

Introducing



The worlds most advanced Metal treatment for today's engines!

Proven in the Laboratory, Proven in Space, Proven in Industry, Proven on the High Sea's, Proven on the Race Track and Proven in everyday vehicles around the world X-1R is the third generation of engine treatments that promise to deliver technology proven by NASA at prices you can afford.

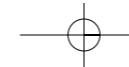
X1R performance lubricants are the only lubricants in the world ever to be inducted into the Space Foundation and NASA Space Technology Hall of Fame. In the early 90's the Kennedy Space Centre approached us to create a lubricant suitable for the Space Shuttle Crawler, the heaviest vehicle in the world. After a million dollars research and development program and followed by rigorous testing X1R was accepted by the Kennedy Space Centre. In fact X1R was tested against all commercially available lubricants and was proven to provide the best level of anti friction protection available.



So isn't time for you to discover what NASA already know, and find out why large plant operators, factories owners, power companies, shipping companies and winning race car drivers around the world have switched to X-1R's proven technology. Across the World millions of users have already discovered the benefits of using X-1R, that's because we deliver a full range of performance enhancing lubricants that keeps machinery running smoother, longer and more efficiently. Use X-1R just once and you will quickly notice an increase in engine power and experience improved fuel economy whilst reducing wear significantly.

***"In fact X-1R proved to provide better protection than any other lubricant on the market.....and still does"***

*Grady B McCorquodale  
Kennedy Space Centre  
Engineering Group*



### Three generations of engine treatment

1st Generation	2nd Generation	3rd Generation
Solid Film Lubricants	Chlorinated Lubricants	Intelligent Lubricants
Slick 50 T-Plus Tufoil many others	Motor-Up Dura Lube Prolong Miltec Lubricator 2001	X-1R
Usually contain one main lubricity agent suspended in a carrier oil such as:  Teflon (PTFE) Molybdenum Graphite	Usually contain one main lubricity agent such as:  Chlorine Chlorinated paraffin Chlorinated solvents	Should contain a patented synthesis of numerous ingredients that work synergistically together: Motor Plus will not change the viscosity of the engine oil that it is being added to.  Controlled action cleaners Intelligent lubricants Molecularly engineered heat-transfer agents Smart polymers Non-drying lubricity agents
This type of metal treating process is mechanical in nature. Teflon/PTFE products, for example, attempt to deposit plastic like resins onto the metal surfaces. Metal moving across can easily scrape off these deposits from the surface similar to the effect of using a metal spatula on the surface of a "non-stick" frying pan. Since the solids or particles used are inert, no chemical or physical bonding can occur. It makes little sense to add particles to motor oil. We change oil to remove particles.	Since there are no chemical or physical bonding processes occurring, Chlorinated products rely on negative polarity to bond to metal. Ferrous metal surfaces have a positive charge resulting in a "static-cling" type of bonding. Since these products have to be added at every oil change, This makes them very costly to use. Under heating and ionisation, chlorinated paraffin for example, can release hydrochloric acid, which is corrosive. In addition to this chlorine is a known environmental hazard.	This new generation is specifically designed and formulated for use in ALL combustion engines. First it dissolves harmful deposits that reduce engine performance and physically bonds with the molecular structure of materials to counteract friction starting at its source, the molecular level. Third generation lubricants also become an integral part of the metals, by penetrating into the metal and smoothing out their natural roughness to reduce friction, wear and particularly damaging metal to metal contact every time you start your engine.

**“All Engine Treatments are the same!”**

Nothing could be further from the truth, but it is a very common point of view. The fact is X-1R is unlike most of the other available oil and engine treatments as it actually treats the engine and not the oil, most other treatments are little more than viscosity modifiers. X-1R has been formulated and scientifically proven to specifically treat the metal, that is why we say that it is not an oil Treatment but an engine treatment.

