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**Subject:** Mack Surveillance Panel Meeting Minutes - July 31, 2015  
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**Attachments:** [image002.png](#)  
[image001.png](#)  
[ltms20150729a.pdf](#)

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Good evening everyone,

Please find the unconfirmed minutes below of the July 31st meeting held by the Mack Surveillance Panel.

Please feel free to let me know if there are any changes or revisions needed. Thanks.

## **Mack Surveillance Panel Meeting**

Teleconference

**July 31, 2015**

### **Attendees:**

Afton – Bob Campbell

Intertek – Jim Moritz (filling in for Mark Cooper, Chairman), Luiz Garcia, Juan Vega

Infineum – Bob Salgueiro (Secretary), Jim Gutzwiller

Lubrizol – Jim Matasic

Oronite – Jim Rutherford

SwRI – Jim McCord

TEI – Dan Lanctot

TMC – Sean Moyer

Volvo/Mack – Greg Shank

The meeting was called to order at 10:35AM, by Jim Moritz, who was filling in for Mark Cooper, Chairman of the Surveillance Panel. The agenda topics are bulleted below, with discussions and actions following.

### **Impact of Piston Batch on Oil Consumption and Pb (Lead)**

- Additional reference test result from Lab D
- Status of other upcoming reference tests
- Discussion around coded candidate Mack T-12 oil consumption data

Rutherford (ORO) asked about the ballot for T-13 LTMS update and that there might be an editorial update the Surveillance Panel may want to consider.

Rutherford (ORO) reviewed the attached presentation.

### **Reference Data**

**+ There was one new test from Lab D on slide 6.** Oil consumption appears to have reduced

recently, but it does not clearly correlate to piston batch.

#### **Candidate Data**

- + For 15W-40 only, it looked as though oil consumption was increasing over time.
- + For 10W-30 only, oil consumption has dropped recently but was not clear if it was a particular hardware batch or time frame in which this change had occurred.

#### **Correction Factors**

- + Proposed correction factors were defined in terms of hardware: VUXO Update only, and A & B Piston data only

At Moritz's (IAR) request, Rutherford (ORO) created a slide for Pb similar to slide 6. The latest results seemed to all be below the lowest point on the prior batches of pistons (before A & B). Matasic (LZ) felt the shift seemed to also affect the previous data and might not be tied to hardware in as much as time. Campbell (AFTN) said it seemed like the anomalous data points were the 6 that occurred right after the correction factors. It was confirmed that TEI started sorting pistons for bowl transition chamfer in June of 2013. All kits prior to 18163 had production pistons. Kits 181363-181567 contained "A" batch pistons. Kit 181568 started the "B" Batch pistons. Kit 181987 will start the "C" batch. Rutherford (ORO) plotted Pb vs oil consumption to check correlation. Moritz (IAR) noted that all the latest 7 runs were in the lower/lower quadrant, supporting the theory that lower oil consumption could be contributing to lower Pb numbers. Recent data on TRWL appears to have shifted down relative to where it had been historically. Standard Deviations for oil consumption, EOT Pb, 250-300 Pb, TRWL, did not appear to have changed much. Reviewing standard deviation, Liner wear showed more difference than originally, Top Ring Weight Loss may have improved a little, EOT Pb appears tighter vs last year. A concern was raised that if we tighten up the correction factors based on the recent data and then there is a shift back in oil consumption, we could see a shift in Pb and have been better off with not tightening the correction factors. We could review after the next round of references to make sure we have made the correct decision. The task force considered using a date instead of back applying the correction factors based on hardware but ultimately settled on hardware as it was a cleaner separation.

A few non-chartable tests were included in the data analysis, they were deemed to have minimal impact on the proposed correction factors, Jim revised his analysis to exclude those tests. Afton's statistician's analysis considered all ref oil rebends the same and came up with similar correction factors to Jim's proposed ICFs, except for ring wear. Afton had used Lab and hardware batch: VUXO A&B, UUXO, and STWN were the hardware groupings.

With 7 tests, 2 stands that can't calibrate, the Surveillance Panel needs to take action. The labs confirmed their next T-12 references test starts. Lubrizol lab will have start next week on B pistons, SwRI in next 2 weeks. IAR may have one later in August. There are only Batch B pistons available now. Lubrizol may have 1 or 2 batch A pistons kits left, but will run the next reference on B pistons.

***Motion: Adopt correction factors below, for candidate tests on batch A or B pistons only, on or after Aug 4<sup>th</sup>, back applied to reference oil tests with hardware kits using with only A & B pistons, which may affect calibration status, and reset lab charts based on that.***

Motion Proposed by: Bob Campbell (AFTN)

Motion Seconded by: Jim Matasic (LZ)

Votes: There were no negative votes. TEI and TMC waived. The motion carried.

Rutherford (ORO) provided the updated correction factors.

	<b>TRNDPB</b>	<b>TRNDPB2</b>	<b>TRNOC</b>	<b>ALW_</b>	<b>ATRWL_</b>
<b>ICF</b>	<b>0.954</b>	<b>0.895</b>	<b>0.942</b>	<b>0.953</b>	<b>0.912</b>

<b>A and B Pistons</b>					
including only A and B pistons					
	TRNDPB	TRNDPB2	TRNOC	ALW_	ATRWL_
Predicted	3.255	2.375	4.347	17.0	68
Target	3.106	2.125	4.093	16.2	62
ICF	0.954	0.895	0.942	0.953	0.912

- **Proposed T-13 LTMS Editorial Change**

In the T-13 LTMS, Rutherford (ORO) proposed eliminating text under Section 4. Chart Status. The starting point for EWMA is the average for first 2 tests. In older versions of the method, there was wording for Shewart severity which does not apply.

4. Chart Status

For the T-13,  $Z_0 = \text{Mean } Y_i$  of first two ~~tests acceptable for Shewart severity plus all operationally valid tests in-between.~~ The constants used for the construction of the control charts for the T-13 are shown in the compendium, and the response necessary in the case of control chart limit alarms, are depicted below. Note that control charting all parameters is required.

This editorial change was subsequent to the e-ballot for the updated T-13 LTMS. A communication will be sent out to the same list that received the e-ballot notifying them of this change.

Sean Moyer (TMC) checked the T-13 procedure and it does define new stand.

The meeting was adjourned 12:02PM

Very Best Regards,

**Bob Salgueiro**

Industry Liaison Advisor

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