SMT2
Synthetic Antifriction Metal Treatment

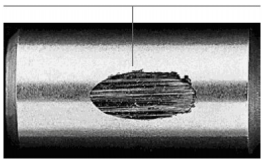
TEST RESULTS

SMT2 is the world's most advanced Anti-friction metal Treatment. This synthetic fluid provides benefits not available from any other anti-friction product. With the recent formula change SMT2 is now 30% higher load carrying than previously.

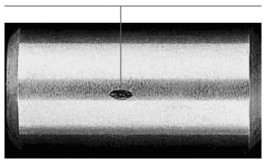
- SMT2 reduces friction by 650% over engine oil only
- SMT2, due to reduced friction, offers fuel efficiency benefits and horsepower increase
- SMT2 offers greatly extended engine life reducing wear substantially
- SMT2 lowers the temperature at the point of friction by approximately 20% making it easier for cooling systems to maintain engine temperature in extreme heat environments
- SMT2 contains no petroleum or harmful chemicals and is 99% friction reduction material

This second generation SMT2 technology has leap-frogged current metal treatment technology and leads the way for anti-friction metal treatments into the third millennium.
SMT2 actually changes friction by-products (pure Fe) into friction protection as it rebuilds the metal surfaces by filling in asperities and imperfections providing, as near as technically possible, a perfectly smooth surface area. The resulting surface area has a metal hydride boundary layer of near diamond-like hardness that increases the load threshold up to 10 x that of oil only.

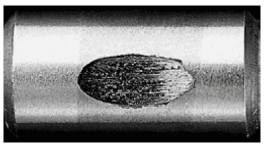
ANTI FRICTION TEST
ASTM-D-2782-88 Timken Bearing Test



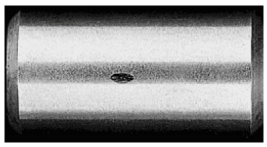
QUAKER STATE 10w30 OIL
90 Lbs / 5 seconds