In the early 1980's a number of engine treatments became commercial available for both retail and industrial uses. These products actually interacted with the metal by coating it with chemicals, usually Teflon. In the late 1980's these products were superseded by Chlorinated Paraffin's or Benzenes, these used ionic bonding to reduce friction.

However with the aid of Tribological research X1R Corporation has now formulated the third generation of engine Treatments. The new generation of treatment's actually penetrate and impregnate the metal inside your engine, effectively increasing the hardness of the metal surface's, making the metal smoother and as a result reducing friction. This means that your engine will run Smoother, Cooler, Quieter, Faster. It also means you will use less fuel, your vehicle or machinery will last longer and it will be less prone to breakdowns.

**“Not all engine additives are created equal”**

In fact X-1R is the only lubricant in the world to be certified technology and to have been inducted into the Space Technology Hall of Fame, the is why our packaging proudly includes the following logo



**“X-1R is a metal conditioner,  
not an oil conditioner,  
it actually penetrates the metal  
increasing the density,  
smoothing out imperfections  
and reducing wear”**

## How **X-1R** Functions

There are several functions that the X-1R enhances when added to various oils. Some of the benefits are noticeable; ones that can be heard in reference to noise reduction or seen such as improved fuel economy, or the oil will look cleaner for longer

Then there are some benefits that cannot be realized and appreciated until scientific tests are performed. These types of tests are designed to monitor wear rates of various metal components that are in engines, transmissions, differentials, gear boxes and hydraulic systems. Areas of monitoring would include oxidation, content of water and other contaminations, fuel dilution, viscosity and additive package depletion.

Unfortunately, it is these characteristics of an oil that have a greater profound impact on an oils lubricating value and useful operating life; improvements of these categories normally cannot be humanly seen or felt, so the average person does not realize when an oil is not performing properly.

Even with following manufacturers recommendations for scheduled oil and filter change intervals, oils can lose their lubricating and protection values prematurely, for a number of reasons, thereby causing loss of fuel efficiency and operating life

expectancy. These parameters cause severe extreme pressures, increased loads and elevated temperatures although momentary in length; they are more frequent in occurrence than most people imagine.

X-1R can help minimize these negative affects caused by daily driving or equipment operation. X-1R contains components to condition metal-to-metal contacting parts that increase the load bearing capabilities of the metals surfaces. This is accomplished through a chemical ionic reaction that requires three properties to be incorporated; they are heat, pressure and time.

Metal surfaces have microscopic imperfections, tiny porous terrains, that when magnified under a microscope power resembles an aerial view of a mountainous landscape, showing peaks and valleys of the metal surface. When heat is applied to a metal surface these imperfections will expand and distort slightly, causing them to be more exaggerated, increasing the factors that breakdown the oils film strength and accelerating wear and friction factors.

X-1R counter acts this process by penetrating into these imperfections as heat and pressure are being applied through

normal dynamics, this occurs at the molecular level where X-1R forms an electro-chemical bond that effectively permeates between the atoms in the boundary level of “loose molecules”. In doing so this metal hybrid smoothes the flaws and increases the hardness of the metal, this gives a smoother load bearing contact surface, which allows the forces and loads of operations to distribute over a wider surface. This results in a reduction of friction, when friction is reduced excessive wear; heat and energy/fuel consumption are also reduced.

X-1R provides additional benefits by incorporating oxidation, thermal and viscosity stabilizers; anti-scurf and anti-wear components contaminate scavengers and rust and corrosion inhibitors. The inclusion of these compounds provides supplemental protection in areas that are critical for balancing and extending the usefulness of the oil that X-1R is added to. The complexity and cost of formulating a truly multi purpose additive is what separates the X-1R from the rest of products in the oil additive category. By producing higher levels of performance and compatibility with a diverse range of base oils and their additive packages makes X-1R unique in many aspects.

