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Subject: Mack Surveillance Panel Meeting Minutes - Wednesday, February 6, 2019
Date: Wednesday, February 06, 2019 19:55:25
Attachments: [Notification Regarding Final Batch of Mack T-11 and T-12 Liners.pdf](#)

Everyone,

The following are the unconfirmed minutes of the Mack Surveillance Panel Meeting held on Wednesday, February 6, 2019. The meeting was conducted by WebEx. Please feel free to let me know if there are any changes or revisions needed. Members should check for any follow-ups or actions. Thank you.

Participants:

Afton – Christian Porter, Bob Campbell
ExxonMobil – Shayna Butler
Infineum – Bob Salgueiro (Secretary), Elisa Santos, Jim Gutzwiller
Intertek – Jim Moritz, Juan Veja
Lubrizol – Jim Matasic, Kevin O’Malley
Oronite – Mark Cooper (Chairman), Jo Martinez
SwRI – Bob Warden, Jim McCord, Travis Kostan
TEI – Derek Grosch
TMC – Sean Moyer
Volvo – Patrick Holmes

Regrets:

Afton – Abaigeal Ritzenthaler
Haltermann – Prasad Tumati
TEI – Mark Sutherland
ExxonMobil – Cliff Salvesen

Mack Surveillance Panel Meeting

The Mack Surveillance Panel meeting was called to order just after 2:00 PM Eastern, by Mark Cooper, Chairman of the Mack Surveillance Panel.

The agenda topics are listed below, with discussions and actions following.

Agenda Topics in Bold Below, with discussion notes and actions following:

- **Mack T-11 & T-12 Liner Order Update & Trade Association Inquiries**

- Mark shared with the Surveillance Panel that notification by e-mail was sent to Volvo and the various trade associations, API (DEOAP & EOLCS), ASTM, ACC, ACEA, EMA, advising them that the Mack T-11 & T-12 liners would last till about mid-2020, and that the Surveillance Panel really needed input on how much longer those tests should be kept available. The notification is available on TMC website and a copy is attached to these minutes. It was unclear if the notification made it to all intended recipients, so Mark agreed to follow up and confirm that the notification was received. It was noted that on Feb 13th there is an API Lubricants Group meeting in San Antonio.
 - Test Labs were reminded that estimated usage rates and provide annualized T-11/T-12 liner needs should be communicated to TEI, no later than Feb. 17, but preferably earlier!
 - **ACTION:** Volvo agreed to send a response on for how long T-11 and T-12 are needed
 - **ACTION:** Mark agreed to follow-up with the trade organizations to confirm receipt of the notification and re-emphasize the importance of their response to the Surveillance Panel.
 - **ACTION:** Mack Surveillance Panel should consider a possible fall back response to TEI regarding how many liners to have in the final batch. The Surveillance Panel will regroup on Thursday February 14th at 10:00 AM Eastern to discuss a response and review any trade association input by then.
- **Volvo T-13 Bearings and Liners Update Discussion**

Open actions were reviewed for follow-up:

 - **ACTION:** Volvo will check on the status of the replacement 200 sets of connecting rod bearing kits (this is about equal to 33 T-13 tests).
 - TEI confirmed their parts dealer can get connecting rod bearings at 200 kits per week if needed.
 - **ACTION:** Volvo to check if there was any design changes to, or manufacturing process change of, the T-13 liner with the change in supplier.
 - Volvo's engineer responsible for Liners left few months ago and the replacement engineer is unaware of any manufacturing process changes to the liners. They are still made to the same drawing specifications.
 - **ACTION:** Volvo will follow up with MAHLE, to make sure there's no risk of damaging the engine by running these connecting rod bearings with surface roughness, and advise on how soon MAHLE can respond to the SP.
 - Volvo shared that MAHLE performed an analysis on the sample "rough" bearing they received and claimed the bearing roughness was within specification. MAHLE could not identify any "rough patches" and therefore they couldn't anticipate any impact to the Volvo T-13 test.
 - T-13 connecting rod reject rate going forward could be as high as 75%! TEI reported, out of 200 connecting rod bearing sets, 50 were smooth. 150 had something wrong with them (130 were rough, other 20 had scratches or other issues), so reject rate could be up to 75%.
 - There were several paths forward discussed:
 - 1) Could Volvo take back rejected connecting rod bearings from TEI so there was a use for rejected parts, especially since MAHLE claimed that the rough bearings were still in spec. The concern was that to assess the roughness of the bearings they had to be removed from their original packaging and after its removal, returning them to the Volvo/Mack dealer might be difficult.

