



Test Monitoring Center

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MEMORANDUM: 05-016

DATE: April 13, 2005

TO: Don Bartlett, Chairman, L-37 Surveillance Panel

FROM: Donald Lind

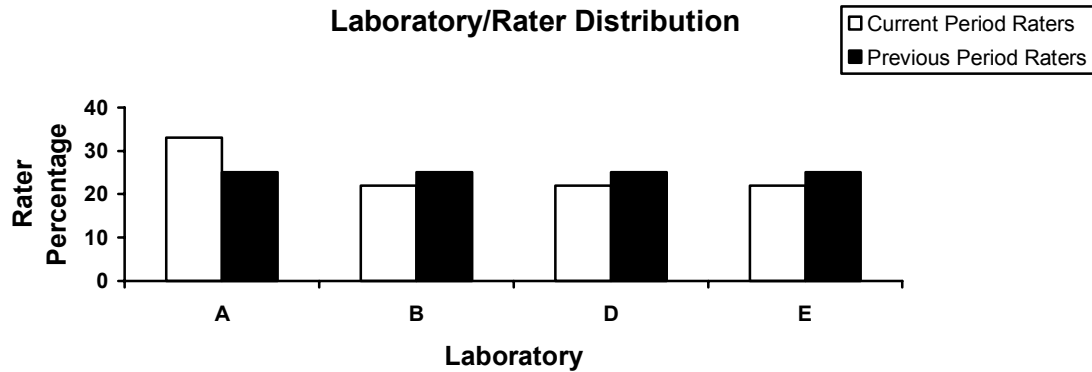
SUBJECT: L-37 Rater Calibration Status from October 1, 2004 through March 31, 2005

The following is a summary of the L-37 rater calibrations reported to the Test Monitoring Center during the period October 1, 2004 through March 31, 2005.

Rater Summary

	Reporting Data	Calibrated as of 3/31/05
Number of Raters	9	9

The following chart shows the laboratory/rater distribution:



The following summarizes the status of the rater calibration tests reported to the TMC:

	TMC Validity Codes	No. of Calibrations
Statistically Acceptable	AC	9
Failed Acceptance Criteria	OC	3
Total		12

Summary

A total of 12 L-37 rater calibration results from nine different raters were reported to the TMC this period. Eight of the nine raters were within the acceptance criteria. One rater was no longer calibrated and needed to complete a documented training exercise after triggering four consecutive EWMA severity alarms for the ridging parameter in the severe direction. After documented training and a calibration workshop the rater was sent two sets of pinions. The rater was outside the acceptance limits on ridging in the mild direction for the first set of pinions. The rater was within the acceptance criteria for the second set of pinions and is now calibrated.

Severity and Precision

For this period, the mean delta/s was -0.24 severe for Wear, 0.04 mild for Rippling, 0.06 mild for Ridging, and -0.20 severe for Spitting. Precision was 0.84 for Wear, 0.75 for Rippling, 0.83 for Ridging, and 0.69 for Spitting. A straight standard deviation of Yi was used because the number of ratings per pinion was too small to determine a pooled standard deviation. Below is a table illustrating rater severity for this period:

Rater	Wear		Rippling		Ridging		Spitting	
	Yi	S.D. *	Yi	S.D. *	Yi	S.D. *	Yi	S.D. *
A	-0.01	0.79	0.07	0.40	0.53	0.43	0.10	0.58
B	-0.53	0.25	0.33	0.53	0.05	0.66	0.03	0.14
C	0.73	0.34	-0.38	0.45	-0.77	0.26	0.02	0.49
D	-0.17	0.50	-0.43	0.94	0.83	0.48	0.06	0.13
E	-0.45	0.91	0.35	0.63	-0.01	0.98	-0.44	1.05
F	-0.56	0.43	-0.71	0.38	-0.07	0.97	-0.53	0.57
H	-0.73	1.24	-0.14	1.07	0.04	0.78	-0.06	0.30
I	0.22	1.10	-0.30	0.45	-0.27	0.47	-0.04	0.19
K	-0.01	0.75	0.68	1.07	0.45	0.90	-0.16	0.19

*A straight standard deviation of Yi was used as the number of ratings per pinion was too small to determine a pooled standard deviation.