**X-1R requires no special disposal  
rocedures.**

**X-1R is classified as Non-Hazardous  
and Non-Flammable.**

**X-1R will not change the viscosity of  
the oil that it is being added to.**

If the equipment you use did not suffer the damaging abuse of environment, friction, wear and tear and the worst quality fuels since 1973, there would be no need for aftermarket products. But unfortunately, they do. Today, the consumer needs all the help he can get against the skyrocketing cost of repairs and expensive downtime.

**The Problem**

Since the oil crisis of 1973, the quality of gasoline has become progressively worse. This has resulted in more carbon deposits in the combustion chamber and on the fuel injectors, with a corresponding drop in octane and cetane. This affects the anti-knock quality of the fuel, causing knocking, pinging, poor performance and high emissions.

**The Solution**

X-1R Fuel System Treatments are specifically formulated to solve combustion side related problems.

**Deposit Control**

Harmful gum and varnish deposits form in the fuel delivery system, restricting the efficient operation of the fuel injectors or the carburetor. These deposits cause the fuel to be released in a stream of droplets in the combustion chamber rather than a finely misted vapor, which the engine needs to burn the fuel efficiently. This liquid cooks in the combustion chamber, forming deposits rather than igniting to produce power. The unburned fuel causes more carbon deposits in the combustion chamber, which reduces the size of the chamber and increases compression. As the compression gets higher, it increases the engine's octane/cetane requirement. When this happens, a higher-octane/cetane fuel is needed or the engine will begin to experience knocking, pinging, dieseling (run-on), and second-rate performance. X-1R Fuel System Treatments contains strong detergent and deposit control agents which, when used over a period of time, will clean and keep clean the fuel delivery system and combustion chamber. X-1R Complete Fuel System Treatment's unequalled cleaning action lowers the engine's octane/cetane requirements to original manufacturer's recommendation.

**Lubrication**

When lead was removed from the gasoline, the only source of lubrication was eliminated from the fuel. The lead served as a cushion to absorb the force of the valve pounding on the valve seat. The unleaded fuels burn dryer and hotter causing burned valves, valve warpage and valve seat recession. In most of the country, gasoline will be oxygenated, which means it will contain ethanol or methyl tertiarybutyl ether. These oxygenates can devour the rubber and plastic in the fuel system and the fuel pump diaphragm, plus they can cause excessive wear on the injectors.

A decrease in mileage can be expected when using oxygenated and reformulated gasoline because of the loss of energy in the fuel. X-1R Complete Fuel System Treatment is formulated to be used in any gasoline. X-1R Fuel System Treatments contains a super lubricant that coats the entire fuel system (including the fuel tank, lines, injectors, and carburetor) with a light film of oil that prevents wear rust and corrosion. It also lubricates the upper cylinder area including the compression rings, cylinder walls, pistons, valves, valve guides and seats. This process extends engine life and reduces wear in critical engine parts.

