

# MACK-Volvo Surveillance Panel Meeting Notes

## 06/30/2021 @ 10:00 AM EST

### Attendees

SwRI: Isaac Leer, Robert (Bob) Warden, Travis Kostan, Jose Starling, Michael Lochte  
Oronite: David Lee, Josephine Martinez  
Afton: Christian Porter, Todd Dvorak, Cory Koglin  
Infineum: David Brass (Chairman), Elisa Santos, Jim Gutzwiller  
Intertek: Garrett White (Secretary), Martin Chadwick, Khaled Elnagi  
Lubrizol: Nick Ariemma, Jim Matasic  
CP Chem: Jon VanScoyoc  
Haltermann: Prasad Tumati  
Exxon Mobil: Paul Rubas, Steve Jetter  
TMC: Sean Moyer  
TEI: Derek Grosch

### Agenda

1. Volvo T-13 Parts Back Order
2. Volvo T-13 Alternate Fuel Ballot
3. MACK T-12 Coordinated Reference Tests

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#### *Action Items and Key Points*

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- Afton voiced concerns about the ability to order parts from their local dealers. No response from Volvo on when the backorders will be cleared.
- **Other labs to check with their stockroom and purchasing departments on any issues with ordering T-13 engine parts.**
- Paragraph AX4.2 of the T-13 alternative fuel supplier requirements document was updated to excluded mention of level 3 Ei alarms. This was implemented as an editorial change and a motion was not made. No objections were noted during the meeting.
- T-12 coordinated reference data using the latest hardware was shared. Oil consumption reduced significantly in comparison to the initial runs. There are still concerns around a noticeable increase in delta lead severity and when external oil buckets are running out of oil.
- **Labs that participated in the T-12 coordinated reference tests on new hardware will need to provide operational data from the most recent runs by July 13<sup>th</sup>. Data will be compared in the next meeting on July 20<sup>th</sup>.**

## Summary of Discussion

### Volvo T-13 Parts Back Order

- David – Are there any updates for the parts on backorder?
- Christian – Sent a note to Pat (Volvo) and still waiting to hear back.
- No other labs are currently experiencing an issue but will check with their purchasing departments and stockrooms.
- David – Did Volvo provide any lead times on when the back order would be resolved?
- Christian – No lead time was provided.
- Nick shared a photo of main bearings with what appeared to be different coatings on the crankshaft side with concern about whether they can be used in testing or not.
- Christian – These were rolled in with no referencing in a previous meeting.

### Volvo T-13 Alternate Fuel Ballot

- Ballot by email results: 8 affirms, 2 waives, and 3 that did not vote.
- 2 comments provided, one by Intertek and one from ExxonMobil.
- Comment 1 (ExxonMobil): Editorial comment included universalizing wording used for average load, average engine torque, average torque – changed to average torque throughout the document.
- Comment 2 (Intertek): No instructions on how to proceed when a level 3 Ei alarm is triggered for a run with new fuel that has been previously approved but is used for calibration of a stand.
  - T13 AX4.2 old wording: The first run on a new fuel in a lab shall meet level 2 Ei criteria as defined in the LTMS document. In the case that a level 2 Ei alarm is exceeded but not a level 3 alarm, a second test may be run and the stand considered calibrated as long as the second test also falls within the level 3 Ei alarm limits.
- Martin – The run should be handled as a regular calibration run and should not mention level 3 alarms since level 2 Ei would be applied in this situation because of the change to a different fuel. The T8 does not mention level 3 Ei.
  - T8 wording: The first run on a new fuel in a stand shall meet level 2 Ei criteria as defined in the LTMS document. In the case that a level 2 Ei alarm is exceeded, a second test may be run and the stand considered calibrated as long as normal referencing criteria are met.
- Sean – T8 must meet level 2 Ei requirements and does not mention anything regarding level 3 Ei alarms. I would recommend we use the T8 wording.
- David – Do we need to motion or vote again to accept the new wording since document has been voted on and accepted already?
- Sean – I do not see a need to re-ballot. Everyone who voted is on the call and we can treat this as an editorial change.
- David – Are there any objections to treating this as an editorial change?
- No objections were noted. Paragraph AX4.2 was edited with the following wording:

- T13 AX4.2 new wording: The first run on a new fuel in a stand should meet level 2 Ei criteria. In the case that a level 2 Ei alarm is exceeded, a second test may be run and the stand considered calibrated as long as normal referencing criteria are met.

### **T-12 Coordinated Reference Test Results**

- Oil consumption data from the 4 labs was shared.
  - Stage 1 oil consumption reduced significantly for all 4 labs. 3 of 4 were in the mid-low 20's. The 4<sup>th</sup> lab was in the low 30's. Stage 2 oil consumptions were in the upper 80's, low-mid 90's. Overall the oil consumption performance is similar to runs on Batch V liners and Batch E piston crowns.
- Lab B missed the 100-hour soot window by 0.03% and discussions were held on whether to include the results from this run in the analysis of the new hardware. It was concluded that this small margin of soot should not have a significant impact on the results and lab B's data should be included in the analysis. The test would still be deemed invalid per the procedure and would not receive calibration.
- Wear results from the labs, excluding lab B due to results not being submitted in time, were shared. Elisa also shared industry data plots showing the overall trends in severity of results. Data only included chartable T-12 reference runs, but still including the most recent runs on the new hardware:
  - Liner wear – Similar across all 3 labs, current CF seems to be suitable for now.
  - Top ring weight loss – Lab G higher than labs A and D. Current CF seems suitable for now.
  - Delta lead and delta lead 2 – Lab A higher than labs G and D. Current CF seems suitable for now.
  - Oil consumption – All labs high of target even with use of the current CF. Could look into a possible change to bring in closer to target.
- Elisa – The statisticians could meet after the holiday (July 4<sup>th</sup>) to discuss further and potential needs for new CF's.
- Martin – Are there any concerns before we go into discussions?
- Jim M – We are concerned about the delta lead and when the external bucket is going dry.
- Test hour in which external buckets were emptied by lab:
  - Lab A: 237-257 hours
  - Lab D: > 300 hours (did not empty before EOT)
  - Lab G: 275 hours
- Jim – It may be good to pull op data from the labs for these runs and compare.
- David – I think it would be beneficial to do so. Is there a template available for operational data?
- Sean – There is one on the TMC website that was last updated in 2005. Might require some updating.
- Todd Dvorak to help generate plots for the group using the operational data collected from the labs.
- Christian to obtain an Excel template to load operational data into and share with the lab engineers.

- Data required to be submitted by the labs no later than July 13<sup>th</sup>.
- David Lee – Any comments on timing of T12 availability?
- David Brass – Will need to wait on group acceptance of parts and possible new CF's. Once agreed upon the test will be brought back on. It will be dependent on the review coming up on July 22<sup>nd</sup>.

*Meeting adjourned 10:56 AM EST.*

**Next Meeting Date/Time**

~~July 22<sup>nd</sup>, 10:00 AM to 12:00 PM EST.~~

New meeting date/time proposed by David Brass after adjourning: July 20<sup>th</sup>, 10:00 AM to 12:00 PM EST.