



Address 100 Barr Harbor Drive
PO Box C700
W. Conshohocken, PA
19428-2959 | USA

Phone 610.832.9500
Fax 610.832.9666
Web www.astm.org

Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

Chairman: KENNETH O. HENDERSON, Cannon Instrument Co., 2139 High Tech Road, State College, PA 16803, (814) 353-8000, Fax: (814) 353-8007, e-mail: kenohenderson@worldnet.att.net
First Vice-Chairman: BEN R. BONAZZA, TI Group Automotive Systems, Caro Research Center, 326 Green Street, Caro, MI, 48723 (989) 673-8181 ext. 227, Fax: (989) 673-3241, e-mail: bbonazza@us.tiauto.com
Second Vice-Chairman: JANET L. LANE, ExxonMobil Research & Engrg., 600 Billingsport Rd, Paulsboro, NJ 08066-0480 (856) 224-3302, Fax: (856) 224-3616, e-mail: janet.l.lane@exxonmobil.com
First Secretary: RALPH A. CHERRILLO, Shell Global Solutions (US) Inc., Westhollow Tech Ctr., 3333 Highway 6 South, Houston, TX 77082 (281) 544-8789, Fax: (281) 544-8150, e-mail: ralph.cherrillo@shell.com
Second Secretary: MICHAEL A. COLLIER, Petroleum Analyzer Co. LP, PO Box 206, Wilmington, IL 60481, (815) 458-0216, Fax: (815) 458-0217, e-mail: macvarlen@aol.com
Staff Manager: DAVID R. BRADLEY, (610) 832-9681, Fax: (610) 832-9668, e-mail: dbradley@astm.org

February 15th, 2021

Reply to:
Matt Sangpeal
Afton Chemical Corporation
500 Spring St.
Richmond, VA 23219
(804) 788-5364
(804) 788-6239 [FAX]
matt.sangpeal@aftonchemical.com

ASTM D02.B0.03 L-42 Surveillance Panel
Members and Guests:

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

February 10, 2021 L-42 Surveillance Panel Meeting (Virtual Meeting – Microsoft Teams)

Please direct any corrections or comments to my attention.

Very Respectfully,

Matt Sangpeal, Chairman
L-42 Surveillance Panel

L-42 Surveillance Panel Meeting Minutes

Virtual Meeting – Microsoft Teams

February 10, 2021

Attendees: voting members in **bold**

R. Banas (Exxon Mobil)	J. Henderson (Afton)	D. Schwenk (Afton)
S. Bealko (LZ)	P. Kanga (Exxon Mobil)	R. Slocum (LZ)
D. Beck (TMC)	J. LaBond (Meritor)	D. Smith (Intertek)
D. Bell (Afton)	A. Lange (Intertek)	D. Uy (Shell)
J. Carter (Meritor)	D. Moser (BASF)	W. Venhoff (LZ)
K. Drlja (LZ)	T. Muransky (AAM)	R. Warden (SwRI)
T. Friesen (IPAC)	M. Sangpeal (Afton/C)	A. Zyski (Dana)
A. Goyal (BASF)	E. Sattler (US Army)	

Call to Order

Review of Agenda

The meeting agenda is attached.

Review of Membership

A motion was made to change the primary voting member for Meritor from J. LaBond to J. Carter.

Motion: R. Warden

Second: A. Goyal

All in favor, no objections, no abstentions.

Approval of Meeting Minutes

Meeting minutes for approval:

- "20201116_SP" → November 10, 2020 – Virtual Surveillance Panel Meeting – Microsoft Teams
- "Rating Activity Discussion_20210113" → January 13, 2021 – Virtual Rating Discussion - Webex

A motion was made to approve these meeting minutes as presented.

Motion: A. Lange

Second: A. Goyal

All in favor, no objections, no abstentions.

L-42-1 Development

R. Warden updated the group on SwRI's development progress. Initial shakedown work was done using an L-37-1 axle (Dana 60). Unexpected torque oscillations were observed during testing. The axle was found to have excessive backlash from previous testing. The axle was then removed, and an L-42 Dana 44 axle was installed. Adjustments to the stand were required (minor differences in output shaft length, mounting point locations, etc.). The input motor cannot achieve proper speed to run the entire test, but it can match the Shock 2 profile speed differential requirements (at a lower overall speed). SwRI has a motor that will meet full speed requirements, but it has a different inertia value (more

adjustments needed). Next steps will be to investigate the Shock 2 portion of the test and refine control strategies to see how the scoring pattern changes.

