



Test Monitoring Center

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MEMORANDUM: 00-141
DATE: October 16, 2000
TO: Ed Callis, Chairman, ASTM Section D02.B0.06
FROM: Richard E. Grundza
SUBJECT: Two-Stroke-Cycle Reference Test Status from April 1, 2000 through September 30, 2000

Status

RING STICKING (D 4857)

Two calibration results and fifteen non-reference oil results were reported from one laboratory during the period ending September 30, 2000. One of the two calibration tests and one of the non-reference oil tests was invalid due to piston scuffing. In both cases, the scuffing was not suspected of being oil related. Figures 1 and 2 plot the summation delta/s for Second Ring Sticking and Piston Skirt Varnish of both the calibration attempt and the reference oil results obtained with reference oil 606, run to evaluate the performance of non-reference oils. Figure 1 shows severity on or near target for the entire period. The target values used for plotting purposes are the mean values used to generate the correction factor to be applied to reference oil 606, when run for non-reference oil evaluation. Figure 2 plots the summation delta/s for Piston Skirt Varnish for the period ending September 30, 2000, which shows Piston Skirt Varnish trending slightly severe during this period.

TIGHTENING TEST (D 4863)

A total of three reference oil and seven candidate tests were reported to the Test Monitoring Center during the period ending September 30, 2000. One reference oil test was invalid when the number of outliers in Sequence 1 exceeded three. Figures 3 and 4 plot the summation delta/s from target for the delta torque drops for the performance of reference oil 600 versus 602 and the performance of reference oil 604-1 versus 600, respectively. Both plots show results on or near target for both oils during the period.

PREIGNITION TEST (D 4858)

Two reference oil results from one laboratory were reported during this period. Figure 5 charts the performance of this result relative to the acceptance criteria and historical levels. Both results were within the acceptance criteria and Figure 5 shows both results well within the historic performance of the test.

Information Letters

One information letter was issued during this report period. Information letter 00-4, was issued on August 4, 2000. This information letter updated the correction factor to be applied to non-reference oil tests from -2.45 to -1.85.

Summary

Results with Test Method D 4857 showed Piston Skirt Varnish trending slightly severe during the period and Second Ring Sticking on or near target for the period. Tests run in accordance with D 4858 show results with reference oil 600 relative to reference oil 602 and reference oil 600 relative to reference oil 604 were on or near target during the period. Preignition results (Test Method D 4863) were on or near target.

