



PETRON
PLUS[™]
FORMULA 7



WHAT MAKES PETRON PLUS[™] FORMULA 7 UNIQUE

First of all, the waste of resources resulting from high friction and wear were estimated at \$194 Billion Dollars by Dr. E. Rabinowicz, of MIT in the United States alone, and well over \$5 Billion Dollars by the National Research Council's Associate Committee on Tribology in Canada. The potential savings offered by improved lubrication and a better understanding of the science of tribology are correspondingly great. Is it any wonder that the lubrication of machinery never receives much consideration and when a serious problem does occur, most people tend to blame it on the lubricant itself, instead of learning how to recognize the root cause of the problem.

These short comings in the understanding of lubricants and lubrication, have lead many maintenance specialists to make incorrect and costly assumptions about lubricants and their application. Furthermore, executive officers around the world are full of bright ideas, as well as meaningful engineers and managers who treat the aspect of correct lubrication and the application of proper tribological techniques, as either unnecessary, too costly, or both.

These same people mistakenly assume that the consequences of friction and wear are "normal" and refuse to take advantage of the huge savings and improved machinery reliability which could be achieved with the proper lubricants, understanding tribology, and paying more attention to the problems related to friction, and wear.

The word "Tribology" was introduced in the 1960's to mean the "science and technology of the wear of interacting surfaces in relative motion and associated subjects and practices". Tribology effectively coordinates many technical disciplines, such as chemistry, metallurgy, machine design, lubrication engineering, etc., for solving friction and wear problems.

The main cause of wear in engines and other lubricated systems is abrasion and oil contamination. It is ironic that while engineers and tradesmen are taught how to design, build, or repair equipment, few are taught an understanding of the inter-relationship between friction, wear and lubrication and how to reduce the problems associated with these aspects of equipment operation.

The above brings us to **Petron Plus[™] Formula 7 Products**. For over thirty-three (33) years, Petron Plus[™] Formula 7 Products have been markets and provided (through distributors) to the agricultural, aviation, aerospace, city/states agencies, food/drug mfg., hospitals, hotels/motels & commercial properties, industrial plants, commercial, mining/quarries & cement plants, automotive mfg., industrial fleet, motorsports race teams, metalworking facilities, oil companies & refineries, pulp & paper mfg., power plants, printing & publishing, recreation operations, steel/metal operations, transportation operations, university & schools, military and government applications around the world.

Today Petron Plus[™] Formula 7 has over 450 products with 1,450 sku (part numbers) numbers. They range from finished synthetic, non-synthetic and partial synthetic motor oils, ATF's, automotive gear oils, industrial gear oils, hydraulic fluids, compressor oils, natural gas engine oils, automotive a/c lubes, turbine oils, refrigeration oils, natural gas compressor oils, aerosol products, greases, metalworking fluids, to gasoline additives, diesel fuel additives, industrial cleaning products, and automotive and fleet cooling systems cleaners and corrosion inhibitors & treatments. We have a full fine of bio-degradable products. Over fifty (50) of these products have H-1 and H-2 food grade approval by USDA, NSF and/or Kosher approved. Plus a product line that meets certain Military Specifications.



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Petron Plus™ Formula 7 is not an oil additive, nor a replacement petroleum product, but a patented new package of high-tech petroleum and synthetic constituents chemically bonded together in a patented new process to form a totally new EP ingredient. The Petron Plus™ Formula 7 products are formulated for each individual type of application (engine oils, automatic transmissions, gear boxes, compressors, refrigeration systems, metalworking, etc. (not a one product does-all like someother companies market) which may easily be blended in small proportions into virtually any standard lubricant currently available.

The Petron Plus™ molecules are very small, 0.1 micron in size (a human hair is 50 microns). If you could imagine for a moment ...Solid additives (i.e., PTFE, Teflon® (a registered trademark of DuPont), Moly, Graphite, etc.) are 2 to 10 microns in size. This would be how a beach ball would compare to a golf ball.



The Bearing on the right was protected with major brand EP lubricant during Timken test. When Petron Plus™ Formula 7 technology was added to the EP lubricant the bearing on the left **showed minimal surface breakdown at three (3) times the weight.**

At the weight where the EP lubricant stopped the Timken tester, the **Timken tester could be turned on-and-off with a full load on it with the Plus™ Formula 7 added**, and showed no increase in amp's **then with three (3) times the weight it showed only a slight increase in amp's.**



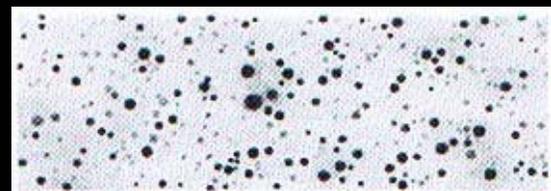
Molybdenum Disulfide



Graphite



Teflon® (registered Trademark of DuPont)



Petron Plus Formula 7

The above Micrographs show material structures of Molybdenum Disulfide, Graphite, Teflon/PTFE, and Petron Plus™ Formula 7. The solid products are 2 to 10 microns in size Petron Plus™ Formula 7 Nano Mono-molecular technology is 0.1 micron in size.



