




Test Monitoring Center

Carnegie Mellon University
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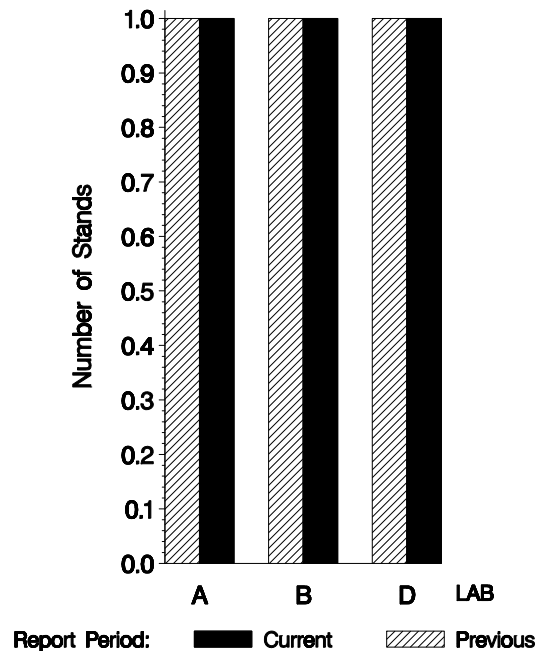
<http://astmtmc.cmu.edu>
412-365-1000

MEMORANDUM: 10-030
 DATE: July 1, 2010
 TO: Cory Koglin, Chairman, L-42 Surveillance Panel
 FROM: Scott Parke 
 SUBJECT: L-42 Testing from October 1, 2009 through March 31, 2010

A total of 30 L-42 tests were reported to the Test Monitoring Center during the period from October 1, 2009 through March 31, 2010. Following is a summary of testing activity this period.