**Moisture Elimination**

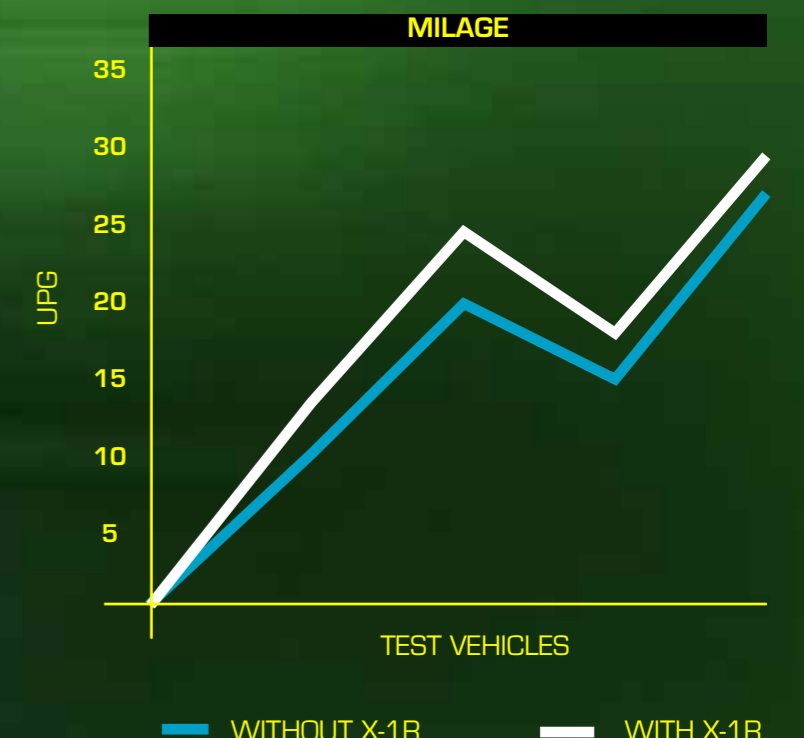
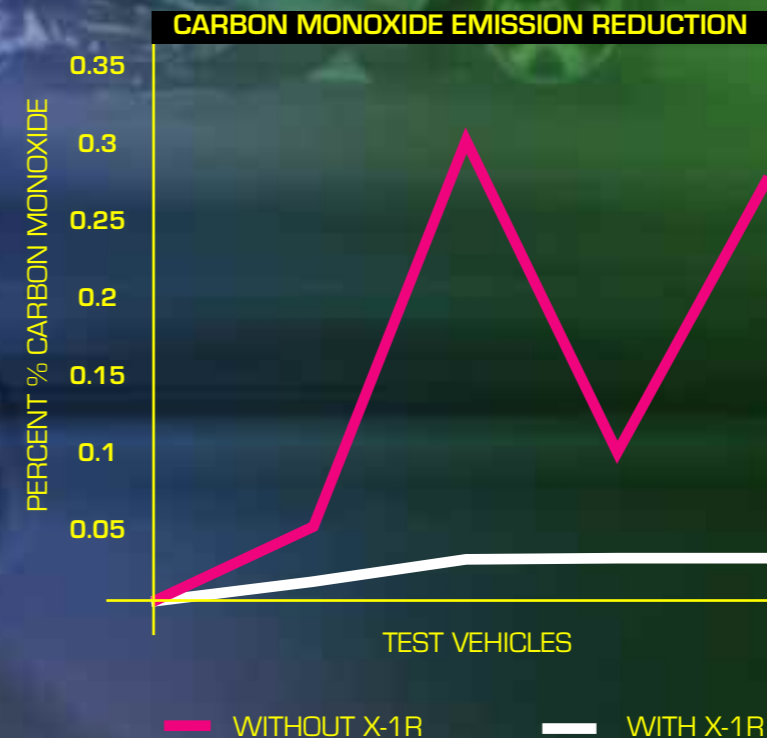
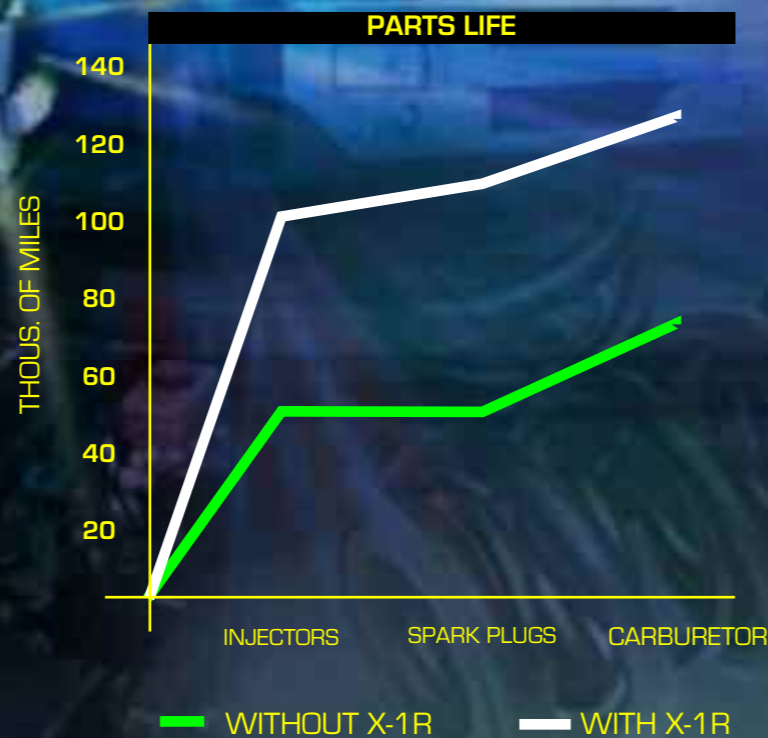
X-1R Fuel System Treatments contain an emulsifying agent or moisture scavenger, which removes free water from the fuel system. Normal condensation is dispersed in the fuel in the form of very small droplets, which remain dispersed in the gasoline and are carried by it into the combustion chamber. By removing the water, it slows down the burn rate, provides more complete combustion and helps steam out the carbon deposits. Removing the water will extend fuel tank life and eliminate fuel line freeze. For users of Diesel our products have been proven to be one of the most effective eliminators of Diesel Bug available.

