

Inside The Oils

UNDERSTANDING MODERN LUBRICANTS

Current production snowmobiles represent advancement in performance and technology resulting from years of continual improvement in manufacturing processes as well as innovative engineering design. The lubricants that protect these high-tech machines have also undergone continual change over the years. These advancements in chemistry have provided better protection and reduced emissions, but not all changes have produced positive long-term benefits.

Today, many snowmobile engines are designed with power valves to enhance low and mid-range performance. This requires an oil to be exceptionally clean burning to prevent the "gumming-up" and eventual sticking of the power valves. This is one reason the OEM's recommend expensive synthetic oils to help reduce valve sticking and contamination. The majority of synthetics tend to burn cleaner because they are a man-made chemically designed molecule, not a fossil derived petroleum by-product.



The 'Cleaner' a 2-cycle oil can burn, the less octane it requires from the fuel to combust, thereby leaving more octane available for performance

After several years of intensive research, it's been documented the use of synthetic 2T oils will in fact cause the cylinder walls to "glaze over" and cause "blow-by" at the piston rings, eventually resulting in power loss. This will be evident when you remove a cylinder and find discoloration below the ring bands, most notably on the piston sides. Research has determined this begins around 1500-1800 miles and worsens with continued use of synthetics.

Having learned all this, we wanted to know more. So we asked Mark Zaic to answer some of the many questions we had about this technology and his company.

WHO IS LEGEND PERFORMANCE & TECHNOLOGIES, INC?

Legend Performance & Technologies, Inc (LPI) is a high-performance oriented machine shop that specializes in



Polaris Snowmobiles. We produce state of the art, high quality engine, clutching and chassis components for trail or race applications. LPI is best known for being the first company to produce 'bolt-on' packages like our popular Trail Domi-

nator kits and we were the first to pioneer and perfect the 'Stroker Crankshaft' for snowmobiles back in '88. Our engineering group searches the world for the latest technology from the aerospace and racing segments. We then develop our product lines utilizing the most advanced technologies available. We have earned a reputation for providing the best products that promote performance and reliability utilizing these advanced technologies. When you see our name associated with a product, you can be assured you will be getting your money's worth.

LEGEND IS AN ENGINE-BUILDING COMPANY. SO HOW DID YOU BECOME KNOWLEDGEABLE IN OILS?

After many years of trying all blends and types of oils, we never found the ideal formula that gave us the protection, cleanliness, wear-resistance and ring seal integrity that we demanded in a lubricant. We experimented with castor-based oils, ester and di-ester synthetic blends as well as some exotic aerospace lubricants. There always seemed to be a trade-off, then it became an obsession to create an oil that complemented our close tolerance machine work and protect our high-output engines. They say "need" is the mother of all creation and we say "how true!"

HOW IS LEGEND AFFILIATED WITH THE FORMER PRODUMAX PRODUCTS?

Back in the early 90's, we had engines flown in from Canada for modifications with 5 to 10 thousand miles of reported usage. These engines exhibited very little if any wear and were extremely clean upon teardown. After talking to the customers on what oil they were using, the name Produmax kept coming up. We contacted the company for oil samples and began our two-year testing process. What transpired next was a discovery of an oil called ZX-2 that outperformed all mineral based oils and most synthetics we tested previously. We began a business relationship with Produmax (High Tech Specialty Lubricants) and became a US dealer. The Produmax ZX-2 brand eventually became the number one oil in Canada until the company was sold to another party and went out of business. Our engineering staff began working with the leading chemist and additive companies throughout the world and eventually traced the formula back to the original design chemist/tribologist. We obtained all rights to the ZX-2 formula and have since improved the chemistry with the latest additive technology available. Now anyone familiar with the Produmax ZX-2 product can purchase the 'updated-improved' versions of the original formula in Canada, the USA and soon worldwide. The old Produmax name has been retired. All ZX-2 and ZX-2R oils will be sold under the LEGEND name and will soon become available in dealerships.