

MACK-Volvo Surveillance Panel Meeting Notes

11/11/2024 @ 10:30 AM EST

Attendees

SwRI: Isaac Leer
Oronite: Josephine Martinez
Afton: Joseph Hoehn
Infineum: David Brass (Chairman), Andrew Smith, Todd Dvorak
Intertek: Garrett White (Secretary)
Lubrizol:
CP Chem:
Haltermann:
Exxon Mobil: Steve Jetter, Mike Shea
TMC: Sean Moyer
TEI: Derek Grosch
Ford:
Volvo:
John Deere: Ashu Gupta

Agenda

1. Volvo T-13 Oil Consumption with Brazil Rings
2. Volvo T-13 Batched Parts Timeline
3. Volvo T-13 New Reference Oil Testing
4. Mack T-12 Reference Testing with Chevron Delo 50/50 Coolant

Action Items and Key Points

- T-13 MAHLE piston rings from Brazil have been used in 2 candidate tests recently at 2 separate labs. Both tests produced oil consumption within the historical range of the test for 48-192 hour average oil consumption.
- TEI is working towards batching all power cylinder parts and piston (wrist) pins for the T-13 test. First kits containing batched hardware are estimated to be ready for purchase by the labs in March 2025.
- **Motion passed to allow for running non-calibrated stands in the new reference oil matrix that have at least 4 completed T-13 reference runs.**

- **Motion passed that labs would have no net gain no net loss for participation in the new reference oil matrix for the T-13. Stands that are not referenced can become referenced on their 2nd run in the matrix if they meet the level 2 Ei limits. Labs must declare whether they are going for calibration status before participating in this matrix with the TMC.**
- T-13 new reference oil matrix testing expected to begin in early December 2024.
- T-12 recent reference data using Chevron Delo 50/50 coolant (T-13 engine coolant) were reviewed. Concern was raised about a potential shift in the mild direction for lead and lead 2 parameters that coincides with the change in engine coolant.
- T-12 operational data from the recent references using Chevron Delo 50/50 coolant as well as the most recent references on the current and pre-existing batches of hardware are to be provided by the labs for review in the next surveillance panel meeting.

Summary of Discussion

Volvo T-13 Oil Consumption

- TEI has recently been ordering T-13 piston rings from Jegs.
- These rings from Jegs are from MAHLE's Brazil location.
- 2 candidate tests have completed on these rings.
- Oil consumption rates are as follows for those candidates and from the following labs:
 - Lab A 48-192 hour average = 26.4 g/hr
 - Lab A experienced a leak in the 24-48 hour period. With removal of this period's data from the average the resulting oil consumption would be 23.7 g/hr
 - Lab G: 48-192 hour average = 17.8 g/hr

Volvo T-13 Parts Batching

- TEI is currently working on batching all power cylinder parts (liners, piston rings and pistons) and piston (wrist) pins for the T-13.
- Estimated completion of first batches, including new batch E for liners, is January 2025 to February 2025.
- Piston (wrist) pins and oil rings will begin production once a PO is received.
- TEI estimated that 2-3 weeks after manufacturing is completed is when parts should arrive at their facility.
- David B – Any word on when PO's will be issued for the pins and oil rings?
- Derek G – PO's took some time to set up but they should have been sent last week.
- David B – Any update on the oil rings?
- Derek G – Not at this time. Will send a follow up to the manufacturer.
- David B – We are looking at the end of February 2025 for all parts to be completed and with delivery to the labs by March 2025. Goal would be to reference all parts together.
- TEI is having difficulty ordering more rings from Jegs.com due to a lack of inventory of one of the rings.
- Derek G – We received 66 more ring sets from Jegs unexpectedly.
- David B – Is there a chance they will fulfill the next order soon?
- Derek G – Late January is the only timeframe provided for the next order to be received. This was the date MAHLE provided Jegs and in turn provided us. We have roughly 200 more sets on order.
- Derek G – Oil rings I believe are not a regular production item based on the dates in the table
- Based on supply chain speed, there is a chance that one or more of the MAHLE Portugal rings will have to be put into the T-13 kits if MAHLE Brazil rings are not provided.

