Report of Meeting L-37/L-37-1 Surveillance Panel Teleconference

August 8th, 2017

Attendees:

US Army - **Comfort**, Sattler

Detroit Diesel - Belay SwRI - **Warden**

Lubrizol - **Venhoff**, Drlja, Foecking, Marsic, Ebner Afton - **Donovan**, Bell, Kearney, *Schwenk*

Intertek - Smith, Trader
TMC - Parke, Beck
ExxonMobil - Banas, Kanga
AAM - Dharte

BASF - Goyal, Mosher

Voting Members in **BOLD**

Members joining on the phone in *italics*

These minutes capture the discussion at the L-37 S.P. meeting held at 10:30-11:00am EDT

The meeting was called to order at 1:00pm EDT

1.0 Approval of Meeting Minutes

Motion #1 \rightarrow J. Dharte/2nd D. Smith to approve the meeting minutes. Motion passed unanimously, 9-0-0 (Yes-No-Abstain).

2.0 Gleason Build Procedure

Lots of discussion regarding the build procedure and additional build information that should be included. One of those items is the inclusion of photos detailing acceptable and unacceptable ring gear contact pattern photos (capturing 5-6 teeth) of both the drive and coast side. R. Warden offered to generate example photos for discussion and possible inclusion in the build procedure. The torque at which the contact pattern is to be generated was discussed and agreed upon to be 15 +/- 5 lbs-ft.

3.0 Housing/Parts for Rebuild

The surveillance panel agreed to approach Dana for a quote on partial axle assemblies. More precisely, carrier housing and axle tube assemblies (including diff case bearing caps) & differential case assemblies (including diff pinion gears, diff side gears, cross shaft, etc.). A discussion ensued further detailing diff case assembly options. Use of a spool setup was discussed and R. Warden suggested that SwRI would be willing to investigate this option after the new D number was issued.

4.0 New Test Procedure Items

Multiple items were identified in the new test procedure draft that needed further discussion. These are highlighted below:

- 8.2.1.3: Include both drive and coast side contact pattern photos of the ring gear in the test report.
- 9.3.3: ...as described in the LTMS document.
- 9.3.5: ...and the LTMS document.
- 12.5: Any "non-reference oil" test exhibiting...

5.0 Gleason Hardware Quote/Order

It was suggested that a new hardware batch quote be requested from Gleason, however the labs will hold on any serious talks of initiating the next hardware batch.

6.0 Gleason Non-lubrited/Lubrited Hardware Matrix

It was requested that Lab G generate two non-lubrited Canadian test results on TMC152-2. It was also requested that all labs generate one lubrited Standard result on TMC134 and one on TMC152-2 as an initial look at the lubrited hardware performance against the industry reference oils.

7.0 Adjournment

Motion #2 \rightarrow R. Warden / 2nd D. Smith to adjourn. Motion to adjourn was passed unanimously, 9-0-0 (Yes-No-Abstain).

Meeting Adjourned at 3:30pm EST

Respectfully submitted,

Wes Venhoff

L-37/L-37-1 Surveillance Panel Chairman

ASTM L-37/L-37-1 Surveillance Panel Membership / Sign In List Meeting Date: $\mathcal{B}/^{o}/(17)$

M. D.	S S S S S S S S S S S S S S S S S S S	Jag .		A.C.				3	cond	Initials*
Drlja, Kristijan	Donovan, Eric	Dharte, John	Dennis, Mike	Comfort, Allen	Chambers, Harold	Clark, Jeff	Bubonic, Brad	Bell, Don	Banas, Rob	Name
Non-Voting	Voting	Voting	Non-Voting	Voting	Non-Voting	Non Voting	Non Voting	Non Voting	Voting	Voting Status
The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	Afton Chemical 500 Spring Street Richmond, VA 23219	American Axle & Manufacturing 1 Dauch Drive Detroit, MI 48211	The Gleason Works 1000 University Ave Rochester, NY 14692	US Army RDECOM/TARDEC 6501 East 11 Mile road Warren, MI 48397-5000	Linamar Driveline Systems 26555 Evergreen Rd Southfield 48076	ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, Pennsylvania 15206	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	Afton Chemical 500 Spring Street Richmond, VA 23219	ExxonMobil Fuels, Lubriacnts & Specialties 114 Arcadia Park Dr. Canton, GA 30114	Company Name & Address
Phone: 440-347- 2326 Fax: E-Mail: kristijan.drlja@lubrizol.com	Phone: 804-788-5097 Fax: E-Mail: Eric.Donovan@aftonchemical.com	Phone: 313-758-4687 Fax: 313-758-4237 E-Mail: Dhartej@aam.com	Phone: 585-241-4081 Fax: E-Mail: mdennis@gleason.com	Phone: 586-282-4225 Fax: 586-282-4244 E-Mail: allen.s.comfort.civ@mail.mil	Phone: 248-358-6038 Fax: E-Mail: hchambers@linamar.com	Phone: 412-365-1032 Fax: 412-365-1047 E-Mail: jac@astmtmc.cmu.edu	Phone: 440-347-5325 Fax: E-Mail: brad.bubonic@jubrizol.com	Phone: 804-788-6332 Fax: 804-788-6243 E-Mail: don.bell@aftonchemical.com	Phone: 678-493-3930 Fax: E-Mail: rob.a.banas@exxonmobil.com	Phone/Email Info