REG/reg

Attachments

c: F. M. Farber, TMC

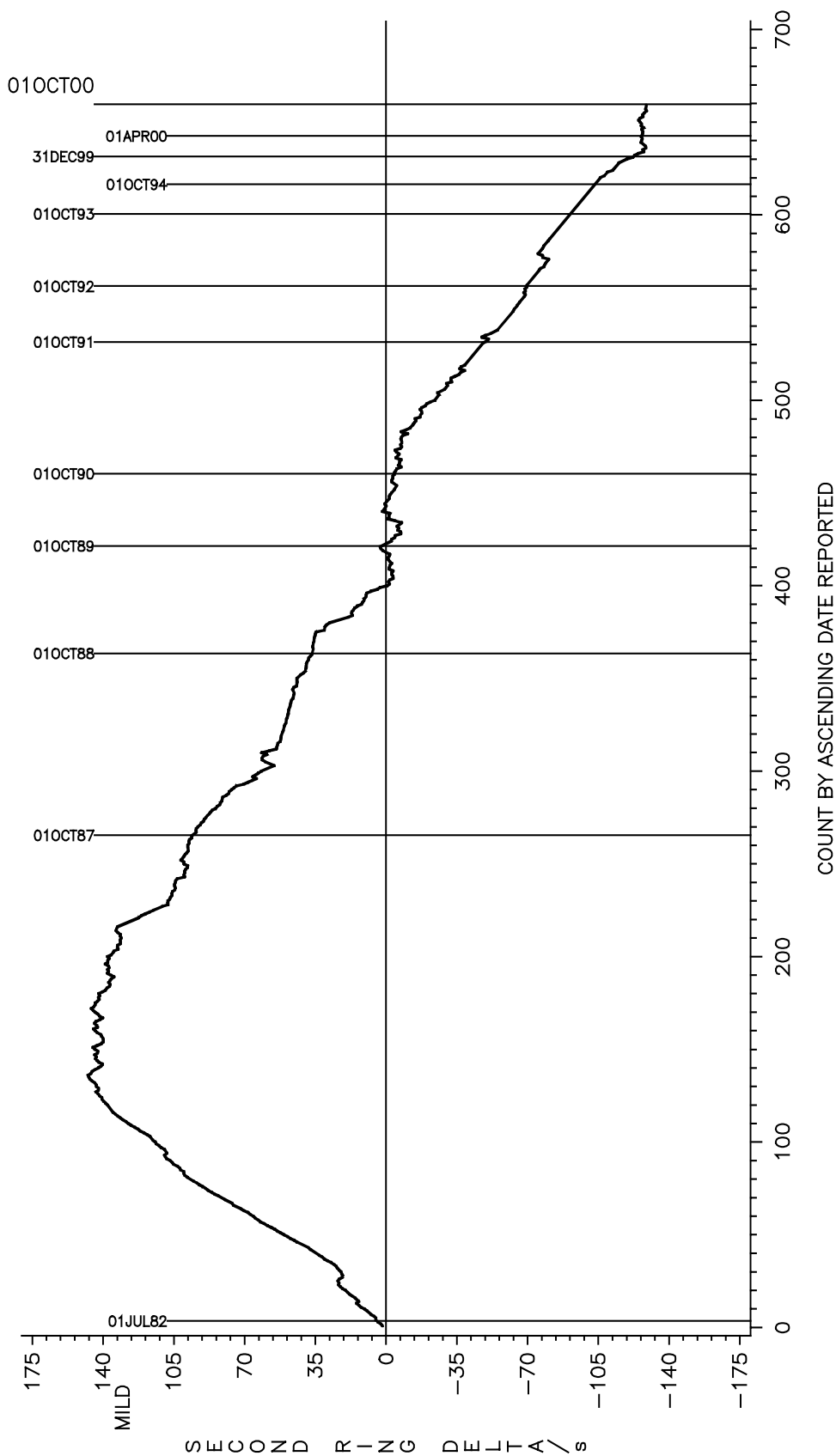
J. L. Zalar, TMC

Two-Stroke-Cycle Mailing List

<ftp://www.tmc.astm.cmri.cmu.edu/docs/gas/tc/semiannualreports/tc-10-2000>

FIGURE 1

TWO-STROKE-CYCLE
RING STICKING TEST (D 4857)
CUSUM PLOT OF SECOND RING STICKING
Using Updated Targets after 4/1/00

