SOUTHWEST RESEARCH INSTITUTE

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December 22, 1993

Mr. Robert W. Stewart
Patriot Technologies International
8711 Burnet Road, Suite F-60
Austin, Texas 78758

Dear Mr. Stewart:

Wear testing has been completed on your six samples using ASTM method D2783-88, Measurement of Extreme-Pressure Properties of Lubricating Fluids (Four-Ball Method). The test method is used to differentiate between lubricating fluids having low, medium, and high levels of extreme-pressure properties. Three steel balls are clamped together and covered with the lubricant to be evaluated. A fourth steel ball is pressed into the cavity formed by the clamped balls for three point contact. The temperature is brought to 18.33 to 35°C, with a rotating speed of 1760±40 rpm, then a series of tests of 10 second duration are made at increasing loads until welding occurs.

Values are obtained for weld point (the load in kilograms at which the rotating ball welds to the three stationary balls, indicating the extreme pressure level of the lubricants-force has been exceeded) and load wear index (load-carrying property of a lubricant - the average of the sum of corrected loads determined for ten applied loads immediately preceding the weld point) for each sample. These values are shown in the table below, along with sample identification. Additional sheets attached show the individual load results for each material.

Sample	Load Wear Index	Weld Point, Kg
A. T-Plus Teflon	43.7	200
B. Supreme Plus	59.9	250
C. Slick 50	42.5	200
D. STP Engine treatment	58.5	315
E. QMI Engine treatment	49.0	250
F. MT-10 Engine Treatment	246.4	>800

Repeatability of the test is such that the difference between successive results obtained by the same operator with the same apparatus under constant operation conditions on identical test material would, in the long run, in the normal and correct operation of the test method, exceed the following value only in one case in twenty: repeatability = 17% of the mean value. The Patriot product did not weld at the highest load the instrument was capable of running, so the load wear index for it is an approximation. It has extreme pressure levels much higher than any of the other samples. We appreciate the opportunity to be of service in this matter. If there are questions concerning the data, please contact me at (210)522-2071.

Sincerely,

Karen B. Kohl

Karen B. Kohl
Manager, Special Projects
Petroleum Products Research Dept.
Automotive Products and Emissions
Research Division

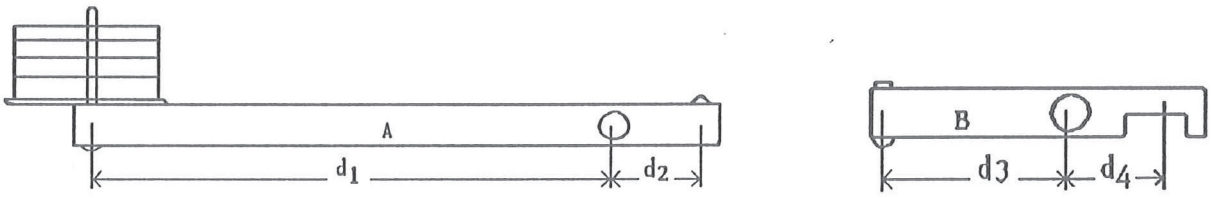
FRICTION WEAR & ABRASION TESTS

Firepower FP-10 Lubricant Elite™

Tests performed on the FLC Lubricity Tester

SPECIFICATIONS
F-1599-1A FLC Lubricity Tester

Motor:	1/4 HP DAYTON Motor, 117V, 5.5A, 60 cycle
RPM:	1725 RPS reduced via 2"/4" pulley system to 862.5 RPM
Test Roll:	Falex test roll No. F-15500; Rockwell - C42
Testing Ring:	Timken No. A4138; Rockwell - C56
Belt Drive:	4L270
Loading Weights:	Falex certified one and two-pound stackable loading weights



Formula:

F (Force on the test roll) = $(Fa + k_1)\ [(d_1/d_2) + (d_1/d_2)\ (k_1)]\ [(d_3/d_4)] + [(d_3/d_4)\ (k_2)]$

Reduced formula with distances and constants plugged in: $F = (Fa + 1.5)\ (48.3407) + 0.6875$

Fa = Implied force (lbs.) on long lever arm "A"

k_1 = 1.5 lbs. (weight of long lever arm "A")

k_2 = 0.3 lbs. (weight of short lever arm "B")

d_1 = 11.8125 in. (distance from weight stack to fulcrum on arm "A")

d_2 = 1.4 in. (distance from fulcrum to center of force point at the top of long lever arm "A")

d_3 = 2.75 in. (distance from lower force point to fulcrum of short lever arm "B")

d_4 = 1.2 in. (distance from fulcrum to point of pressure on test roll and test ring to short lever arm "B")

NOTE: The force on the test roll due to the weight of the long lever arm itself is 73.1968 lbs. This is the "no-load" reading. This weight is calculated into the force table on the following page.

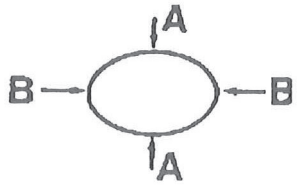
FORCE TABLE

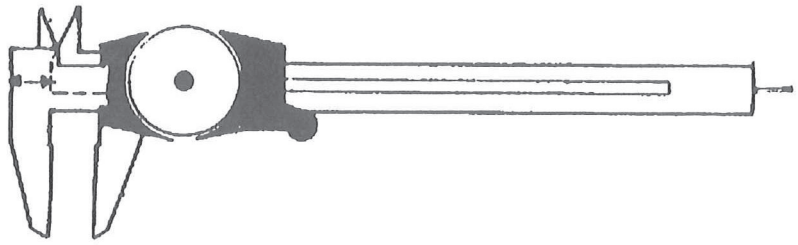
For FLC Lubricity Tester (Falex)

