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**Subject:** Mack Surveillance Panel Meeting Minutes 2020-05-20  
**Date:** Tuesday, May 26, 2020 10:53:58  
**Attachments:** Alternate Fuel Supply Testing Proposal for Mack-Volvo Tests.pdf  
Comments from Prasad Tumati around Mack Volvo test alternative fuel supply proposal.pdf  
PC-9 and PC-10.pdf  
Volvo-Mack CPD Report T8-T11-T12-T13 5-20-2020.pdf

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## **Mack/Volvo Surveillance Panel Meeting**

**May 20, 2020**

**10:00 AM – 11:20 AM EST**

<http://www.astmtmc.cmu.edu/ftp/docs/diesel/mack/minutes/2020/05.20/>

### **Attendees:**

**Afton:** Bob Campbell, Christian Porter

**Chevron Phillips Chemical:** Jon VanScoyoc

**ExxonMobil:** Paul Rubas, Riccardo Conti

**Haltermann:** Prasad Tumati

**Infineum:** David Brass (secretary), Elisa Santos, Jim Gutzwiller

**Intertek:** Josh Ward, Pablo Ramirez

**Lubrizol:** Jim Matasic

**Oronite:** Mark Cooper (chair)

**SWRI:** Travis Kostan, Isaac Leer, Jose Starling

**TEI:** Derek Grosch, Mark Sutherland

**TMC:** Sean Moyer

**Volvo:** Brian Tussing, Patrick Holmes

### **Agenda:**

0. David Brass (Infineum) has taken over the role of Secretary replacing Bob Salgueiro (Infineum)
  1. Parts update from TEI
  2. Coordinated references testing for Mack T-12 parts
  3. Mack T-11 MRV Result Data Dictionary Field
  4. Criteria for consideration of alternative fuel supply for PC9-HS and PC10
  5. Oxidation inhibitor change for CP Chem PC9HS and PC10
  6. Mack T-11/T-12 turbine elbow
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1. **Parts update from TEI** (*Presentation Shared by Derek Grosch – “Volvo-Mack CPD Report T8-T11-T12-T13 5-20-2020.pdf”*)
    - TEI has received all of the new liners, top rings and skirts to last until end of test life for Mack T-11/T-12 (Parts estimated to last until after 2026)

- 1036 of 2750 “F” Batch crowns have been received, and rest to be received in late June
- 815 New 2<sup>nd</sup> rings (Batch X) and oil rings (Batch X) received. These will last until current batch of top rings, rod bearings and main bearings run out
- Currently there are not enough rod and main bearing that have been batched to reach the end of test life. TEI is trying to get more batched bearing, but will have to go to Parts Not Batched (PNB) bearings if batched bearings cannot be obtained
- 135 batch “E” Batch crowns (22 kits) remain.
- Discussion around the “E” Batch crowns usage was had and decision was made to hold extra “E” Batch crowns toward end of life, since a coordinated reference testing will need to be conducted with the “F” batch crowns soon (*Around September Timeframe – see Agenda Item 2 for discussion on Mack T-12 Reference testing*). TEI to hold on to “E” batch crowns as they have anti-rust coating and should last.
- Two rounds of reference testing will be needed:
  - Round 1 to bring in New Liners (switch from Batch V to Batch W), 2<sup>nd</sup> Rings (switch from Batch W to Batch X), Oil Rings (switch from Batch W to Batch X) and Piston Crowns (switch from Batch E to Batch F).
  - Round 2 will be conducted in about 2-3 years after usage of ~110 kits and will bring in new Top Ring, 2<sup>nd</sup> Ring, Oil Ring, Rod Bearings and Main Bearings.
- Comment from SP member: Rod bearings will be very critical to Mack T-12 test performance and Surveillance Panel will need to be mindful of what is done for referencing of PNB bearings.
- Under current test usage there is about a 9 year supply of critical parts left for Mack T-8, T-11 and T-12
- New 2<sup>nd</sup> rings (Batch X) have an increased Face taper (2.23°) to previous Batch W (1.67°)
- New Liners (Batch W) has reduced Rpk (12.2) compared to previous Batch V (17.0)
- TEI is currently out of Covert connecting rods. New connecting rods expected to ship on June 16.
- T-13 liners: ~1 year left of Batch “B” T-13 liners