**Octane/Cetane Enhancement**

The combustion enhancing compounds in X-1R Fuel System Treatment help to minimize pre-oxidation of the fuel (i.e. chemical reaction between the fuel and oxygen) in the combustion chamber prior to the spark igniting the fuel mixture. By minimizing the pre-oxidation reaction, fuel combustion efficiency is greatly increased because more fuel is now available for burning at the proper time - that being at spark ignition, not before. This results in higher temperatures and pressures in the combustion chamber delivering more push to the piston and consequently more power to the crankshaft. The net result is greater fuel economy, better performance, lower carbon monoxide emissions and reduced unburned hydrocarbons. X1R Manufacture a complete range of Fuel System Treatments suitable for all vehicles and machinery requirements from big to small.

# Why do we need Fuel Additives?

**Delivering a bigger bang for your buck\$!**



**Dr. Gerald Micklow -FUEL ECONOMY TEST**

Dr Gerald Micklow, Consultant to NASA Engine Design and Development Facility and US Government on Energy Conservation subjected X-1R to a rigorous testing following American Society of Testing Standards. His findings proved that the use of X-1R will improve fuel efficiency by up to 10%, these findings were verified by the American Society of Mechanical Engineers.

**Falex Corporation – LOAD BEARING TEST**

The protection values of the lubes with the addition of the X-1R Concentrate at 6% ratio were for all intents and purposes doubled and the reduction of wear was even greater. Therefore fewer breakdowns, less downtime and diminished mechanical failures should be apparent.

**QC Laboratories - X-1R TREATS THE METAL**

QC Laboratories test results confirms and validates X-1R impregnates the surface of ferrous metals, in metal to metal contact situations, thereby increasing the Rockwell -B-Hardness from 35 Rb to 72 Rb. (This is achieved by a chemical reaction which requires heat pressure and time)

**NASA Kennedy Space Center**

**– Reduction of Operating Temperatures**

Kennedy Space Center: The predictive engineering technology group proved X-1R when added to a common lubricating oil or a superior high quality performance oil will significantly reduce operating temperatures in equipment. In fact these tests proved that X1R out performed all other lubricants available on the market.

**Swedish National Testing and Research Institute**

**– ROCKWELL B MEASUREMENTS**

Swedish National Testing and Research Institute: Confirms tribological testing with X-1R added to oil, increased the surface density of the metal, therefore, reducing wear. In fact the hardness rose from 35Rb to 72Rb.

**University of North Carolina**

Fuel Efficiency Test Based on the data obtained through controlled dynamometer testing comparable to steady state driving conditions, a measurable reduction in was found at all operating conditions. These test have shown that the use of X-1R Engine Treatment can lead to substantial improvements in engine performance and fuel economy.

