



Test Monitoring Center

Carnegie Mellon University
6555 Penn Avenue, Pittsburgh, PA 15206, USA

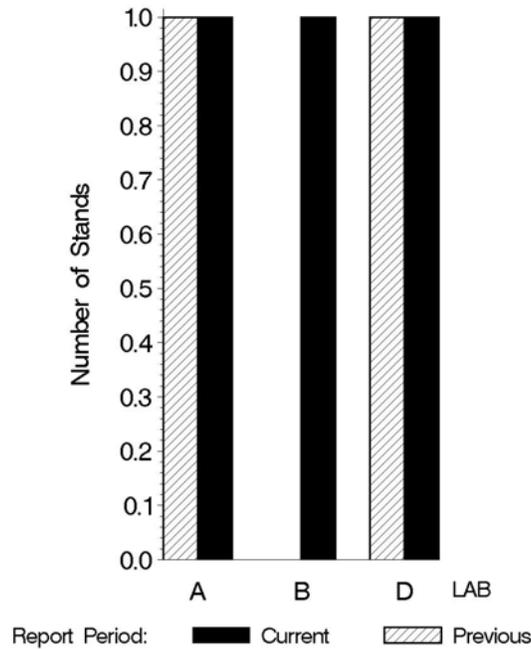
<http://astmtmc.cmu.edu>
412-365-1000

MEMORANDUM: 11-030
 DATE: June 14, 2011
 TO: Cory Koglin, Chairman, L-42 Surveillance Panel
 FROM: Scott Parke 
 SUBJECT: L-42 Testing from October 1, 2010 through March 31, 2011

A total of 34 L-42 tests were reported to the Test Monitoring Center during the period from October 1, 2010 through March 31, 2011. Following is a summary of testing activity this period.