* Initial to indicate attendance at subject meeting

ASTM L-37/L-37-1 Surveillance Panel Membership / Sign In List Meeting Date:

Initials*	Name	Voting Status	Company Name & Address		Phone/Email Info
	Dwomick, Bridget	Non-Voting	US Army RDECOM/TARDEC 6501 East 11 Mile road ^ Warren, MI 48397-5000	Phone: Fax: E-Mail:	586-282-4221 586-282-4244 bridget.l.dwomick.civ@mail.mil
	Farber, Frank	Non Voting	ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, Pennsylvania 15206	Phone: Fax: E-Mail:	412-365-1030 412-365-1047 fmf@astmtmc.cmu.edu
PSX	Foeking, Brian	Non Voting	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	Phone: Fax: E-Mail:	440-347-2130 440-347-9011 brian.foeking@lubrizol.com
	Gao, Hong	Non-Voting	Conoco Phillips 100 s Pine St. Ponca City, OK 74602	Phone: Fax: E-Mail:	580-767-2126 580-767-4534 hong.gao@conocophillips.com
pun),	Goyal, Arjun	Voting	BASF 500 White Plaines Rd Tarrytown NY	Phone: Fax: E-Mail:	914-785-2083 Arjun.Goyal@BASF.com
	Guzikowski, Joe	Voting	Dana Corporation 3939 Technology Drive Maumee, OH 43537	Phone: Fax: E-Mail:	419-887-3425 joe.guzikowski@dana.com
	Hobson, Kevin	Non Voting	Afton Chemical 500 Spring Street Richmond, VA 23218	Phone: Fax: E-Mail: k	804-788-5307 kevin.hobson@aftonchemical.com
	Jackson, Matt	Non Voting	Southwest Research Institute PO Drawer 28510 San Antonio, Texas 78228-0510	Phone: Fax: E-Mail:	210-522-6981 210-522-6858 matt.jackson@swri.org
	Joy, Tisha	Non Voting	BASF 500 White Plaines Rd Tarrytown NY	Phone: Fax: E-Mail:	914-785-2206 tisha.joy@BASF.com
PR. K	Kanga, Percy	Non Voting	ExxonMobil Research & Engineering 600 Billingsport Road Paulsboro, New Jersey 08066	Phone: Fax: E-Mail:	856-224-2094 856-224-3613 percy.r.kanga@exxonmobil.com

ASTM L-37/L-37-1 Surveillance Panel Membership / Sign in List Meeting Date:

	(WAL	Initials*
Pappademos, Lou	Opperman, Robert	Mosher, Donna	Milner, Jeff	Marsic, Vera	Lochte, Michael	Lind, Don	Koehler, Brian	Keisler, Marc	Keamey, Bill	Name
Non Voting	Non Voting	Non Voting	Non Voting	Non Voting	Non Voting	Non Voing	Non Voting	Non Voting	Non Voting	Voting Status
Dana Corporation Fort Wayne, IN	Meritor Automotive 2135 West Maple Troy, Michigan 48084	BASF 100 Park Ave. Florham Park, NJ	Tianhe Chemical	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	Southwest Research Institute PO Drawer 28510 San Antonio, Texas 78228-0510	ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, Pennsylvania 15206	Southwest Research Institute PO Drawer 28510 San Antonio, Texas 78228-0510	Afton Chemical 500 Spring Street Richmond, VA 23218	Afton Chemical Southfield, MI	Company Name & Address
Phone: Fax: E-Mail: lou.pappademos@dana.com	Phone: Fax: E-Mail: robert.opperman@Meritor.com	Phone: 269-217-1715 Fax: E-Mail: donna.mosher@basf.com	Phone: 804-252-6928 Fax: E-Mail: jlmilner@tianhe-us.com	Phone: 440-347-8024 Fax: E-Mail: vera.marsic@lubrizol.com	Phone: 210-522-5430 Fax: 210-684-7523 E-Mail: Mlochte@swri.org	Phone: 412-365-1034 Fax: 412-365-1047 E-Mail: dml@astmtmc.cmu.edu	Phone: 210-522-3588 Fax: 210-684-7523 E-Mail: bkoehler@swri.org	Phone: 804-788-5617 Fax: 804-788-6358 E-Mail: marc.keisler@aftonchemical.com	Phone: Fax: E-Mail:	Phone/Email Info