Industry Control Charts

Figures 1 through 4 are the L-37 rater industry control charts for pinion Wear, Rippling, Ridging, and Spitting, respectively. Severity and precision EWMA charts for pinion Wear and Rippling were in control this report period. Pinion ridging triggered two EWMA severity alarms and pinion Spitting triggered one alarm this period. These alarms were not related to any one lab or rater.

Attachments

c: L-37 Surveillance Panel

L-37 Rater Task Force

J. L. Zalar

F. M. Farber

ftp://ftp.astmtmc.cmu.edu/docs/rater_calibration/l37rc-04-2005.pdf

Distribution: Email

Listing of Tables and Figure Included as Part of This Report to the L-37 Rater Calibration Report

Figure 1 is the L-37 Rater Industry Control Charts for Pinion Wear

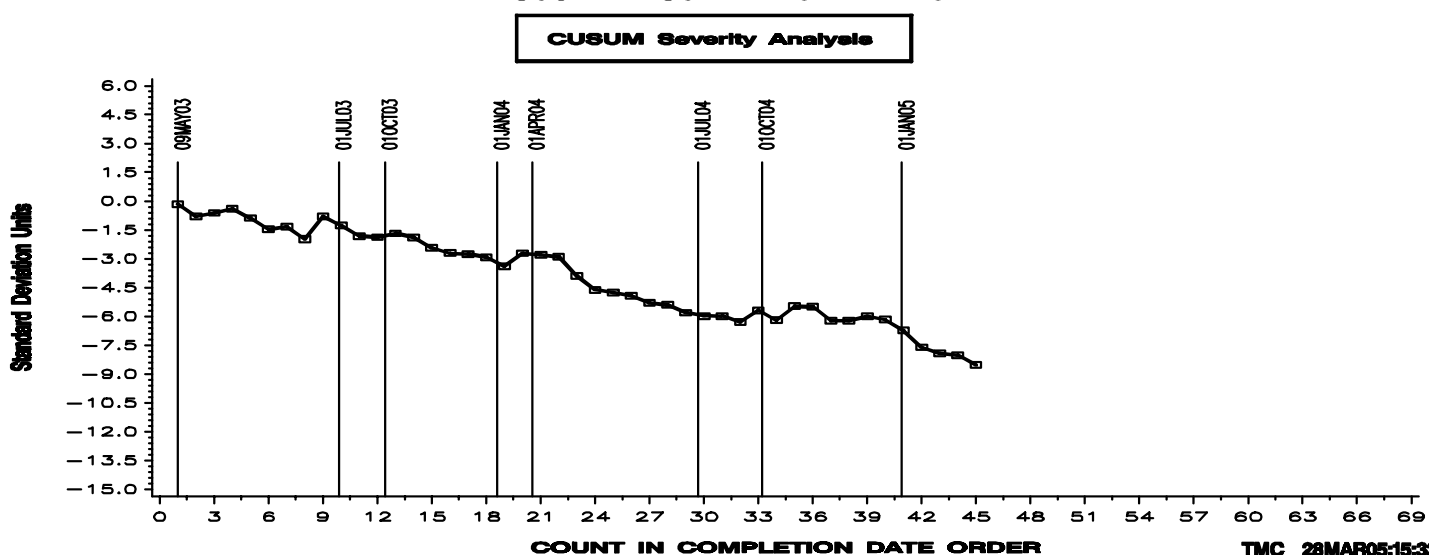
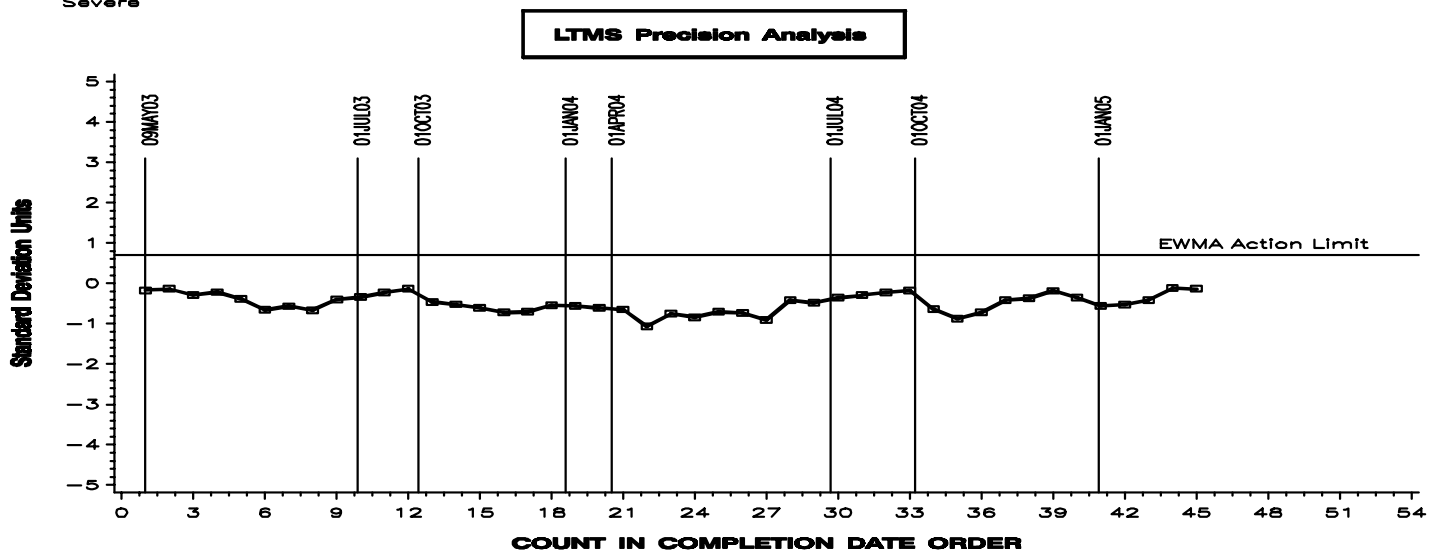
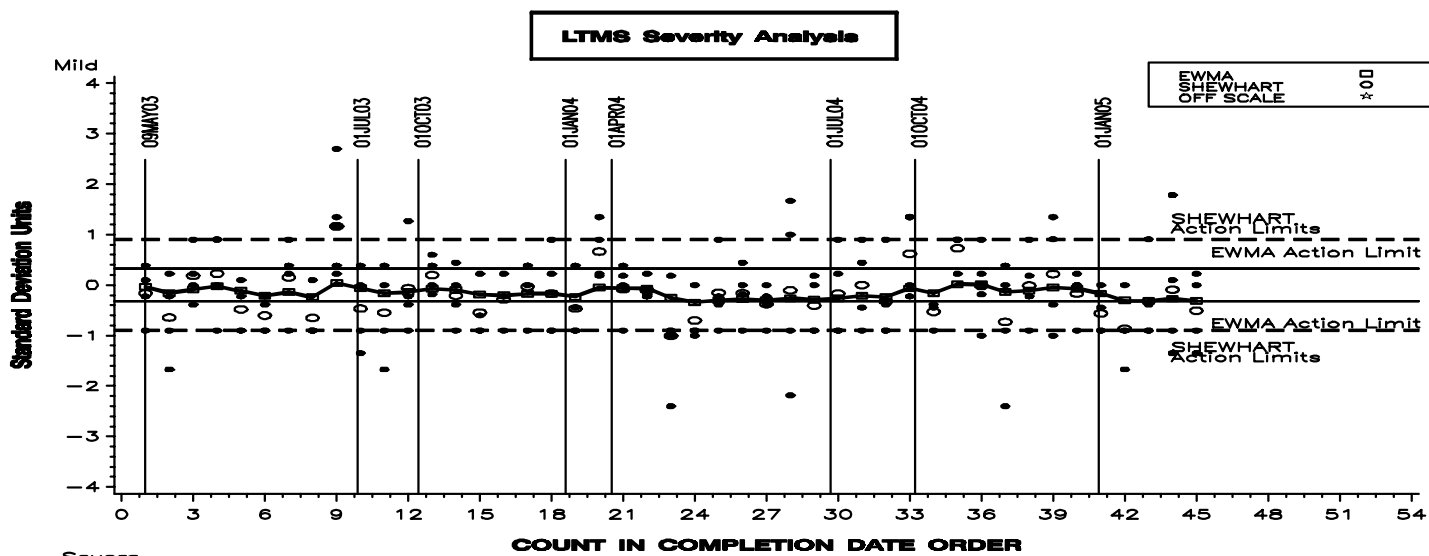
Figure 2 is the L-37 Rater Industry Control Charts for Pinion Rippling

