

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

**February 2<sup>nd</sup>, 2017**

**Attendees:**

SwRI -	<b>Koehler, Stevens</b>
Lubrizol -	<b>Venhoff, Drlja, Marsic</b>
Afton -	<b>Donovan</b>
Intertek -	<b>Smith, Trader, Rettmann</b>
TMC -	<b>Parke</b>
ExxonMobil -	<b>Banas, Kanga</b>
AAM -	<b>Dharte</b>
BASF -	Joy
Dana -	<b>Guzikowski</b>

Voting Members in **BOLD**

The meeting was called to order at 11:30am EST.

**1.0 “GL-4” and Other Fluid Results on Non-Lubrited Dana & Gleason Hardware**

Continuing the discussion from the November 29, 2016 teleconference, W. Venhoff from Lubrizol shared the results from the “GL-4” fluid performance matrix testing on both Dana non-lubrited and Gleason non-lubrited hardware under Standard test conditions. After the initial 10 test matrix, the data revealed that both hardware types appear to pass this particular “GL-4” fluid which was a bit surprising to some in the group (with the expectation that the L-37 test should be able to differentiate “GL-4” vs. “GL-5” fluids).

Additional fluids were looked at under the Canadian test conditions (with repeat data) to highlight the apparent “mild” nature of the Gleason hardware when compared to the historic Dana hardware. Lubrizol used this data to argue that correction factors were not necessary in order to approve the non-lubrited Gleason hardware for Standard test conditions. The data set is included on the following pages.

**2.0 Dana Supply of Future L-37 Hardware**

W. Venhoff alerted the group that he had been contacted by Brad Hennessey at Dana earlier in the year regarding future supply of L-37 test hardware. Brad is the Dana account manager supporting the current industry hardware order for the L-42 test. He became aware of the L-37 hardware activity and expressed Dana’s interest in being considered for future hardware supply. Further discussions needed at the L-37 surveillance panel level to determine/decide if this is a route we’re interested in pursuing again.

**3.0 Unique Gleason Distress**

W. Venhoff alerted the group to what appears to be a new/unique distress appearing on some of the Gleason non-lubrited hardware. The other labs were asked if they have observed this unique distress. W. Venhoff informed the group that Lubrizol plans to bring hardware exhibiting this distress to the February 2017 surveillance panel meeting for “show and tell” and expects that there will be further discussion on this topic at that time.

#### **4.0 Adjournment**

Meeting Adjourned at 12:00pm EST

Respectfully submitted,

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

L-37 HIGH TORQUE					
Lab	LZ	SWRI	SWRI	IAR	IAR
Completion Date	6-Dec-16	3-Jan-17	2-Jan-17	20-Dec-16	22-Dec-16
LAB VALID	V	V	V	V	V
STAND	191	4	4	TB3	TB3
FINAL RING GEAR WEAR	9	7	7	9	8
FINAL RING GEAR SURFACE FATIGUE RIPPLING	10	10	10	10	10
FINAL RING GEAR SURFACE FATIGUE RIDGING	10	10	10	10	10
FINAL RING GEAR SURFACE FATIGUE PIT/SPAL	9.9	9.9	9.9	9.9	9.9
FINAL RING GEAR SURFACE FATIGUE SCORING	10	10	10	10	10
FINAL PINION GEAR WEAR	8	6	6	6	7
FINAL PINION GEAR RIPPLING	10	9.4 (9)	9.4 (9)	9	9
FINAL PINION GEAR SURFACE RIDGING	9.4 (9)	9.4 (9)	9.4 (9)	9	8
FINAL PINION GEAR PITTING/SPALLING MERIT	9.8	9.7	9.9	9.8	9.9
FINAL PINION GEAR SCORING	10	10	10	10	10
L-37-1 NL,GLEASON					
Lab	LZ	SWRI	SWRI	IAR	IAR
Completion Date	26-Oct-16	9-Dec-16	7-Dec-16	13-Dec-16	14-Dec-16
LAB VALID	N	N	N	N	N
STAND	361	5	5	TB3	TB3
FINAL RING GEAR WEAR	9	8	8	9	8
FINAL RING GEAR SURFACE FATIGUE RIPPLING	10	10	10	10	9
FINAL RING GEAR SURFACE FATIGUE RIDGING	10	10	10	10	9
FINAL RING GEAR SURFACE FATIGUE PIT/SPAL	9.9	9.9	9.9	9.9	9.9
FINAL RING GEAR SURFACE FATIGUE SCORING	10	10	10	10	10
FINAL PINION GEAR WEAR	7	7	7	8	7
FINAL PINION GEAR RIPPLING	10	9	8	9	6
FINAL PINION GEAR SURFACE RIDGING	10	9	9	10	8
FINAL PINION GEAR PITTING/SPALLING MERIT	9.9	9.9	9.9	9.9	9.8
FINAL PINION GEAR SCORING	10	10	10	10	10

