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August 12th, 2016

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ASTM D02.B0.03 L-37-1 Surveillance Panel Members and Guests:

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

• August 10th 2016, Surveillance Panel Meeting

Please direct any corrections or comments to my attention.

Sincerely,

Matt Umerley, Chairman L-37-1 Hardware Taskforce Chairman

Report of Meeting L-37-1 Surveillance Panel Meeting August 10th, 2016 Meeting

Attendees: Voting Members in BOLD

Banas, Rob - ExxonMobil Bell, Don - Afton Bubonic, Brad – Lubrizol Comfort, Allen – US Army` *Dennis, Mike – Gleason Dharte, John – AAM Donovan, Eric – Afton Dwornick, Bridget – US Army Foeking, Brian – Lubrizol *Goyal, Arjun – BASF Joy, Tisha – BASF Kearney, Bill – Afton Keisler, Marc – Afton Marsic, Vera – Lubrizol Milner, Jeff – Tianhe **Muransky, Troy - Meritor Parke, Scott – ASTM TMC** *Reardon, Art – Gleason *Rettman, Kevin – Intertek **Smith, Dale – Intertek Umerley, Matt – Lubrizol** Venhoff, Wes – Lubrizol **Warden, Rebecca – SwRI**

*indicates call-in

1.0 Agenda Review

2.0 Membership Review

3.0 Approval of Meeting Minutes

- 20160511, 20160617_teleconference
 - Motion D. Smith
 - o 2nd J. Dharte

4.0 Axle Build Procedure

- Proposed build procedure has been distributed to the labs for review
- Notes, comments, questions to be sent to Chairman by the end of September
- Lab notes to be reviewed at November ASTM meeting

5.0 Gleason Gear Analysis

- Gleason analyzed EOT parts for case depth and surface hardness, see data in presentation below
- 8620 Alloy for Gleason gears, low sulfur content
 - More uniform case depth structure
- Gleason to send Supplier Certificate for raw material
- Case structure vs bulk material
 - There will be different carbon content between case and core

6.0 Next Steps

• Lubrizol to conduct further evaluation of Gleason gears at standard conditions

7.0 New Business

- Lubrizol to share aftermarket housing info from Gear Tech HD
- Afton to share aftermarket carrier option from Strange Engineering
- Intertek to share aftermarket axle shafts info from Mark Williams Enterprises

8.0 Adjournment

- Motion E. Donovan
- 2nd R. Warden

Respectfully Submitted Matt Umerley





L-37-1

August 10th 2016 Warrendale, PA



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Agenda

- Membership Review
- Meeting Minute Approval
- L-37 Axle Build Procedure
- L-37-1 Gleason Data
- L-37-1 Next Steps
- New Business





Membership Review – Voting Members

- Rob Banas ExxonMobil
- Allen Comfort US Army
- John Dharte AAM
- Eric Donovan Afton
- Arjun Goyal BASF
- Joe Guzikowski Dana
- Donna Mosher Eaton

- Troy Muransky Meritor
- Scott Parke TMC
- Dale Smith Intertek
- Matt Umerley Lubrizol
- Rebecca Warden SwRI
- Khaled Zreik GM





Meeting Minutes

- L-37-1
 - 20160511
- L-37
 - 20160617_Teleconference





L-37 Axle Build Procedure





L-37-1 Gleason Data

Lab	IGear Number	Run Number	Hardware Type		Effective Case Depth			Surface Hardness			ments		
			Pinion Batch	Ring Batch	Pin Coupon	Pin NC	Gear Coupon	Gear NC	Pin Coupon	Pin NC	Gear Coupon	Gear NC	Coll
D		3-201	2124465	2124399	0.06	0.04	0.083	0.075	61	59	62	59	117 Fail
D		3-205	2124465	2124399	0.06	0.043	0.083	0.071	61		62		Pass
G	Matrix Axle 9	27	2116453	2115440	0.051	0.036	0.058	0.053	61		62	59	Pass
G	Matrix Axle 7	28	2116453	2115440	0.051	0.041	0.058	0.052	61	59	62		Pass

*All NC (non-contact) measurements taken on coast side of tooth



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Next Steps





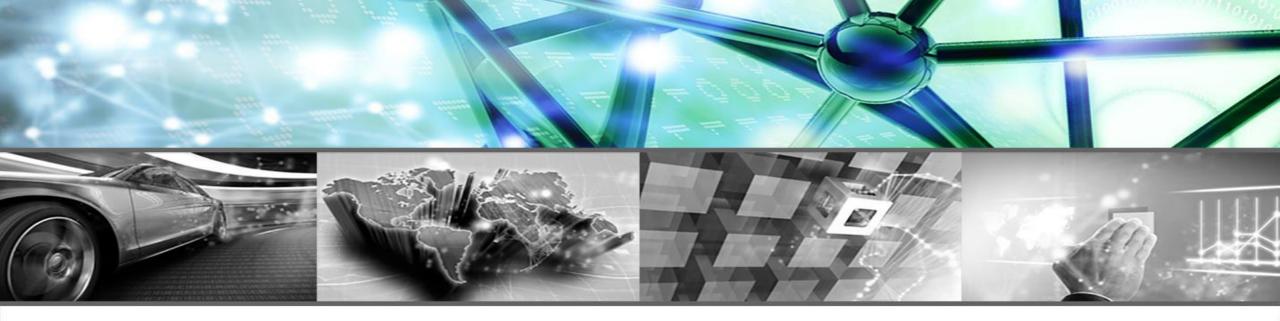
New Business?





Thanks!







Working together, achieving great things

When your company and ours combine energies, great things can happen. You bring ideas, challenges and opportunities. We'll bring powerful additive and market expertise, unmatched testing capabilities, integrated global supply and an independent approach to help you differentiate and succeed.



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