	Reporting Data	Calibrated on 3-31-10
Number of Labs	3	2
Number of Stands	3	2

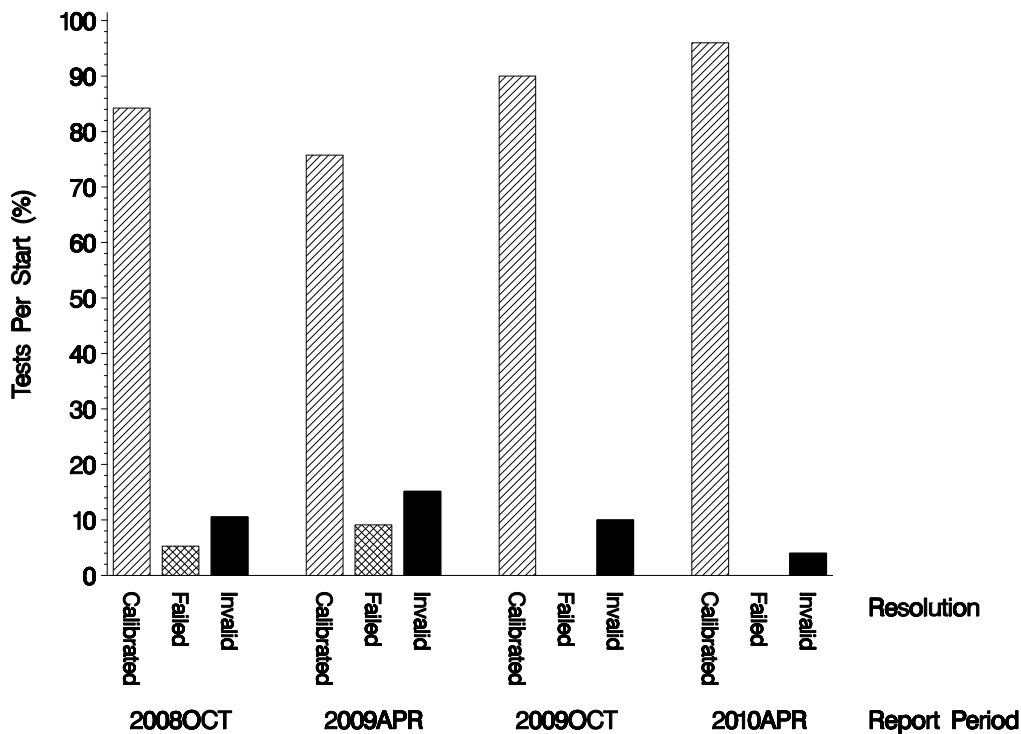
BY-LAB STAND DISTRIBUTION



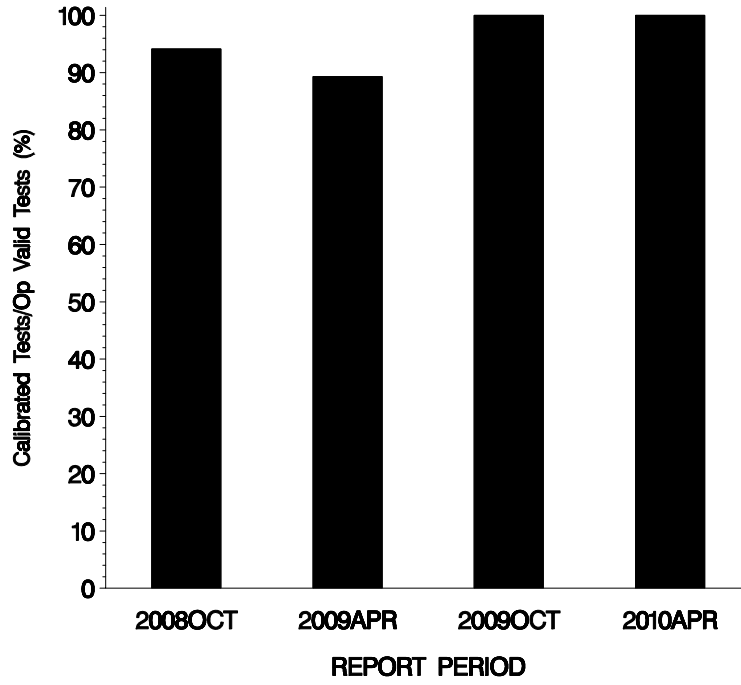
Test Distribution by Oil and Validity

						Totals	
		112-2	113	116	116-1	Last Period	This Period
Accepted for calibration	AC	0	0	1	23	18	24
Rejected (Mild)	OC	0	0	0	0	0	0
Rejected (Severe)	OC	0	0	0	0	0	0
Rejected (Precision)	OC	0	0	0	0	0	0
Accepted discrimination	AS	3	1	0	0	1	4
Unaccepted discrimination	MS	0	0	0	0	2	0
Invalidated calibration	LC	0	0	0	0	2	0
Aborted	XC	0	0	0	0	0	0
Uninterpretable	MC	0	0	0	1	0	1
Aborted donated test	XG	0	0	0	0	1	0
Accepted information run	NN	0	0	0	1	5	1
Total		3	1	1	25	29	30

CALIBRATION ATTEMPT SUMMARY



**OPERATIONALLY VALID TESTS
MEETING ACCEPTANCE CRITERIA**



CAUSES FOR LOST TESTS:

Lab	Cause	Oil				Validity			Loss Rate		
		112-2	113	116	116-1	LC	MC	XC	Lost	Starts	%
A	Ring scoring > pinion scoring.				●		●		1	7	14%
	Lost	0	0	0	1	0	1	0			
	Starts	0	0	1	24	25	25	25			
	%	0%	0%	0%	4%	0%	4%	0%			

Lost tests are calibration attempts that were either aborted or operationally invalid.

			Coast Side Pinion Scoring		
Oil	Gear Batch	N	Mean	Std. Dev.	Average Δ/s
116	C1L446/P8L119	1	16	0	-1.28
116-1	C1L446/P8L119	23	25.8	3.87	0.51

