

# Daimler Surveillance Panel Meeting Minutes

August 9, 2017

1:00 PM CST

## **Call Participants:**

Lubrizol - Patrick Joyce, Kevin O'Malley  
Southwest Research Institute – Jim McCord, Travis Kostan  
Intertek - Jacob Goodale, Jim Moritz  
Daimler - Suzanne Neal  
Infineum - Jim Gutzwiller, Elisa Santos, Bob Salgueiro  
Oronite – Jim Rutherford, Mark Cooper  
TEI – Derek Grosch, Mark Sutherland  
Exxon Mobile – Ray Burns  
Evonik – Don Smolenski  
TMC – Sean Moyer

## **Reports:**

**Parts Update** - No update from TEI, however they do need part numbers for components that will be added to the kits (oil pump, flywheel bolts, etc.).

## **Unfinished Business:**

**None**

## **New Business:**

**Batch “B” Liner Update** (Daimler: Suzanne) – Liner update presentation attached – The batch of 2000 liners from Daimler Internal manufacturing has not been made as Detroit location will no longer be making DD13 liners. The long term supplier will now be Mahle Brazil. If the liner change is accepted it will take ~9 weeks to make and ship the liners. The surface roughness, material content and cast type for the “old” and the “new” Mahle liners is shown in the attached presentation. One of the main differences between the liners is in the casting method as the “old” liners were gravity cast and “new” liners will be spun.

TEI is concerned that we purchase 2000 liners from the new supplier and we find out that they are not usable. The plan is to obtain a smaller subset of the new liners to verify they are fit for testing prior to purchasing the large set. Daimler will find out an estimated timeline to receive a small order of ~60 liners and other alternative options. Once this information is available another SP meeting will be held to discuss the path forward. A material comparison between the current and new liners will also be conducted by Lubrizol.

**DD13 Rater Requirements** (Patrick Joyce) – Raters for this test are to attend a rating workshop once a year, but still need to discuss how to set bands for the raters. Potential wording for this is shown in the attached presentation by Patrick.

## **Next Meeting**

Next meeting is scheduled for August 21, 2017 at 10:00 AM CST.

# DAIMLER

DD 13 Scuffing Test Liner Update  
Suzanne Neal & Gregory Braziunas  
August 8th, 2017

## Daimler Trucks



# Overview

- Liners were originally ordered from Daimler internal manufacturing
  - Semi Finished liner from FM
  - Machined on Detroit honing line
- Daimler manufacturing strategy has shifted:
  - Detroit location will no longer be making DD 13 liners
- Long term supply of DD 13 liners for NAFTA will be supplied through Mahle Brazil

# Comparison

Company	Casting	Honed	Pros	Cons	
Mahle	Semi Finished Casting Created by Mahle	At Mahle Facility	<ul style="list-style-type: none"><li>• High Quality</li><li>• Long Term Supplier</li></ul>	<ul style="list-style-type: none"><li>• New supplier for scuffing test liner supply</li></ul>	Recommended Option by Daimler
FM / Detroit Diesel	Semi Finished Casting Created by FM	At Detroit Diesel	<ul style="list-style-type: none"><li>• Maintain current supplier for scuffing test liner supply</li></ul>	<ul style="list-style-type: none"><li>• Supply not guaranteed</li></ul>	

# Proposal/Timing

Company	Time to Make from PO	Shipping
Mahle	7 weeks	~2 weeks

## Referencing

- Reference tests
  - Already planned to reference many parts at once
    - Batch B - Top Ring
    - Batch A - Second and Third Ring
    - Batch A - Pistons
    - Batch C - Liners
  - Liner Batches:
    - PNB FM Liners - Parts not batched from service
    - Batch A Liners - FM 1080 from Detroit (returned for scratches)
    - Batch B Liners - Order for FM/Detroit 2000 Liners - Canceled
    - PNB Mahle Liners - Parts not batched from service
    - Batch C Liners - Full order of 2000 liners from Mahle

# Hone Spec Comparison – FM vs. Mahle

Part Number	Supplier	Hone Spec			Notes
		Rpk	Rk	Rvk	
A 471 011 2910	FM / Detroit	0.2 a/2 20-30°	0.2 – 0.8	0.5 – 1.8	
A 471 011 3310	Mahle	0.2 a/2 20-30°	0.2 – 0.8	0.8 – 2.0	PPAP falls within range of FM and Mahle specifications.

# Casting Comparison – FM vs. Mahle

Part Number	Supplier	Content %								Casting Type
		Fe	C	P	Si	S	Cu	Mn	Cr	
A 471 011 2910	FM	Remainder	2.5-3.5	Max 0.15	1.5- 2.4	Max 0.12	Max 0.8	0.5- 0.9	Max 0.5	Gravity
A 471 011 3310	Mahle	Remainder	2.7-3.5	0.1- 0.35	1.8- 2.3	Max 0.8	0.4- 0.9	0.3- 0.7	0.2- 0.6	Spun

# Next Steps

- Suzanne/Greg
  - Find out if liners are available in service
  - Find out timeline for small order (~60 liners) or alternative options
  - Once information is available, another SP meeting will be held
- SP would like to do a material comparison between the parts (Lubrizol offered to complete the comparison)



# DD13 (D7084) Rating Requirements

**Patrick Joyce**

9 August 2017

# Potential Wording for DD13 (D7084)



1. All raters of DD13 engine parts shall attend an ASTM Rating Workshop every **12 months ± 30 days** and produce data that meet the ASTM definitions of Blue, Red, or White for liner scuffing. If a rater is unable to meet this requirement, the rater can continue to rate DD13 parts during a grace period of **45 days** after completion of the workshop and can follow the procedure described in **2** to generate data that meet the ASTM definitions of Blue, Red, or White.
2. A rater who is unable to meet the requirement in **1** can schedule a visit to the TMC to generate data on ASTM Heavy Duty Distress Rating Workshop parts and receive an assessment of rating performance compared to data collected at recent workshops. Visits to the TMC will be scheduled based on availability of parts.
3. The TMC selects a minimum of **6 liners** from a collection of workshop parts for the rater to rate scuffing. The TMC provides rating booths and lights, but the rater is responsible for providing any necessary rating aids. The TMC analyzes the data and determine if the requirement in **1** has been met. If the requirement in **1** has not been met, any time remaining in the grace period of **45 days** is forfeited.
4. A second attempt to generate rating data at the TMC is permitted only after the rater receives training from an experienced industry rater. The experienced industry rater shall verify to the TMC, in writing, that the rater training has taken place. No more than **two attempts** are permitted between ASTM Rating Workshops.





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