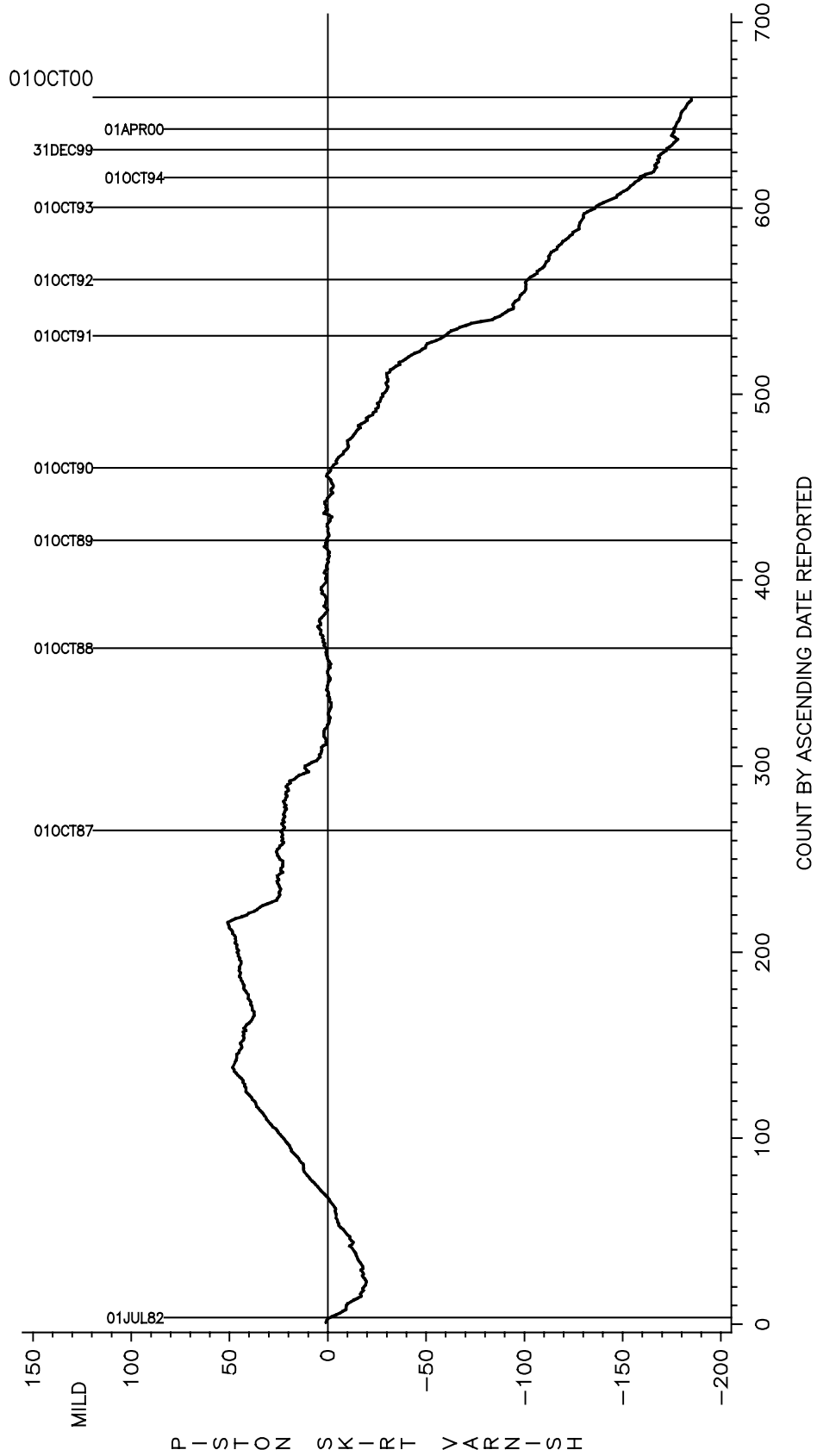


Test Targets Based on Data Reported Prior to 10/16/90 for Reference Oil 606
Test Targets for Reference Oil 606 is the Mean of the Data Used to Develop the Correction Factor

SEVERE

FIGURE 2

TWO-STROKE-CYCLE
RING STICKING TEST (D 4857)
CUSUM PLOT OF PISTON SKIRT VARNISH
Using Updated Targets After 4/1/00