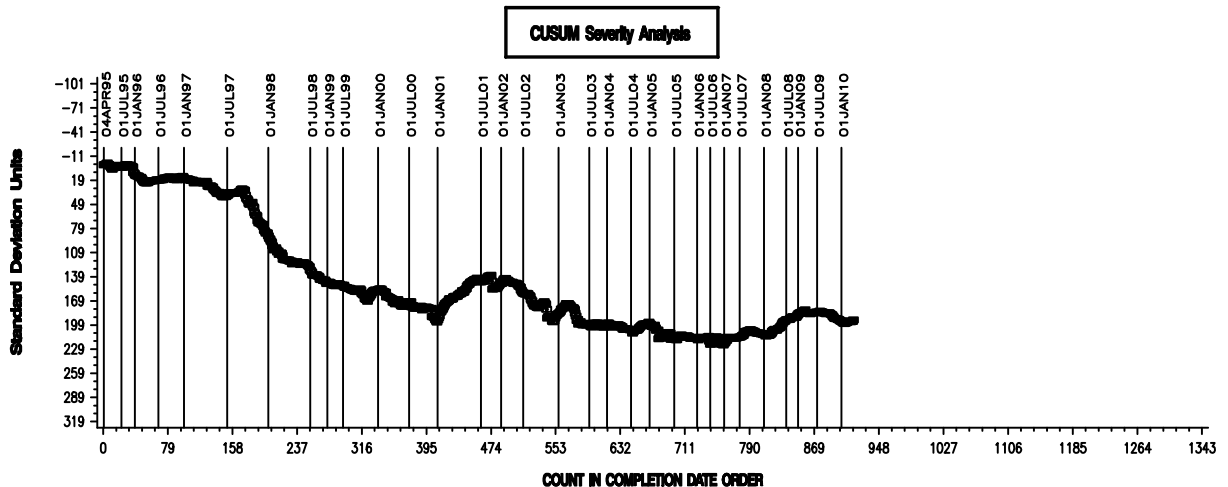
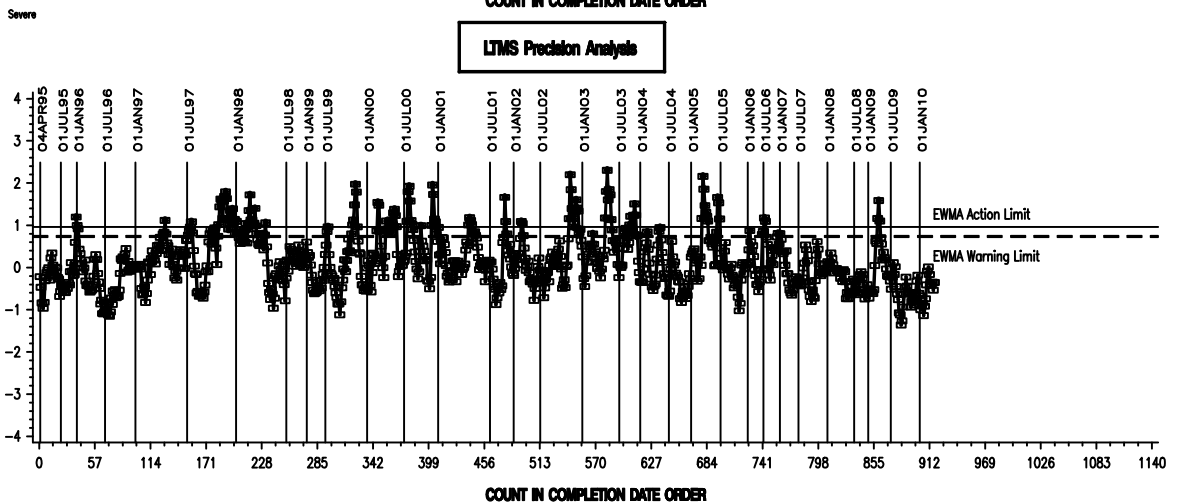
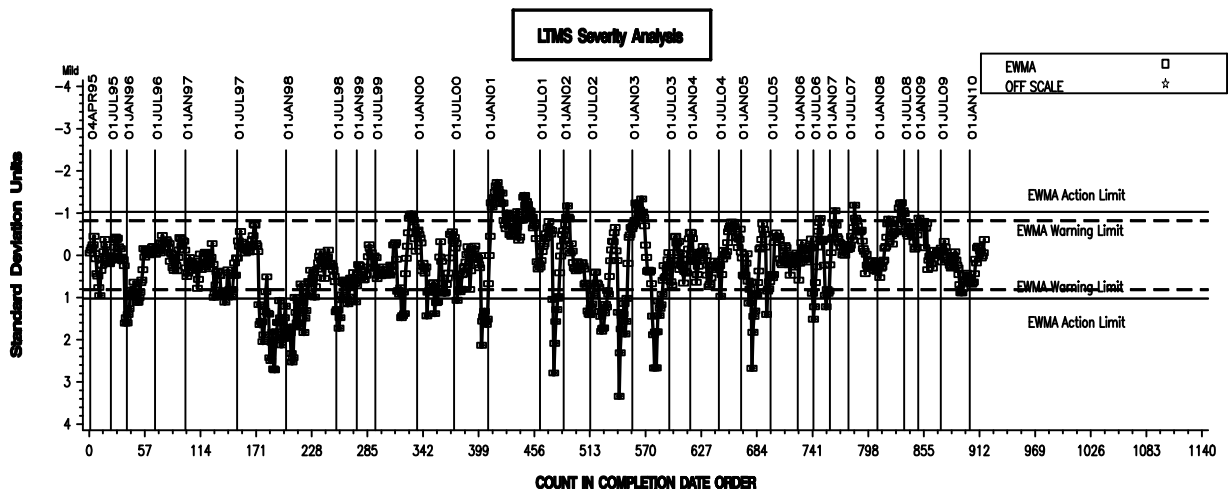
		Pooled Standard Deviation			
Lab	Coast Side Pinion Scoring Δ/s	df	Coast Side Pinion Scoring	Coast Side Ring Scoring	Shock Series I Coast Side Ring Scoring
A	-0.06	4	3.94	4.53	4.92
B	0.47	8	5.29	3.64	1.67
D	0.75	8	1.17	1.17	0

INDUSTRY CONTROL CHART:

The industry control chart is shown below. ECSP twice exceeded the severity warning limit this period but is currently performing within both severity and precision limits.

