

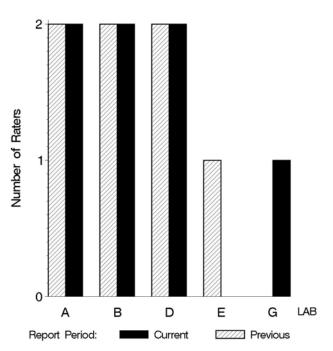
Test Monitoring Center

Carnegie Mellon University 6555 Penn Avenue, Pittsburgh, PA 15206, USA http://astmtmc.cmu.edu 412-365-1000

| MEMORANDUM: | 11-064 |
|-------------|--|
| DATE: | December 8, 2011 |
| TO: | Galen Greene, Chairman, L-37 Surveillance Panel |
| FROM: | Scott Parke Stalle |
| SUBJECT: | L-37 Rater Calibration from October 1, 2010 through March 31, 2011 |

The following is a summary of L-37 rater calibration activity from October 1, 2010 through March 31, 2011.

| | Reporting Data | Calibrated on 3-31-2011 |
|------------------|----------------|-------------------------|
| Number of Raters | 7 | 7 |



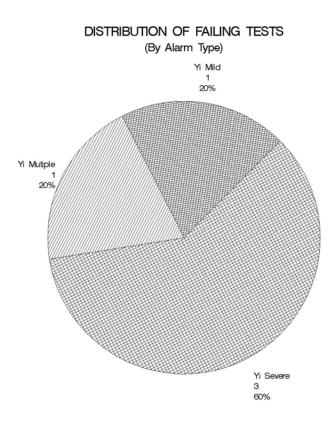
BY-LAB RATER DISTRIBUTION

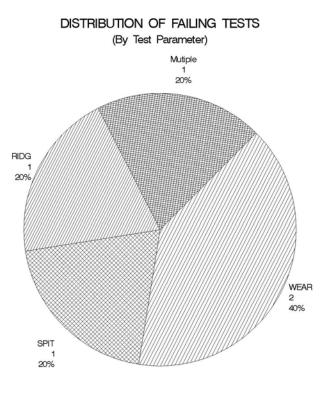
Memo 11-064 Page 2

Test Distribution by Oil and Validity

| То | tola | | |
|-------------|---------------------------------------|--|--|
| | Totals | | |
| Last Period | This Period | | |
| 7 | 10 | | |
| 1 | 1 | | |
| 1 | 3 | | |
| 0 | 1 | | |
| 15 | 21 | | |
| 24 | 36 | | |
| | Last Period 7 1 1 0 15 | | |

CAUSE OF REJECTED TESTS

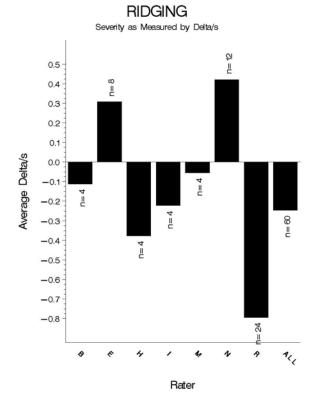


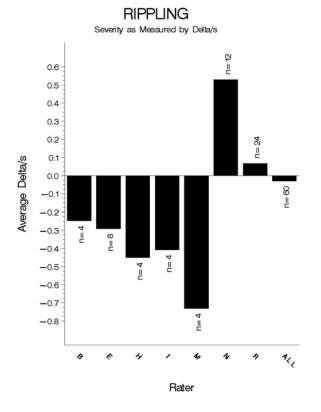


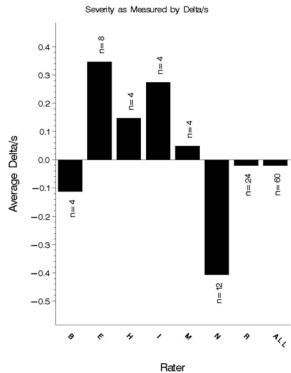
Memo 11-064 Page 3

| | | Ridging | | Rippling | | Spitting | | Wear | |
|-------|----|---------|-------|----------|-------|----------|-------|--------|-------|
| Rater | Ν | Avg Yi | STD* | Avg Yi | STD* | Avg Yi | STD* | Avg Yi | STD* |
| В | 4 | -0.111 | 0.532 | -0.245 | 0.349 | -0.112 | 0.224 | -0.065 | 0.253 |
| Е | 8 | 0.306 | 0.621 | -0.290 | 0.752 | 0.346 | 0.647 | 0.214 | 0.837 |
| Н | 4 | -0.375 | 0.857 | -0.449 | 0.550 | 0.145 | 0.176 | -0.643 | 0.587 |
| Ι | 4 | -0.222 | 0.633 | -0.406 | 0.616 | 0.273 | 0.342 | -0.577 | 1.035 |
| М | 4 | -0.054 | 0.836 | -0.730 | 0.671 | 0.047 | 0.206 | 0.552 | 0.378 |
| Ν | 12 | 0.420 | 0.941 | 0.528 | 0.940 | -0.406 | 0.993 | 0.520 | 0.861 |
| R | 24 | -0.794 | 1.027 | 0.066 | 0.819 | -0.020 | 0.463 | 0.145 | 1.299 |
| ALL | 60 | -0.243 | 0.994 | -0.029 | 0.831 | -0.020 | 0.621 | 0.142 | 1.041 |