**Others Make the Claims  
We have the Proof !**

**The X-1R Technology Testing Report**

**Dr. Gary Barber - WEAR REDUCTION**

Oakland University, Wear Reduction  
Dr. Gary Barber (Dept. of Mechanical Engineering) a consultant engineer for Detroit Diesels supervised a range of test to examine the effectiveness of X-1R on reducing wear caused by friction. His conclusions proved that X-1R reduced wear by 47%

**DELCO REMY - VIBRATION ANALYSIS**

Delco Remy: Controlled maintenance users group performed vibration analysis testing. The results show adding X-1R to premium SH rated oil and grease significantly reduced vibration in equipment. This results in higher productivity, longer equipment life, less downtime and less effects in manufactured parts.

**Herguth Laboratories, Inc - OIL ANALYSIS**

Herguth Laboratories, Inc.: Spectrochemical data shows compatibility of X-1R with name brand lubricants and shows X-1R does not affect viscosity of oil.

**U.E.C - X-1R IS NON-CONDUCTIVE**

U.E.C. Electrical test report: This test shows X-1R is nonconductive of electricity and has exceeded OSHA's requirements of 69 KV.



# The X-1R is used and Endorsed by These Fine Business



"We had experimented with 12 different additives over the last couple of years, we found little or no difference in the performance of our equipment their application.....by using X-1R we have reduced friction, lowered the machine operating temperatures and noise levels to the point that we are now running 400 S.P.M. compared to the 250 S.P.M. before. Perfecto Industries now uses X-1R in all of our in house equipment"



" one of the finer products that we are using is X-1R friction eliminator, this has left us in no doubt in the benefits that it has given us. We are utilizing X-1R in the energy reduction boxes as well as using it in the pistons of hydraulic equipment. We now recommend the product at a National level as a part of the preventive maintenance program"



"During the past two years we have utilized X-1R products as a major part of our preventive maintenance program. Today I can say that I am very pleased with the result. Numerous benefits have been derived by the use of X-1R these included a longer service interval for the cars, lower incident of engine failure and smoother running engines operating at lower temperatures"



"X-1R was tested over a period of 31 weeks, the results produced showed a saving of 7.86%, we now use X-1R in all of our vehicles"



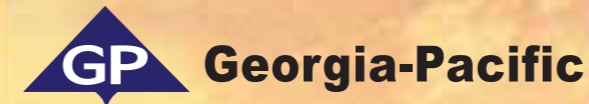
"The graphs clearly shows an increase in the power output from the engine and a decrease of specific fuel consumption, which suggests that the lubricant lubricates the engine better when the additive is added to the oil"



"by using X-1R in the automatic transmissions there has been a significant reduction in failure rates. In addition to this when tested on the research grade dyno after applying X-1R there was a very significant increase in power"



"The most impressive result was in our mobile sand truck. The engine was in dire need of an overhaul and burnt oil in large amounts, we changed the oil and added X-1R in the proper amount. The oil smoke has disappeared from the exhaust and the engine runs cooler. This truck now climbs a high bridge in our area at sixty miles and hour where before forty-five miles per hour was the top speed. The major overhaul has been postponed indefinitely"



"X-1R was originally used in falling gear reducers and pumps to keep them operating until repairs could be made. Because of its success, X-1R is now a standard maintenance program throughout the plant".



" X-1R is used in all hydraulic and lubricating equipment. X-1R has eliminate bearing failure on a Mist-O-Matic lubricating system and reduce hydraulic temperature".



"By using the X-1R All Temperature Grease during their corrugated roll change, bearing temperatures have dropped between 17 and 20 degrees F".



"In this age of "snake oils", I am happy to have on my shelves a product that actually delivers what it promises. X-1R has made me a believer. I recommend this product to all operators of vehicles and owners of reputable shops because X-1R works!"



