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Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

Issued: July 11, 2014

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These are the unapproved minutes of the 07.01.2014 Sequence VI Surveillance Panel meeting.

The meeting was called to order at 10:00 AM by Chairman Charlie Leverett.

Agenda

The Agenda is the included as Attachment 1.

1.0 Roll Call

The Attendance list Attachment 2.

2.0 Approval of minutes

2.1 Approval of the minutes of the 03.18.2014 meeting.

Motion – Accept the minutes of the 03.18.2014 VID SP CC.
Charlie Leverett, Jason Bowden, second. Unanimous.

3.0 Action Item Review

3.1 OHT to report VIx engine usage and depletion date of VID engines.
There are 21 2009 and 111 2012 engines in inventory.

3.2 Update on 0W-16 donated runs. – TMC Four labs have reported. This is completed and the data is available on the TMC web site. This is a Honda oil that GM helped get in the system.

3.3 VIE Draft - This is waiting for the Precision Matrix.

3.4 Haltermann EEE Data Base
ACTION: Tracey King will get a status of the latest batch of EEE and Additized EEE fuels.

4.0 Old Business

4.1 Engine Life VIE/Oil Consumption – As previously discussed the engine life of the VIE is only ~ 10 tests counting the 3 reference tests for a new engine. There has been some discussion on the possibility of increasing the maximum allowable oil consumption on the VIE engines.
An Engine Life Task force worked on recommendations. Their motion was to remove FIL-1 oil filter in the external oil system. Intertek and SwRI have done this and presented data. See Attachments 3 and 4.

Motion – Recommend to the Surveillance Panel for the VIE procedure that the external oil filter FIL-1 in Figure A2.6 be removed and plumbing modified as needed. Section 6.6.5.7 will be modified as follows: "Install oil filter FIL-2 in Fig. A2.6 in the external oil system. The filter specified is…Locate the filter between the engine oil pump and where the oil enters the engine oil gallery." The oil pan will be re-calibrated with a new range of 65 ± 5 mm, and marked down to 1800 low as follows:

*A7.2.2 Repeat above in increments of 200 mL until a total of **1800** mL has been removed from engine. Mark the sight glass in increments of 200 mL.*
*A7.2.3 Return the **1800**mL of oil with engine running at flush conditions, allow the system to stabilize a few minutes. The oil level should now be at the original full mark on the sight glass. Repeat the calibration procedure if the level does not return to the original sight glass full mark.*
*A7.2.7 Measure the distance from the bottom surface of the oil pan tab to the paint mark. This is the engine oil full level measurement. This measurement shall be **65 ± 5** mm.*

Figure A2.20 will be modified to show the oil level going to 1800 mL low. The new maximum allowable oil consumption specified in 11.6.16 will be 1800 mL low.

Dave Glaenzer / Dan Worcester, second. The motions passes with 10 yes votes and 1 waive, noted in the attendance list.
Nathan Moles noted that he had one engine at 69 mm so there may need to be more data to set the range on the oil pan markings.

ACTION: OHT has a modified drawing of the displacement block in the oil pan. These will be a new part number and this version will be required with the FIL-1 modification.

5.0 New Business

5.1 Discuss potential reference oils going forward. We are getting to a point where we will need to obtain reblends of 542 and 1010. Also 541-1 cannot be reblended. Rich
There are about 73 gallons of 542-1 and 75 gallons of 1010. Rich will request reblends of 542 and 1010. Reference oils have been recommended for the Precision Matrix. See Attachment 5.

5.2 Dan Worcester has recommended the BLB Delta be reviewed as part of the Precision Matrix. Based on data review the Delta has shifted and should be .0 to 0.6 instead of the -0.2 to 0.4 that exists on the VID. Only one negative point and that was a dealer engine.

ACTION: Charlie Leverett will review why the original limits were chosen.

5.3 Dan Worcester has recommended that we review the number of references for a new engine. Two references is a recommendation.

5.4 Dan Worcester has recommended the Surveillance Panel consider a 180 day calibration period for those times between categories when stands sit [but keep the 10 runs limit].

5.5 Dave Glaenzer has recommended we be concerned that we have engines with a wide variety of hours for the VIE matrix.

Todd Dvorak will chair the VIE Precision Matrix statistical analysis group.
ACTION: Rich Grundza has requested copies of drawings used in the VID procedure so they can be used in the VIE procedure.

6.0 Next Meeting or Conference Call

At the call of the Chairman

Meeting Adjourned

The meeting adjourned at 10:52 AM.