Figure 3 is the L-37 Rater Industry Control Charts for Pinion Ridging

Figure 4 is the L-37 Rater Industry Control Charts for Pinion Spitting

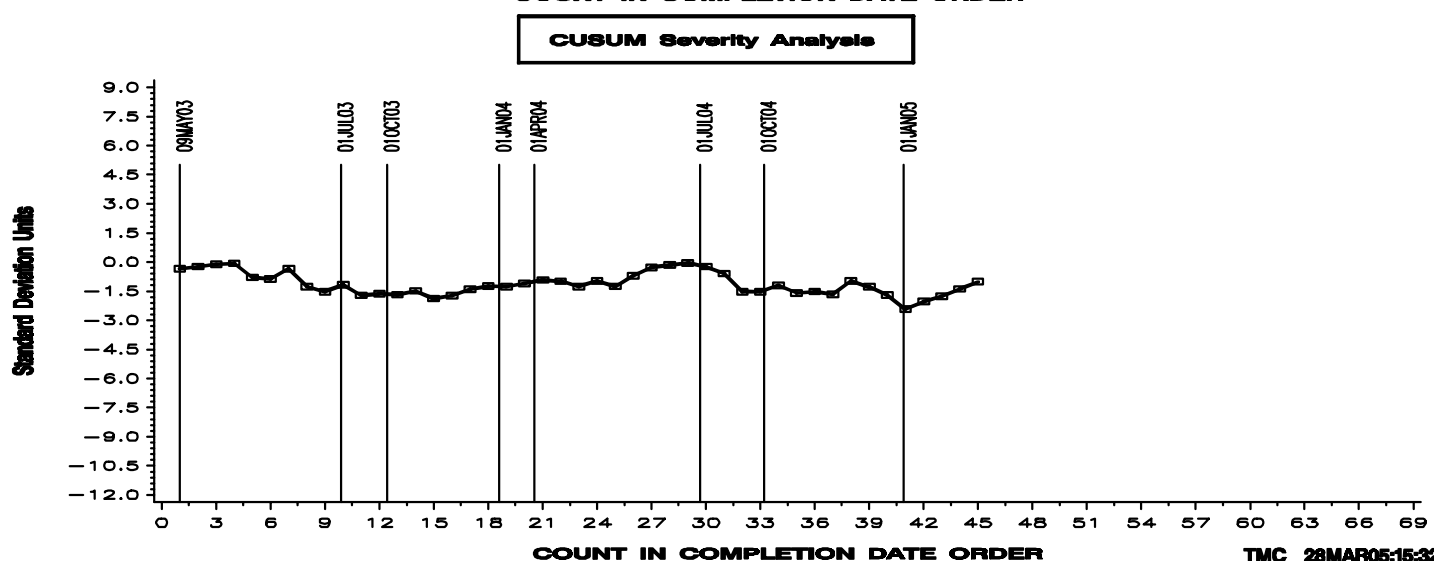
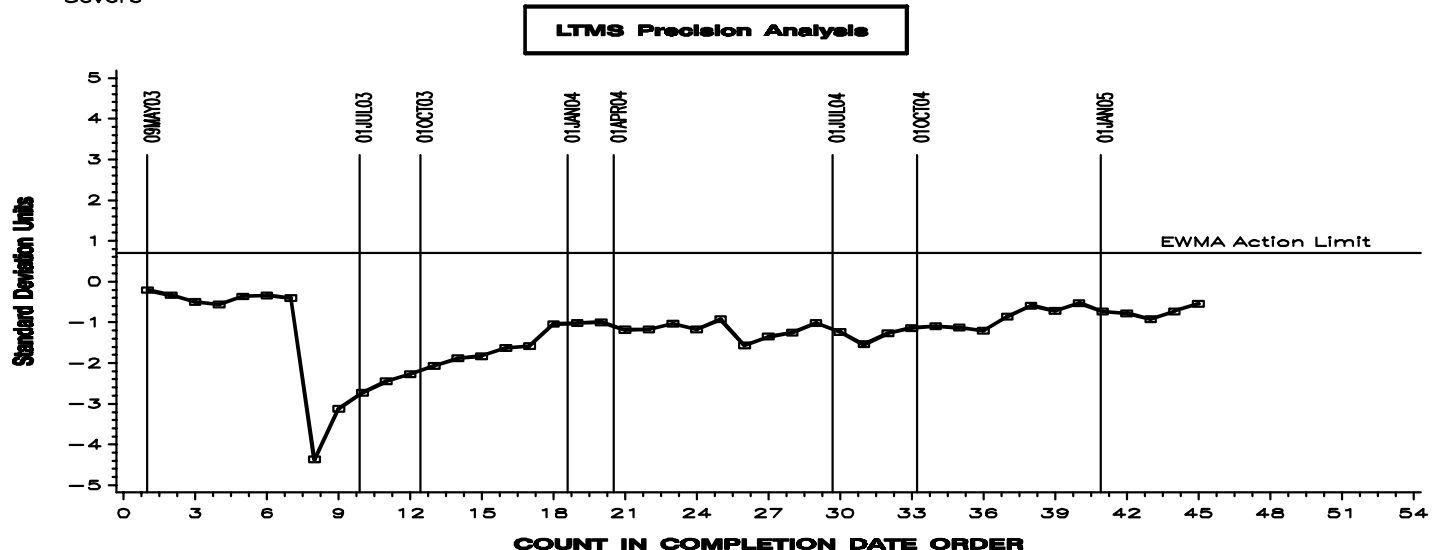
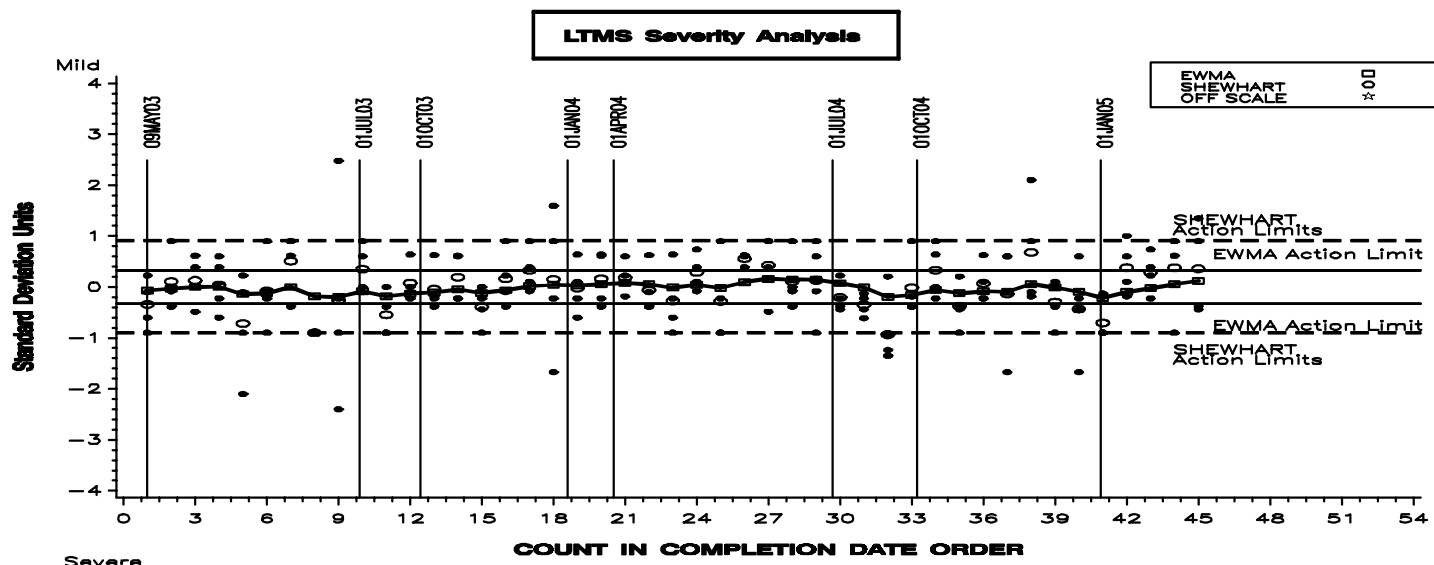
L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

