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November 24th, 2014

Reply to: Chris Prengaman The Lubrizol Corporation 29400 Lakeland Blvd. Wickliffe, OH 44092 (440) 347-4225 (440) 347-2377 (FAX) crpr@lubrizol.com

ASTM D02.B0.03 L-37-1 Next Generation Hardware Task Force Members and Guests:

Attached for your review and comment are the unconfirmed minutes of the:

 August 13th, 2013 Next Generation Hardware Task Force Meeting; PRI Headquarters, Cranberry PA

Please direct any corrections or comments to my attention.

Sincerely,

Chris Prengaman, Chairman L-37-1 Hardware Taskforce Chairman

Report of Meeting ASTM D6121 L-37

Surveillance Panel Meeting, PRI Headquarters, Cranberry, PA August 13th, 2014 Meeting

Attendees:

Voting Members in **BOLD**

Keisler, Marc - Afton Chemical

Hobson, Kevin – Afton Chemical

Chalkley, Jay – Afton Chemical

Bell, Don – Afton Chemical

Kearney, Bill - Afton Chemical

Dharte, John - American Axle Manufacturing

Parke, Scott - ASTM TMC

Zakarian, Jack - Chevron

Banas, Rob - ExxonMobil

Zreik, Khaled - General Motors

Trader, Angela – Intertek Automotive Research

Smith, Dale - Intertek Automotive Research

Prengaman, Chris - Lubrizol

Gropp, Jerry – Lubrizol

Hamilton, Larry - Lubrizol

Umerley, Matt – Lubrizol

Warden, Rebecca – Southwest Research Institute

Comfort, Allen - US Army

Athey, Allison - Volvo

The meeting was called to order at 1435 EST.

1.0 Agenda Review

The agenda was reviewed

Approval of Meeting Minutes

- May 7th 2014
- June 11th 2014

Motion: Approval of meeting minutes.

J. Dhart - 1st J. Chalkley - 2nd

Motion passes unanimously by voice vote.

2.0 Gearset Order Update

S. Heim updated the group material is in transit currently, and is slated to arrive at Gleason the week of 8/25. They hope to have parts to the labs by mid November.

The group would like to visit Gleason sometime mid September.

3.0 Axle Build Workshop & Lab Visits

The build workshop will be hosted at Lubrizol – axles will be built as a group for the approval matrix, and planning for mid – November at this point.

Lab visit will occur around the same time.

4.0 Rating Workshop Comments

The rating group discussed at the last workshop, that wear definitions can be used as is, but substituting the peening marks from the shot peen process for the "tooling marks".

The group agreed and thank the raters for looking into this.

5.0 Procedure

Procedure details were discussed and updated in the draft.

6.0 Adjournment

Motion to adjourn. Respectfully Submitted Chris Prengaman

L-37-1 Hardware Taskforce

August 13th 2014

PRI, Warrendale PA

2:30PM

Call in: 216-706-7052 Access code: 324160

- Agenda Review
- Approval of Meeting Minutes
 - o May 7th
 - o June 11th
- Gleason Update
- Gleason Visit
- Axle build workshop
- Lab Visits
- Rating Comments (workshop) & rating values
 - We decided to stay with the current wear definitions, with the exception of, substituting the words "peening marks" for "tooling marks". We are referring to "peening marks" as the matt finish that is on a new gear after the final step in manufacturing process.
 - We discussed the different wear patterns that we are seeing on the Gleason gears as compared to the original L-37 gears. We are going to use the "contact area" as the normal wear area, not the area that we were used to seeing in the old L-37"s.
 - Example: If there are absence of peening marks in the contact area at the heel and the toe without a wear step, that would be rated a seven (7).
- Axle Housings
- Procedural Details
- 6.2.4 Power Source For the power source, **use an AC electric motor sufficient** to drive the test axle at the required test conditions. It is found that a motor of X kW of Y base speed is capable of running this test.
- 6.2.3.3 (2) Use a single control valve to control the cooling water supply. It is found that a ½ C linear trim research valve is capable of controlling the water supply.
 - (3) Use only 3/8 in or $\frac{1}{2}$ in line material to the spray nozzles.
 - (4) Use a water pressure between 172 kPa and 689 kPa (25 to 100 psi)

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