Sequence VI Surveillance Panel Conference Call Agenda
July 1 @ 10:00 CDT

Call-in information is included below:

Call-in Number: 800-391-9177
Conference Code: 4875645502

1.0) Roll Call

Do we have any membership changes or additions?

2.0) Approval of minutes

2.1) Approve the minutes from the March 18, 2014 Sequence VI Surveillance Panel CC.

3.0) Action Item Review

3.1 OHT to report VID & VIE engine usage and expected depletion date of VID engines. - OHT

3.2 Update on 0W 16 donated runs. – TMC as-of 3/18 Four labs have reported results on the 0W-16 oil

3.3 VIE Draft - Table 5 information which cannot be generated until sufficient testing/precision matrix has taken place (stats group).

3.4 Requested Database from Haltermann - ?

4.) Old Business

4.1 Engine Life VIE/Oil Consumption – As previously discussed the engine life of the VIE is only ~ 10 tests counting the 3 reference tests for a new engine. There has been some discussion on the possibility of increasing the maximum allowable oil consumption on the VIE engines. – Dicussion

4.2 VIE TF recommendations on oil consumption allowed. The VIE TF would like to make the following recommendation:

From the data presented by SwRI and IAR this Task Force unanimously recommends that the current Oberg filter use on the heat/cool side be remove to increase the oil pan/sight glass level. With this this TF also recommends the maximum allowable oil consumption for the VIE to be 1800 ml.

With acceptance of this recommendation the changes shown in Section 7.2 of the VIE Drat will be modified as noted in red.

*A7.2.2 Repeat above in increments of 200 mL until a total of **1800** mL has been removed from engine. Mark the sight glass in increments of 200 mL.*
*A7.2.3 Return the **1800**mL of oil with engine running at flush conditions, allow the system to stabilize a few minutes. The oil level should now be at the original full mark on the sight glass. Repeat the calibration procedure if the level does not return to the original sight glass full mark.*
*A7.2.7 Measure the distance from the bottom surface of the oil pan tab to the paint mark. This is the engine oil full level measurement. This measurement shall be **65 ± 5** mm.*

This TF is still active looking at a modification to the oil pan displacement block to allow better flow yet not change the displacement; once this is determined we will bring it to the SP for approval if any additional changes are required.

5.) New Business

5.1 Discuss potential reference oils going forward. We are getting to a point where we will need to obtain reblends of 542 and 1010. Also 541-1 cannot be reblended. Rich

5.2 Based on data review the BLB Delta has shifted and should be .0 to 0.6 instead of the -0.2 to 0.4 that exists on the VID. Only one negative point and that was a dealer engine. Dan

5.3 We feel we need to reduce the number of references for a new engine. This is the only test type that is black box and stays in the stand for the calibration period. We recommend two references for a new engine. Dan

5.4 Would love to get 180 day calibration period for those times between categories when stands sit [but keep the 10 runs limit]. Dan

5.5 Once again, we should be concerned that we have engines with a wide variety of hours for the VIE matrix. Dave

Comments from Charlie: I have made AOAP aware of this and they will design the PM, once they are completed with the design the Seq. VI SP will review.

5.6 Readiness for GF-6 Precision Matrix - I have received the following from Thomas Smith (PCEOCP Chairman).

Charlie,
I understand from your slides that the Surveillance Panel believe that the Sequence VIE is now ready for matrix testing. The next step would be for the surveillance panel to officially recommend that the PCEOCP approve the Sequence VIE for matrix testing. Accompanying the request should be a brief summary of the data supporting the Surveillance Panel's recommendation. This should include demonstration of discrimination, repeatability, and reproducibility along with confirmation of a test procedure, test parts availability and test stand availability.

When do you think you would be ready to move forward with this?

Below is my initial response:

Please note in my presentation it is noted:

"At this time The Seq. VI SP is ready to review the VIE precision matrix proposal from AOAP"

As I understand the AOAP will design and fund the matrix tests for all GF-6 test types yet I have explained that the Sequence VI Surveillance Panel has to approve and send our recommendation to your panel (PCEOCP) for final approval.

Concerning the statement of requirements you have noted:

Demonstration of discrimination we have a limited set of data on VID oils run in the VIE.
I'd assume repeatability and reproducibility will come from the precision matrix, if a prove-out matrix is required the SP needs to be advised so we can put a plan in place.
The Draft ASTM test procedure/standard is 99% complete (in ASTM Format).
We have assigned OHT as the CPD for this test type and they have acquired engines for this test.
Test stand availability is ~ 7 in the industry currently but will increase as the switch from VID to VIE is basically programing of the test sequence.

Regards,

Charlie Leverett

Discussion – The PCEOCP this week (6/24) and I expect we will get further questions and instructions following this meeting. I will update this panel on the outcome once received.