L-42 INDUSTRY OPERATIONALLY VALID DATA

FINAL EOT PINION SCORING COAST SIDE



TIMELINE OF SIGNIFICANT EVENTS IN THE HISTORY OF THE L-42 TEST:

Effective Date	Information Letter	Event
	98-3	Section 5.2.4 editorial correction (No effective date, only a editorial change)
19940110	1	test report form and data dictionary changes version number 19940106
19940401	2	In-Line Torque Meter Addition
19940401	2	Instrument Calibration Requirement
19940701	3	Report Forms and Data Dictionary Version 19940526
19940903	4	Report Forms and Data Dictionary Version 19940707
19940903	5	Recording of Torque Measurement using Inline Torque Meter
19950824	5	Report Forms and Data Dictionary Version 19950721
19960713	96-1	Test Break-in Procedure
19960713	96-1	Report Forms and Data Dictionary Version 19960607
19960923	96-2	Non-reference oil test sequence 2 (15%0 and sequence 4 (10%) coast side torque limits.
19960923	96-2	Sequence 2 and sequence 4 dynamometer synchronization torque specification
19970310	97-1	Revised Cal. Schedule, Discrimination Test Req., Seq. 2 and 4 Coast Side Torque Req.
19970310	97-1	Report Form And Data Dictionary Revisions (Version 19970305)
19980122	98-2	Backlash setting clarifications
19980302	98-1	Revised Report Forms & Data Dictionary Version 19971211
19990101	98-4	Addition of CRC Gear Rating Workshop training
19990901	99-1	Reference test requirement: EOT pinion c.s. scoring => EOT ring c.s. scoring
20020211	02-1	Replacement of CRC Manual 17 With CRC Manual 21
20020401	02-1	Removal of Report Forms and Data Dictionary
20030101	03-1	Himmelstein Torque Meter Requirement
20030101	03-1	Himmelstein Model 701 or 711 Strain Gage Conditioner Requirement
20030415	03-2	Non-interpretable Tests
20030415	03-2	Complete L-42 Test Procedure Update
20031114	03-4	Non-interpretable Tests for Drive Side Scoring
20040101	03-3	Revised Solvent Specification
20040630	04-1	Standardization Revisions
20040825	04-1	Lubrited Hardware, Gear Batch V1L686/P4L626A Correction Factor
20040917	04-1	Intermediate Precision and Reproducibility Revisions
20040922	04-2	Drive Shaft Wall Thickness
20040922	04-2	Alternating Lubrited and Non-lubrited Hardware
20050221	05-1	Revised Silvent Specifications
20050426	05-2	Updated Test Precision
20050426	05-2	Rounding Test Results Using ASTM E 29
20050629	05-3	Low Temperature Test Annex
20060301	06-1	Addition of Alternative Power Train
20060509	06-2	Revised Procedure Includes Single Common Power Train, Common Throttle Control, and Revised Data Acquisition Requirements
20060713	06-3	Revised Procedure Includes Revisions to Test Length Requirements, Unscheduled Shutdowns, Backlash Measurements, and Pretest Contact Patterns.
20061215	06-4	Revised Wording for Coast Side Gear Contact Segment Time
20061215	06-4	Revised Wording for Unscheduled Shutdowns

Effective Date	Information Letter	Event
20061215	06-4	Engine Throttle Body Calibration Procedure
20070115	06-4	Revised Wording for Backlash Measurements
20070411	07-1	Revised Wording for Backlash Measurements
20070411	07-1	Revised Pretest Contact Pattern Procedure
20080624	08-1	Revised EOT Scoring Validity
20080724	08-1	Revised Conditioning Graphs
20090326	09-1	Revisions to Preparation of Apparatus Procedure
20090326	09-1	Revision to Percent Deviation Calculation
20091202	09-2	Cal stands @ 20 tests; cal instrumentation @ 6 mo or 60 tests.

TMC LAB VISITS:

One L42 lab visit was conducted during this report period. No noteworthy deviations from procedure were discovered.

INFORMATION LETTERS:

Information Letter 09-2 was issued December 2, 2009 to revise in-service stand calibration frequency to 20 tests and to revise instrument calibration frequency to every 6 months or 60 tests.

STATUS OF REFERENCE OIL SUPPLY:

At the end of this report period, the testing oil supply stood as outlined in the table below:

Oil	Cans @ Labs	@ TMC	
		Cans	Gallons
112-2	9	19	9.5
113	10	176	88.0
116	11	0	0.0
116-1	23	253	126.5
Total	53	448	224.0

SDP/sdp/astm0410.doc/mem10-030.sdp.doc

c: Frank Farber

Jeff Clark

Don Lind

L-42 Surveillance Panel

<ftp://ftp.astmtmc.cmu.edu/docs/gears/142/semiannualreports/142-04-2010.pdf>

Distribution: email