^{*} Initial to indicate attendance at subject meeting

ASTM L-37/L-37-1 Surveillance Panel Membership / Sign In List Meeting Date:

S	A S	W.	W	71	71	71	71	7		Initials*
Song, HaiQing	Smith, Dale	Sattler, Eric	Sanchez, Art	Rucker, Jule	Rettman, Kevin	Recinos, Will	Reardon, Art	Prengaman, Chris	Parke, Scott	Name
Non Voting	Voting	Non Voting	Non Voting	Voting	Non Voting	Non Voting	Non Voting	Non Voting	Voting	Voting Status
Research Institue of Petroleum Processing No. 18, XueYan Road, PO Box 914-19 Beijing 10083 P.R. China	Intertek Automotive Research 5404 Bandera Rd San Antonio, Texas	US Army RDECOM/TARDEC 6501 East 11 Mile road Warren, MI 48397-5000	Southwest Research institute PO Drawer 28510 San Antonio, Texas 78228-0510	Meritor Automotive 2135 West Maple Troy, Michigan 48084	Intertek Automotive Research 5404 Bandera Rd San Antonio, Texas	Afton Chemical 500 Spring Street Richmond, VA 23218	The Gleason Works 1000 University Ave Rochester, NY 14692	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, Pennsylvania 15206	Company Name & Address
Phone: 011-86-10-8236-8182 Fax: 011-86-10-6231-1290 E-Mail: songhq@ripp-sinopec.com	Phone: 412-855-6854 Fax: 210-684-6074 E-Mail: Dale.Smith@intertek.com	Phone: 586-282-2272 Fax: E-Mail: eric.r.sattler.civ@mail.mii	Phone: 210-522-3445 Fax: 210-680-1777 E-Mail: asanchez@swri.org	Phone: 248-435-1430 Fax: E-Mail: jule.rucker@Meritor.com	Phone: Fax: E-Mail: Kevin.Rettmann@intertek.com	Phone: 804-788-5323 Fax: E-Mail: william.recinos@aftonchemical.com	Phone: 585-256-6675 Fax: E-Mail: areardon@gleason.com	Phone: 440-347-4225 Fax: E-Mail: chris.prengaman@lubrizol.com	Phone: 412-365-1036 Fax: E-Mail: sdp@astmtmc.cmu.edu	Phone/Email Info

ASTM L-37/L-37-1 Surveillance Panel Membership / Sign In List Meeting Date:

		g w	DB	新			The	81	T	Initials*
		Mesfin Bely	Dylan Beck	Alax Ebnar	Zreik, Khaled	Xie, JingChun	Warden, Rebecca	Venhoff, Wes	Trader, Angela	Name
					Voting	Non Voting	Voting	Voting/ Chair	Non Voting	Voting Status
		Detroit Diesel. 13400 pater Drue. W. Detroit MI 4824	SATHE AT SCOTT PACKE		General Motors 823 Joslyn Ave Pontiac, MI 48340-2925	Lanzhou Lube Oil R&D Institute No. 369 Yumen Streat, XiGu District Lanshou 730060, GanSu Province P.R. China	Southwest Research Institute PO Drawer 28510 San Antonio, Texas 78228-0510	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	Intertek Automotive Research 5404 Bandera Rd San Antonio, Texas	Company Name & Address
Phone: Fax: E-Mail:	Phone: Fax: E-Mail:	Phone: 3/3-592-5970 Fax: 3/3-592-5952 E-Mail: Messin Balayo dalmler (Bru	Phone: 4/2:345、1037 Fax: E-Mail: ひょほど バテルアハピ、こんい、どひい	Phone: Fax: E-Mail:	Phone: 248-977-9214 Fax: 248-857-2550 E-Mail: khaled.zreik@gm.com	Phone: 011-86-931-793-3713 Fax: 011-86-139-9319-2560 E-Mail: xiejingchun_rhy@petrochina.com.cn	Phone: 210-522-6266 Fax: E-Mail: rebecca.warden@swri.org	Phone: 440-347-4879 Fax: E-Mail: wes.venhoff@lubrizol.com	Phone: 210-706-1533 Fax: E-Mail: angela.trader@intertek.com	Phone/Email Info

^{*} Initial to indicate attendance at subject meeting