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May 8th, 2017

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

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

May 3rd, 2017 Surveillance Panel Meeting (Automation Alley – Troy, MI)

Please direct any corrections or comments to my attention.

Very Respectfully,

Eric Donovan, Chairman L-42 Surveillance Panel

L-42 Surveillance Panel Meeting Minutes

Automation Alley - Troy, MI

May 3, 2017

Attendees: voting members in bold, * indicates called in via teleconference

N. Aguirre (Intertek)	K. Drlja (Lubrizol)	E. Sattler (US Army)
R. Banas (Exxon)	A. Goyal (BASF)	*G. Schmalbach (Dana)
D. Bell (Afton)	P. Kanga (Exxon)	D. Smith (Intertek)
B. Bubonic (LZ)	B. Kearney (Afton)	M. Stevens (SwRI)
*H. Chambers (Linamar)	V. Marsic (Lubrizol)	A. Trader (Intertek)
*T. Deany (Dana)	D. Mosher (BASF)	W. Venhoff (LZ)
J. Dharte (AAM)	S. Parke (TMC)	R. Warden (SwRI)
E. Donovan (Afton/C)	*C. Prengaman (LZ)	

Call to Order

Review of Agenda

The meeting agenda is attached.

Review of Membership

No changes to the membership at this time.

Approval of Meeting Minutes

Meeting minutes for approval:

- "20170208_SP" → February 8, 2017 – Warrendale, PA

Motion by D. Smith, second by J. Dharte to approve meeting minutes as presented. Unanimous approval, no abstentions.

L-42 Hardware – 2017 order updates

E. Donovan briefly reviewed the recent history of the order. Tim Deany of Dana provided an update stating that the material and components were being acquired and gathered in the Lugoff, SC plant for assembly. Tim stated that all is going well and on track for delivering the pilot batch of 9 axles, 3 per lab, to each of the participating labs in early September 2017.

The SP discussed the 9 pilot axles and merits of more or less axles to verify batch performance. The panel agreed to stay with 9 initial axles and review this number and plan at the August meeting.

L-42-1 Development Update

Due to rig availability, no further development has occurred at Afton. More development runs will happen as the rig becomes available in the near future.

Due to lack of rig and resource availability, E. Donovan suggested involving a 3rd party to help develop the test and possibly design a test rig that all labs would purchase to run L-42-1 and also have performance to run L-37-1. Cost is a major concern as is determining the exact test profile needed for the next generation test. The panel agreed that more development is needed before being able to move forward with a 3rd party such as testing only one (1) shock or part of a shock to see how that effects the gear tooth surface. The labs will continue to attempt development as rig and resource availability allows.

New/Open Issues

No new or open issues at this time.

Adjournment

Motion by R. Warden, second by W. Venhoff. All in favor, meeting adjourned.

Respectfully submitted,

Eric Donovan

L-42 Surveillance Panel Chairman



L-42 Surveillance Panel Meeting

Automation Alley
Troy, MI
May 3, 2017
10:30 am - 11:00 am

Passion for Solutions

Agenda

- Call to Order
- Agenda
- **№ Membership Review & Update**
- Approval of Meeting Minutes
- **△ L-42-1 Development**
- **№ New/Open Issues**
- Adjournment



L-42 SP Voting Members

- Rob Banas ExxonMobil
- ▲ Allen Comfort US Army
- John Dharte AAM
- Eric Donovan Afton Chemical (Chair)
- Scott Parke TMC
- ✓ Jule Rucker Meritor
- ▶ Dale Smith Intertek
- Wes Venhoff- Lubrizol
- Rebecca Warden SwRI



Approval of Meeting Minutes

△ SP Meeting Minutes

^ "20170208_SP" → February 8, 2017 – Warrendale, PA



L-42 Hardware – 2017 order updates

- May 2016 − The SP agreed the best idea is to continue with Dana hardware until L-42-1 is complete
- August 2016 Labs were to review current hardware status and report back to plan timing for next hardware order
 - ▲ Afton 2 years
 - ▲ Intertek 2 years
 - ▲ Lubrizol 5 years
 - ◆ SwRI 1 year (conservatively)
- November 2016 − The SP agreed on using the previous 2014 order batch requirements that Dana currently has on hand
- ✓ January 2017 The 3 labs participating in the order sent Pos to Dana. This met previously set deadlines in order to receive axles by early 4Q2017



L-42 Hardware – 2017 order updates cont'd

February 2017 – The SP agreed to have a small batch of 9 axles produced and 3 axles sent to each of the 3 participating labs. Each lab will run two passing reference oil and one discrimination oil run on a currently referenced stand. Tests shall be run and results shared with the SP and Dana within approximately 2 weeks, no more than 30 days, after receiving the axles.



L-42-1 Development

Summary

- ◆ Electric T-rig (input and outputs)
- ◆ Dana 44 mounted without springs

Development to date

- ◆ Data from L-42 run was used to create 100 Hz setpoints for initial L-42-1 testing
- ▲ Initial testing shows good progress, fine tuning still needed to hit exact setpoints consistently



New/Open Issues

Thanks!



GARY S-

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