## 2. Coordinated references for Mack T-12 parts

- 3 Labs ran reference testing in the Mack T-12 recently. 1 Lab is short on test kits, runs out of calibration soon (2<sup>nd</sup> week of June) and has need to run a coordinated reference soon to bring in new batch of parts.
- Test lab that is about to run out of calibration asked for reference extension.
- Test Labs agreed to redistribute parts to allow for the lab in need of test parts to extend time before coordinated reference testing is needed.
- Test labs that just completed reference testing would like to push reference testing off until 3Q-4Q2020.
- Surveillance Panel decides that a coordinated reference test to bring in new parts for the Mack T-12 should be conducted in September.
- Motion by Bob Campbell (Afton) - **“The panel directs the TMC to adjust T-12 reference periods in order to align coordinated reference tests for the introduction of new hardware batches. Reference period adjustments will result in no net gain or loss of calibration time”**

Second: Jim Matasic (Lubrizol)

- Vote Approve: All
- Vote Negative: None
- Vote Abstain: None

**3. Mack T-11 MRV Result Data Dictionary Field**

- SWRI raised an issue about the ability to put <5000 value into the field for MRV in the Mack T-11 test report
- Mark Cooper (Chair) to send email ballot to Surveillance Panel to vote on change to data dictionary field

**4. Criteria for consideration of alternative fuel supply for PC9-HS and PC10**

- Haltermann has shown interest in becoming an alternate fuel supplier for the PC9-HS and PC10 fuels used in the Mack engine tests
- Prasad Tumati (Haltermann) gave presentations on the specifications of the PC9-HS and PC-10 fuels ("*PC-9 and PC-10.pdf*") and a plan for testing in the Mack T-8, Mack T-11, Mack T-12 and Volvo T-13 tests ("*Alternate Fuel Supply Testing Proposal for Mack-Volvo Tests.pdf*").
- In 2018 Haltermann let all of the Surveillance Panels know that they would like to become an alternate fuel supplier. Most panels talked about it without deciding on concrete steps for the process to become an alternate supplier.
- Haltermann plans to make fuel that meets the specification and do thermal chemical analysis of the chemical signature to get the fuel as close to the current PC9-HS and PC10 fuels as possible.
- Haltermann understands that the committee would like to see some testing and shared a proposal for Testing a direct comparison between the current fuel and the new Haltermann fuel.
- Comment from SP member: Mack T-11 is very sensitive to something in the PC9 fuel. Would want to see the data in this test to start.
- Surveillance Panel needs to decide if they are agreeable with Prasad's proposal, or if more is needed. SP needs to decide on the criteria for the needed comparison before testing can begin.
- Surveillance Panel agreed to entertain a proposal for testing, but will need to continue discussions around the acceptance criteria that will be used for bringing in an alternative fuel supply. Panel will hold further discussions at next panel meeting.

**5. Oxidation inhibitor change for CP Chem PC9-HS and PC10**

- Fuel supplier mentions to group that they can't get oxidation inhibitor from supplier, Innospec FOA35A anymore. Still have a couple of years of material available for making test fuel. Need to get a new oxidation inhibitor from another supplier but have not chosen new material yet and are looking for direction from Surveillance Panel as to what steps need to be taken.

**6. Mack T-11/T-12 turbine elbow**

- Test was conducted with a new turbine elbow design at test lab. Test ran well and parameters were well within acceptable ranges for the test. No major shift was experienced.

**Next Meeting to be held on June 2, 2020, 10-12 PM EST.**

Topics for Next Meeting:

1. Mack T-8 Severity shift analysis
2. Criteria for alternative fuel supply usage for PC9HS and PC10 in Mack/Volvo Tests

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