



## Test Monitoring Center

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**MEMORANDUM:** 01-126

**DATE:** October 4, 2001

**TO:** Ed Callis, Chairman, ASTM Section D02.B0.06

**FROM:** Richard E. Grundza

**SUBJECT:** Two-Stroke-Cycle Reference Test Status from April 1, 2001 through September 30, 2001

### Status

#### **RING STICKING (D 4857)**

Eight non-reference oil results were reported from one laboratory during the period ending September 30, 2001. One of the eight tests was invalid due to hot ring sticking in the reference oil cylinder. Figures 1 and 2 plot the summation delta/s for Second Ring Sticking and Piston Skirt Varnish of both the calibration attempts 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 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 March 31, 2001. Figure 2 shows Piston Skirt Varnish trending severe through the period.

#### **TIGHTENING TEST (D 4863)**

A total of one reference oil and four non-reference oil test were reported to the Test Monitoring Center during the period ending September 30, 2001. Figures 3 plots the summation delta/s from target for the delta torque drops for the performance of reference oil 600 versus reference oil 602. The plot shows on or near target results for this period.

#### **PREIGNITION TEST (D 4858)**

Two preignition reference results were reported this period. Figure 4 compares the results from the current period on reference oils 601 and 605 with historical results and procedural limits. Results from both oils are performing at or near historical levels.

**Information Memorandum**

One information memorandum was issued during this report period. TMC memorandum 01-110 was issued August 30, 2001. This memorandum circulated report forms and data dictionary to the panel membership for review and comment. These report forms are scheduled for beta testing shortly.

**Summary**

Results with Test Method D 4857 showed Second Ring Sticking was on or near target for the period, while Piston Skirt Varnish trended severe through the period. Tests run in accordance with D 4858 show results with reference oil 600 relative to reference oil 602 were on target for the period. Preignition reference results for both oils performed at or near historical levels for the period

