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### Unapproved Minutes of the September 17, 2002 Sequence VG Surveillance Panel Meeting held in Detroit, MI

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The meeting was called to order at 2:30 pm by Chairman Gordon Farnsworth. A membership list was not circulated for members and guests to sign in. A list of attendees can be found in the Minutes for The Sequence VG Operations and Hardware Subpanel Meeting minutes.

#### **Membership Changes**

None

#### **Agenda Review**

Ben Weber is the Action Item and Motion recorded.

An Agenda was not circulated, as the primary focus of this meeting was to determine the acceptability of the hardware "prove out" matrix defined by the Operations and Hardware Subpanel.

#### **Meeting Minutes Status**

Approval of the May 15, 2002 minutes was tabled until the meeting to be held in November, 2002.

Sequence VG Surveillance Panel Meeting  
September 17, 2002 Detroit, MI

### **Approval of Operations and Hardware Subpanel Recommendations for the Implementation of Romeo Hardware**

Dan Worcester discussed the proposed “prove out” matrix with the panel. Test length will be investigated, with intermediate inspections conducted at 12 hour increments, starting at test hour 216, to a maximum of 264 test hours. Two oils have been selected, 1006-2 and 925-3. In addition, a third oil, 15W-40 vis grade will be investigated for possible inclusion in the matrix. Hardware will be obtained from local Ford dealers, cams will have the journals reworked, and 0.125 mm and 0.5 mm oversized pistons will be used for this matrix. It is anticipated that the matrix will start on or about November 1, 2002.

### **Action Item Review**

Chairman Farnsworth reviewed the status of action items (Attachment 1) from the previous meeting as follows:

- a) Targets for 1009 were generated, but only on three tests. As a new action item, attempts will be made to obtain two additional tests on oil 1009 and update targets accordingly.
- b) No action has been documented regarding the end point of the VG mark2 fuel.
- c) Romeo solicitation has been completed.
- d) Task Force on hardware procurement has not met yet, Dan Worcester will work with Barry and others to accomplish this.
- e) Radial Bore measurement was dropped, addressed via information letter.
- f) Usefulness of other rate and report items by Barry has not been addressed, Gordon will remind Barry that these parameters need to be evaluated and documentation needs to be provided on the usefulness of the rate and report items, otherwise they will be dropped at the November 2002 meeting.
- g) Honing plates are now available from OHT.
- h) The panel added an objective to define and conduct Romeo hardware matrix with a date of 11/2002.
- i) Light Duty Rating Workshop is being conducted by the TMC and is scheduled for the week of September 23, 2002.
- j) VE wear replacement test viability was addressed.
- k) Procedure changes regarding lambda meters, power supply and rating items were addressed via information letter (02-4) and report packet revision notice (20020606).

A listing of the motions and additional action items is included as attachment 2.

The updated list of action items is included as attachment 3 and a revised Scope and Objectives is included as Attachment 4.

The next meeting will be in November, 2002 or at the call of the chairman.

The meeting was adjourned at ~3:40 pm.

A “round table” discussion on Future Sequence V Hardware Supply was held after the Sequence V Surveillance Panel meeting. A listing of topics discussed is included as Attachment 5.

## Attachment 1

### Motions & Action Items

#### Sequence VG Surveillance Panel

May 15, 2002

As Recorded at the Meeting by Ben Weber (except for items 19-21)

1. Previous meeting minutes approved as written.
2. All previous action items are closed.
3. The TMC report was accepted as presented.
4. Limits for 1006-2 will remain the same as 1006 until 10 results have been obtained on 1006-2.
5. [Bill B & Dwight B] 5 Labs will start a calibration test on 1009 by July 1, 2002 for valid calibration based on the statistics generated by these 1009 calibration tests. Passed unanimously.
6. RSI report was accepted as presented.
7. Fuel supplier report was accepted as presented.
8. The fuel supplier will confirm the end-point of the March 4, 2002 analysis.
9. The SP will continue to monitor the VG fuel reserves to determine the best time for completing a hand blend for initial testing within the industry. At this point, it doesn't appear this hand blend will be needed for a couple of years.
10. Ford will be putting out a solicitation letter for the Romeo 2000 model year engines within the next month.
11. A Task Force, chaired by Barry J., will be formed to determine an industry method for purchase and procurement of test hardware for the VG and future sequence testing.
12. The average radial bore method should be discontinued and replaced with a bore wear profile of the top ring reversal area. This will allow the Ford to quantify bore wear versus oil type and allow for an informed decision on the relevance of wear limits in the future. Test labs will have to purchase the appropriate equipment if and when this measurement becomes necessary. The SP will need to standardize this wear measurement technique. Used blocks will be sent to Ford for Ford to measure this bore wear in the ring reversal area on calibration oils and see if the data suggests a need to continue this measurement before other labs need to purchase the standardized measuring equipment etc. The O&H panel in conjunction with Barry J. will coordinate this activity and report on the data that is being generated.
13. [Barry J & Jerry B] Remove the average radial bore measurement immediately. The data dictionary will not be changed at this time because of the potential use of item number 12 above. Passed unanimously.
14. Barry J will again discuss the usefulness of the other rate and report items and report at the November 2002 SP meetings.
15. OHT will check the availability of providing the new honing plates to the industry for the Romeo hardware.
16. The VG Romeo hardware matrix will attempt to resolve the precision and severity differences/issues by increasing the test length to possibly 264 hours with intermediate inspections at 12-h intervals of the top end starting at 216 test hours and reverting back to the original oil charge. Ford will donate the test hardware. The test labs (4 at this time) will donate 2 tests on 1006 and 925-3 each and buy the parts and tools for the engine builds (a complete listing is available in the meeting minutes of this meeting). Front covers could be in short supply? A build workshop will be conducted prior to the new labs conducting any matrix testing. Regular lab conference calls will also take place. It was also suggested that the O&H group have a technical brainstorming session prior to starting this work to see if anything else could be added to this proposed matrix work. Completion date is estimated to November 1, 2002. The entire plan will be distributed to the SP prior to commencing.
17. A light-duty rating workshop is desired by this group and will be coordinated with the Spring and Fall heavy-duty rating workshops by Scott Parke of the TMC.
18. Reviving the VE as a possible wear replacement component for the IIIG in GF-4 was determined by this SP to be technically feasible, but not reasonable. Test parts were limited to 600 tests and a new fuel batch would also have to be procured besides running matrix tests to prove performance. The