LZ and Intertek will send M. Sangpeal batch and quantity info regarding axles available to donate to the L-42-1 development effort. If possible, axles from the same batch will be selected.

New Hardware Order

M. Sangpeal reviewed the status of Afton's L-42 hardware order. He shared that there are now additional delays with the raw steel supplier. The order is delayed until April, 2021.

None of the other three labs are ready to place a new hardware order anytime soon.

New/Open Issues

No new issues.

Adjournment

A motion was made to adjourn.

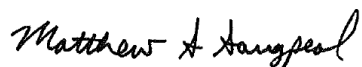
Motion: A. Lange

Second: R. Warden

All in favor, no objections, no abstentions.

Meeting adjourned.

Respectfully submitted,



Matt Sangpeal

L-42 Surveillance Panel Chairman



L-42 Surveillance Panel Meeting

ASTM D7452

Virtual Meeting

February 10, 2021

1:00 pm – 1:30 pm EST

Passion for Solutions™

Agenda

- ▲ **Call to Order**
- ▲ **Agenda**
- ▲ **Membership Review & Update**
- ▲ **Approval of Meeting Minutes**
 - ▲ 20201110 Virtual SP Meeting
 - ▲ 20210113 Virtual Rating Discussion
- ▲ **L-42-1 Development**
 - ▲ Testing development updates
 - ▲ Hardware donation
- ▲ **2020 Hardware Order Update**
- ▲ **New Issues**
- ▲ **Adjournment**

L-42 SP Voting Members

 Rob Banas:	ExxonMobil
 Dylan Beck:	TMC
 Mike Cabaj:	Linamar
 Allen Comfort:	US Army
 Arjun Goyal:	BASF
 Troy Muransky:	AAM
 Jessica LaBond:	Meritor
 Matt Sangpeal:	Afton Chemical (Chair)
 Robert Slocum:	Lubrizol
 Anthony Lange:	Intertek
 Rebecca Warden:	SwRI
 Amy Zyski:	Dana

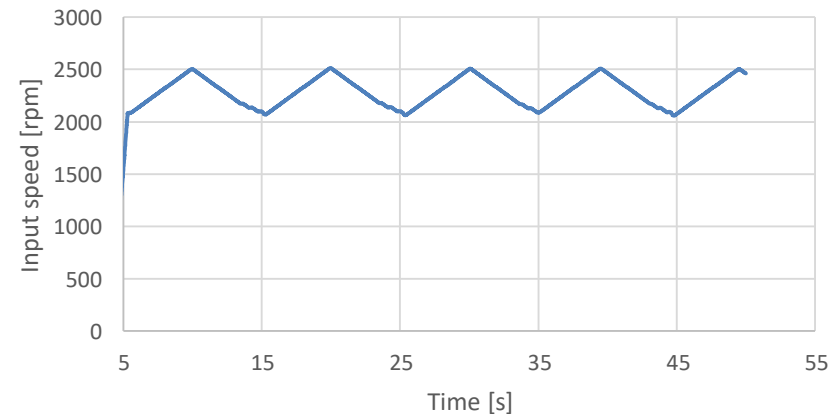
Approval of Meeting Minutes

SP Meeting Minutes

- ▲ “20201116_SP” → November 10, 2020 – Virtual Surveillance Panel Meeting – Microsoft Teams
- ▲ “Rating Activity Discussion_20210113” → January 13, 2021 – Virtual Rating Discussion – WebEx

L-42-I Update (Rebecca Warden)

- Started playing with the stand with L-37-I axle installed
 - Odd oscillations in torque data revealed axle had significant backlash.
- Input speed is limited by motor installed but can be swapped
 - Able to match speed profile of Shock 2 at lower overall speed
- Current Status: Modifying stand to accept L-42 axle
- Path forward: Continue to look at Shock 2 and how different control strategies change the shock pattern.
 - Stay Tuned! (get it....)