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When Petron Plus™ Formula 7 is added to an existing lubricant, tiny molecules (less than 1 micron in diameter) are carried directly to the friction face. Because the molecules are very small, 0.1 in size (a human hair is 50 microns). Solid additives (i.e., PTFE, Teflon (a registered trademark of DuPont), Moly, Graphite, etc.) are 2 to 10 microns in size. The Petron Plus™ Formula 7 technology is much the size of a cold virus, and in that conjunction can't be stopped

Once the molecules reach the friction face, they are attracted to the surface, thereby reducing friction, wear and drag. The Petron Plus™ Formula 7 Nano Monomolecular technology contains none of the common EP agents such as molybdenum disulfide (Moly), graphite, Teflon, or PTFE resins, copper, lead, silver, or other metals, nor other previously used EP agents. It doesn't contain Carbon Tetrachloride, 1,1,1, Trichloroethane, or Chlorinated Paraffin, or Chlorinated Solvents or any other harmful solvent.

The Petron Plus™ Formula 7 Nano Monomolecular lubricant technology is about to revolutionize the design and performance of wear components thanks to the extremely high shear strength of the re-engineered hydrocarbon.

Once there, intermolecular force pulls the molecules to the surface where they cluster to fill in any pores or roughness. The remaining areas are covered by a layer less than one molecule deep, hence the term Nano Monomolecular

The intense shear strength of these microscopic layers provides outstanding smooth running and reduced friction characteristics, under the most demanding conditions even the most advanced EP lubricants fail to meet. To dispel fear that this new technology is just another 'snake oil', the most demanding tests have been used, and are still used when testing these products.

PETRON PLUS™ Contains **NO** TEFLON® or PTFE RESINS (like Slick-50, T-Plus, etc.), GRAPHITE, MOLYBDENUM DISULFIDE (MOLY), COPPER, LEAD, SILVER or other metals, nor other previously used EP agents, PETRON PLUS™ **DOESN'T** Contain CARBON TETRACHLORIDE, 1,1,1, TRICHLOROETHANE, or CHLORINATED PARAFFINS (like Prolong, Dura-Lube, Energy Release, etc.) or CHLORINATED SOLVENTS or any other harmful solvents.

Application areas in the industrial sector includes; high power density hydraulic systems, gear boxes in mining, automotive, commercial vehicles to the largest gear boxes in the world; mining, construction and manufacturing plants and agricultural equipment; all types of engines from gasoline, diesel, propane to marine engines; as well as chains, bearings and other types of mechanized systems, including major cities, states, and the US government; A test conducted inside the Tsingtao City Development Zone's bus company, selected five big buses and added the new technology to the buses. Following strict experimental standards the test



allowed no adjustments to the buses. The results showed "Fuel consumption went from 15 liters before the Petron Plus™ Formula 7 Products were added down to 12.14 liters after the Petron Plus™ Formula 7 Products were added. This was a **fuel consumption drop of 19%**. Five buses following the same testing procedures and **had an average fuel savings of 16.2% and the operating conditions improved dramatically Engine noise was cut down; lube oil consumption dropped 50% and emissions dropped significantly.**" In another test in a similar experiment using a Toyota car, the results they observed showed a **"25 liter savings in fuel consumption in a drive from Shengyang to Dailin."** **That was a savings of 17.9%.**



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In applications like these in China, US, and some of the largest companies in Europe, the new technology has routinely resulted in improved performance such as 15-20 percent reduction in temperature, 10-20 percent reduction in power consumption, up to 10 percent reduction in operating noise and up to 50 percent increase in maintenance intervals.

A European tractor manufacture **saw between a 10% to 24% reduction in power** on a paint shop conveyor after the Petron Plus™ Formula 7 Product was applied to the conveyor chain links, **lubrication went from once a week to every two weeks**. An Automotive Exhaust Manufacture in South Wales **saved £67,401.60 (pounds not dollars) in one year** by applying a Petron Plus™ Formula 7 Products to a Cam Follower Bearings in a Silencer Box End Seamer. The Petron Plus™ Formula 7 Product had extended the bearing life from one month to three months without failure. A major grain company in the United States **reported a 16% reduction in amp load**, and saw a temperature drop after a Petron Plus™ Formula 7 Products was added to an elevator gearbox that was over-heating.