timing for this VE reviving was estimated to be 6-9 months. The VG chair will report this back to ILSAC/Oil as requested.

19. [Dan W and Bill B] Lambda meters shall be used to measure air-fuel ratio in each engine bank. First use of Lambda meters at each lab will be on at least one reference test started on or after March 01, 2002. The entire lab may be converted after one valid, acceptable reference on the new measurement devices. In the report package, an average Lambda value will be shown for each bank in each stage on Form 6. Change Section 9.6.1.2 to read: Calibrate the lambda measurement device by introducing the sensor to air prior to a reference oil test. Effective May 15, 2002. Passed by vote of 9 for, 0 against, and 1 waive.
20. [Dan W and Dwight B] Change 7.10.4.2 to read “The EEC power shall come from a battery (13.5 +/- 1.5 V) or a power supply that does not interrupt/interfere with proper EEC operation. That power supply can also be used for the Lambda meters”. Effective May 15, 2002. Passed unanimously.
21. [Dan W and Dave G] Convert varnish rating sites as follows:
  - Section 13.3.1:
    - piston skirts, ...and left and right cam baffles.
  - Annex A11:
    - Add cam baffle varnish rating locations.
    - Change other locations as needed to add baffle varnish rating without conflicts.Passed by vote of 8 for, 0 against and 4 waives (the membership keeps fluctuating). Effective August 1, 2002.

Attachment 2

Sequence VG Surveillance Panel Meeting  
Romulus, MI  
September 17, 2002

Motions and Action Items as recorded by Ben Weber

1. The TMC will collect two more 1009 test results, for a total of five, to calculate the test targets and LTMS standard deviation.
2. The chair will remind Ford of the rate and report items for the upcoming November meeting.

**Action Items**  
**From**  
**May 15, 2002 meeting**

- 1.) Introduce ASTM 1009 as a calibration oil (start testing by July 1). **TMC Done**
- 2.) Fuel supplier to confirm fuel end point by March 4.  
**Fuel supplier ?**
- 3.) Ford to issue solicitation letter for Romeo 2000 model year engines.  
**Ford Done**
- 4.) Barry Jecewski to chair a Task Force to determine industry method for purchase and procurement of test hardware for the VG and future sequence testing.  
**Barry Jecewski Not Started**
- 5.) Send engine blocks from reference tests to Ford for measurement.  
**Labs and Ford Done**
- 6.) Review need for rate & report item at November meeting.  
**Barry Jecewski Pending**
- 7.) OHT to check the availability of providing the new honing plates to industry for the Romeo hardware.  
**Dwight Bowden Done**
- 8.) Allow Lambda meters for measurement of air/fuel ratio.  
**TMC info letter Done**

## **Action Items continued**

- 9.) Report to ILSAC/Oil that is not practical to revive the VE test.  
VG Chairman **Done**
- 10.) Replace RAC varnish with Cam Baffle varnish.  
TMC Info Letter **Done**

## Sequence VG Objectives

- 1.) Establish VG fuel reblend confirmation trial timing 5/03
- 2.) Approval testing of next VG fuel reblend 11/03
- 3.) New Romeo engine equivalency testing complete 2/03
- 4.) Introduce 1009 reference oil 11/02
- 5.) Cylinder Bore Task Group 6/03
- 6.) **Rate & Report items review** 11/02
- 7.) **Future engine supply plan** 11/02
- 8.) Current engine distribution group 9/02



## Attachment 5

Future Sequence V Hardware Supply

Round Table Discussion  
September 17, 2002

Is 5-year parts order still a viable option considering the financial capital risk involved?

Purchase engines annually off the line. Each lab references at the same time and the references are good for one year. Candidates are judged against the reference limits established with each set of engine hardware. As another option, you could adjust the specification targets annually based on reference oil performance.

Having a non-OEM (non-sponsor) build engines from parts. This could even be a consortium of the test labs, or TEI or OHT. Where does the parts come from? Dealers, made from prints, etc.

Buy engines off the line and use our existing system with prove-out in the reference system.

OEM locks part number changes in place and has a supplier make the specific parts for the testing industry on a as needed basis such as Caterpillar currently does. There is after market suppliers that are willing do this.

Suggest giving this issue to ACC and see what they can come up with.