	Reporting Data	Calibrated on 3-31-11
Number of Labs	3	3
Number of Stands	3	3

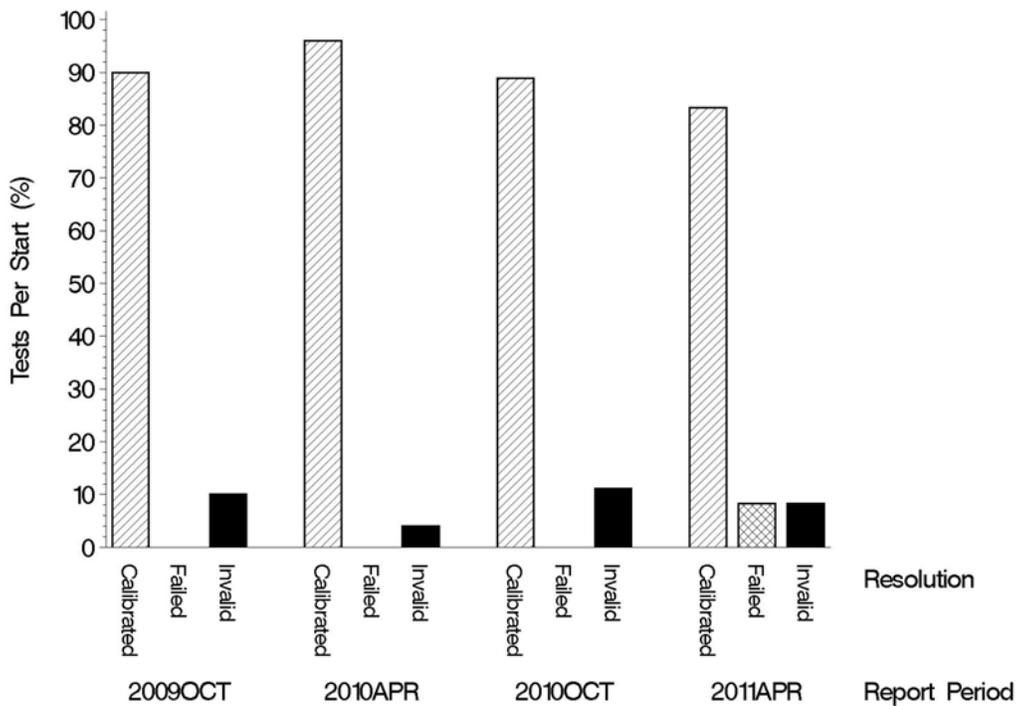
BY-LAB STAND DISTRIBUTION



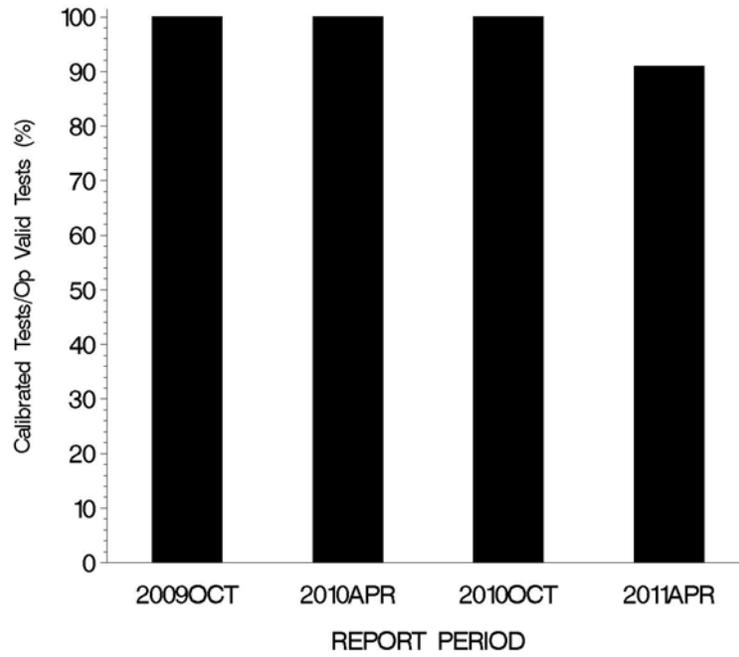
Test Distribution by Oil and Validity

						Totals	
		112-2	113	116	116-1	Last Period	This Period
Accepted for calibration	AC	0	0	0	20	16	20
Rejected (Mild)	OC	0	0	0	0	0	0
Rejected (Severe)	OC	0	0	0	2	0	2
Rejected (Precision)	OC	0	0	0	0	0	0
Accepted discrimination	AS	1	1	0	0	1	2
Invalidated calibration	LC	0	0	0	2	0	2
Aborted	XC	0	0	0	0	0	0
Uninterpretable	MC	0	0	0	0	2	0
Shakedown run	NI	1	1	0	6	5	8
Total		2	2	0	30	24	34

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	Oil temperature thermocouple failure.				●	●			1	12	8%
B	Allowable total test time exceeded.				●	●			1	18	6%
	Lost	0	0	0	2	2	0	0			
	Starts	2	2	0	30	34	34	34			
	%	0%	0%	0%	7%	6%	0%	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
116-1	C1L446/P8L119	22	25.1	6.96	0.39

