

## Introduction

Extreme Pressure and Anti-wear Supplement: *Boundary Lubrication*

In today's hi-tech world of advanced mechanical designs, high revving engines, and industrial equipment costing millions of dollars, we are still lubricating methods invented a century ago! Why do you treat a million dollar investment with a \$1.00 can of oil?!!!

Add-It creates a chemical condition known as *Boundary Lubrication*. Actually a molecular change to the wearing surfaces being treated, Add-It will greatly reduce the friction, wear, and damage on any metal surface requiring lubrication.

Add-It's unique chemical reaction effectively reduces this friction and wear. It bonds to the metal surfaces being treated and does not remain in the primary lubrication as other so called additives do.

Add-It is safe to use on any metal to metal friction generating application. The savings when using Add-It greatly overshadow the cost of the product..

Add-It is compatible with all types and forms of lubricating oils, gear oils, motor oils, compressor oils, hydraulic fluids, etc.

Add-It treats the metal surfaces and as such requires only a small amount of product. See the applications section of this manual for suggested rates and uses.

### Theory of Operation

Add-It is unique approach to the field of advanced *Extreme Pressure* lubrication.

NOT a lubricant...Add-It is a metal treatment and conditioner offering unsurpassed anti-wear characteristics.

Under normal lubricating conditions, the two metal surfaces to be lubricated will be covered by a thin film of lubricant which will act to provide the desired reduction of friction of the two surfaces. In this lubricating film are found a wide assortment of contaminants, all of which can act in an abrasive manner on the metal surface the lubricant was designed to protect!

Under extreme pressure lubricating conditions, and as normal lubricating oils can only withstand a limited amount of pressure and heat before losing their lubricating properties, all of the liquid lubricant is forced out of the area of contact between the two metal surfaces, leaving an undesired metal to metal contact and understandable resulting damage cause caused by friction, heat, wear, and the microscopic contaminants.

With the addition of Add-It, the heat caused by the normal friction of metal to metal contact will cause a thermal reaction whereby molecules of Add-It are released and combine with cause a thermal reaction whereby molecules of Add-It are released and combine with the surface of the metal. This reaction creates a NEW metal surface that now has a much lower coefficient of friction than the original metal surface.

This new surface tends to fill in the microscopic depressions and irregularities found on all metal surfaces at the points of contact and leaving no voids to collect abrasive contaminants while greatly reducing friction and wear.

### General Applications and Use

As Add-It is a highly concentrated product, only a small amount is required for most applications.

#### The following is suggested guideline for typical industrial applications

Light Loads:	Add 1 ounce per 1 quart of the primary lubricant
Medium Loads:	Add 1.5 ounces per 1 quart of primary lubricant
Heavy Loads:	Add 2 ounces per 1 quart of primary lubricant
Hydraulic Systems:	Add 8 ounces per 5 gallons of hydraulic fluid
Industrial Engines:	Add 2 ounces per liter of engine displacement
Differentials:	Add 1 ounce to each pound of lube/grease
Automatic Transmissions:	Add 6 ounces every 12 months or 30,000 miles
Compressors:	Add 1 ounce per 1 quart of oil at each oil change
Ball & Bearing Assemblies	Add 8 ounces per each pound of grease
General Lubrications	Add 1 ounce to each 16 ounces of lubricant

When do I add more?

To achieve the optimum results of a Add-It treatment, you must be sure that the product is completely circulated in the system and allowed enough time, heat, and pressure to assure the reactive bond.

Since Add-It is a metal treatment, the new metal surface created by Add-It must physically wear off before a re-treatment with Add-It is required.

This period may vary greatly and depends on the amount of metal to metal contact, and pressure, etc.

A careful monitoring of performance of the treated equipment will clearly tell when a new treatment is required.

**NOTE:**

Use of a measurement of metal wear particles in the primary lubricant will tell when a re-treatment is required. When the count returns to the same area it was at prior to the original treatment, it is time to re-treat.