Ratio of Force 48:1

Implied Force (Lbs.) to Long Lever Arm "A" (Weight Post)	Actual Force on Test Roll & Test Ring (Lbs.)
1	121.5393
2	169.8800
3	218.2207
4	266.5614
5	314.9021
6	363.2428
7	411.5835
8	459.9242
9	508.2649
10	556.6056
11	604.9463
12	653.2870
13	701.6277
14	749.9684
15	798.3091
16	846.6498
17	894.9905
18	943.3312
19	991.6719
20	1040.0126
21	1088.3533
22	1136.6940
23	1185.0347
24	1233.3754
25	1281.7161

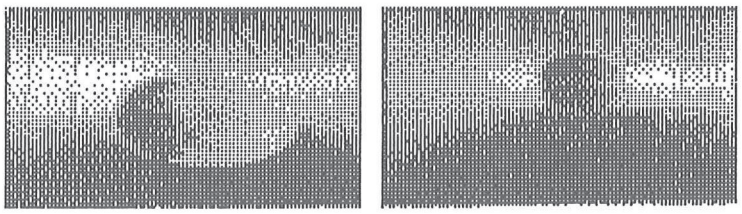
WEAR TEST





PROCEDURES & RESULTS

Under carefully controlled laboratory test conditions, this basic test was performed with a variety of lubricants for a 60 second time period and under a 266.5 lb. roll to ring pressure. The method of measurement devised to indicate wear consisted of measuring the length and width of a "wear mark" (see drawing below) and multiplying them together and multiplying by 1,000 to get an index number. The tables below allow a comparison of index numbers (higher numbers indicating more wear) of the various lubricants used in this test.



Magnified Examples of Wear Marks

PRODUCT NAME	FORCE (LBS.)	WEAR INDEX NO.	SCAR LENGTH	SCAR WIDTH
Super Lube jel (Bohemia, NY) PTFE	266.5	102.9	0.4200"	0.2450"
TRI-FLON (oil w/PTFE)	266.5	79.6	0.3723"	0.2138"
Kleeroil (Am. Writing Ink Co.)	266.5	77.3	0.3738"	0.2068"
Koppers/S.A. All Weather Weapons Lube	266.5	73.8	0.3730"	0.1979"
RIG +P Stainless Steel Lube	266.5	72.1	0.3564"	0.2024"
Kleenbore Formula 3 oil	266.5	71.1	0.3649"	0.1948"
Rem-oil w/Teflon (PTFE)	266.5	68.3	0.3478"	0.1965"
Hoppes lube oil	266.5	67.4	0.3507"	0.1922"
Parker-Hale Express Gun Oil	266.5	65.0	0.3495"	0.1859"
G-96 Gun Treatment (aerosol)	266.5	62.8	0.3358"	0.1871"
Military Lube oil AXS-72 (obsolete)	266.5	58.8	0.3255"	0.1807"
RNI Liquid Gunsmith	266.5	56.6	0.3189"	0.1775"
WD-40	266.5	55.2	0.3060"	0.1805"

PRODUCT NAME	FORCE (LBS.)	WEAR INDEX NO.	SCAR LENGTH	SCAR WIDTH
3 in 1 "Plus" (aerosol)	266.5	54.4	0.3230"	0.1683"
Rusty Duck	266.5	52.7	0.3110"	0.1694"
Pro-Shot All Weather Gun Oil	266.5	52.7	0.3115"	0.1692"
Break Free LP (lube/preservative) PTFE	266.5	49.9	0.3037"	0.1642"
LSA Springfield Armory	266.5	49.3	0.3000"	0.1643"
Sports Lube Rod & Gun Oil	266.5	43.6	0.2890"	0.1507"
Kleenbore Super Lube (aerosol)	266.5	48.4	0.2930"	0.1652"
Hornaday "ONE SHOT" (aerosol)	266.5	39.9	0.2664"	0.1498"
Birchwood-Casey "Sheath"	266.5	34.6	0.2530"	0.1366"
Break Free CLP (PTFE)	266.5	30.2	0.2495"	0.1212"
TUFOIL (PTFE)	266.5	27.9	0.2235"	0.1249"
Molube-Alloy (moly disulfide) 777-1	266.5	27.8	0.2301"	0.1210"
Blue Spectre Gun Oil (moly disulfide)	266.5	24.8	0.2157"	0.1148"
Tetra-Gun Oil (fluorocarbon synthetic)	266.5	6.6	0.1045"	0.0634"
TRI-FLOW (PTFE)	266.5	6.2	0.1050"	0.0590"
Eezox Synthetic Gun Oil	266.5	2.0	0.0625"	0.0325"
Pro-lix Dry Film Lube	266.5	7.0	0.1061"	0.0670"
Tetra Gun Grease (synthetic)	266.5	2.1	0.0590"	0.0359"
Minuteman High Tech Gun Oil	266.5	3.3	0.0749"	0.0443"
Firepower FP-10 Lubricant Elite™	**266.5**	**0.9**	**0.0390"**	**0.0240"**

INCREASED LOADS

Eezox Synthetic Gun Oil	363	23.7	0.2036"	0.1164"
Eezox Synthetic Gun Oil	460	34.1	0.2525"	0.1352"
Minuteman High Tech Gun Oil	363	3.9	0.0790"	0.0495"
Minuteman High Tech Gun Oil	460	31.4	0.2372"	0.1323"
Firepower FP-10 Lubricant Elite™	**363**	**1.0**	**0.0321"**	**0.0300"**
Firepower FP-10 Lubricant Elite™	**460**	**1.6**	**0.0499"**	**0.0321"**