L-42-1 Development – Hardware Donation

- ▲ **Surplus hardware available to donate to development effort**
 - ▲ Afton: Several C1L680, P8T025A
 - ▲ Intertek: 2 axles, batch unknown
 - ▲ LZ: ?
- ▲ **Quantities donated by each lab should be equal (if possible)**
- ▲ **Is SwRI ready to accept axles?**

L-42 2020 Hardware Order Update

From Nov. Meeting:

- ▲ Colfor Manufacturing in Malvern, OH had a major fire in Sept.
 - Colfor manufactures the pinion forgings for the L-42 axle builds
- ▲ Raw material for pinions was not on-site at time of fire
- ▲ Forging press heavily damaged
 - Forging press dies stored elsewhere, undamaged
- ▲ Waiting for press to be repaired to reduce potential variation in manufacturing
- ▲ Expected delivery in early March, 2021

Pilot batch delayed further, now until ~April, 2021

- ▲ Problem with raw steel supplier, original batch no longer available

L-42 2020 Hardware Order Update

Do any of the other three labs need hardware soon?

- ▲ Given current delays
- ▲ Contact Bernie May at Dana if interested

New Issues



Thanks!



Passion for Solutions™

**L-42 Surveillance Panel Membership/Attendance
Virtual Meeting, Microsoft Teams
February 10, 2021**

Present = P Accept = A Tent. = T Decline = D	Name	Voting Non-Voting	Company Name Company Address	Contact information	
	Aguirre, Nancy	NV	Intertek Automotive Research	Phone:	
			5404 Bandera Rd. San Antonio, TX 78238	E-mail:	nancy.aguirre@intertek.com
P	Banas, Rob	V	ExxonMobil Fuels, Lubricants & Specialties	Phone:	678-493-3930
			114 Arcadia Park Dr. Canton, GA 30114	E-mail:	rob.a.banas@exxonmobil.com
	Barrera, Tony	NV	Intertek Automotive Research	Phone:	210-523-4653
			5404 Bandera Rd. San Antonio, TX 78238	E-mail:	tony.barrera@intertek.com
P	Bealko, Steven	NV	The Lubrizol Corporation	Phone:	
				E-mail:	
P	Beck, Dylan	V	ASTM Test Monitoring Center	Phone:	724-355-1854
			6555 Penn Ave Pittsburg, PA 15206	E-mail:	djb@astmtmc.cmu.edu

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P	Bell, Don	NV	Afton Chemical	Phone:	804-788-6332
			500 Spring St. Richmond, VA 23219	E-mail:	don.bell@aftonchemical.com
	Cabaj, Mike	V	Linamar	Phone:	313-820-0119
			32233 W. 8 Mile Road Livonia, MI 48152	E-mail:	michael.cabaj@linamar.com
	Camposo, Lucas	NV	Evonik	Phone:	215-706-5809
			723 Electronic Dr Horsham, PA 19044	E-mail:	lucas.camposo@evonik.com
P	Carter, Jason	NV V	Meritor	Phone:	
				E-mail:	Jason.Carter@meritor.com
	Clark, Jeff	NV	ASTM Test Monitoring Center	Phone:	412-365-1032
			6555 Penn Ave Pittsburg, PA 15206	E-mail:	jac@astmtmc.cmu.edu

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	Cereghino, Brian	NV	IPAC Inc.	Phone:	
			E-mail:	bcereghino@ipac-inc.com	
	Comfort, Allen	V	US Army CCDC	Phone:	586-282-4225
			E-mail:	allen.s.comfort.civ@mail.mil	
P	Drlja, Kristijan	NV	The Lubrizol Corporation	Phone:	440-391-6374
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	krdr@lubrizol.com
	Farber, Frank	NV	TMC	Phone:	412-365-1030
			6555 Penn Ave Pittsburg, PA 15206	E-mail:	fmf@astmtmc.cmu.edu
	Foecking, Brian	NV	The Lubrizol Corporation	Phone:	440-347-2130
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	bjf@lubrizol.com

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P	Friesen, Terry	NV	IPAC Inc.	Phone:	925-556-5530
			7600 Dublin Blvd, Suite 240 Dublin, CA 94568	E-mail:	tfriesen@ipac-inc.com
P	Goyal, Arjun	V	BASF	Phone:	914-785-2083
			500 White Plains Rd Tarrytown, NY 10591	E-mail:	arjun.goyal@basf.com
	Horvath, Dan	NV	Afton Chemical	Phone:	248-514-2551
			2000 Town Center, Suite 1160 Southfield, MI 48075	E-mail:	dan.horvath@aftonchemical.com
	Jackson, Matt	NV	Southwest Research Institute	Phone:	210-522-6981
				E-mail:	matt.jackson@swri.org
	Joy, Tisha	NV	BASF	Phone:	914-785-2206
				E-mail:	tisha.joy@basf.com

