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Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

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October 24th, 2011

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

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

- **October 11th, 2011 L-37 Surveillance Panel Teleconference**

Please direct any corrections or comments to my attention.

Sincerely,

Galen Greene, Chairman
L-37 Surveillance Panel

**Report of Meeting
L-37 Surveillance Panel Meeting
Teleconference**

October 11th, 2011

Attendees:

SwRI -	Koehler
Lubrizol -	Greene , Venhoff, Hamilton
Afton -	Koglin , Bell
Intertek -	Smith , Trader
TMC -	Parke
Meritor -	McGlone
Dana -	Guzikowski , Pappademos

Voting Members in **BOLD**

The meeting was called to order at 10:30 am EDT.

1.0 Summary of Meeting Discussions

1.1 Review of Pilot Batch Data

The group reviewed the recent data that was generated on the pilot batch of hardware. This work started with a redesign of the gear geometry. About 30 tests were run on a pilot batch of hardware. The results from this work are attached in attachment 1. The group explored 3 main options:

Test Iteration #	Test Load	Test Phase Length	Hardware
1	Full load (1740 ft. lbs.)	24 hours	Both ring/pinion Lubrited
2	Full load (1740 ft. lbs.)	24 hours	Ring only Lubrited
3	Full load (1740 ft. lbs.)	20 hours	Both ring/pinion Lubrited

The hardware task force recommended proceeding with both ring and pinion Lubrited run at 20 hour test length (iteration #3). The group briefly discussed the results and proposed the following motion:

Motion # 1 → Mr. Smith / 2nd Mr. McGlone to have Dana proceed with Lubriting both ring and pinion. Labs will be adjusting POs to dictate the split between Lubrited and non-Lubrited. The labs are to start the approval matrix with the 20 hour test, run at full load. Motion for approval was passed with a vote of 5-Yes, 0-No, and 2-Abstentions.

There were several other points discussed during the meeting regarding the new hardware batch:

- Dana is to lock all parameters and produce the full batch the same as they did the pilot batch
- A quote and plan for the new housings is still outstanding
- The location of the build for retrofit axles will be Maumee
- The labs would like for Maumee to be aware of problems with the differential shims. Several test axles in the pilot batch have thrown thinner shims out into the housing. Larger shims (and less of them) are preferred over more thin shims.
- This batch will have different contact pattern requirements with the new gear design. The group will discuss this further at the next meeting.

1.2 Status of Full Hardware Batch

Mr. Pappademos provided an update on the progress of the full batch:

- Ring gears are through cutting and are ready for lapping
- Pinion gears are waiting on an additional fire check
- Mr. Pappademos estimated that the pinion fire check would be complete during this week (w/c 10/10)
- If the fire check looked good, the pinion cutting will commence.
- The pinion fire check is the main hold up now, the fire check parts need to wait for similar production items to go through the furnace.
- Aggressive estimate for gears to be done is November; however, the production could go into December.

2.0 Adjournment

Motion to Adjourn by Mr. Koglin, 2nd Mr. Smith. Meeting Adjourned at 11:10 am EDT

Respectfully submitted,

Galen Greene
L-37 Surveillance Panel Chairman

Attachment 1

IND	TVERSION	PINBAT	RINGBAT	SERIALNO	MATCHNO	LTMSLAB	LTMSAPP	TESTKEY	LTMSDATE	WEAR	RIDG	RIPP	SPIT	SCOR	WEARR	RIDGR	RIPPR	SPITR	SCORR	COM1	COM2	COM3	COM4
Both Ring and Pinion Lubrited (24 Hour Test)																							
134	STANDARD	V1L528	P4T883A	JUSA398	0P	D	2A	73551-L37	20110308	5	5	9	9.4	10	6	6	9	9.8	10	LUBRITED	STANDARD		
134	STANDARD	V1L528	P4T883A	JUSA3956	1X	B	1	75514-L37	20110311	6	4	9	8	10	7	5	9	9.9	10	LUBRITED	STANDARD		
155	STANDARD	V1L528	P4T883A	ASTM0100	5L	A	4	80859-L37	20110311	7	8	8	9.9	10	7	9	9	9.9	10	LUBRITED	STANDARD		
155	STANDARD	V1L528	P4T883A	JUSA3	0A	B	1	78147-L37	20110324	6	8	8	9.8	10	7	9	9	9.9	10	LUBRITED	STANDARD		
152-1	CANADIAN	V1L528	P4T883A	JUSA3952	0L	D	2A	80854-L37	20110311	7	7	9	9.9	10	8	10	10	10	10	LUBRITED	CANADIAN		
152-1	CANADIAN	V1L528	P4T883A	ASTM 0088	5H	A	4	80857-L37	20110312	6	7	7	9.9	10	8	9	9	9.9	10	LUBRITED	CANADIAN		
152-1	CANADIAN	V1L528	P4T883A	ASTM0087	0H	A	4	80858-L37	20110331	6	7	7	9.8	10	6	8	9	9.9	10	LUBRITED	CANADIAN		
152-1	STANDARD	V1L528	P4T883A	JUSA3988	2N	D	2A	73559-L37	20110306	7	7	9	9.9	10	8	10	10	9.9	10	LUBRITED	STANDARD	REDUCED	LOAD
152-1	STANDARD	V1L528	P4T883A	ASTM0093	1N	A	4	73571-L37	20110309	7	8	8	9.9	10	8	9	9	9.9	10	LUBRITED	STANDARD	RIPPS	
152-1	STANDARD	V1L528	P4T883A	JUSA3976	7A	B	1	76954-L37	20110323	3	3	9	3	10	5	5	10	9.5	10	LUBRITED	STANDARD	2_BROKEN	TEETH
152-1	STANDARD	V1L528	P4T883A	JUSA3948	2L	D	2A	80855-L37	20110330	6	7	9	5	10	7	8	10	9.9	10	LUBRITED	STANDARD		
152-1	STANDARD	V1L528	P4T883A	N/A	0X	B	1	80862-L37	20110406	6	5	8	9.7	10	7	8	10	9.9	10	LUBRITED	STANDARD	1 BROKEN	TOOTH
152-1	STANDARD	V1L528	P4T883A	JUSA3752	7X	D	2A	81559-L37	20110610	6	8	7	6	10	8	9	10	9.9	10	LUBRITED	STANDARD		
152-1	STANDARD	V1L528	P4T883A	ASTM 0120	7P	A	4	81562-L37	20110615	6	9	8	9.9	10	7	10	9	9.9	10	LUBRITED	STANDARD		