Typical Applications		
<ul style="list-style-type: none"> <li>Gasoline engines</li> <li>Diesel engines</li> <li>Two-cycle engines</li> <li>Industrial motors</li> <li>Winches &amp; come-a-longs</li> <li>Transmissions</li> <li>Gearboxes</li> <li>Differentials</li> <li>Transfer cases</li> <li>Bearings</li> <li>Air compressors</li> <li>Metal working equipment</li> </ul>	<ul style="list-style-type: none"> <li>Hydraulic systems</li> <li>Rotary compressors (air conditioning)</li> <li>Two-stage refrigeration compressors</li> <li>Air tools</li> <li>Pumps</li> <li>Drill bits</li> <li>Saw blades</li> <li>Generators</li> <li>Drive shafts</li> <li>Steam valves</li> </ul>	<ul style="list-style-type: none"> <li>Stampings</li> <li>Drawing and forming equipment</li> <li>Universal joints</li> <li>Power steering units</li> <li>Reduction gear assemblies</li> <li>Chains, sprockets, open gears, conveyors</li> <li>And all metal-to-metal applications</li> </ul>

GENERAL PROPERTIES	
Percent Volatile by Volume: Ash: Vapor Pressure (mm HG): Appearance & Order: Flash Point:	100 93% ± 0.1% @ 755° C 0.4 mm @ 20° C Amber color; mild odor 415° F
Boiling Point: Auto Ignition Temp: Evaporation Point Cloud Point: Pour Point:	397° F 715° F Negligible loss @ 70° -25° F -45° F
Fire Point: Specific Gravity: Solubility in Water: Vapor Density: Viscosity (D445) (Brookfield Viscometer)	455° F 1.067—1.095 @ 75° F Insoluble 5.0 39.1 ± @ 75° F
Sonic Shear Stability: (Viscosity loss @ 100° F, Percent) Total Acid Number: Rust Preventing Test ASTM D665 Cu strip Corrosion ASTM D130 (320° F (160° C) X 1 hour)	0.93 0.28 Passed Passed (tarnish rating 1 lb)
Sludging Tendency: 320° F (160° C) X 2 hours Elastomer Compatibility: (Neoprene, Nitrile, Viton)	Passed Passed
UV Stability, 254 nm X 4 hours: Freeze/Thaw Stability: Thermal Stability: (320° F (160° C) X 1 hour)	Passed Passed Passed
<b>Contains No Teflon®, Other Fluorocarbons, Lead, Sulfur, Silicone or Molybdenum</b> <b>Will not Corrode Yellow Metal</b>	

## Performance Reports

### Falex Load Carrying Capacity (ASTM D3233A)

Load, lbf	Time, min.	Torque, Initial	In,-lbf Final
300	5	9	9
3750	5	9	53

### Falex Load Carrying Capacity (ASTM D3233B)

Load, lbf	Time, min.	Torque, Initial	in-lbf Final	Average Q (lb-in)
300	5	8	9	9
500	1	13	13	13
750	1	20	20	20.5
1000	1	26	25	25.5
1250	1	31	31	31
1500	1	35	33	34
1750	1	36	35	35.5
2000	1	38	38	38
2250	1	41	41	41
2500	1	43	43	43
2750	1	45	45	45
3000	1	47	45	46
3250	1	48	48	48
3500	1	49	49	49
3750	1	51	51	51

### Timken Test

OK load, lbs	24
Fail load, lbs	27
Scar diameter, mm	1.81
Psi	7179
Time, min.	10
RPM	800