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P	Kanga, Percy	NV	ExxonMobil Research & Engineering	Phone:	908-335-3780
			1545 Rte. 22 East Clinton, NJ 08801	E-mail:	percy.r.kanga@exxonmobil.com
	Koehler, Brian	NV	Southwest Research Institute	Phone:	210-522-3588
			P.O. Drawer 28510 San Antonio, TX 78228-0510	E-mail:	Bkoehler@swri.org
	Kuchta, Tyler	NV	The Lubrizol Corporation	Phone:	440-347-5868
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	tyler.kuchta@lubrizol.com
P	LaBond, Jessica	NV	Meritor	Phone:	248-872-3055
			2135 W. Maple Rd Troy, MI 48084	E-mail:	Jessica.LaBond@meritor.com
P	Lange, Anthony	V	Intertek Automotive Research	Phone:	210-634-1103
			5404 Bandera Rd. San Antonio, TX 78238	E-mail:	anthony.lange@intertek.com

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	Lonsway, Chris	NV	The Lubrizol Corporation	Phone:	440-347-4517
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	chris.lonsway@lubrizol.com
	Louis, Caroline	NV	Southwest Research Institute	Phone:	843-471-6283
			6220 Culebra Rd. Antonio, TX 78238	San E-mail:	caroline.louis@swri.org
	Milner, Jeff	NV	Tianhe Chemical	Phone:	804-252-6928
				E-mail:	jmilner@tianhe-us.com
	Morris, Jeanelle	NV	Navistar	Phone:	331-332-1661
			2701 Navistar Dr Lisle, IL 60532	E-mail:	jeanelle.morris@navistar.com
P	Mosher, Donna	NV	BASF	Phone:	269-217-1715
			100 Park Ave Florham Park, NJ 07932	E-mail:	donna.mosher@basf.com

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P	Muransky, Troy	V	AAM	Phone:	734-564-8406
			1840 Holbrook Detroit, MI	E-mail:	troy.muransky@aam.com
	Rabinowitz, Daniel	NV	Chrysan	Phone:	
				E-mail:	
P	Sangpeal, Matt	V/Chair	Afton Chemical	Phone:	804-788-5364
			500 Spring St. Richmond, VA 23219	E-mail:	matt.sangpeal@aftonchemical.com
P	Sattler, Eric	NV	CCDC-GVSC	Phone:	586-282-2272
			Warren, MI	E-mail:	eric.r.sattler.civ@mail.mil
P	Schwenk, Daniel	NV	Afton Chemical	Phone:	804-788-6326
			500 Spring St. Richmond, VA 23219	E-mail:	daniel.schwenk@aftonchemical.com

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P	Slocum, Robert	V	The Lubrizol Corporation	Phone:	440-347-5102
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	robert.slocum@lubrizol.com
P	Smith, Dale	NV	Intertek Automotive Research	Phone:	412-855-6854
			5404 Bandera Rd. San Antonio, TX 78238	E-mail:	dale.smith@intertek.com
	Thrash, Steven	NV	US Army CCDC	Phone:	586-282-5170
			6501 E. 11 Mile Rd. Warren, MI 48397	E-mail:	steven.j.thrash.civ@mail.mil
P	Uy, Dairene	NV	Shell	Phone:	
				E-mail:	
P	Venhoff, Wes	NV	The Lubrizol Corporation	Phone:	440-347-4879
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	wes.venhoff@lubrizol.com

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P	Warden, Rebecca	V	Southwest Research Institute	Phone:	210-522-6266
				E-mail:	rebecca.warden@swri.org
	Zreik, Khaled	NV	General Motors	Phone:	248-977-9214
			823 Joslyn Ave Pontiac, MI 84340-2925	E-mail:	khaled.zreik@gm.com
P	Zyski, Amy	V	Dana Incorporated	Phone:	419-887-3432
			3939 Technology Dr Maumee, OH 43537	E-mail:	amy.zyski@dana.com
P	Henderson, Jeff	NV	Afton Chemical	Phone:	804-788-5800 X 8412
			500 Spring St. Richmond, VA 23219	E-mail:	jeff.henderson@aftonchemical.com
				Phone:	
				E-mail:	

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