



MAXR 200 - Torque at Applied Load Report

The following report describes the ability of MAXR 200 to operate at a lower torque force during a progressively applied load (Falex Pin & "V" Block Test, ASTM D-3233 Mod B). Testing was conducted by Petro Lubricant Test Laboratories Inc. as part of the Old Dominion University study.

The testing described was conducted on the predecessor of the "MAXR" brand lubrication technology, called "Synergyn Gold". The "MAXR" brand uses the same lubrication technology as "Synergyn Gold", with adjustments done to several formulations to further enhance its performance capabilities for different applications.



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Evaluation of a Synergyn[®] Product

Synergyn[®] Gold

Final Report Presented to:

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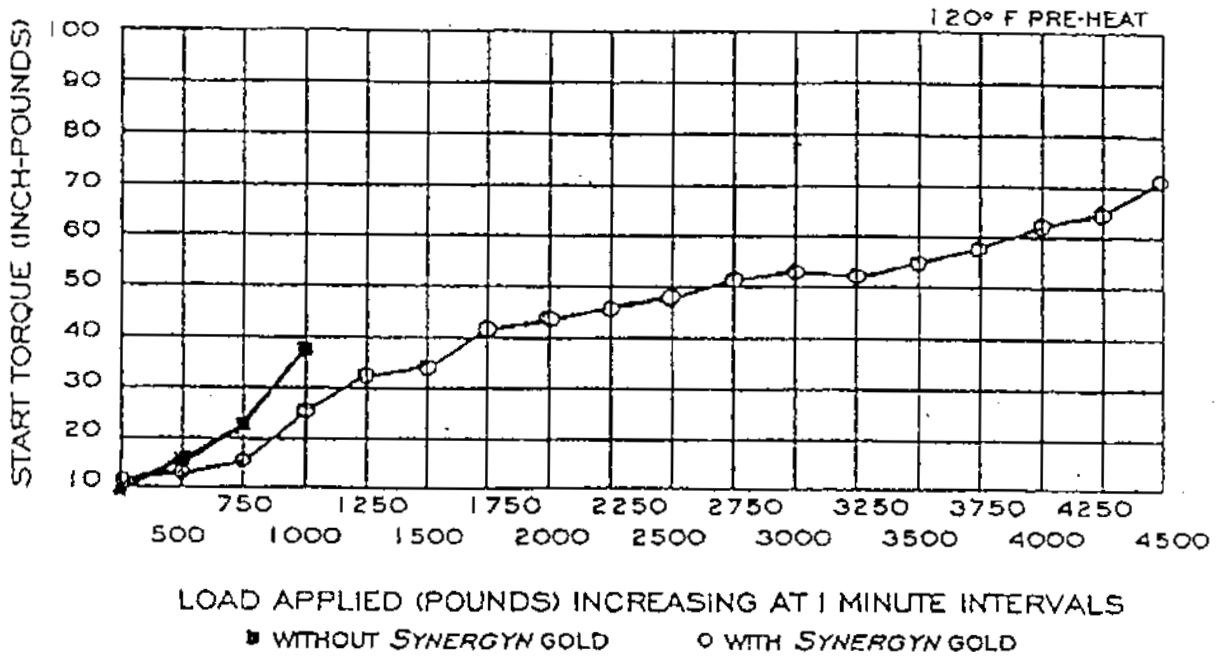
ASTM Test D3233 Modification B was performed using FALEX Pin and Vee Block test. This is the same test method performed by FALEX laboratories and reported in Table 2. In this case, however, initially there was a load applied to the specimen prior to testing of the base oil and Synergyn Gold. This allows the adherent lubricating film to form at a temperature of 120 degrees F and demonstrates the functioning of the Synergyn Gold additive. In this test method, load is progressively applied at one minute intervals up to a total of 4500 lb. of force. The value of torque is measured and recorded in foot pounds as a function of the applied load in pounds of force. Initial testing was done with only the base oil Shell Fire and Ice 2000, 10W30, and the results are shown as the filled in squares connected by the darker line on Graphs 2A and 2B. At 1000 pounds of applied load, the base oil showed a value of 38 pounds of torque. Within the next one minute interval, the sample of the base oil only failed. The final value for the base oil only is recorded as 1000 pound applied load and 38 inch pounds of torque. Graph 2A also shows the results for the base oil with Synergyn Gold added at the level of one ounce per one quart of oil. The results for the Synergyn Gold are shown as the open circles connected by the lighter line.