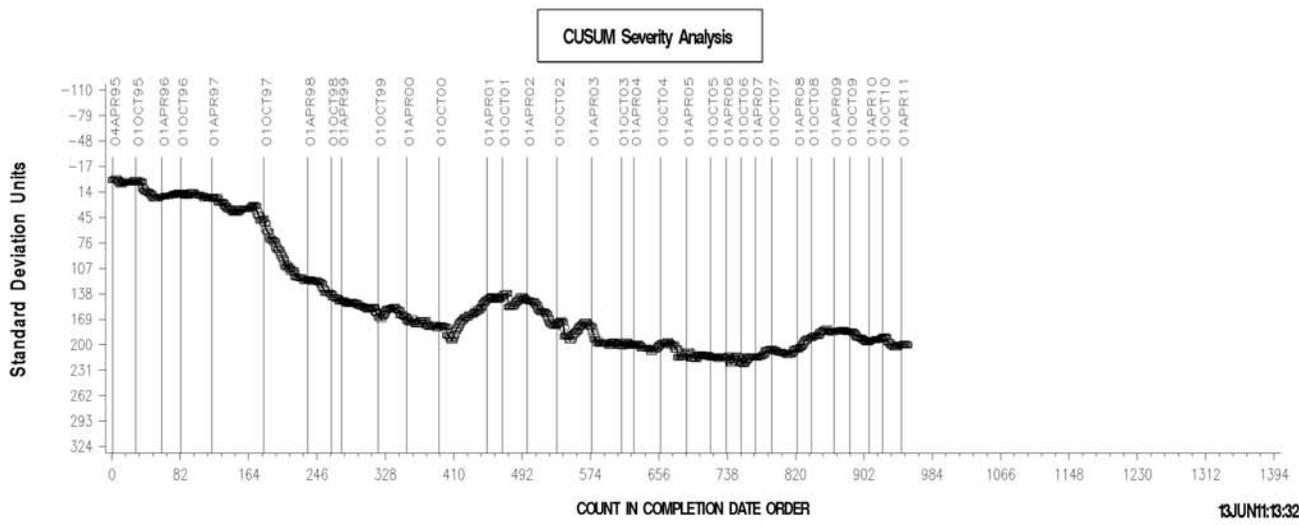
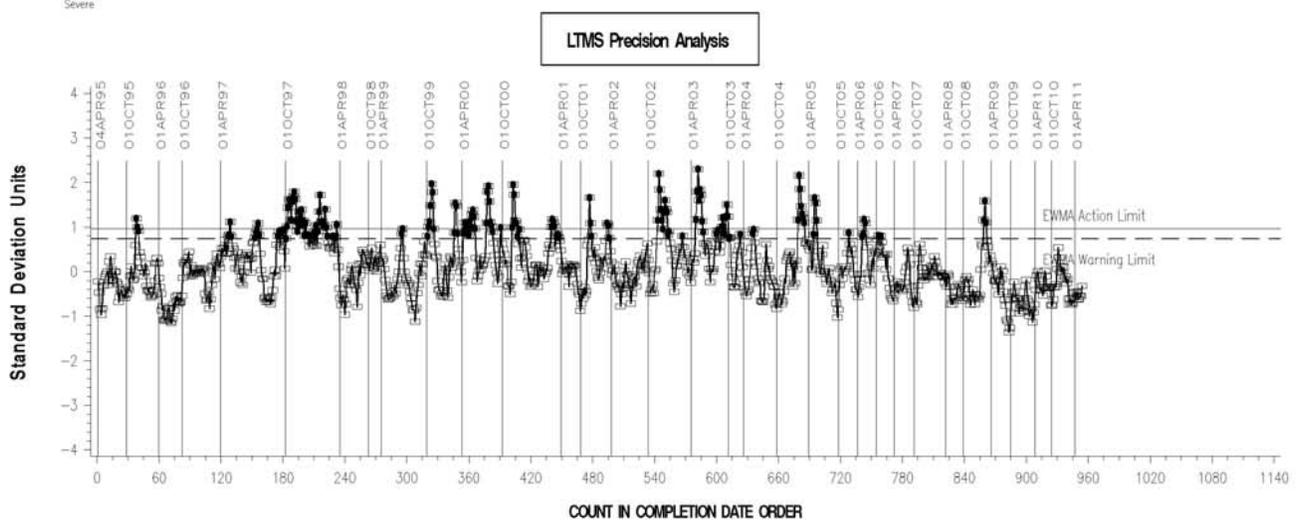
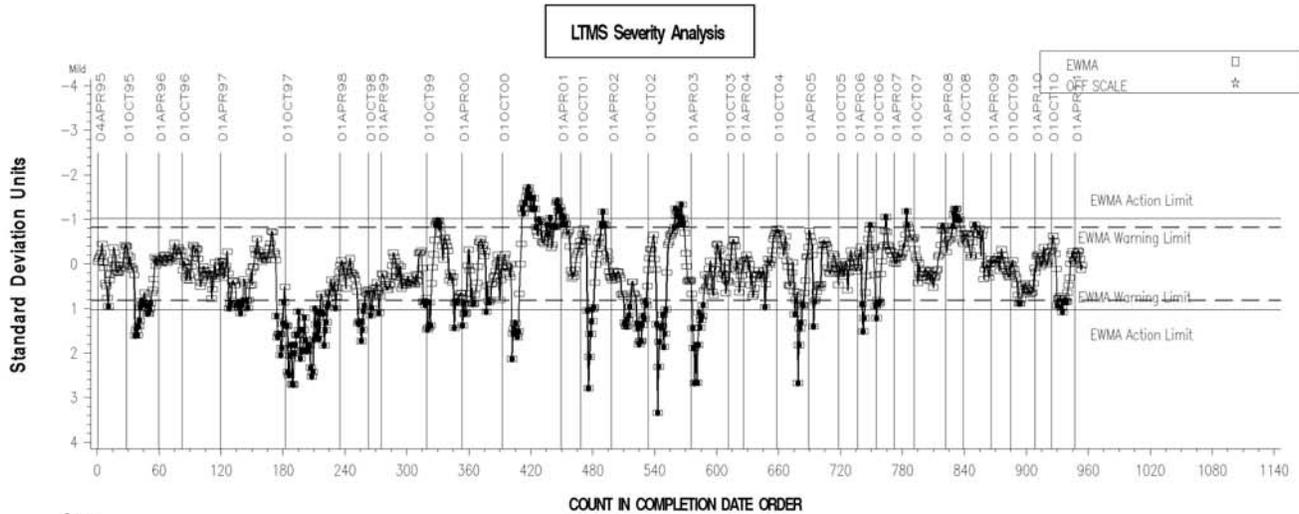
		Pooled Standard Deviation			
Lab	Coast Side Pinion Scoring Δ/s	df	Coast Side Pinion Scoring	Coast Side Ring Scoring	Shock Series I Coast Side Ring Scoring
A	-0.61	5	2.58	2.10	0.00
B	0.62	11	7.79	6.91	0.00
D	1.18	3	3.70	4.08	10.00

INDUSTRY CONTROL CHART:

The industry control chart is shown on the following page. ECSP severity and precision are both currently performing within 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:

Two L42 lab visits were conducted during this report period. No noteworthy deviations from procedure were discovered.

INFORMATION LETTERS:

No information letters were issued this period.

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	6	18	9.0
113	9	175	87.5
116	11	0	0.0
116-1	18	205	103.0
Total	44	398	199.5

The supply of oil 112-2 (the discrimination oil) is nearly depleted. Oil 113 is the replacement for it.

SDP/sdp/astm0411.doc/mem11-030.sdp.doc

cc: Frank Farber
Jeff Clark

<ftp://ftp.astmtmc.cmu.edu/docs/gear/l42/semiannualreports/l42-04-2011.pdf>

Distribution: email