QUAKER STATE 10w30 oil treated with SMT2
600 lbs / 10 minutes



QUAKER STATE 10w30 OIL treated
With SLICK 50, 90 LBS / 5 seconds

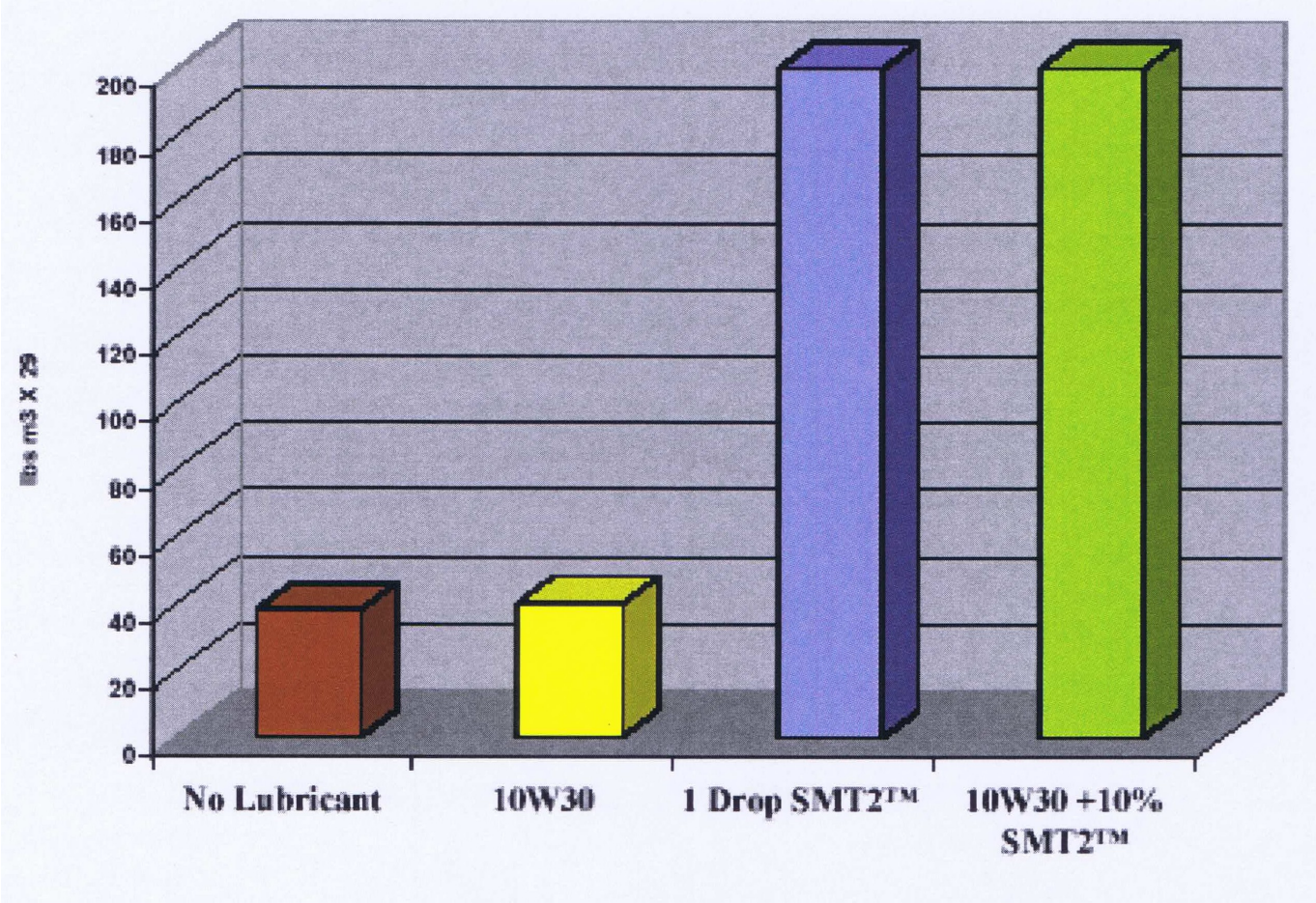


and no oil after treatment with SMT2,
600lbs / 1 minute

A product's ability to reduce friction can best be illustrated using the industry standard ASTM-D-2782-88 Timken Bearing Test. In the Timken Bearing Test, a bearing is rotated in a lubricant bath and a metal "bullet" is lowered onto the bearing as weight on the "bullet" is increased. The damage to the "bullet" and the time to achieve the damage reflect the anti-friction properties of the lubricant.

ANTI FRICTION TEST
ASTM-D-2782-88 Timken Bearing Test Continued

ANTI-FRICTION TEST
University of Pittsburg Tribology Department
ASTM-D-2782-88 Timken Bearing Test



Conditions	Scoring Value (lb_m^3 x 29)	Y & Z Max Values in Inches	P/P	f/f	Duration in Seconds
No Lubricant	38	.375*.1875	1	1	3
10W30	40	.21875*.125	3.7	0.27	4
1 Drop SMT^{2TM}	200	.15625*.0625	34.3	0.005	40
10W30 +10% SMT^{2TM}	200	.1595*.0625	34.3	0.003	30

As can be seen in the results for these tests
SMT2 significantly out performs
all other products tested,
and can reduce friction and wear in all lubricant reliant machinery.

ANTI-FRICTION TESTS

- Timken OK Load, EP—ASTM-D-2782
- Timken Falex Film Strength, EP (PSI) - ASTM-D-2783