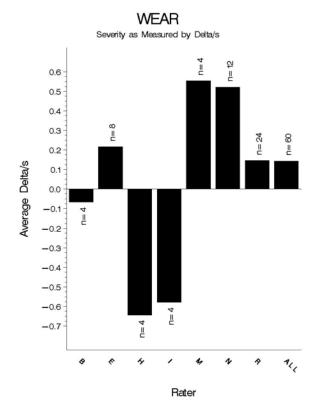
* Due to the small number of ratings per pinion, the standard deviation of the Yi values is given in place of a pooled standard deviation.

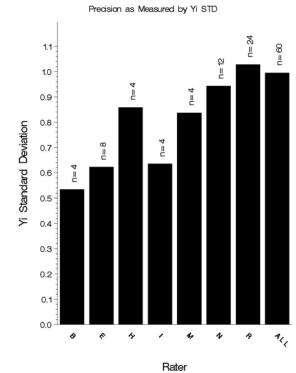




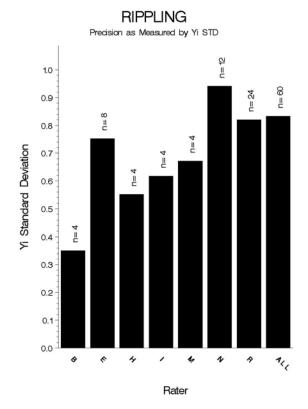


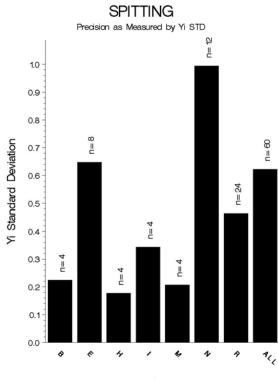
SPITTING Severity as Measured by Delta/s



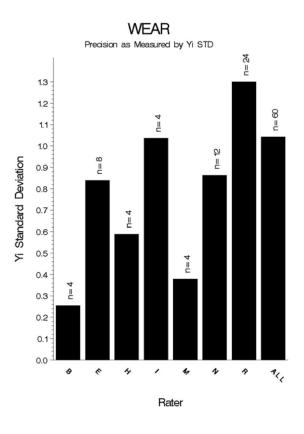


RIDGING





Rater



INDUSTRY CONTROL CHARTS:

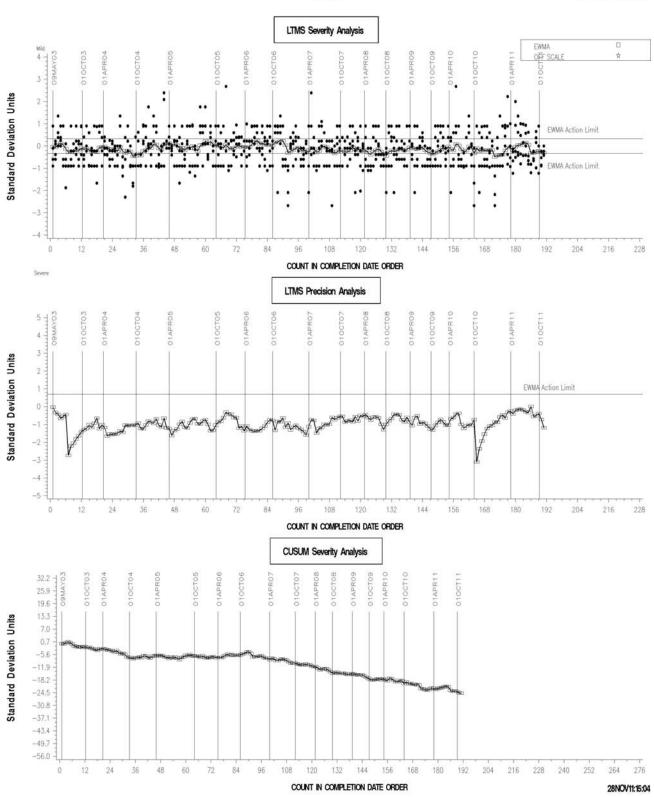
The industry control charts are shown beginning on the following page.

Performance for RIPP, RIDG, SPIT and WEAR remained within severity and precision limits throughout this report period.

During this report period, industry performance for RIDG was slightly severe while WEAR was mild. WEAR performance may be attributable to the introduction of a new rater. RIDG severity, however is a continuation of a long standing industry-wide trend. RIPP and SPIT performance remained largely on target. All parameters remained within precision control limits.