REG/reg

Attachments

c: F. M. Farber, TMC

J. L. Zalar, TMC

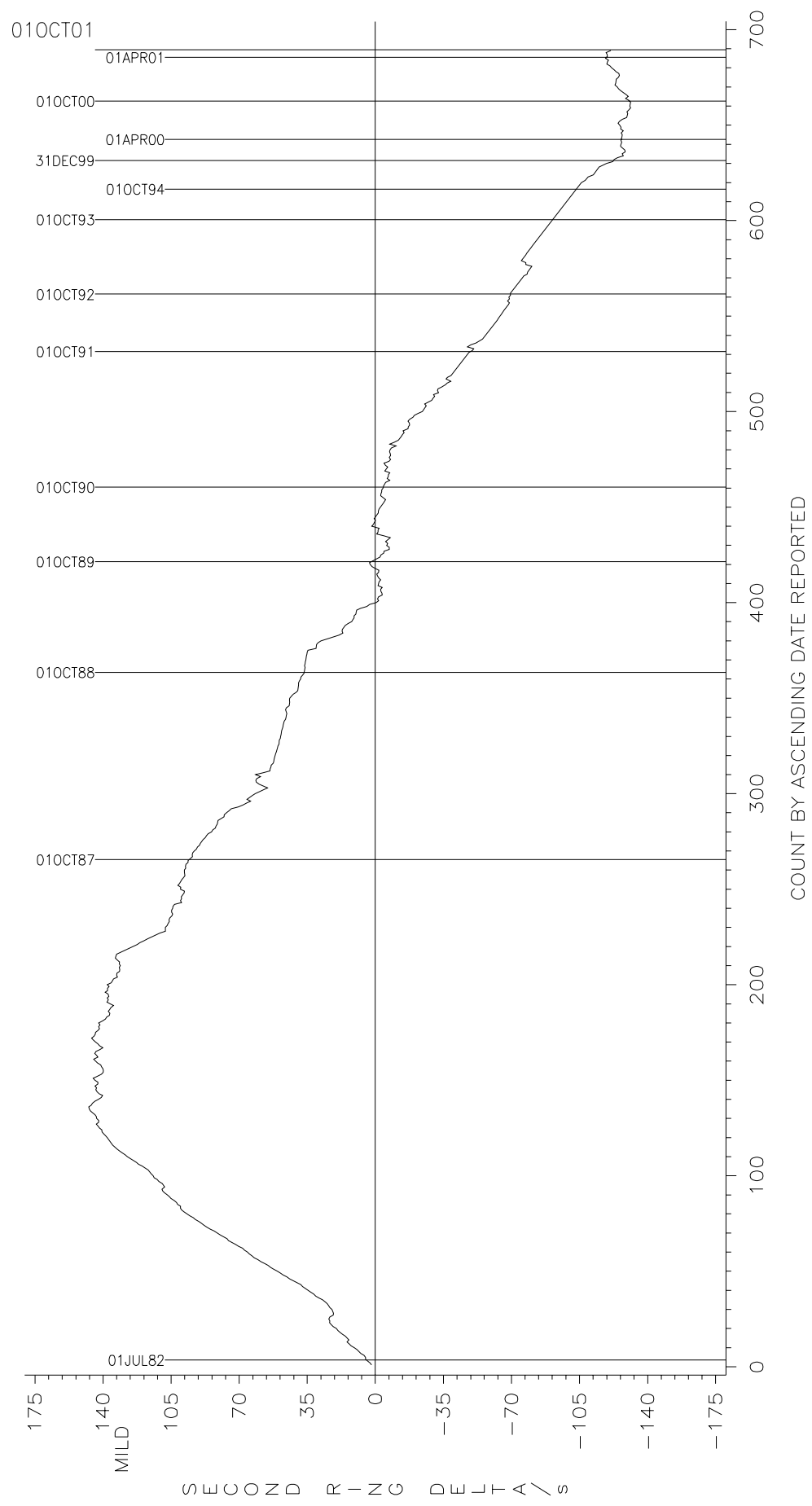
Two-Stroke-Cycle Mailing List

<ftp://www.tmc.astm.cmri.cmu.edu/docs/gas/tc/semiannualreports/tc-10-2001>



FIGURE 1

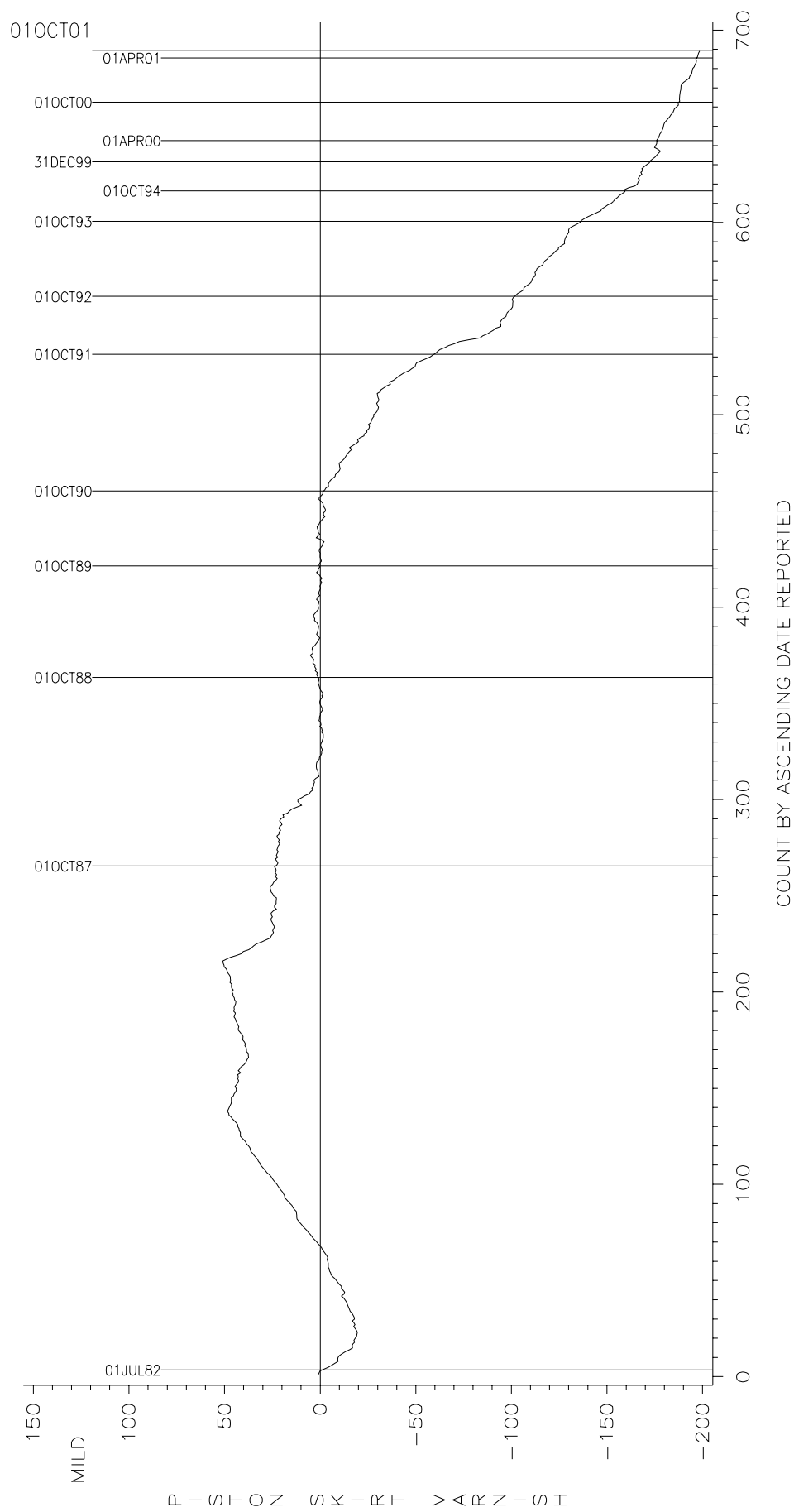
TWO-STROKE-CYCLE  
RING STICKING TEST (D 4857)  
CUSUM PLOT OF SECOND RING STICKING  
Using Updated Targets after 4/1/00