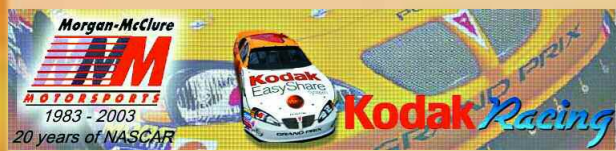
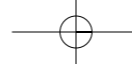
"X-1R Friction Eliminator showed a temperature reduction of 5-7 degrees C at the journal bearings as well as a reduction of 3 degrees C at the reducer's thrust bearings. Also, there is a distinguishable noise reduction in all units. We have also had an improvement of efficiency in the main engine, a reduction of exhaust gases, a reduction in temperature of 10 degrees C, a reduction in fuel consumption and to the amelioration of the entire propeller shaft system".



"X-1R is an everyday, ongoing maintenance program in over 475 pieces of equipment. Prior to using X-1R, oil samples were showing contamination at 25,000 miles. After using X-1R, test showed 50,000 miles with no contamination".



"X-1R increased fuel economy by 1.3 miles per gallon on police cruisers and is a major part of the preventative maintenance program".



"We've used this product since 1991, we've won three Daytona 500s"  
Larry McClure  
Morgan McClure Racing (NASCAR#4 Kodak car)



" X-1R Friction Eliminator, when added to the engine and drivetrain components, consistently increased peak horsepower by as much as 3hp and raised maximum road speed as much as 4mph. X-1R is the only additive endorsed by the American Motorcycle Institted".



"... together with improved fuel economy in every cases. We are now using X-1R in our entire fleet, plus in the factory fork lifts".



"Since joining forces with X-1R Friction Eliminator, we have not had any engine failure in the Daytona 500 since 1991 and seen virtually no wear when we go to rebuild the transmissions. We use X-1R in all our racing equipment. I also use it in all my farm equipment".



"X-1R reduce temperatures in the test locomotive, but the best result was the clean exhaust stacks. X-1R is now used in all company equipment, and the entire locomotive fleet".



"I began using X-1R Friction Eliminator on classic cars such as the Ferrari 208, 308 and F40, as well as Jaguars and Fiats. the results were very positive. In the transmission, we found easier shifting and less noise, especially in the classic cars. in the engines, X-1R increased horsepower and made cold startups quicker and smoother".

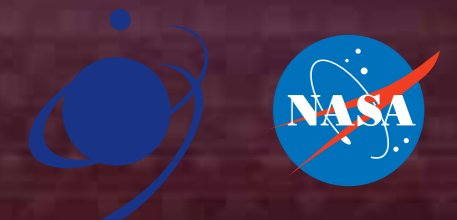


We are recommending the use of X1R Engine Treatment and X1R Fuel Treatment on all our vehicles engines. After tests we found that X1R reduces the harmful emissions on our engines. The results were satisfactory when tested on our engines. The result of our testing improved from the initial reading of 1.40 on the opacimeter average result down to 0.79 after application of the engine treatment and further 0.25 after application of the fuel treatment.

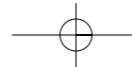


"By using X-1R directly in an Ingersol Rand Pack Air 300 Compressor, we received an amazing 10 degree F temperature reduction"

# A solution for every situation



Inducted into the NASA Space Technology Hall Of Fame





We have been making news since our customers started to put our products into their machinery and vehicles. We are best known for our multiple wins in such famous races as the NASCAR Daytona 500 and Indianapolis 500. X1R products are recommended by professional race engine builders in the USA, Europe, Asia and Australia because our products provide a level of protection that help their engines run longer and faster.

This is why X-1R is used around the world to help winning race car driver, carry-on winning. Much of our success and the news that we create is not as glamorous as our racing wins. This does not make it less newsworthy though and we take pride in having delivered lubrications solutions to our customers in very varied settings from Power Generating, Trucking, Shipping, Manufacturing, Military, Farming, Mining, Construction and of course everyday consumers.

## X-1R Making News

