

MACK-Volvo Surveillance Panel Meeting Notes

07/20/2021 @ 10:00 A.M. EST

Attendees

SwRI: Isaac Leer, Robert (Bob) Warden, Travis Kostan
Oronite: Josephine Martinez
Afton: Todd Dvorak, Bob Campbell
Infineum: David Brass (Chairman), Elisa Santos
Intertek: Garrett White (Secretary), Martin Chadwick
Lubrizol: Nick Ariemma, Jim Matasic
CP Chem: Jon VanScoyoc
Haltermann: Prasad Tumati
Exxon Mobil: Steve Jetter
TMC: Sean Moyer
TEI: Derek Grosch

Agenda

1. Mack T-12 Coordinated Reference Test Operational Data Review
2. Mack T-12 Coordinated Reference Test ICF Discussion

Action Items and Key Points

- Operational data from the runs with Batch F subgroup E piston crowns was reviewed. Parameters of the most concern and their ranges at 25 hours into each phase (phase 1 / phase 2) included oil gallery pressure (420-460 kPa / 180-220 kPa), oil sump temperature (97.6-100.0 °C / 128.5-131.0 °C), and the starting oil weights for each stage (8.4-9.6 kg / 9.5-12.3 kg).
- 3 of the 4 labs completed valid tests. Using the current correction factors (CF's) these stands would calibrate.
- Lab B announced they will re-run their reference since the initial run was deemed invalid for missing the 100-hour soot requirements. The test is projected to complete the 3rd week of August (22nd – 28th)
- The panel decided to wait for the re-run data from Lab B before making a final decision to release the test and whether a change in the correction factors is necessary.

Summary of Discussion

Mack T-12 Coordinated Reference Test Operational Data Review

- Todd Dvorak and David Brass shared operational data from the coordinated reference runs on batch F subgroup E crowns.
- Presentation was broken into two parts, the first set of slides contained phase 1 data and another set contained phase 2 data. The slides were shown 1 by 1 and parameters to circle back to for discussion were noted.
- Phase 1:
 - Review of the power graph resulted in a request that the labs provide timing values used to meet the 100- hour soot window requirements. (Were not shared later in the meeting)
- Lab B starting weight approximately 1 kg less than other labs.
- Phase 2:
 - Oil Gallery Pressure ranged from 180 to 220 kPa.
 - David – Is this range typical?
 - Bob Campbell – At least for CAT 40-50 kPa variance in oil pressure does not concern them. (No confirmation from MACK/Volvo on this was noted for their engines in the meeting)
 - Oil sump temperature: From phase 1 to 2 there was a change in the order of highest to lowest sump temperatures. From highest to lowest: D, A, G, B for phase 1 then D, G, B, A for phase 2.
 - Oil weight:
 - Lab D experienced a significant jump in oil weight during the stage change when compared to the other 3 labs.
 - Other labs oil weight increased approximately 2.8-3.5 kg while Lab D increased roughly 6.1 kg. This is the difference between the ending weight for phase 1 and starting weight for phase 2.
 - Lab B added a weight at roughly 240 hours to the bucket to raise the weight reading to eliminate the alarm triggering for low level. The pump was turned off to prevent air being pushed back into the oil sump.
 - Test hour labs ran out of oil:
 - Lab A: 235 hours
 - Lab B: 240 hours
 - Lab D: > 300 hours
 - Lab G: 275 hours
- Parameters that were the most concerning included: Oil Gallery Pressure, Oil Sump Temperature, Oil Weight (starting weights for both phases), and Power.

Mack T-12 Coordinated Reference Test ICF Discussion

- Martin – Would the 3 valid tests calibrate using current CF's?
- Sean – Will have to chart them. May take a few minutes. (Sean later confirmed that the 3 valid runs would calibrate using the current CF's)
- David – Can we decide today using 3 of the 4 labs' data or should we wait for completion of Lab B's re-run to evaluate the CF's?
- Bob Campbell – It may be best to wait until the second run from lab B is completed before deciding.
- David – What does the timing look like for completion of the re-run at Lab B?
- Nick – We currently do not have an engine built nor a kit.
- Derek – We can put together a kit quickly and send out. Just need a PO.
- Jim – Should have the test completed and results by the 3rd week of August.
- David – Final consensus seems like the labs would like to wait and see Lab B's re-run results before making a final decision.

Meeting adjourned @ 11:28 AM EST

Next Meeting Date/Time

August 23rd, 10:00 AM to 12:00 AM EST