Test Targets Based on Data Reported Prior to 10/16/90 for Reference Oil 600  
Test Targets for Reference Oil 606 is the Mean of the Data Used to Develop the Correction Factor

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 600  
Tests Targets for Reference Oil 606 is the Mean of the Data Used to Develop the Correction Factor

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)

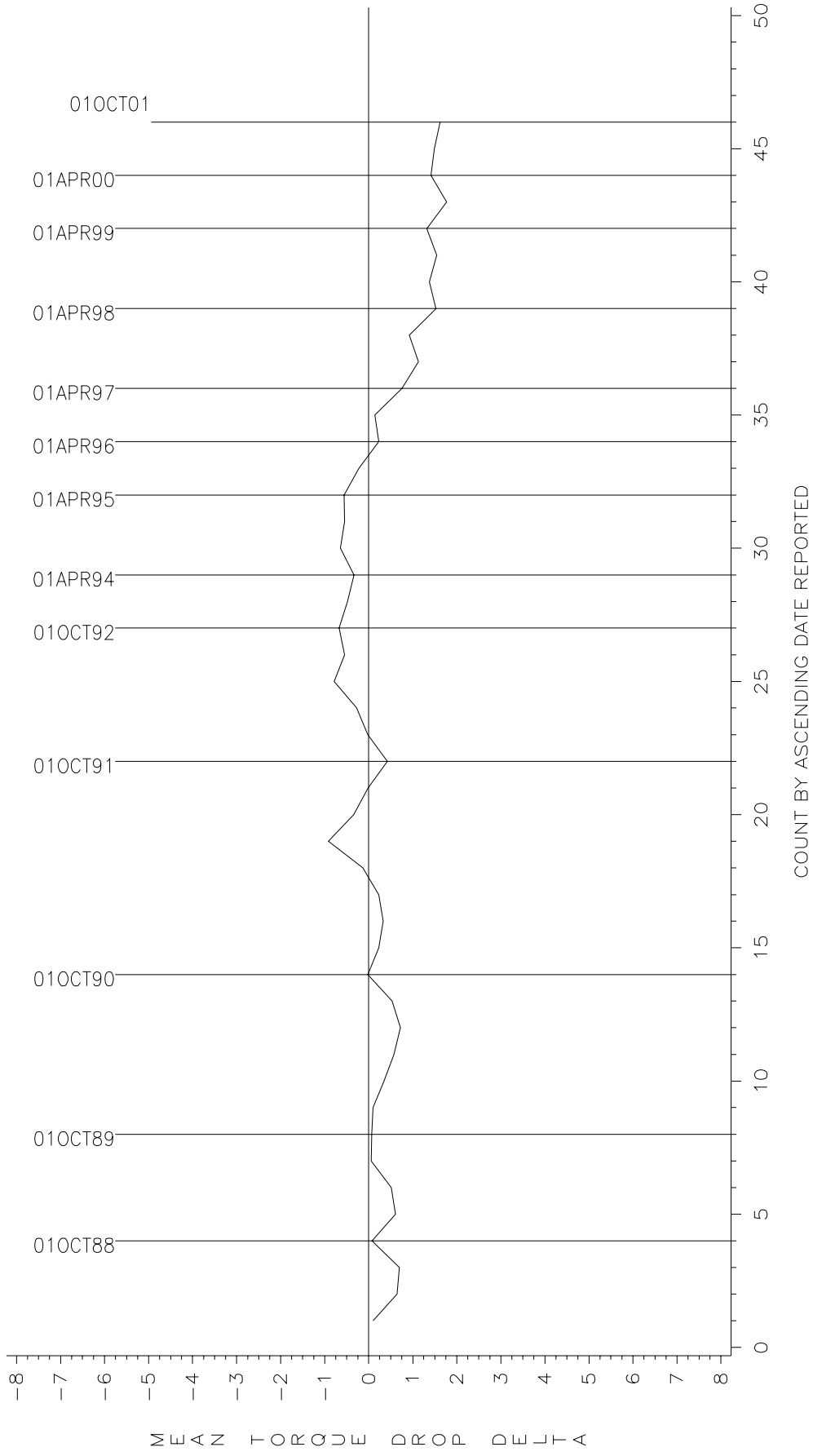
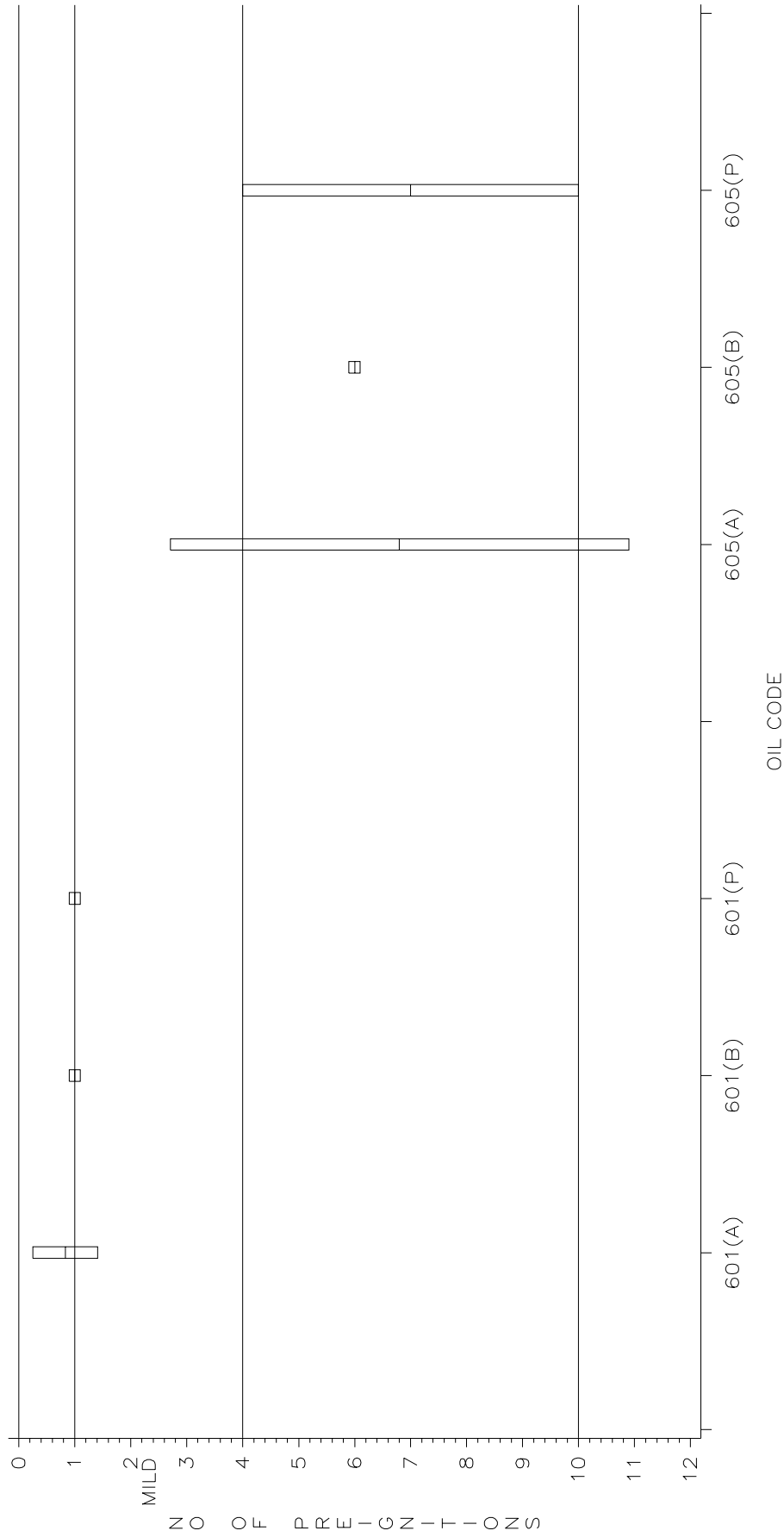


FIGURE 4

TWO STROKE CYCLE PREIGNITION TEST  
 MEAN AND  $\pm 1$  STANDARD DEVIATION BAND PLOT OF ACTUAL PREIGNITIONS  
 FOR ALL HISTORICAL DATA AND ASTM PERIOD ENDING 9/30/01



(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

SEVERE