

ASTM Sequence VI Surveillance Panel Report

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Chairman ASTM VI Surveillance Panel

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The following Task was assigned to this panel by the PCEOCP:

Guidelines for:

**** Oil pressure, MAP, and/or baseline fuel consumption, should be established for test validity (BLB1, BLB2), and interpretability (BLB2, BLA) before the precision matrix.***

**** Propose: BLB1-BLB2 Fuel Consumption shift: - 0.20% to 0.40% If outside range, run BLB3 and compare with BLB2***

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**** ASTM Sequence VI Surveillance Panel to investigate test-to-test variability in baseline fuel consumption and report findings before start of precision matrix.***

*** ASTM Sequence VI Surveillance Panel to determine requirements for new labs to participate in the Precision Matrix Phase II**

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- Activities of this Panel;
 - Face to Face meeting held September 10th
 - Conference call held September 25th
 - Conference call held October 6th
 - Conference call held October 21st

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The following recommendations came from these meetings:

1.) Have the Statistical Group (SG) was requested to review the Prove out Matrix data to determine if a baseline shift limits for BLB versus BLA could be setup to improve precision

The response from the SG was:

Due to the limited size of the data base and lack of data covering the spectrum of engine age, it is recommended that limits not be established at this time. The Statistical Group will revisit this task after the completion of the Precision Matrix.

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The SP determined the Criteria for Labs to participate in Phase II of the Precision Matrix

- The lab inspection team has made a visit to each Matrix Lab (dependent and independent) and filed a report regarding the Lab's conformance to specification that includes, at a minimum, completed lab inspection checklists.
- Lab readiness, as summarized by the lab inspection team reports, is deemed satisfactory by the ASTM Surveillance VI.
- Each Matrix Lab has run at least two (2) operationally valid tests (shakedown runs are eligible) within a lab using the LDT & PCM Version 3.

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- Oils to be used are: VID A, B or E (at least 2 different oils run in each lab).
- The Sequence VI ASTM Surveillance Panel must deem these test results satisfactory in terms of precision and relative agreement among labs.
- The initial Stand Calibration requirements will be 3/3/3.

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- “The industry statisticians will review the motions from the 09/10/08 VI SP meeting and provide a recommendation on how to deem the test results satisfactory.”
 - The results being referred to are from the two runs on Oils A, B or E prior to the Precision Matrix which are utilized to determine if the lab can participate in the matrix.

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The SG established targets for these oils are:

FEI % Targets and Acceptability Limits

Oil	FEI1			FEI2		
	Target	Acceptability Limits		Target	Acceptability Limits	
		Lower	Upper		Lower	Upper
A	0.97	0.48	1.45	0.59	0.06	1.10
B	1.34	0.86	1.82	0.73	0.22	1.24
E	0.60	0.12	1.07	0.21	-0.30	0.73

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2.) Guidelines were adopted for BLB1 vs. BLB2 shift

The SP agreed to the following validity criteria with respect to BLB shift (valid if between -0.2% and 0.4% based on **unweighted fuel consumption**) which are to be utilized for all tests included in the Precision Matrix Phase I & II.

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The SG gave the following recommendation for engine selection for Phase 1 of the Precision Matrix which have been accepted by the SP:

First engine is to start with less than 400 hours, the second engine is to start with between 500-2000 hours (would prefer 1000 hours). **Update: The SG had another discussion and has decided to review the engines available at the two labs ~ 2 weeks prior to the Precision Matrix start and determine if any of these should/can be used.**

This does not apply to Phase 2 of the precision matrix.

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Other Actions taken by the SP:

- A Task Force has been formed to investigate test-to-test variability in baseline fuel consumption and report findings before start of precision matrix.

- TMC and SG have been requested to develop a method for determining outlier data in phase 2 of the precision matrix. Operationally valid data from all participating labs will be considered.

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Other Actions taken by the SP:

- SwRI has submitted a plan concerning the repeatability and precision at their lab.

The Sequence VI Surveillance Panel has reviewed this plan and found it to be acceptable. SwRI has been requested to:

- 1.) Submit the operational data from these tests for final review by the Surveillance Panel.
- 2.) Summarize the changes they have made since the prove-out matrix. *This have already been submitted to the SP.*

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Other Actions of interest :

- Draft 5 of the VID Procedure was posted on the TMC Web Site 10/01/08.
- The VID Engine Assembly Manual was posted on the TMC Web Site 10/01/08.
- The Consortium Research Report was posted on the TMC Web Site 10/17/08.