



Test Monitoring Center

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MEMORANDUM: 04-087
DATE: October 25, 2004
TO: Cory Koglin, Chairman, L-42 Surveillance Panel
FROM: Donald Lind
SUBJECT: L-42 Reference Test Status from April 1, 2004 through September 30, 2004

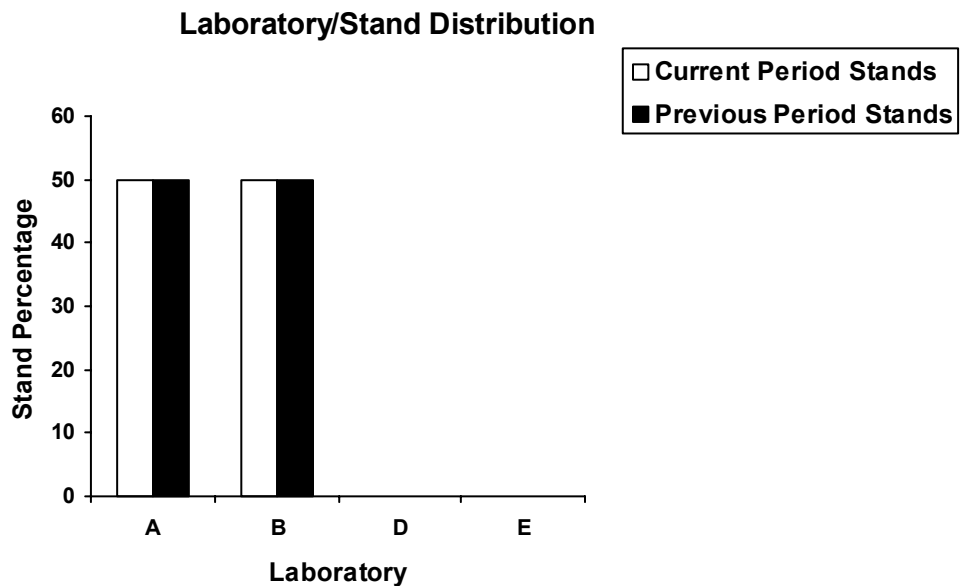
Summary

The following is a summary of the L-42 reference oil tests that were reported to the Test Monitoring Center during the period April 1, 2004 through September 30, 2004.

Lab/Stand Distribution

	Reporting Data	Calibrated as of 9/30/04
Number of Laboratories	2	2
Number of Stands	2	2

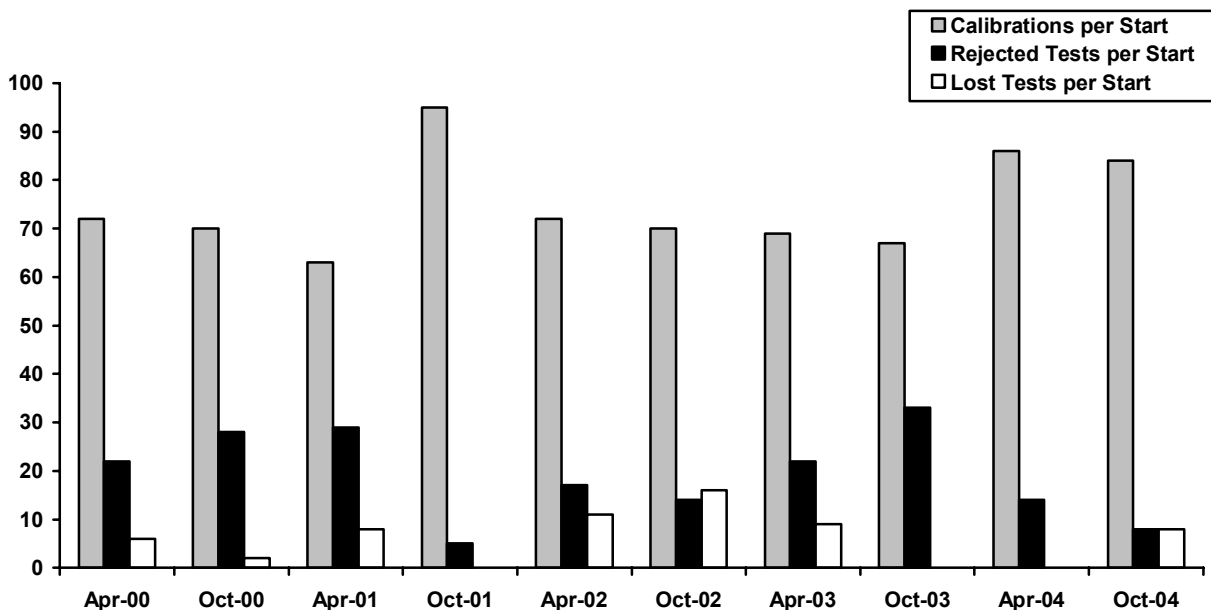
The following chart shows the laboratory/stand distribution:



A total of 33 operationally valid reference oil tests were reported this report period. Six of the 33 operationally valid reference oil tests were run on gear batch C1L311/P8L205, 12 were run on C1L396/P8L327, and 15 were run on V1L637/P8L604. Thirty of the operationally valid tests were used for stand calibration. The following summarizes the status of the reference oil tests reported to the TMC:

