch: 11X41	Ring Batch: 11X440	Axle Cover Rating Template Serial SR1	

Rater's Initials (after test): AS			
Rust/Corrosion			
Location			
Differential Case	Rust^A	Weighting Factor	Weighted Rust
1. At Pinion Contact	9	*.087	0.783
2. Diff. Gear Contact	8	*.193	1.544
3. Diff. Gears (Side)	9	*.094	0.846
4. Axle Hsg. Cover	8	*.169	1.352
5. Drive Gear (Ring)	8	*.079	0.632
6. Drive Pinion	8	*.079	0.632
Bearing			
7. Drive Pinion Roller	9	*.051	0.459
8. Drive Pinion Cups	9	*.083	0.747
9. Diff. Case Roller	8	*.071	0.568
10. Diff. Case Cups	8	*.094	0.752
			Rust/Corrosion Merit Rating
			8.3
			Correction Factor
			Severity Adjustments
			Final Merit Results
			8.3

^ARust Level (Enter 10, 9, 8, 5 or 0):

- None = 10
- Trace = 9 = not more than six spots of 1mm in diameter or less
- Light = 8 = seven (7) or more spots less than 1mm in diameter or, one (1) or more spots greater or equal to 1mm in diameter with a combined area of all the spots no greater than 1% of the total rated component surface.
- Moderate = 5 = in excess of above and up to 5% of considered surface
- Heavy = 0 = covering more than 5% of considered surface

Remarks: Note presence, location and amount of additional deposit-stain, sludge, etc.

Rust on area 4,5,& 7 non-contact surface and on differential case interior and in trunion tunnel. Dark stain on area 1,2,3,& 4 contact surface.

**L-33-1 Performance Test for Evaluating the Moisture Corrosion
Tendencies of Automotive Gear Lubricants**



**Form 3
Pre Test Rating ^A**

Laboratory: SR	Storage Box: 15A	
Motoring Stand: E	Storage Box Run No.: 0022	
Oil Code:		
Match No.: 3557	Date: 20130111	Rated By: AS

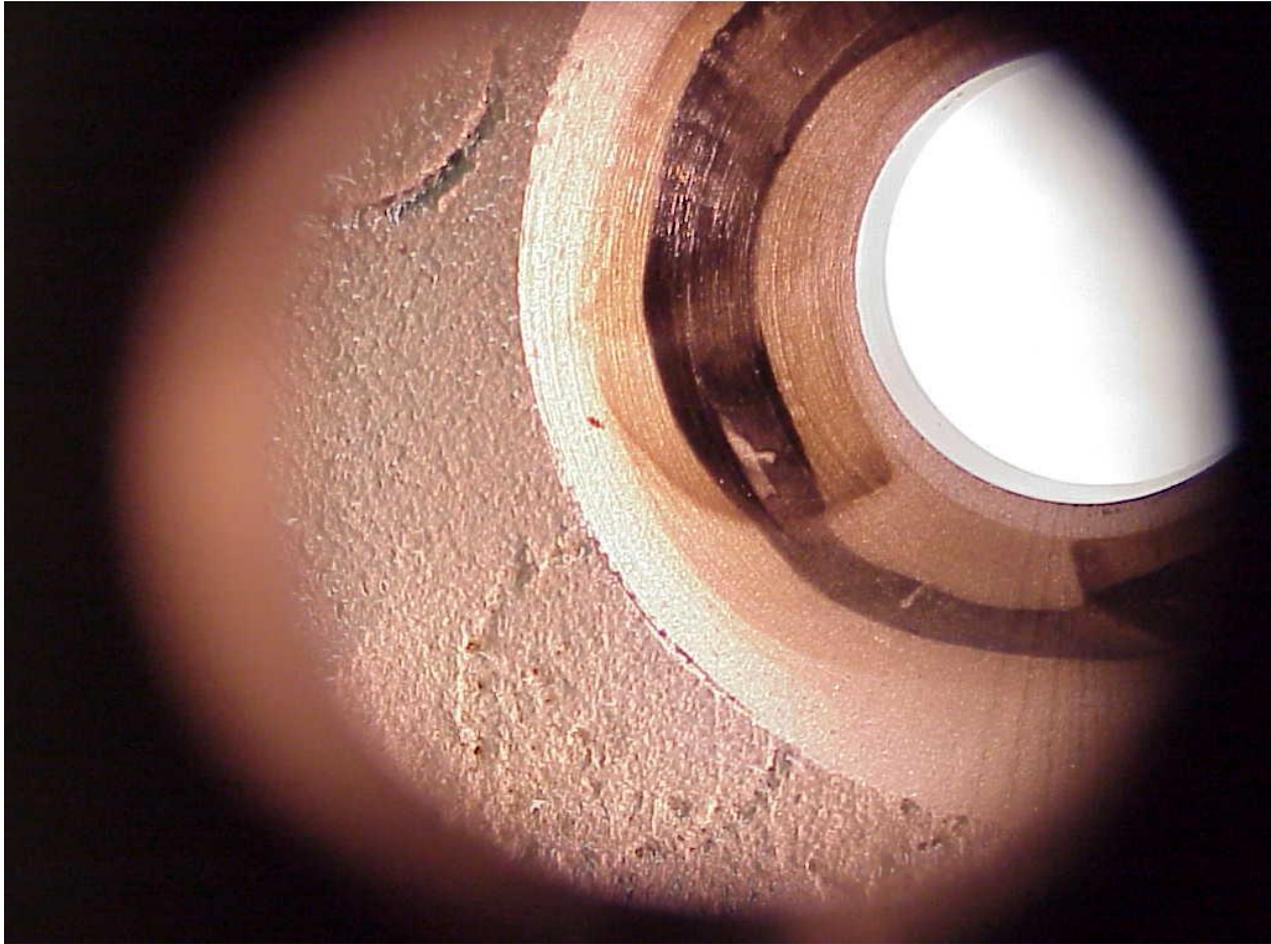
Differential Case
Area 1. At Pinion Contact: Good Condition.
Area 2. At Differential Gear Contact: Good Condition.
Area 3. Differential Gears (Side Gears): Good Condition.
Area 4. Axle Housing Cover: 12 casting flaws.
Area 5. Drive Gears (Ring): Good Condition.
Area 6. Drive Pinion: Good Condition.
Area 7. Drive Pinion Rollers: Good Condition.
Area 8. Drive Pinion Cups: Good Condition.
Area 9. Differential Case Rollers: Good Condition.
Area 10. Differential Case Cups: Good Condition.

^A After Abrasive Blasting

SWRI K2XX Axle
TMC 123-2 Fail Oil
2.5% Water in factory oil quantity



Area #1



Area #2



Differential Side Gear



Axle Cover



Axle Cover



Axle Cover



Full Cover



Bearing Cup



Bearing Roller



Thanks Brian

ASTM D 7038 L-33-1 SURVEILLANCE PANEL PARTICIPANTS LIST
February 7, 2013

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