6.) Next Meeting

Call of the chairman

7.) Meeting Adjourned

ASTM SEQUENCE VI

Name	Address	Phone/Fax/Email	Attendance
Jason Bowden Voting Member	OH Technologies, Inc. P.O. Box 5039 Mentor, OH 44061-5039	Phone: 440-354-7007 Fax: 440-354-7080 jhbowden@ohtech.com	Yes Approve
Timothy Caudill Voting Member	Ashland, Inc. 21st and Front Streets Ashland, KY 41101	Phone: 606-329-5708 Fax: 606-329-3009 Tlcaudill@ashland.com	
David Glaenzer Voting Member	Afton Research Center 500 Spring Street Richmond, VA 23218	Phone: 804-788-5214 Fax: 804-788-6358 Dave.Glaenzer@aftonchemical.com	Yes Approve
Rich Grundza Voting Member	ASTM TMC 6555 Penn Ave. Pittsburgh, PA 15206-4489	Phone: 412-365-1034 Fax: 412-365-1047 reg@astmtmc.cmu.edu	Yes Approve
Tracey King Voting Member	Haltermann	tking@jhaltermann.com	Yes Waive
Charlie Leverett Voting Member	Intertek Automotive Research 5404 Bandera Road San Antonio, TX 78238	Phone: 210-647-9422 Fax: 210-523-4607 charlie.leverett@intertek.com	Yes Approve
Terry Kowalski Voting Member	Toyota	teri.kowalski@tema.toyota.com	
Bruce Matthews Voting Member	GM Powertrain Engine Oil Group Mail Code: 483-730-472 823 Joslyn Rd	Pontiac, MI 48340 Phone: 248-830-9197 bruce.matthews@gm.com	Yes Approve
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Ron Romano Voting Member	Ford Motor Company 21500 Oakwood Blvd POEE Bldg Rm DR 167 MD 44 Dearborn, MI 48121-2053	Phone: 313-845-4068 rromano@ford.com	
Kaustav Singa Voting Member	Chevron Oronite Company LLC 4800 Fournace Place Bellaire, TX 77401	Phone: 713.432.6642 Fax: 713.432.3330 LFNQ@chevron.com	**Yes Approve**
Mark Sutherland Voting Member	TEI	Phone: 123.456.7890 Fax: 123.456.7890 msutherland@tei-net.com	
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Dan Worcester Voting Member	Southwest Research Institute 6220 Culebra Road San Antonio, TX 78228	Phone: 210.522.2405 dan.worcester@swri.org	**Yes Approve**

Guests

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Jeff Clark	jac@astmtmc.cmu.edu	TMC	
Hap Thompson	Hapjthom@aol.com	ASTM VIE Facilitator	
Tom Smith		Valvoline	attend

SwRI VIE Oil Full & Oil Level Drop Check with Oberg Filter Removed

SwRI 6/18/14

OHTVIE Engine 091 (347 hrs). Stabilized at Stage Flush Conditions.
Full mark on engine 091 is 72 mm. Re-checked on 6/5/14.

OHTVIE Engine 091 (1174 hrs).
Full mark is 66 mm.

Oil Level on Sight Glass	*With Oberg Filter *Installed* (4/9/14)			**With Oberg Filter *Removed* (6/5/14)	
	Oil Pressure (kPa)	Comments	Fuel flow kg/hr	Oil Pressure (kPa)	Comments
Full Level	246 - 248	Oil level steady	3.605	236	Oil level steady
-200	246 - 248	Oil level steady	3.605	236	Oil level steady
-400	246 - 248	Oil level steady	3.608	236	Oil level steady
-600	246 - 248	Oil level steady	3.608	236	Oil level steady
-800	246 - 248	Oil level steady	3.608	236	Oil level steady
-1000	246 - 248	Oil level steady	3.609	236	Oil level steady
-1200	246 - 248	Oil level steady	3.609	236	Oil level steady
-1400	241 - 244	Oil level steady	3.608	234	Oil level steady
-1600	235-238	Oil level steady	3.608	228	Oil level steady
-1800	227-234	Oil level steady. No problem controlling oil temp.	3.608	212 - 219	Oil level steady
-2000	214-225	Oil level steady. No problem controlling oil temp.	3.608	192-200	Oil level steady

