

Sequence VH Surveillance Panel Meeting

Teams

Tuesday, October 28, 2025, 10:00 am – 2:45 pm EDT

1.0) Attendance

Afton:	B. Campbell, J. Lekavich, B. Maddock, A. Stone, L. Tierney
Exxon	L. Salvi
Ford:	M. Deegan, R. Zdrodowski
GM:	T. Cushing
Haltermann Solutions:	E. Hennessey, I. Mathur
Infineum:	J. Anthony, T. Dvorak
Intertek:	B. Buscher, A. Lopez
Lubrizol:	T. Catanese, G. Gibbons, P. Scinto, G. Szappanos
OHT:	J. Bowden
Oronite:	R. Stockwell
Shell:	S. Demel
SwRI:	D. Engstrom, P. Lang, M. Lochte, T. Kostan
TMC:	D. Beck, S. Moyer, B. Transue
TEI:	D. Lancot
Toyota:	V. Deshpande
Valvoline:	Amol Sawant

2.0) Executive Summary

1. T. Kostan presented a summary of the statistician's meeting
2. T. Dvorak presented engine build affects on fuel dilution and test results
3. Discussed an ICF for AES and RAC for M-3-batch fuel
4. **Motion by** B. Maddock to approve M-3 batch fuel without ICF and re-visit ICF when more data is available.
5. **Motion by** T. Catanese to reset Z0 using first 3 M-3-batch reference results due to the shift in severity from N-batch to M-3-batch to reset the severity adjustments for this fuel batch
6. **Motion by** D. Beck to make the effective reference calibration date for each test stand that completed during the M-3 fuel matrix is 10/28/2025
7. **Motion by** T. Catanese to have TMC assign Lab B reference oils in the order of, 1011-1, 931, 1011-1 for the 3 initial runs on M-3 fuel
8. **Motion by** B. Maddock to modify the report form to capture piston diameter, skirt clearance, and crevice volume values by December 15, 2025

3.0) M-Batch Fuel Adjustment

- Travis Kostan from the stats group presented the group's proposal for approving the M fuel batch :
 - ICF of -0.2 for average engine sludge
 - ICF of +0.1404 for ln(RAC)
 - No ICF for average engine varnish and average piston varnish
 - Rest lab Zi values and update lab SA's using data from the fuel matrix (n=3 or n=5), with Z_0 being the average of the first 3 tests.
 - Change reference oil frequency to 2/3 ref oil 931, and 1/3 ref oil 1011-1
- Disagreement from panel members on whether the M-3-batch fuel is significantly different from previous fuel batches
 - Previous stats group analysis did show difference between fuel batches
 - Argument on whether this analysis is still correct or if lab bias is the real cause for the differences seen
 - Afton reviewed the previous fuel batch data and determined that labs were all close together with GI fuel batch and by end of N fuel batch is when labs started to trend apart.
- Does the O&H group need to tighten up the current VH specifications to correct current lab bias?
 - Previous investigations done by labs to adjust honing procedure to get Labs A and G results closer together.
 - Currently there are no specifications requiring lab A to run with the adjusted honing and build method.
- Discussion on restarting charts
 - Travis stated that If there is a new severity with the new fuel batch then charts should be reset
 - Phil Scinto stated concern that reference oil 931 will give a lab more severe results if the ICF's are used.
 - Proposed maybe revisiting the 1011-1 targets.
- If charts are reset, how would Lab B calibrate?
 - Needs to be a panel decision, 2 tests, or 3 tests?
 - TMC stated that they would like to follow the LTMS guidelines and enforce 3 tests, instead of lessening to 2 tests.
- Straw poll conducted to see where voting members stand on ICF proposal
 - Agreement that there is a shift in the fuel batch
 - Seems to be disagreement on if the ICF's are needed to fix this shift
- An additional 6-7 reference tests results expected in the next couple of months
- Motion from Ben Maddox at Afton to approve the M-fuel batch without any ICF's

- Motion tabled for now
- Presentation from Todd Dvorak on build parameters related to new fuel batch
 - Piston bore clearance effect
 - Higher fuel dilution with larger piston to bore clearances.
 - Smaller/larger clearances are coincidental with lab results
 - O&H group is continuing to work on investigating and better specifying build parameters and procedures
- RAC and Varnish data presented by Travis Kostan of the stats group.
 - ICF of +0.1404 for ln(RAC) is the proposal from the stats group
 - No recommended ICF for varnish

4.0) M-3-Batch Approval Motions

Motion 1:

Motion by B. Maddock to accept M-3-batch fuel without ICF and re-visit ICF when more data is available.