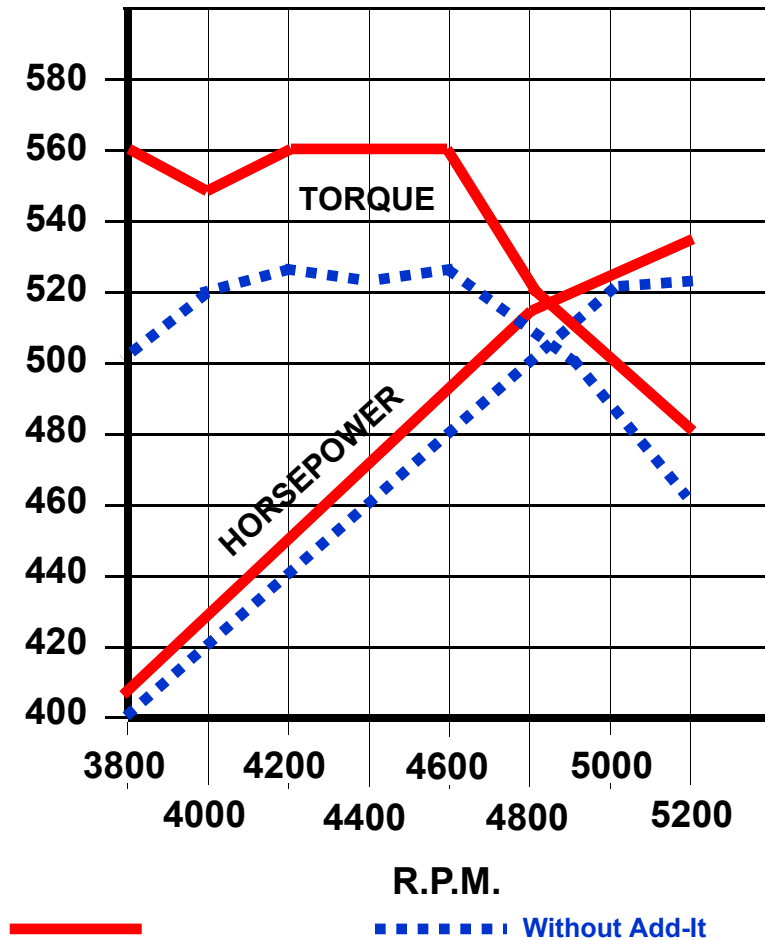
### 4-Ball Wear Test (ASTM D4172)

40 Kg, 1200 RPM,

167° F, 1 hr.

Average wear scar diameter, mm 1.46

## Engine Dynamometer Laboratory Test



**Engine**  
 502 cu. In. Chevrolet big block  
 B & M 250 Blower  
 Twin 600 Holleys

**Dynamometer**  
 Super Flow 901 model

**Results**  
 2% Increase in horsepower  
 1-10% Increase in torque at  
 Varying R.P.M.

## COMPRESSOR LABORATORY TEST



### TEST TIME - MINUTES

- New 1 1/4 - HP compressor, run in for 2 hours Piston and ring type with taper roller bearings. 786 rpm
- Output pressure stabilized for 1 hour at 100 PSI prior to adding Add-It at 1:16 ratio to SAE 30 compressor oil

### Results:

- 5 1/2 % increase in PSI tank output pressure.
- 3 1/2 % increase in cfm compressor output.

Decrease in power and energy consumption.

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 Longwood, FL 32750  
 407-339-7072

## Add-It

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### Comparative Chart of Gasoline Mileage Before and After Using Add-It Engine Treatment

	Initial Mpg	Mpg With Add-It E T	Mpg Increase	% Increase
Vehicle 1	17.20	19.48	2.20	+ 13.25
Vehicle 2	21.27	23.00	1.73	+ 8.13
Vehicle 3	22.56	24.76	2.20	+ 9.75

#### Test Vehicle # 1

Initial Mpg	Avg. Mpg. After 400 Miles	% Increase After 400 Miles	Avg. Mpg. After 1151 Miles	% Increase After 1151 Miles
17.2	19.48	13.26	22.29	29.59

For complete Mileage information go to Fax on demand enter 7 in main menu (2 pages).

For complete Tech Sheet on Add-It information go to Fax on demand enter 8 in main menu (4 pages), please note not the same as Mileage information. This is over all information on uses and amounts per use.