Mack / Volvo Surveillance Panel Meeting

April 23, 2025

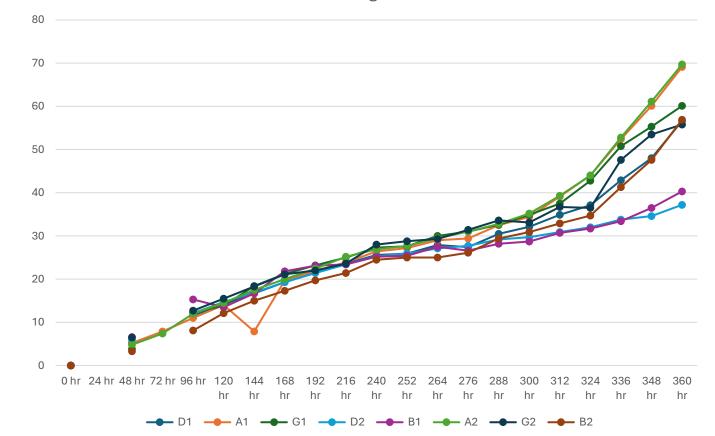
Andrew Smith (Chair)

Agenda

- T-13 New Reference Oil Data Discussion
- T8E ISB Viscosity Equivalency ASTM Funding Request
- AOB

T-13 New Reference Oil Matrix

Lab Run	FTIR Peak	KV40
	Height	Transformed
D1	56.6	3.7725
A1	69.1	4.6649
G1	60.1	4.5584
D2	37.2	2.5891
B1	40.3	2.3061
A2	69.7	4.9436
G2	55.8	4.3211
B2	56.9	3.7896
Mean	55.7	3.9
Std Dev	11.0	0.9



FTIR Peak Height Oxidation

T-13 TMC 824 Discussion

- Phil's presentation
- Discussion on next steps

T-13 New Hardware Update

- Have labs received the hardware/started testing?
- Timelines?

T8E – ISB Viscosity Equivalency Matrix

- Industry would like to ask ASTM for funding of the Equivalency Matrix
- This process is initiated by the Surveillance Panel
 - Request details to be discussed in today's meeting
- After receiving the request:
 - TMC will communicate with the Board of Directors
 - Test labs will be contacted confidentially for pricing information
 - Total Spend Request would be established
 - Revert to the SP the total number of labs and stands meeting the TMC funding requirements and can participate in the funded request.
- Details will then be confirmed by the SP and forwarded to TMC for decision
 - If accepted, the request will be forwarded to ASTM Finance & Audit Committee
 - All decisions made by TMC BoD and ASTM Finance & Audit Committee are final

T8E – ISB Viscosity Equivalency Matrix

- If funding request is approved by ASTM, TMC will notify SP and the testing program may commence
- TMC will arrange the testing through purchase order agreements with the test labs
 - The POs will detail all necessary terms and conditions
- If testing has not commenced within 3 months of the anticipated start date, the TMC BoD or ASTM Finance & Audit Committee may review the request to see if the funding need still exists and is appropriate.
 - If either condition is not met, the funding request may be withdrawn

- Detailed background and description covering the need and justification for a new or revised ASTM standard:
 - The ISB Viscosity Test Method was developed as an ASTM Standard during PC-12 to replace the Mack T-8E (ASTM D5967) and Mack T-11 (ASTM D7156) due to limited hardware availability. To maintain the existing Heavy Duty Engine Oil Categories in ASTM D4485, the industry needs to identify equivalency limits between these tests. In support of PC-12 limit setting for the ISB Viscosity, equivalency will also be useful to the process.

- Description of work already conducted including some form of risk analysis.
 - The precision matrix for the ISB Viscosity Test provides data to develop equivalency with the Mack T-11 but does not provide data for equivalency to the older Mack T-8E. There were two test results during development shared for comparison with T-8E. The industry must generate additional data to establish this equivalency, which also helps setting limits for PC-12B in ASTM D4485.
 - When the Mack T-8E test is no longer available (currently estimated around 2029), then these equivalency limits may also be used to maintain licensing for CH-4, CI-4 and all ACEA heavy duty engine oil categories. If we don't generate these data now, we will need it eventually.

- The anticipated amount of testing and an initial list of test laboratories interested in participating.
 - Which labs are willing to participate?
 - Three test matrixes are under consideration, with a recommendation from statisticians expected by the end of April. The options under consideration that leverage existing data as much as possible include:
 - Stats group recommendation 7 Tests (attached presentation separately):
 - Running three (3) 108-hour ISB Viscosity tests and four (4) Mack T-8E tests

Proposed Matrix	Т8-Е	ISBV108
RO1005	plenty	1+3
Tech1 15W-40 base oil 1	2	1+0
Tech1 15W-40 base oil 2	2	1+0
	Run T8-E in one lab if possible	

- Any additional stakeholder commitments such as statements of financial or in-kind support from other industry organizations.
 - Two pairs of test results were donated by a test lab from test development. Funding was requested from API; however, none is available in 2025. A much more significant amount of data was funded by all three trade organizations (API, EMA and ACC) to establish equivalency between T-11 and ISB Viscosity. Additionally, data from the ISB Viscosity BOI/VGRA matrix funded by API and ACC will be leveraged with the testing requested, i.e. these are the results by which the Mack T-8E data will be compared.

- Timeline for completion of the testing including start date, duration and projected end dates.
 - Start date: As soon as possible
 - Duration:
 - Projected end dates: To support PC-12B limit setting, testing should be completed by August 2025

Closing Remarks