	TMC Validity Codes	Number of Tests
Operationally and Statistically Acceptable (LTMS)	AC	30
Operationally Valid, Statistically Unacceptable	OC	3
Operationally Invalid Calibration Test-Lab Judgment	LC	0
Aborted Calibration Test	XC	1
Non-interpretable (Drive Side Scoring)	MC	2
Acceptable Discrimination Oil Test	AS	3
Unacceptable Discrimination Oil Test	OS	0
Aborted Discrimination Oil Test	LS	0
Donated Tests	AG	1
Non-blind Tests (Stand Evaluation)	NN	0
Total		40

Attempted calibration tests are depicted graphically below by report period.



The calibrations per start and rejected test per start rates have decreased slightly this report period when compared to the previous period. The lost test per start rate has increased this report period when compared to the previous period. All rates compare well with the historical values.

Severity and Precision

The average Δ/s for this period is -0.03 (-0.16 % Scoring) mild as illustrated in the Cusum severity plot in Figure 1. There were two EWMA severity warning alarms and two EWMA precision warning alarms this report period. The alarms do not appear to be attributed to any one gear batch, oil or lab. The means and standard deviations, by reference oil and gear batch for all operationally valid tests completed during this period, are tabulated below:

Oil	N	Gear Batch	Coast Side Pinion Scoring		
			Mean	Std. Dev.	Δ/s
115	6	C1L311/P8L205	24.0	3.35	0.11
115	12	C1L396/P8L327	24.3	2.93	-0.22
115	15	V1L637/P8L604	25.7	7.55	0.07

The Δ/s and pooled standard deviations, by lab, are listed in the following table:

Lab	Coast Side Pinion Scoring Δ/s	Pooled Standard Deviation			
		df	Coast Side Pinion Scoring	Coast Side Ring Scoring	Seq. 2 Coast Side Ring Scoring
A	0.16	11	8.44	7.89	2.89
E	-0.14	20	2.77	1.94	0.00

Information Letters

There were no information letters issued during this report period

TMC Lab Visits

There was one lab visit performed this report period. During the lab visit two discrepancies were noted. The axle was not prepared as per Sections 5.1.2 through 5.1.4 of the L-42 procedure and the lab was not able to verify that the cleaning solvent met the specifications of D 235 – Type II, Class C as called out in Section 4.2.

Reference Oil Status

The following table quantifies the reference oil supply and the expected number of tests remaining at the Test Monitoring Center and at the testing laboratories. L-42 reference oils are shipped in quantities of 1/2 gallon per test.

Oil	Lab A	Lab B	Lab D	Lab E	TMC	Total
112-2	2	6	3	1	74	86
114-1	0	11	4	2	18	35
115	12	11	13	9	69	114
113	2	4	4	3	192	205

DML/dml

Attachments

c: L-42 Surveillance Panel

<ftp://ftp.astmtmc.cmu.edu/docs/gear/142/semiannualreports/142-10-2004.pdf>

Distribution: Email

Table 1

Effective Date	L-42 Timeline	
	Topic	IL#
19940110	Test report form and data dictionary changes version number 19940106	1
19940401	In-Line Torque Meter Addition	2
19940401	Instrument Calibration Requirement	2
19940701	Report Forms and Data Dictionary Version 19940526	3
19940903	Report Forms and Data Dictionary Version 19940707	4
19940903	Recording of Torque Measurement using Inline Torque Meter	5
19950824	Report Forms and Data Dictionary Version 19950721	5
19960713	Test Break-in Procedure	96-1
19960713	Report Forms and Data Dictionary Version 19960607	96-1
19960923	Non-reference oil test Sequence 2 (15%) and Sequence 4 (10%) coast side torque limits.	96-2
19960923	Sequence 2 and Sequence 4 dynamometer synchronization torque specification	96-2
19970317	Revised Calibration Schedule, Discrimination Requirements, Coast Side Torque Limits, Report Forms and Data Dictionary Version 19970305	97-1
19980302	Report Forms and Data Dictionary Version 19971211	98-1
19980122	Backlash Settings Clarification	98-2
	Section 5.2.4 Editorial Correction	98-3
19990101	Addition of CRC Gear Rating Workshop Training	98-4
19990901	Reference test requirement: EOT pinion c.s. scoring => EOT ring c.s. scoring	99-1
20020211	Replacement of CRC Manual 17 with CRC Manual 21	02-1
20020401	Remove Report Forms and Data Dictionary from ASTM Procedure	02-1
20030101	Require the Use of a Himmelstein Torque Meter	03-1
20030101	Require the Use of a Himmelstein Model 701 or 711 Strain Gage Conditioner	03-1
20030415	Non-interpretable Tests	03-02
20030415	Complete Test Procedure Update	03-02
20040101	Revised Solvent Specification	03-03
20031114	Non-interpretable Tests for Drive Side Scoring	03-04

L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL END OF TEST PINION % SCORING COAST (%)