Graph 2B shows the results of the final torque values for the base oil only and the base oil plus the Synergyn Gold additive. As can be seen by the solid squares and the dark line, for the base oil only, when the load was being increased from 750 to 1000 pounds of force, the sample of the base oil only failed the test by registering a value of 105 inch pounds of torque. This occurred 56 seconds after the Synergyn Gold was added, showing that the Synergyn Gold allowed the test to be completed with 4500 pounds of applied load with a final torque value of only 74 inch pounds. This test more clearly demonstrates the extreme pressure properties of the Synergyn Gold when pre-heated to 120 degrees F and initially loaded. It is under these conditions that the

Graph 2A ASTM D-3233 Start Torque and Graph 2B ASTM D-3233 Final Torque

GRAPH 2A

START TORQUE

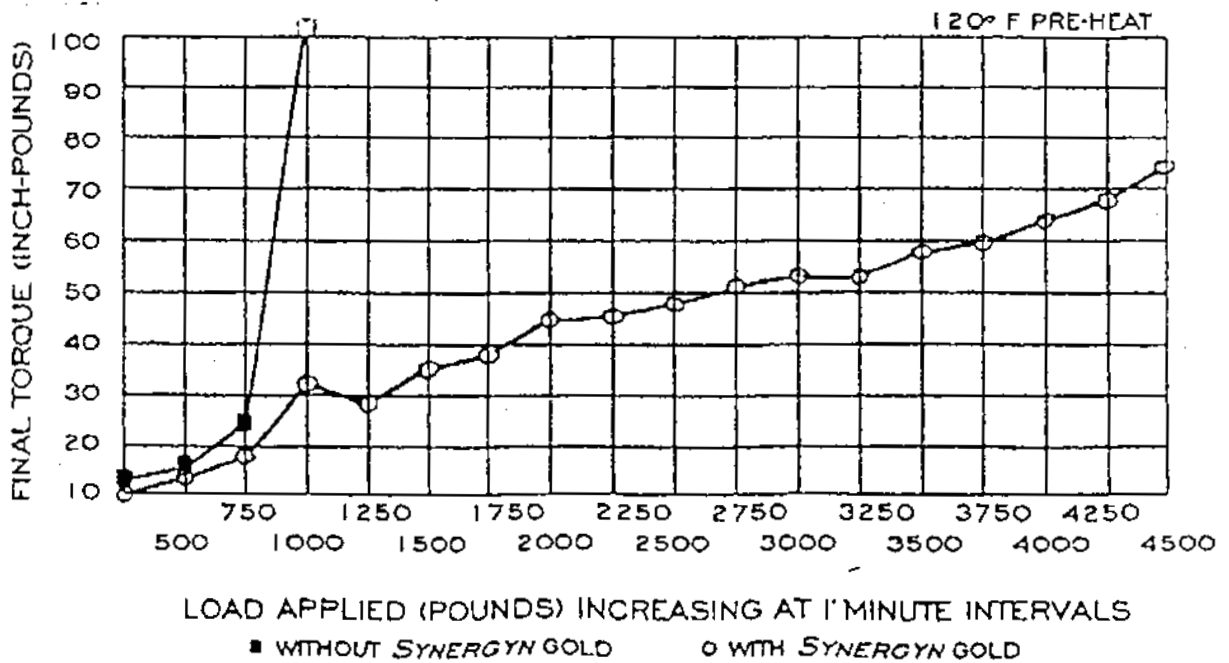


*The Shell (10W-30 only) oil sample and the (MAXR 200) treated oil sample were tested separately.

ASTM D-3233 (FALEX PIN & "V" BLOCK TEST) OF 10W30 MOTOR OIL WITHOUT AND WITH SYNERGYN GOLD ADDED AT 2 OZ PER QUART

GRAPH 2B

FINAL TORQUE



*The Shell (10W-30 only) oil sample failed; then MAXR 200 was added to the failed oil sample and tested again!