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA RIDGING





-35.4 -41.7 -48.0 0 12 24 36 48 60 72 84

RIPPLING LTMS Severity Analysis EWMA міd 4 — OFF SCALE * D1APRO6 0100705 01APR10 010010 3 Standard Deviation Units 2 EWMA Action Limit 0 • EWMA Action Limit -2 • ٠. . -3 -4 0 12 24 36 48 60 72 84 96 108 120 132 144 156 168 180 192 204 216 228 COUNT IN COMPLETION DATE ORDER Severe LTMS Precision Analysis 0CT03 5 1 0 I 0CT04 010CT05 0100710 010CT11 00108 01APR11 APROF 01APR06 010CT06 APR04 APR' AMP 4 -3 -Standard Deviation Units 2 -1 EWMA Action Limit 0 --1 FN -2 -3 -4 -5 -0 12 24 36 48 60 72 84 96 108 120 132 144 156 168 180 192 204 216 228 COUNT IN COMPLETION DATE ORDER CUSUM Severity Analysis 010CT10 40.2 -09MAY03 0100705 01APR06 010CT06 0100104 1 APROF 01APR0-01APR1 01APRO 01APR1 010CT1 1APR 33.9 DIAPI 27.6 21.3 Standard Deviation Units 15.0 8.7 2.4 -3.9 -10.2 -16.5 -22.8 -29.1

108

96

132 144 156 168

COUNT IN COMPLETION DATE ORDER

120

180 192 216

204

240

252

228

L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA



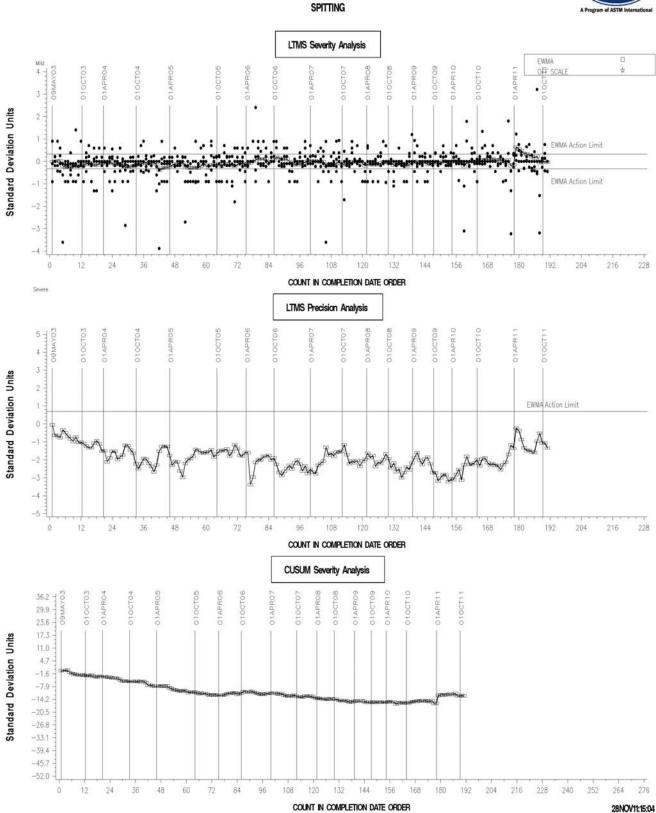
28NOV11:15:04

264

276

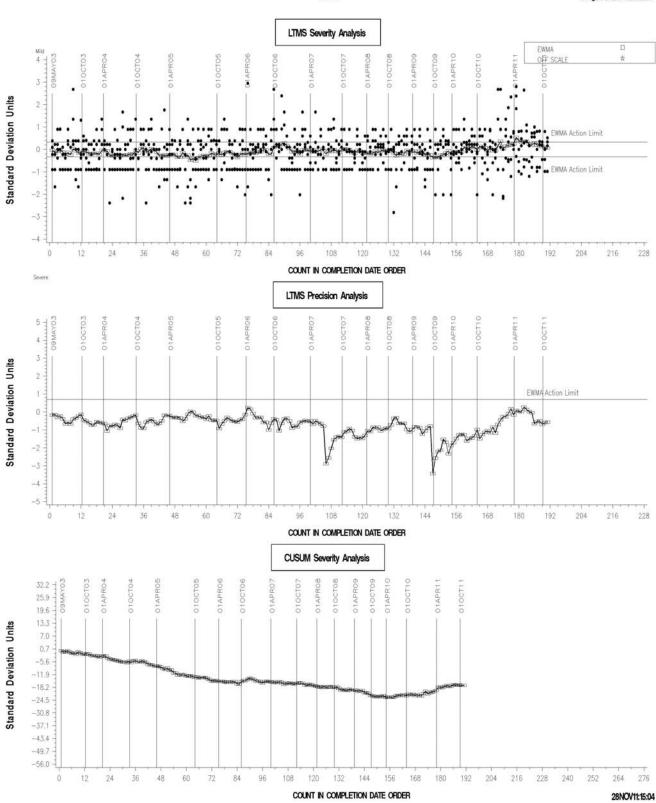
L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA





L-37 RATER CALIBRATION INDUSTRY OPERATIONALLY VALID DATA WEAR





Memo 11-064 Page 12

SDP/sdp/mem11-064.sdp.docx

cc: Frank Farber Jeff Clark L37 Surveillance Panel <u>ftp://ftp.astmtmc.cmu.edu/docs/gears/l37rc/semiannualreports/l37rc-04-2011.pdf</u>

Distribution: email