- 2) Could TEI work with their dealer to have them prescreen the bearing kits before sending them to TEI? TEI thought they could check with their dealer.
- 3) Could the labs just purchase the connecting rod bearings themselves from their local Volvo/Mack dealer and return rejected bearing to their dealer figuring if it was in smaller quantities it would be less burdensome. TMC thought there might be an issue with switching to lab sources bearings because there is a bearing ID in the data dictionary that today is assigned by TEI, but later it was determined that the value of the ID is minimal since those parts are production any way and a batch ID was only to identify a group of bearings purchased together not necessarily made together. To address the data dictionary issue, connecting rod bearings could have a batch ID of PNB (Parts Non-Batched) recorded. The concern with that was losing all traceability. TEI confirmed that the bearings do have a code on them which appeared to give the week and year of manufacture so at least there could be some traceability. Also, the test procedure didn't appear to direct users where to buy the connecting rod bearings from so no modification would be needed to the test procedure if the labs were to purchase the bearings themselves. TMC still needs to put up at T-13 parts list on their web site.
- 4) Could MAHLE make a big batch of connecting rod bearings for TEI, so there's greater consistency? Volvo thought there might be an issue with TEI being able to purchase the connecting rod bearings directly from MAHLE. Volvo would need to confirm if that issue could be worked through. TEI was asked if they could pursue having a batch made directly from MAHLE, but TEI felt based on prior experience, they would not have success convincing MAHLE. The MAHLE bearings are made in Italy, but it was unknown if they were all from same factory.
- 5) Could TEI just order another 200 kits from the dealer and see if they look any better? SwRI confirmed they had order bearings from their local dealer to see if they could have any better luck getting smooth bearings and the kits they bought were a similar mix of smooth and rough bearings, so it was unlikely that ordering another 200 kits was going to provide any better bearings than the 200 kits TEI already had.
- After considering the above options and assuming were not going to get any new information about these bearings, the surveillance panel discussed the idea of testing the new hardware (new batch of liners and connecting rod bearings). There was a concern raised around if there might be an impact in localized oxidation with the rougher bearings or if calibration test results were within limits, would we just assume the rough bearings have no significant impact on the T-13? It was raised whether we had to test only the bearings to isolate them or test both bearings and liners together. Since TEI has 5 kits left of batch A liners (and will keep some around in case future analysis is needed), it was decided there was no need to run the new connecting rod bearings with the old liners as all labs would simply move to the new batch of liners.
 - ACTION: SwRI volunteered to run a calibration test on the new liners and with a set of the roughest connecting rod bearings TEI could find, to test their impact.**
 - ACTION: IAR was willing to run a calibration test with new liners but with smooth bearings so results could be compared to SwRI's "rough bearing" calibration test.**
- **Volvo T-13 Calibration Period Adjustment in light of parts availability issues**
 - Labs were asked if they were willing to redistribute parts to those labs which did not have parts

to address the availability issue. There was only 1 lab left which had any parts so the preferred path was to proceed with testing the new hardware.

- Labs which have run out of parts will get back calibration time lost from when they ran out of parts until when the SP review and accept the calibration test results on the new hardware (liners and connecting rod bearings).

- **Next Meetings:**

Thursday February 14th 10:00 AM Eastern (Final batch size for T-11/T-12 liners)

Wednesday March 13th 2:00 PM Eastern (Review T-13 Calibration tests)

The Mack Surveillance Panel adjourned at 3:30 PM

Respectfully submitted,

Bob Salgueiro

Mack Surveillance Panel Secretary



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