Volvo T-13 Reference Oil Matrix Testing

- Isaac L – Was there a resolution to the discussion on running the matrix tests in non-referenced stands?
- Garrett W – I don't see the concern with running in a non-calibrated stand as long as the labs run the tests in a stand that is in the LTMS system and has a history as a T-13.
- David B – Every stand on this list has history and has been around since PC-11. (referring to table found in page 5 of the presentation)
- Andrew S – I don't see an issue requiring that they run in a calibrated stand if they were all paid. But 1 of the 2 runs is donated by the labs. This donated run would provide the labs an opportunity to calibrate the stand.
- Labs were asked to provide a rough estimate on when they could start if they run in a non-calibrated stand and in a calibrated test stand.
- Garrett W – Non-calibrated Intertek is looking at starting late-November, early-December 2024. If a calibrated stand is required, then it would push us into January 2025.
- Isaac L – Non-calibrated would mean we start late this month (November 2024). In a calibrated stand would be January 2025.
- David B - If it is required that the matrix tests be conducted on a calibrated stand, we are looking at late January before we can start.

David Brass motions to allow for running non-calibrated stands in the new reference oil matrix that have at least 4 completed T-13 reference runs.

Isaac Leer seconds the motion

TEI – Waive

TMC – Waive

SwRI – Yes

Oronite – Yes

John Deere – No answer

Intertek – Yes

Infineum – Yes

Afton – Yes

ExxonMobil – Yes

Lubrizol – No answer

CP Chem – No answer

Haltermann – No answer

Ford – No answer

Volvo – No answer

Motion carries

Vote Count: Yes (6), No (0), Waive (2), No Answer (6)

- David B – Sounds like we can start the matrix soon. We do need to add in no net gain no net loss for labs that will run these tests in calibrated stands and that level 2 Ei alarms must be met to calibrate if running in a non-calibrated stand.
- Sean M – To be clear it would be the 2nd run that gives you the calibration.

David Brass motions that labs will have no net gain no net loss for participation in the new reference oil matrix. Stands that are not referenced can become referenced on their 2nd run in the matrix if they meet the level 2 Ei limits. Labs must declare whether they are going for calibration status before participating in the matrix with the TMC.

Garrett White seconds the motion

Afton – Yes

Exxon – Yes

Infineum – Yes

Intertek – Yes

John Deere – Yes

Oronite – Yes

TEI – Waive

TMC – Waive

SwRI - Yes

Motion carries

Vote Count: Yes (7), No (0), Waive (2), No Answer (5)

- Sean M – If someone uses a calibration period to run these tests and do not want to risk losing their current calibration status, they must declare both as donated tests.
- David B - Any concerns around quarantining kits with full Brazil ring sets? It would be best to distribute 8 out to the 4 labs and hold 2 extra kits incase there are any invalid reference runs.

- Derek G – What about the additional MAHLE Brazil ring sets that are on order?
David B – They can be placed in the kits. If there is nothing in stores, and there are requests for rings, it will be up to the labs if they wish to run Portugal rings. Labs just need to be made aware of what they are receiving.
- New reference oil matrix testing set to begin in December 2024.

MACK T-12 Reference Testing with Chevron Delo 50/50 Coolant

- Lab A completed a test with acceptable calibration
- Lab G completed 1 test that did not calibrate due to mild Pb (lead) and Pb2 results. The 2nd run was acceptable for calibration.
- Lab D completed 1 test that did not calibrate. Lab D stated that they wish to conduct an operational review of the reference data before attempting a 2nd calibration test.
- All tests completed were mild of target on both Pb and Pb2 parameters.
- David B – Do any of the labs measure coolant in temperature?
- Labs A, G, and D confirmed that this parameter is measured and recorded.
- Coolant appears to not have a significant impact on ring and liner wear measurements.
- When looking at Pb and Pb2, the amount of change in these results is significant with the change in the coolant.
- Labs are to provide operational data for analysis in the next meeting. Tests to be included are all T-12 reference runs completed on the Chevron Delo 50/50 coolant, 1 on the latest batch of parts using Pencool and 1 on the previous batches of hardware using Pencool.

AOB

- Joseph Hoehn raised concerns about the wording in sections 8.6.3.9 and 8.6.3.10 of the T-13 test procedure. The concerns included if air cleaner differential pressure and coolant pump pressure measurements should be required.
- It was discussed that there may be additional sections where this is mentioned. Review of the procedure will be conducted to find any other instances of these measurements to ensure that the motion, if any, is worded correctly.
- Joseph H – I will review the procedure once more and make sure there are no other instances of these measurements. I will send this out via email after I review.

Next Meeting Date/Time

Next meeting date not determined

Meeting adjourned at 11:56 am EST