*** 4/9/14 Full mark @ 72**

****6/5/14 Full mark @ 66**

VIE Oil Full & Oil Level Drop Check with Oberg Filter Removed

IAR 6/17/14

Oil Level on Sight Glass	*With Oberg Filter *Installed* (3/10/14)		**With Oberg Filter *Removed* (6/4/14)	
	Oil Pressure (kPa)	Comments	Oil Pressure (kPa)	Comments
Full Level	259		266	
-200	260		265	
-400	260		267	
-600	260		266	
-800	260		265	
-1000	259		266	
-1200	259		266	
-1400	253-255	Oil level drop	264	
-1600	245-250	Oil level drop	259	Pressure dropped but no fluctuation.
-1800	239-245	Avg 241-243 then jump between low of 239 to high of 245. No problem controlling oil temp.	251-254	Pressure dropped and observed some fluctuation.
-2000	229-241	Avg 233-236 then jump between low of 229 to high of 241. No problem controlling oil temp.	242-248	Pressure dropped and observed some fluctuation.

*** 3/10/14 Full mark @ 72**

****6/4/14 Full mark @ 65**

May 8, 2014

ILSAC GF-6 MATRIX AND REFERENCE OILS SELECTION

BOI/VGRA Task Force questions

1. Will ILSAC select three technologies for GF-6 BOI and/or VGRA purposes? **Yes** (It is understood that the current choice is two for each test)
2. How many tieback oils (tieback to earlier categories) will ILSAC request? **Varies by test.** (It is understood that tieback oils are not used for BOI/VGRA but to allow new tests to be used in place of older engine tests)
3. How many reference oils would ILSAC expect? **Varies by test.** (New Reference Oils, not current reference oils)
4. Will the new GF-6 Tests require any current reference oils be included in the new GF-6 Category? **Yes**
5. Will GF-6 have an anchor test (i.e. an engine test which is required for every oil developed.) ? **Yes IIIH**
6. If no anchor tests is required will ILSAC accept the BOI/VGRA read across for all GF-6 Tests? **NA**

VIE SAE 20, GF-5, 2.6/1.2 GF-6, 3.6/1.7 SAE 30, GF-5, 1.9/0.9 GF-6, 2.9/1.4 FEISUM/FEI2

Tech 1 - strong pass for GF-5, 5W-30, 2.42/1.17 Close FEI2 for GF-6

Tech 2 - borderline pass for GF-5, 5W-20, 2.8/1.2

1010 - borderline fail, 2.44/1.10 (Ref oil) carry forward

Reference oil for new tests

1010 - BL fail, 2.44/1.10 (Ref oil)

541-1

542-1

VH GF-5, 8.0/8.9/7.5 GF-6, 9.0/9.2/8.0 AES/AEV/PSV

Tech 2 – good sludge pass GF-5, Borderline varnish 8.4/9.0/7.5

Tech 3 –borderline pass for GF-5, 5W-20 8.2/9.0/7.9

Tech 4 - strong pass sludge, BL pass varnish, 9.1/8.9/7.9, GF-6 BL

Reference oil for new tests

1009 - borderline pass/fail for GF-5 (ref oil) 7.94/8.99/7.72

940 - bad sludge fail BL varnish fail (ref oil)`6.43/8.79/7.2 carry forward

1006-2 - strong pass for GF-5 (ref oil) 8.69/9.24/8.52 GF-6 Failing sludge, BL pass varnish (possibly replace with Tech 2 or 4 depending on how repeat data turns out)

Ron Romano
Ford Motor Company

IIIH GF-5, 150/4.0 GF-6, 100/5.0 PVIS/WPD

Anchor test no BOI. PM/VGRA only

Tech 1 - strong pass for GF-5, 68/4.5

Tech 2 - strong pass GF-5/6, 72/5.2

435-1 - bad fail (ref oil) 178/3.6

Reference oil for new tests

435-1 - bad fail (ref oil) 178/3.6

434-1 - Strong pass GF-5 BL fail GF-6 (ref oil) 112/4.8

Tech 2 - strong pass GF-5/6, 72/5.2

IVB GF-6/6, 90 ACW

Tech 1 - strong pass, 16

TMC 300 - moderate pass, 50

Tech 4 - moderate pass, 38

Reference oil for new tests

1006-2 - borderline fail, 91 (old tech but need for a failing oil)

TMC 300 - moderate pass, 50

Chain Wear

Tech 1

Tech 5 - Fail

Tech 9

Subject to change based on data for new oils showing discrimination different performance.

Reference oil for new tests

Tech 5 - Fail

LSPI

Tech 1

Tech 7

Tech 9

High reference oil (PM/reference oil only, not for BOIVGRA)

Ron Romano
Ford Motor Company

May 8, 2014

Subject to change based on data for new oils showing discrimination different performance

Reference oil for new tests

High reference oil

Tech 7

Ron Romano
Ford Motor Company