L-37 HIGH TORQUE, CAN				
Lab	SWRI	SWRI	SWRI	LZ
Completion Date	23-Aug-13	4-Sep-13	18-Jun-16	1-Jul-16
LAB VALID	V	V	V	V
STAND	4	4	4	191
FINAL RING GEAR WEAR	8	8	7	7
FINAL RING GEAR SURFACE FATIGUE RIPPLING	9	9	9	10
FINAL RING GEAR SURFACE FATIGUE RIDGING	9	8	9	10
FINAL RING GEAR SURFACE FATIGUE PIT/SPAL	7	9.5	8	9
FINAL RING GEAR SURFACE FATIGUE SCORING	10	10	10	10
FINAL PINION GEAR WEAR	7	7	7	7
FINAL PINION GEAR RIPPLING	8.4 (6)	8.4 (6)	9.8 (9)	8.9 (7)
FINAL PINION GEAR SURFACE RIDGING	7	7	8	9
FINAL PINION GEAR PITTING/SPALLING MERIT	9.9	7	9.9	8
FINAL PINION GEAR SCORING	10	10	10	10
L-37-1 NL, GLEASON, CAN				
Lab	LZ	LZ	LZ	
Completion Date	15-Jun-15	18-Jan-17	17-Jan-17	
LAB VALID	N	N	N	
STAND	361	361	361	
FINAL RING GEAR WEAR	8	9	9	
FINAL RING GEAR SURFACE FATIGUE RIPPLING	10	10	10	
FINAL RING GEAR SURFACE FATIGUE RIDGING	10	10	10	
FINAL RING GEAR SURFACE FATIGUE PIT/SPAL	10	9.9	9.9	
FINAL RING GEAR SURFACE FATIGUE SCORING	10	10	10	
FINAL PINION GEAR WEAR	8	7	7	
FINAL PINION GEAR RIPPLING	10	8	7	
FINAL PINION GEAR SURFACE RIDGING	10	10	10	
FINAL PINION GEAR PITTING/SPALLING MERIT	9.9	9.7	9.8	
FINAL PINION GEAR SCORING	10	10	10	

L-37 HIGH TORQUE, CAN			
Lab	SWRI	SWRI	
Completion Date	9-Feb-16	19-Feb-16	
LAB VALID	V	V	
STAND	4	4	
FINAL RING GEAR WEAR	7	7	
FINAL RING GEAR SURFACE FATIGUE RIPPLING	9	9	
FINAL RING GEAR SURFACE FATIGUE RIDGING	9	8	
FINAL RING GEAR SURFACE FATIGUE PIT/SPAL	8	9.8	
FINAL RING GEAR SURFACE FATIGUE SCORING	10	10	
FINAL PINION GEAR WEAR	7	7	
FINAL PINION GEAR RIPPLING	7.9 (5)	7.9 (5)	
FINAL PINION GEAR SURFACE RIDGING	7	8	
FINAL PINION GEAR PITTING/SPALLING MERIT	9.8	9.9	
FINAL PINION GEAR SCORING	10	10	
L-37-1 NL, GLEASON, CAN			
Lab	LZ	LZ	LZ
Completion Date	24-Oct-16	28-Jan-17	26-Jan-17
LAB VALID	N	N	N
STAND	361	361	361
FINAL RING GEAR WEAR	9	9	9
FINAL RING GEAR SURFACE FATIGUE RIPPLING	10	10	10
FINAL RING GEAR SURFACE FATIGUE RIDGING	10	10	10
FINAL RING GEAR SURFACE FATIGUE PIT/SPAL	9.9	9.9	9.9
FINAL RING GEAR SURFACE FATIGUE SCORING	10	10	10
FINAL PINION GEAR WEAR	8	7	7
FINAL PINION GEAR RIPPLING	8	9	8
FINAL PINION GEAR SURFACE RIDGING	10	8	10
FINAL PINION GEAR PITTING/SPALLING MERIT	9.9	9.9	9.9
FINAL PINION GEAR SCORING	10	10	10