Sequence VH O&H Panel Meeting
March 26th, 2024 3PM EST via Teams

Attendees: Rich Grundza, Tony Catanese, Dan Engstrom, Al Lopez, Ben Maddock

Overview:

1. Fuel Analysis
2. Build Workshop
3. Hardware
4. Operation

Topics:

1. **Fuel Analysis**
    a. **Motion**: The current test method requires quarterly samples be taken by the lab at their storage tanks and submitted to the fuel supplier for analysis. This motion would modify Section 8.2.6 to require quarterly fuel samples in the test cell and during the first reference per quarter. This fuel sample will then be submitted to the fuel supplier to conduct the required analyses. If no reference is planned, a tank sample is required.

        i. Some discussion occurred on this proposed motion. Labs have multiple tanks so changing to this method could lose data on those additional tanks. Ultimately the group agreed its better to connect the fuel sample to VH reference data to better understand how fuel properties could impact VH severity.

    b. Lubrizol's fuel expert identified some interesting findings on the washed gums results. Lubrizol is currently investigating and re-testing prior to any communication to the Surveillance Panel.

    c. Industry Stats Group: no progress, Amanda Stone's impression from last week's SP call is that the analysis needs input from fuel supplier/expert

2. **Build Workshop Date**
    a. A draft copy of the guiding document for the workshop was shared around. Targeting final copy ready for the wider audience to be shared after next week's O&H.
    b. The group discussed how should we land on additional surface parameters than Ra per a request from Ford.
        i. Rk, Rvk, Rpk as a starting point?

1. VH ex: *(5)* Install a plateau hone brush and hone at 25 to 30 units of pressure to obtain a surface finish of 8 µm to 13 µm. Typically 45 strokes have provided acceptable results.

Target Specifications	
Rk	0.51 to 2.03 µm
Rpk	0.12 to 0.74 µm
Rvk	0.43 to 1.34 µm
Rz	1.71 to 5.17 µm
Mr2	70% Minimum

2. IIIH ex:

3. GMOD ex:

Target Surface Finish (µin)	
Rpk	1 - 12
Rk	1 - 41
Rvk	16 - 57

ii. Table form:

Test Type	Rk (µm)	Rpk (µm)	Rvk (µm)	Rz (µm)	Mr2
IIIH	0.51 – 2.03	0.12 – 0.74	0.43 – 1.34	1.71 – 5.17	70% min
GMOD	0.03 – 1.04	0.03 – 0.30	0.41 – 1.45	-	-
VH	*TBD*	*TBD*	*TBD*	*TBD*	*TBD*

Note: This table is simply for reference, there is no intention to use IIIH/GMOD targets to define the VH

iii. If available, supply PM values to TMC to blind code and share the range for targets? Confirm at build workshop?
   1. **ACTION**: Labs to review their records and identify if surface finish values from PM build workshops are available at your lab.

iv. Ford guidance?

3. <u>Piston Oil Holes</u>

a. Visual difference

b. Keyence measurements not yet available

c. **ACTION**: TMC to investigate correlations in APV and run size

4. <u>Hardware</u>

a. LZ, Valvoline, SwRI FCS-Piston/Ring values, **targeting completion by Build Workshop**
   i. Small parts order to follow

b. Intertek found that there's an information letter allowing oil pumps to be purchased by dealer instead of batched order. Details to follow.

c. No Piston supply update due to Mike's absence
   i. A piston supplier located runs 1-4 oversize pistons but they're coated. Needs more investigation

d. No Ford Reman update due to Mike's absence

5. <u>Operation</u>

a. Operational Data Study: N-10-1 approval matrix vs PM
   i. TMC has provided a template
   ii. Proposed timing: Labs to provide data in the correct format for analysis by 6/21/2024