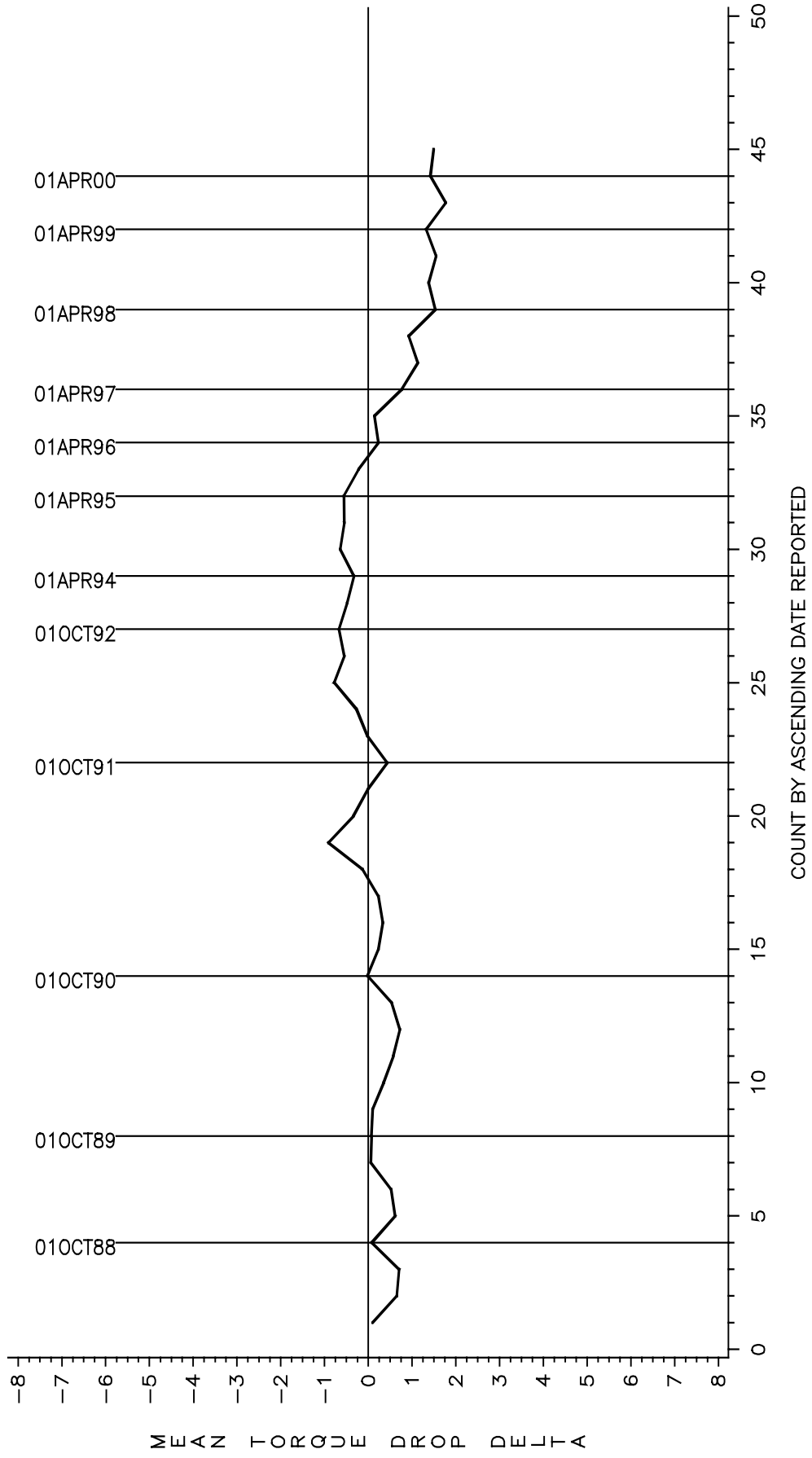


TEST TARGETS BASED ON DATA REPORTED PRIOR TO 10/16/90 for Reference Oil 606
Tests Targets for Reference Oil 606 is the Mean of the Data Used to Develop the Correction Factor

SEVERE

FIGURE 3

TWO-STROKE-CYCLE
STANDARD TEST METHOD FOR DETERMINATION OF LUBRICITY
OF TWO STROKE CYCLE GASOLINE ENGINE LUBRICANTS (D 4863)
MEAN TORQUE DROP OF OIL VI-G, (TMC 602) RELATIVE TO VI-D (TMC 600)



TEST TARGETS CALCULATED USING ALL DATA PRIOR TO 10/31/91

FIGURE 4

TWO-STROKE-CYCLE
STANDARD TEST METHOD FOR DETERMINATION OF LUBRICITY
OF TWO STROKE CYCLE GASOLINE ENGINE LUBRICANTS (D 4863)
MEAN TORQUE DROP OF OIL VI-EE, (TMC 604) RELATIVE TO VID (TMC 600)