+Timken OK Load, EP — ASTM-D-2782		Timken Falex Film Strength, EP (psi) — ASTM-D-2783	
Product Name	**Lbs.**	**Product Name**	**PSI**
Amsoil Synthetic SG Series Gear Oils	75	Amsoil Synthetic SG Series Gear Oils	131,250
#203A MOLY EP INDUSTRIAL MACHINE LUBE	65	#203A MOLY EP INDUSTRIAL MACHINE LUBE	113,750
BRAD PENN E.P. Industrial Gear Oils	65	BRAD PENN E.P. Industrial Gear Oils	113,750
Chevron Open Gear Lubricants	45	Chevron Open Gear Lubricants	78,750
Citgo EP Oils	70	Citgo EP Oils	122,500
Exxon SPARTAN Synthetic EP Industrial Gear Oils	60	Exxon SPARTAN Synthetic EP Industrial Gear Oils	105,000
FORSYTHE MISTING OILS	75	FORSYTHE MISTING OILS	131,250
Lyondel Lubricants - Pennant® NL Oils	60	Lyondel Lubricants - Pennant® NL Oils	105,000
Mobilgear SHC Series Oils – Synthetic Heavy-Duty Industrial Gear Lubricants	60	Mobilgear SHC Series Oils – Synthetic Heavy-Duty Industrial Gear Lubricants	105,000
Mystik Power Lubricants – EP Gear Lubricants	60	Mystik Power Lubricants – EP Gear Lubricants	105,000
Pennzoil – super Maxol EP Gear Oils	75	Pennzoil – Super Maxol EP Gear Oils	131,250
Royal Purple – PARA-SYN / Paper Machine Premium Para-Synthetic Paper Machine Oil	100	Royal Purple – PARA-SYN / Paper Machine Premium Para-Synthetic Paper Machine Oil	175,000
Shell Oil Company – OMALA Oils	32	Shell Oil Company – OMALA Oils	56,000
TS Moly Lubricants TS-319 SAE 250 Industrial Gear Lube	60	TS Moly Lubricants TS-319 SAE 250 Industrial Gear Lube	105,000
SMT^{2TM} Anti-Friction Additive	**138**	**SMT^{2TM} Anti-Friction Additive**	**250,000**

Timken Bearing Test Machine

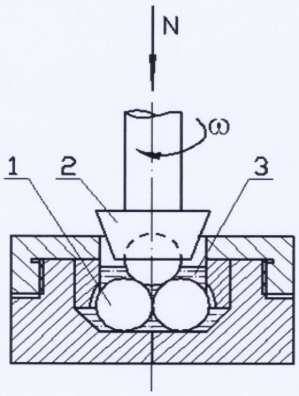
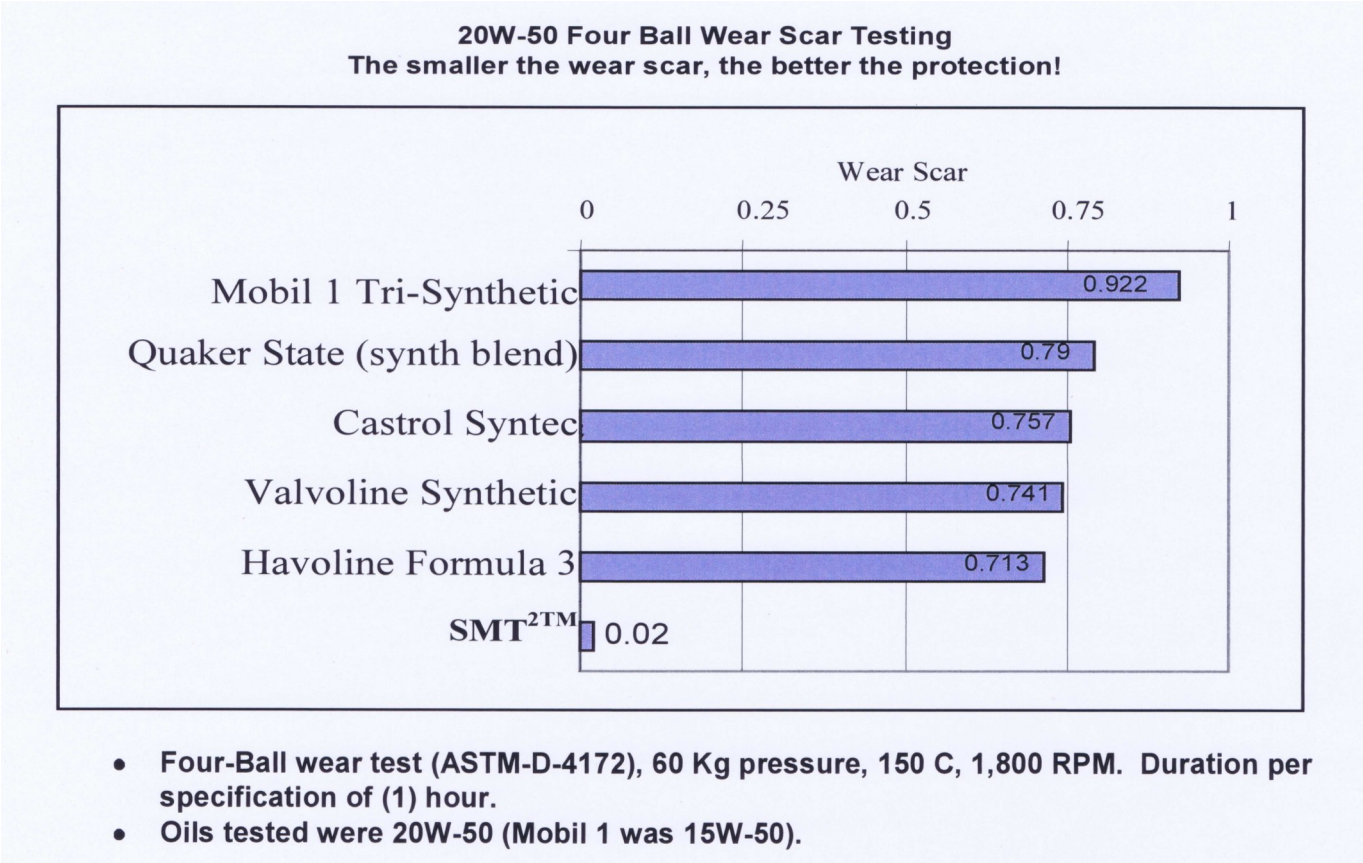