Motion seconded by A. Lopez

Afton:	B. Maddock	A
Exxon	L. Salvi	A
Ford:	M. Deegan	A
GM:	T. Cushing	W
Haltermann Solutions:	I. Mathur	A
IMTS:	D. Passmore	W
Infineum:	J. Anthony	W
Intertek:	A. Lopez	A
Lubrizol:	T. Catanese	A
OHT:	J. Bowden	W
Oronite:	R. Stockwell	A
Shell:	S. Demel	Present, but no vote
SwRI:	D. Engstrom	A
TMC:	D. Beck	W
TEI:	D. Lanctot	W
Toyota:	V. Deshpande	A
Valvoline:	Amol Sawant	W

Motion carries with 9 Approve and 7 Waive votes

Discussion on resetting LTMS charts for M-3-batch

- If charts are not reset, then labs carry the large SA's from the end of the last fuel batch that are not representative of current M-3-batch results.
- Charts should be reset to account for a shift in severity seen at the end of the N- batch. It would not make sense to apply SA's from one batch with one severity be passed to the next batch with a different severity shift to candidate tests starting close to the beginning of the M-3-batch.
- New labs coming in would have to follow LTMS guidelines for coming in as a new stand (3 reference runs).
- It was decided that resetting LTMS charts for the M-3-batch results was the most rational decision, but a SP motion was required for TMC to proceed.

Motion 2:

Motion by T. Catanese to reset Z0 using first 3 M-3-batch reference results due to the shift in severity from N-batch to M-3-batch to reset the severity adjustments for this fuel batch.

Motion seconded by T. Kostan

Afton:	B. Maddock	A
Exxon	L. Salvi	A
Ford:	M. Deegan	A
GM:	T. Cushing	W
Haltermann Solutions:	I. Mathur	A
IMTS:	D. Passmore	W
Infineum:	J. Anthony	A
Intertek:	A. Lopez	A
Lubrizol:	T. Catanese	A
OHT:	J. Bowden	W
Oronite:	R. Stockwell	A
Shell:	S. Demel	Present, but no vote
SwRI:	D. Engstrom	A
TMC:	D. Beck	W
TEI:	D. Lanctot	W
Toyota:	V. Deshpande	A
Valvoline:	Amol Sawant	W

Motion carries with 10 Approve and 6 Waive votes

Motion 3:

Motion by D. Beck to make the effective reference calibration date for each test stand that completed during the M-3 fuel matrix is 10/28/2025.

Motion seconded by R. Stockwell

Motion carries without objection

Motion 4:

Motion by T. Catanese to have TMC assign Lab B reference oils in the order of, 1011-1, 931, 1011-1 for the 3 initial runs on M-3 fuel

Motion seconded by B. Maddock

Motion carries without objection

4.0) VH O&H Engine Build Proposals

- Proposed changing the piston to bore clearances
 - Current: 0.020 to 0.046 mm
 - Proposed 0.030 to 0.038mm, average of all eight cylinders
- This is being proposed as a target and not a hard spec that will invalidate tests if not met

Motion 5:

Motion by B. Maddock to modify the report form to capture piston diameter, skirt clearance and crevice volume

*a. Crevice Volume = (100-MR2)*Rvk/200*

by December 15, 2025.

Motion seconded by D. Engstrom

Motion carries without objection

5.0) Meeting Adjourned

- Meeting adjourned at 2:45 pm EDT
- The next meeting will be scheduled for the week of December 1st to review ASTM Week SP update