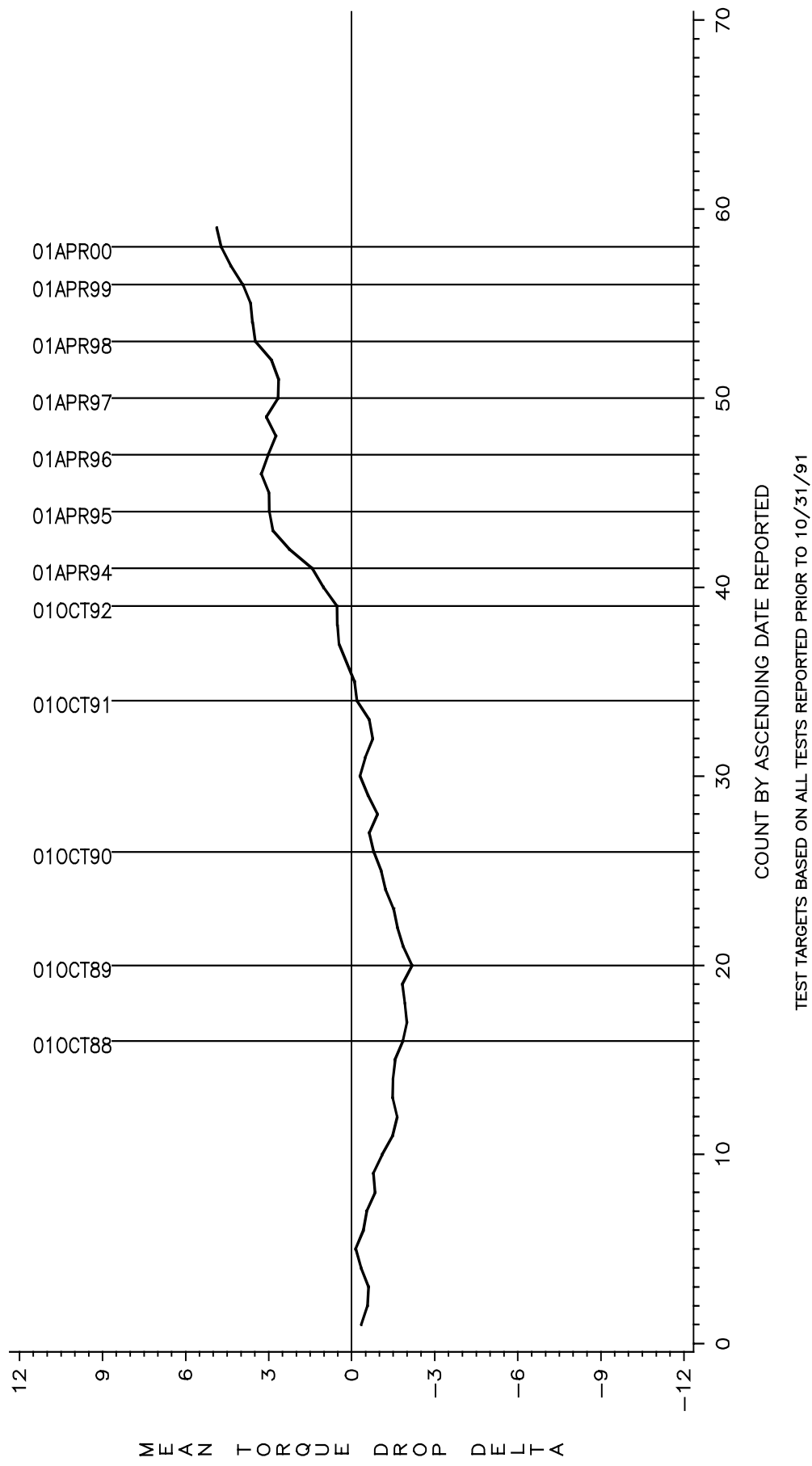
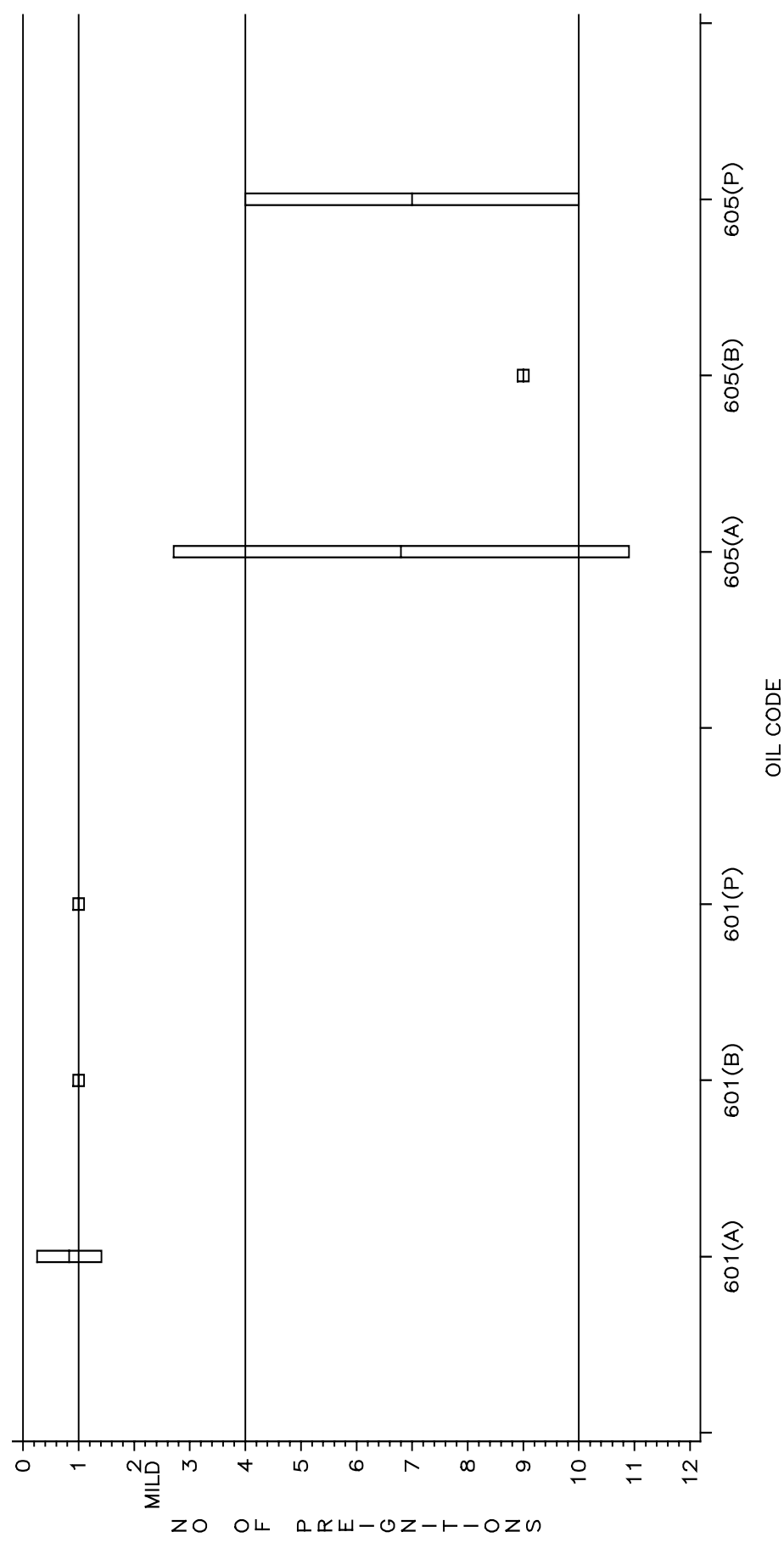


FIGURE 5

TWO STROKE CYCLE PREIGNITION TEST
 MEAN AND ± 1 STANDARD DEVIATION BAND PLOT OF ACTUAL PREIGNITIONS
 FOR ALL HISTORICAL DATA AND ASTM PERIOD ENDING 9/30/00



(A) AFTER OIL CODE REPRESENTS ALL HISTORICAL DATA
 (B) AFTER OIL CODE REPRESENTS CURRENT ASTM REFERENCE PERIOD
 (P) AFTER OIL CODE REPRESENTS LIMITS FOR STAND CALIBRATION GIVEN
 IN STANDARD TEST PROCEDURE D-4858-88
 TMC OIL CODE 605 = VI-NA, TMC OIL CODE 601 = VI-E

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