A cement plant in the mid-west region of the U.S. relates its first application of one of the Petron Plus™ Formula 7 Product when they had a major failure of its #2 trunnion bearing. The trunnion shaft was badly cut, the plant manger reported. They had been planning a winter outage, but it was not scheduled until March. The trunnion changout would take several days. They took a change. He had the failed bearing replaced, and left the trunnion, which weights about 50 tons, in place. At which time they added Petron Plus™ Formula 7 Transmission & Gearbox Supplement (T&GB) to the high-pressure lube system. **The trunnion bearing lasted until the scheduled outage.** The plant manager stated: **“you probably can’t fathom how significant that was, because the scored trunnion shaft and bearing probably wouldn’t normally have held up for more than several hours of operation.”** When they dismantled the trunnion assembly, a representative from manufacture was present. He couldn’t believe what he saw. **The bearing under the scored shaft did not have a mark on it**



The plant maintenance supervisor reported that they have many Falk gearboxes operating in very dusty environment. Temperatures can vary considerably from very cool to very hot. He said; they have found that the Petron Plus™ Formula 7 T&GB improves gear lubrication, smoothes everything out, and helps us to avoid problems.

For example, a large Falk gearbox, which drives a roll grinding mill, is about 30 feet long, 14 feet wide and holds 1,050 gallons of gear oil. They filled the gearbox with a mixture of 85% regular gear oil and 15% of one of the Petron Plus™ Formula 7 T&GB . Almost immediately they **saw a decrease in amperage, and they saved energy, plus the unit’s overall smoothness had improved**. Similarly, a critical conveyor is equipped with another large Falk gearbox. Before using the Petron Plus™ Formula 7 T&GB, they were having bearing or a gear problem every two years. **Since they began adding the T&GB supplements, all their annual inspections have checked out fine**. The inspection is performed by the gearbox manufacture with the cement company personnel.



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In another example, they had a mechanical problem with a gearbox that had been in the plant for a number of years. It had lost an upper thrust bearing and damaged the boiler box. When the company went on to a refit, it **saw a significant decrease in amperage when the gearbox ran on oil and one of the Petron Plus™ Formula 7 T&GB Supplement mixture**, even though the mechanical work was incomplete. The improvement in performance was even greater once the unit had been repaired.



As a result of this experience, **they decided to use the Petron Plus™ Formula 7 T&GB Supplement in every critical gearbox, and since they are a seven-day-a-week, 365 day-a-year operations, and shut down only for emergencies, this practice has helped them avoid unnecessary downtime.**

They have also used the Petron Plus™ Formula 7 T&GB on their rotary kiln. The kiln is about 14-½ feet in diameter and 350 feet long, making it among the largest pieces of moving equipment used in any manufacturing operation. To thoroughly expose the raw materials to the high temperatures, the kiln rotates at approximately 120-130 revolutions per hour. The rotary kiln rests on three main piers, with two bearings at each pier supporting the kiln as it rotates. The supports at piers 1 and 2 are 21” diameter shelves running in 21” bearings. Pier 2 is a 26” shelf running in a 26” bearing. All the bearings are heavily loaded as the raw material moves slowly through the kiln.



The bearings are inspected on an annual basis. **They have seen an improved finish on the brass bearing surface and the shaft since they began using the Petron Plus™ Formula 7 T&GB.** The thrust plates are cleaner and better polished, and the overall bearing condition has improved.

A raw mill I.D. fan is another application. This fan ran with a slightly scored shaft and pulled babbitt for two months after maintenance personnel made **an emergency application of the Petron Plus™ Formula 7 Product into the lube system to try and hold off further deterioration and a sudden unscheduled shutdown.** At a programmed time, the bearing was changed and the shaft left in place. The shaft was found to be sooth and undamaged from the day that the oil had been fortified with the supplement.



They also found one of the Petron Plus™ Formula 7 T&GB to be a great benefit to the plant's clinker production and cooling operation. In the production process, a mixture of finely ground limestone, clay and gypsum, heated to about 2700°F, emerges as clinker and drops into a cooler, where it is cooled by a series of eight induced draft fans. An automated lubricating system feeds grease to the 2 fan bearings at preset intervals. The bearings are expensive; however, the cost of the bearings failure and replacement is only part of the problem. Any time that a bearing fails it shuts down the main clinker production line. **As a result, cost reduction is less a matter of bearing replacement than it is of reducing the amount of downtime.**