WEAR



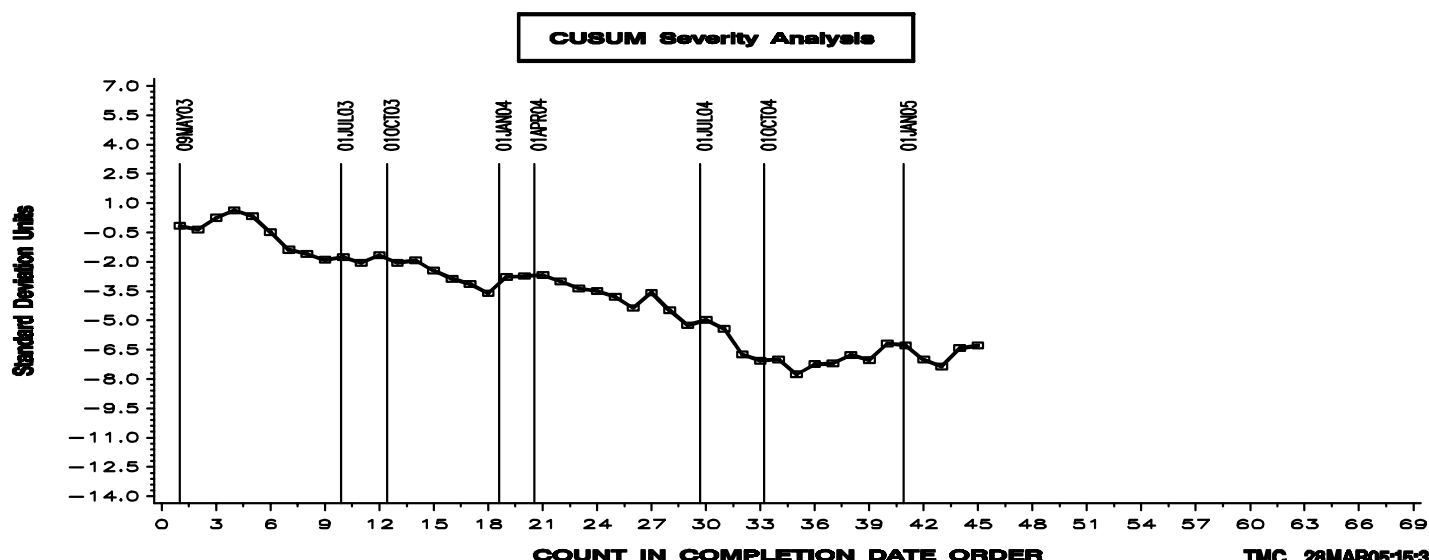
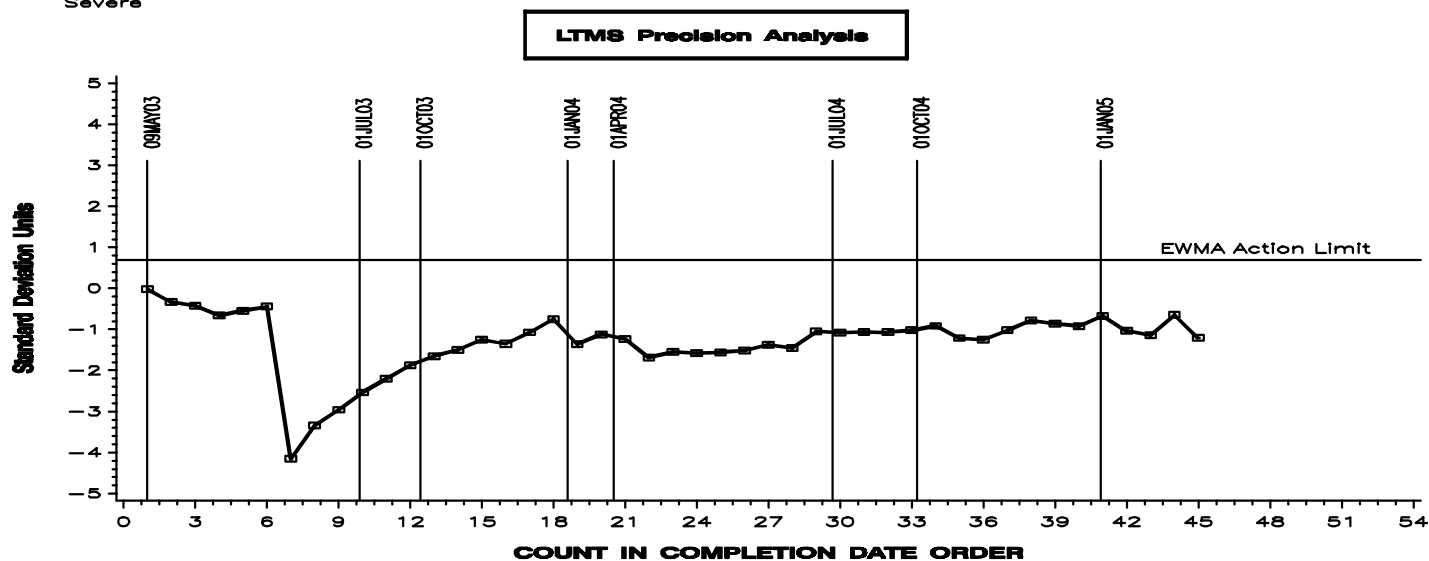
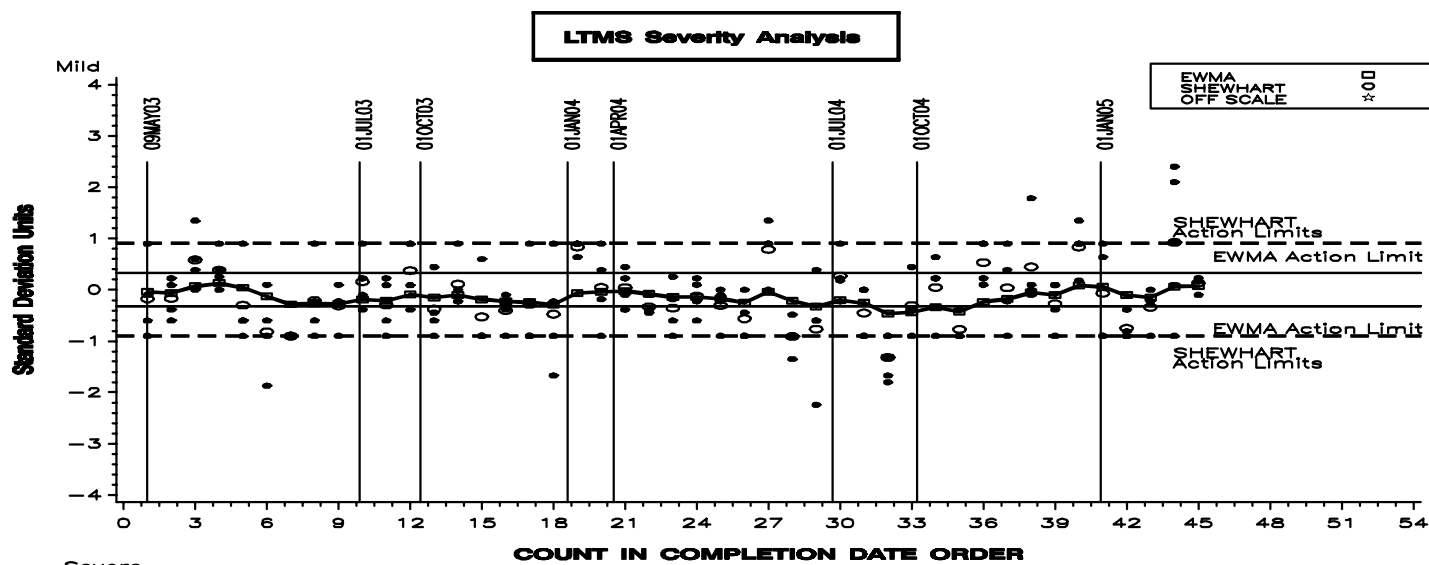
L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIPPLING



L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

RIDGING



L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA

SPITTING