Diagram of Timken 4 ball load tester

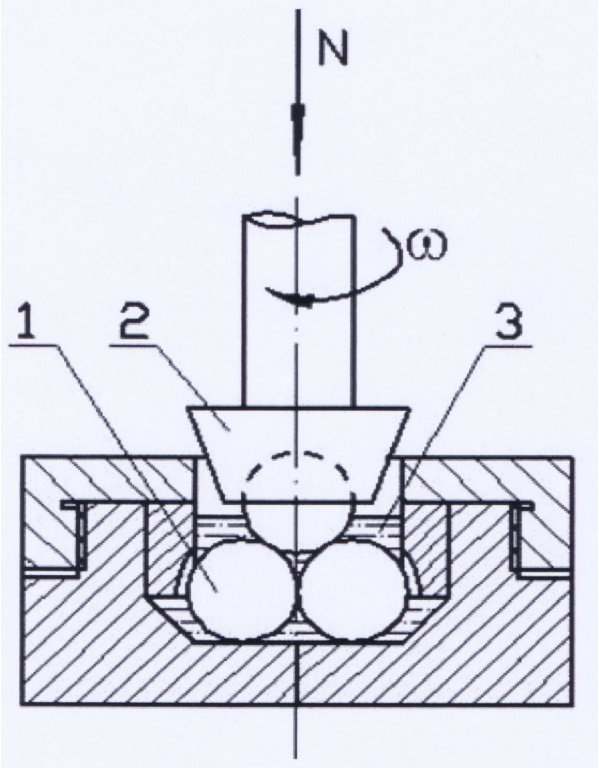
Note: SMT^{2TM} has an ASTM-D-4172 Four Ball Weld Load of 900 Kg minimum and an EP ASTM-D-2783 Timken OK load of 138 lbs (when mixed in proper dilution).

- **SMT^{2TM} is more resistant to galling thus reducing the coefficient of friction.**