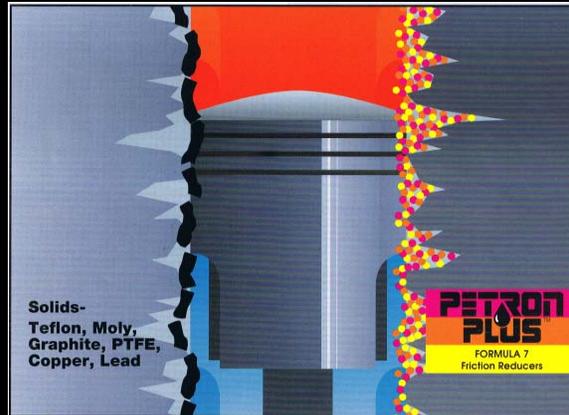
“Since they began using one of the Petron Plus™ Formula 7 T&GB on their cooler fans and bearings, **the replacement rate has dropped by at least 50%**”, their maintenance supervisor reported. **We had a record of years of bearing replacement, so that when we changed the lubricant and the bearing replacement rate declined, the improvement was obvious.”**



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In the automotive racing world the reports have been just as dramatic. **One race team reported a four (4%) percent increase in horse power from 1,290 H.P. to 1,340 to 1,340 H.P. on a dyno test after one of the Petron Plus™ Formula 7 Product was added to the engine oil, this was done after they had made all their adjustments and settings.**



The above picture resembles the metal surfaces in an engine. Solids only protect your engine on minimum levels. The Petron Plus Formula 7 technology literally impregnates the metal surfaces of your engine, the same holds true when applied to gear oils in gearboxes, and hydraulic fluids, etc.

A highly respected independent research and testing laboratory in San Antonio, Texas, regularly conducts competitive performance tests on the Petron Plus Formula 7 products.

These test are the most stringent for a products of this type, and consistent results demonstrate that they exceed the performance of all competitors and significantly enhanced the performance characteristics of the high quality lubricants.

With the price of crude oil a few months ago over one hundred forty US dollars per barrel, the price of chemicals and lubricants surely will be affected. But, with quality and high productivity back in style in the US, manufacturers cannot afford to slow down or shut down for the lack of adequate chemicals or lubricants. Neither can they stand to lose any chance of a competitive edge over growing foreign industries.



The Petron Plus™ Formula 7 Products helps reduce emission, smog, thereby keeps the environment cleaner.

The Petron Plus™ Formula 7 Products helps to reduces maintenance downtime, labor, and parts replacement costs Helps to increase overall efficiency and productivity of operating equipment It also increases the life of the base lubricant thereby decreases drain intervals.



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Most users realize immediate multiple benefits when the Petron Plus™ Formula 7 Products are introduced into a broad range of machinery, equipment, or vehicle applications:

- Helps substantial to increase equipment-operating life, with consistent "like new" performance
- Helps to decrease energy or fuel required for normal equipment operation
- Helps to increase horsepower and performance output, even under high load, high performance demands
- Helps to decrease operating temperatures in gearboxes, bearing housing and engines
- Helps to keep lubricant contamination in suspension, thereby increasing lubricant life
- Helps increase the ability of base lubricants to prevent rust and corrosion, resist oxidation
- Helps reduce emissions, smog, thereby keeping the environment cleaner
- Helps to significantly reduce maintenance downtime, labor, and parts replacement costs
- Helps to increase overall efficiency and productivity of operating equipment
- Helps to increase base lubricant life, thereby decrease drain intervals
- Helps to increase profitability for plants operating the equipment and utilizing Petron Plus Products

To stay competitive, fleets, and industries must look to both the oil giants of the world and to small, specialty lubricant, additive and/or chemical manufacturers for solutions to their needs. Old-line additive manufacturers--as well as newer companies--must focus their total resources on the research, development and implementation of proprietary chemical packages. They must address issues concerning additives, metal treatments, lubrication, and fuel supplements that are designed specifically for future fleet, and industrial applications.

The world's "new-generation" of lubricants, and fuel-additive packages are already here and are available in supplements, or already blended into fully formulated lubricants.



They range from fully-formulated synthetic, non-synthetic and partial synthetic motor oils, ATF's, automotive gear oils, industrial gear oils, hydraulic fluids, compressor oils, natural gas engine oils, automotive a/c lubes, turbine oils, refrigeration oils, natural gas compressor oils, aerosol products, greases, metalworking fluids, to EPA registered gasoline additives and diesel fuel additives, industrial cleaning products, and automotive and fleet cooling systems cleaners and corrosion inhibitors & treatments. Some of these products have H-1 and H-2 food grade approval by USDA and NSF. The company also has a product line that meets certain Military Specifications. As well as a full range of Bio-Degradable products, to our Petron Plus™ Formula 7 line of Supplement Products.