Cummins Surveillance Panel Meeting Minutes

October 18, 2023 14:00-16:00 CST

Participants:

Afton – Bob Campbell, Joseph Hoehn, Amanda Stone

Chevron Oronite – Marnix Torreman, David Lee, Josephine Martinez

Cummins – Phil Shelton

ExxonMobil – Steve Jetter

Infineum – Elisa Santos, David Brass

Intertek – Andrew Smith (Chairman)

Lubrizol –Austin Brininger, Alex Ebner, Robert Slocum

SwRI – Joe Moore, Bob Warden

TEI – Dan Lanctot

TMC – Sean Moyer

Agenda:

- ISB new reference oil data and discussion
- ISM new reference oil data and discussion
- ISB adjusting screw update

ISM reference oil:

- Supplier 1 provided data from a second run.
    - Injector screw wear came down from 153.6 to 77.8.
    - Other parameters were similar between runs.
- Hesitance due to the injector screw wear being both highly variable and significantly higher than the current pass/fail limit.

With the data currently available, the panel rejects the proposed ISM reference oil from supplier 1.

ISB reference oil:

- Supplier 1 fluid is the same oil proposed for the ISM. Data for a second run has been provided.
    - Camshaft wear came down slightly but tappet mass loss rose significantly.

    - Concerns with consistency of results.
- Supplier A has proposed oil 1A, a minor modification from 1C which we have results for. The results are slightly mild on camshaft wear and close to limits on tappet.
- Supplier B has proposed oil A' results for camshaft wear are very mild.
- Supplier E has proposed oil A, results provided for A and A'. Both results are close to the current pass-fail limits.
- The oils from supplier A and B have been accepted by the Volvo SP for as possible candidates for the T-13 reference oil.

Motion: The panel recommends that Oil A from supplier E is the fluid used for the reference oil test matrix.

Andrew Smith motions, Austin Brininger seconds

TMC waives. Motion passes.

ISB adjusting screw:

- TEI currently rejects ISB adjusting screws if there are any markings on the ball surface. The new sole supplier of the screw leaves a small mark on the ball from the machining process.
- Cummins engineers have stated that the mark does not affect engine operation or wear.
- The mark does not come into contact with the pushrods, this can be visually confirmed on EOT hardware.
- Starting with kit #1459, all kits will have adjusting screws with the machining mark.

Motion: The panel accepts the manufacturing mark on the top surface of the adjusting screws for kits #1459 and subsequent kits.

Andrew Smith motions, Sean Moyer seconds.

Motion passes unanimously.

Next Steps:

- TMC will ask supplier E if there is data from an ISM or T-13 test on oil A.

Next Meeting: TBD