Ring Only (24 Hour Test)																							
134	STANDARD	V1L528	P4T883A	JUSA3704	2V	A	4	73563-L37	20110703	7	8	7	9.8	10	7	9	9	9.9	10	LUBRITED	RINGONLY		
134	STANDARD	V1L528	P4T883A	JUSA3696	7V	G	1	71472-L37	20110707	4	3	7	7	10	6	3	10	9.8	10	RINGONLY	BROKEN	TEETH	
134	STANDARD	V1L528	P4T883A	JUSA3692	2C	B	1	78859-L37	20110715	6	5	9	7	10	7	6	9	9.9	10	RINGONLY			
134	STANDARD	V1L528	P4T883A	N/A	0T	A	4	73564-L37	20110722	6	9	5	9.8	10	8	9	9	9.9	10	STANDARD	RINGONLY		
152-1	STANDARD	V1L528	P4T883A		2J	D	2A	81560-L37	20110625	7	8	7	9.9	10	8	10	9	9.9	10	LUBRITED	RING	ONLY	
152-1	STANDARD	V1L528	P4T883A	JUSA A3718	7P	B	1	81564-L37	20110625	6	10	10	9.9	10	7	10	10	10	10	LUBRITED	RING	ONLY	

20 Hour Ring and Pinion Both Lubrited																							
134	STANDARD	V1L528	P4T883A	JUSA3732	7V	G	1	71473-L37	20110721	4	4	5	6	10	4	5	4	9.7	10	20 HOUR	PINION	& RING	LUBRITED
134	STANDARD	V1L528	P4T883A	JUSA3728	1J	B	1	78860-L37	20110802	6	6	8	9.7	10	7	7	10	9.9	10	20 HOUR	RING &	PINION	
134	STANDARD	V1L528	P4T883A	N/A	7T	A	4	73565-L37	20110809	5	5	5	9.7	10	6	7	8	9.9	10	20_HOURS	RING&PIN		
152-1	CANADIAN	V1L528	P4T883A		2N	D	2A	82773-L37	20110825	7	8	5	9.9	10	7	10	8	9.9	10	LUBRITED	20HR	CANADIAN	
152-1	CANADIAN	V1L528	P4T883A	ASTM-0065	0H	A	4	82173-L37	20110921	6	8	5	9.9	10	7	9	10	9.9	10	20_HR	CANADIAN		
152-1	STANDARD	V1L528	P4T883A	JUSA0736	2P	B	1	83051-L37	20110716	6	9	8	9.7	10	8	10	9	9.9	10	20_HOUR	RING &	PINION	
152-1	STANDARD	V1L528	P4T883A	1XX1	2L	D	2A	82772-L37	20110810	6	8	9	9.9	10	7	10	10	9.9	10	20_HOUR	RING&PIN		
152-1	STANDARD	V1L528	P4T883A	N/A	0A	B	1	83052-L37	20110923	7	10	9	9.8	10	9	10	10	9.9	10	20_HOUR	STANDARD		
155	STANDARD	V1L528	P4T883A	0081	2J1	G	1	73576-L37	20110823	7	9	8	9.9	10	7	10	9	9.9	10	20_HR	STANDARD		

20 Hour Ring only Lubrited																							
152-1	STANDARD	V1L528	P4T883A	JUSA-3708	2P	B	1	83050-L37	20110710	7	9	9	9.9	10	9	10	10	9.9	10	20_HOURS	RINGONLY		