ANTI-FRICTION TEST
ASTM-D-4172 4 Ball Wear Test



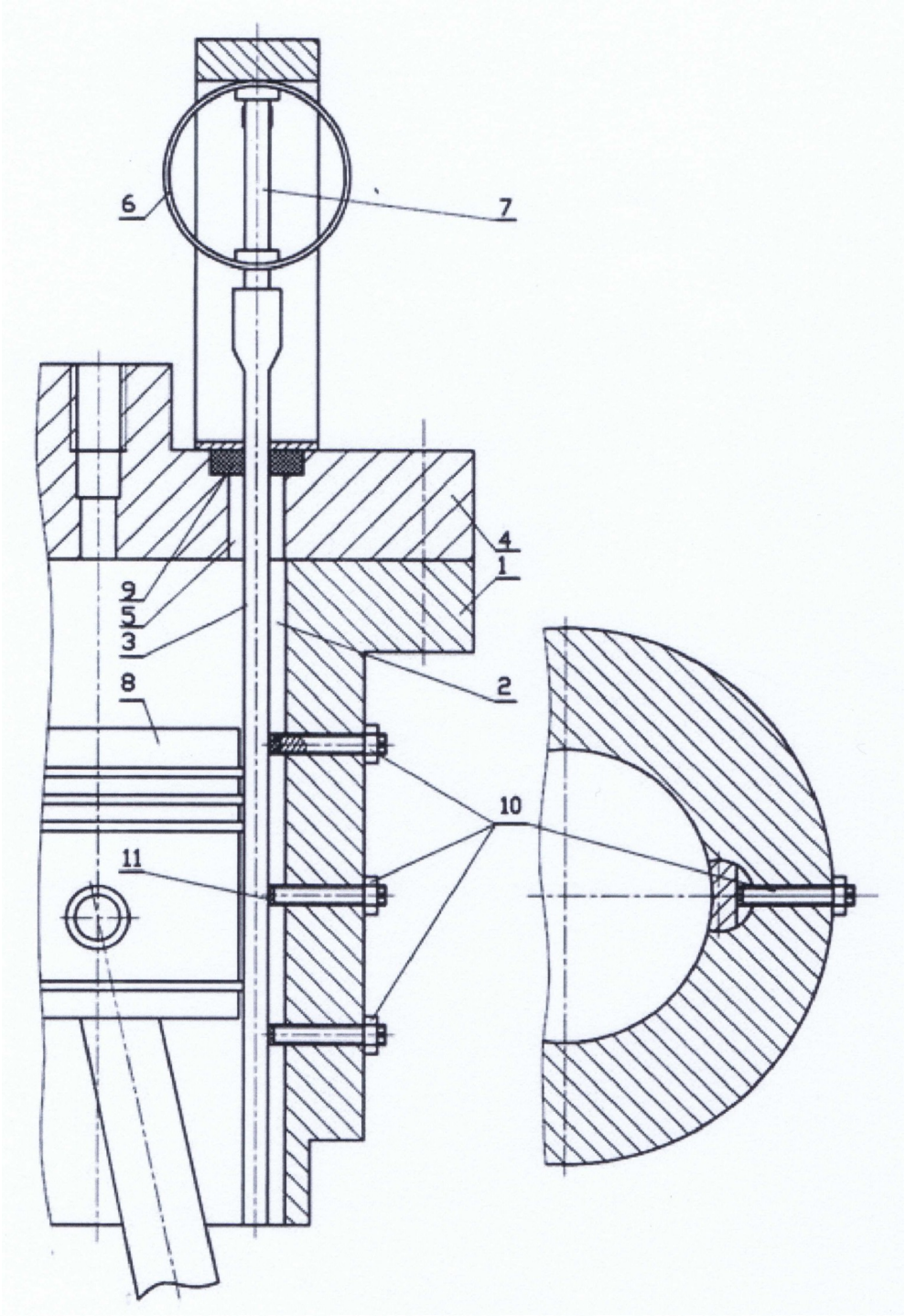
- Four-Ball wear test (ASTM-D-4172), 60 Kg pressure, 150 C, 1,800 RPM. Duration per specification of (1) hour.
- Oils tested were 20W-50 (Mobil 1 was 15W-50).



Mating parts “ball-ball” of 4 balls friction machine according to GOST 9490-75

1 3 balls
2 Chuck with revolving ball
3 Lubricant being tested

Mating “piston-cylinder”
of Bauman Moscow State Technical University piston tribometer.



1- cylinder; 2- slot; 3- measuring strip; 4-cylinder head; 5- hole; 6-ring; 7-friction force piezo-pickup; 8-piston; 9-sealer; 10-stopper