AMSOIL SERVICE LINE
NEWS AND IDEAS FROM AMSOIL

NOTES

Average Vehicle Age Increases

According to research firm R.L. Polk and Co., the average vehicle age has increased steadily in recent years, increasing 15 percent over the last 10 years and 21 percent over the last 15 years. Polk research reveals motorists are keeping their vehicles 56 percent longer than they were in 2001.

Polk also reported on recent shifts in recommended motor oil viscosities. The number of vehicles calling for a 5W-20 motor oil is up more than 7 percent since 2008, while the number of vehicles recommending 10W-30 is down 6 percent and the number of vehicles recommending 5W-30 is down 1.6 percent.

Pricing. Pricing files are available in either EXCEL or PDF formats.

Vehicle Inspections Reveal Motorists Falling Behind on Fluid Maintenance

Vehicle inspections conducted for the Aftermarket Automotive Industry Association's National Car Care Month revealed a significant number of motorists falling behind on fluid maintenance, including motor oils, coolants, transmission fluids and brake fluids. Almost three out of 10 vehicles (27 percent) had low, overfull or dirty motor oil, 26 percent had low, leaky or dirty coolant and 21 percent had low, overfull or burnt transmission fluid. Inspections also revealed 17 percent had problems with their washer fluid and power steering fluid and about 13 percent had problems with their brake fluid.

AMSOIL Products Prepare Equipment for Tough Winter Weather

AMSOIL products are formulated to provide maximum protection for engines and fuel systems during storage, while AMSOIL synthetic motor oils' low pour points provide superior cold-temperature protection and performance in two- and four-stroke winter equipment.

Fall Storage Protection

Gasoline can break down in as little as 60 days, causing varnish and gums that clog injectors, fuel lines and carburetors, leading to poor engine performance and starting problems. In many applications, draining the fuel system can be impractical, and doing so can expose the system to corrosion on the bare metal in the tank and fuel system and cause gasket and seal cracking.

AMSOIL Gasoline Stabilizer reduces the oxidation that occurs when fuel is stored for extended periods, improving performance, extending equipment life and decreasing maintenance expenses.

During storage, fluctuations in ambient temperatures can form condensation within the engine that can cause surface corrosion on cylinder liners, piston rings, anti-friction bearings and steel/iron contact surfaces on rotational seals. Long periods of storage can also dry out cylinders, often resulting in permanent damage when the equipment is dry-started in the spring.

AMSOIL Engine Fogging Oil offers superior film retention, providing long-term protection against corrosion and dry starts, extending engine life and reducing operating expenses. Its aerosol spray formulation offers easy and clean application, while reaching more components and offering complete distribution of the oil, something especially beneficial in applications with horizontal cylinder orientation, such as outboard motors.

Winter Four-Stroke Performance

Conventional oils thicken in the cold, which can result in inadequate lubrication to critical engine parts at cold start-up, or even prevent the engine from starting.

AMSOIL Formula 4-Stroke Power Sports Synthetic Motor Oil provides serious protection and performance in four-stroke engines, including ATVs and snowmobiles. Its broad 0W-40 viscosity rating effectively protects in both hot and cold temperature extremes.

AMSOIL Formula 4-Stroke Synthetic Small Engine Oil provides exceptional protection in the severe-service conditions common in both gasoline- and diesel-fueled small engines, including welders, skidsteers, compressors, snowblowers and more. It remains fluid at sub-zero temperatures for superior cold-weather protection.

Winter Two-Stroke Performance

AMSOIL DOMINATOR and INTERCEPTOR Synthetic 2-Cycle Oils provide exceptional performance in snowmobiles and other two-stroke equipment. AMSOIL DOMINATOR is formulated with heavier base oils for "on the edge" operation, while also protecting pistons and bearings subjected to the rigors of extreme riding.

AMSOIL INTERCEPTOR is engineered specifically for powersports applications and engines equipped with exhaust power valves. It contains the finest synthetic base oils and additives for exceptional cleanliness, while controlling exhaust valve sticking and providing outstanding overall lubrication.

Gasoline Additive

AMSOIL Quickshot SE is formulated to thoroughly clean varnish, gums and insoluble debris in two- and four-stroke gasoline-powered small engines and powersports equipment fuel systems, restoring peak performance. It effectively addresses performance issues related to ethanol, water and dirty pump gas, while stabilizing fuel between uses and during short-term storage periods.

AMSOIL Reformulates its Line of XL Synthetic Motor Oils

AMSOIL Extended Life (XL) Synthetic Motor Oils have been reformulated to boast an extra measure of select additives that neutralize contaminants longer. Now featuring bolder packaging, XL Synthetic Motor Oils continue to provide significant benefits compared to conventional oils, including superior wear control, improved high- and low-temperature protection and increased fuel economy.

Meets or Exceeds New Motor Oil Specifications

Reformulated AMSOIL XL Synthetic Motor Oils meet or exceed the new ILSAC GF-5 and API SN service requirements for motor oils used in gasoline-powered vehicles, and AMSOIL XL 5W-30 also carries the dexos1™ application recommendation (GM only grants dexos1 licenses to SAE 5W-30 products). They are API SN certified and bear the API donut on the label. API SN is the designation of the American Petroleum Institute and shares a number of criteria with ILSAC GF-5. The International Lubricant Standardization and Approval Committee (ILSAC) created ILSAC GF-5 primarily to address three important areas within the automotive industry: fuel economy, emissions system life and oil robustness.

Improved Fuel Economy

To achieve government-mandated fuel economy standards, OEMs are examining every engine component for potential efficiency gains, including motor oil. To meet the GF-5 specification, motor oils must demonstrate an improvement in fuel economy compared to a reference oil and retain at least part of that improvement after 100 hours of testing.

AMSOIL XL Synthetic Motor Oils are fuel-efficient formulations that reduce friction-related energy loss and meet the GF-5 specification. They provide better fuel economy compared to conventional, non-fuel-efficient motor oils.

Emissions System Improvements

Phosphorus is often used as an anti-wear agent in motor oils. Over time, however, it can volatize and enter after-treatment devices such as catalytic converters and oxygen sensors, shortening their lifespan, increasing tailpipe emissions and causing increased engine oil oxidation and thickening.

AMSOIL XL Synthetic Motor Oils have excellent phosphorous retention and help improve catalytic converter service life for low exhaust emissions, in accordance with GF-5 requirements.

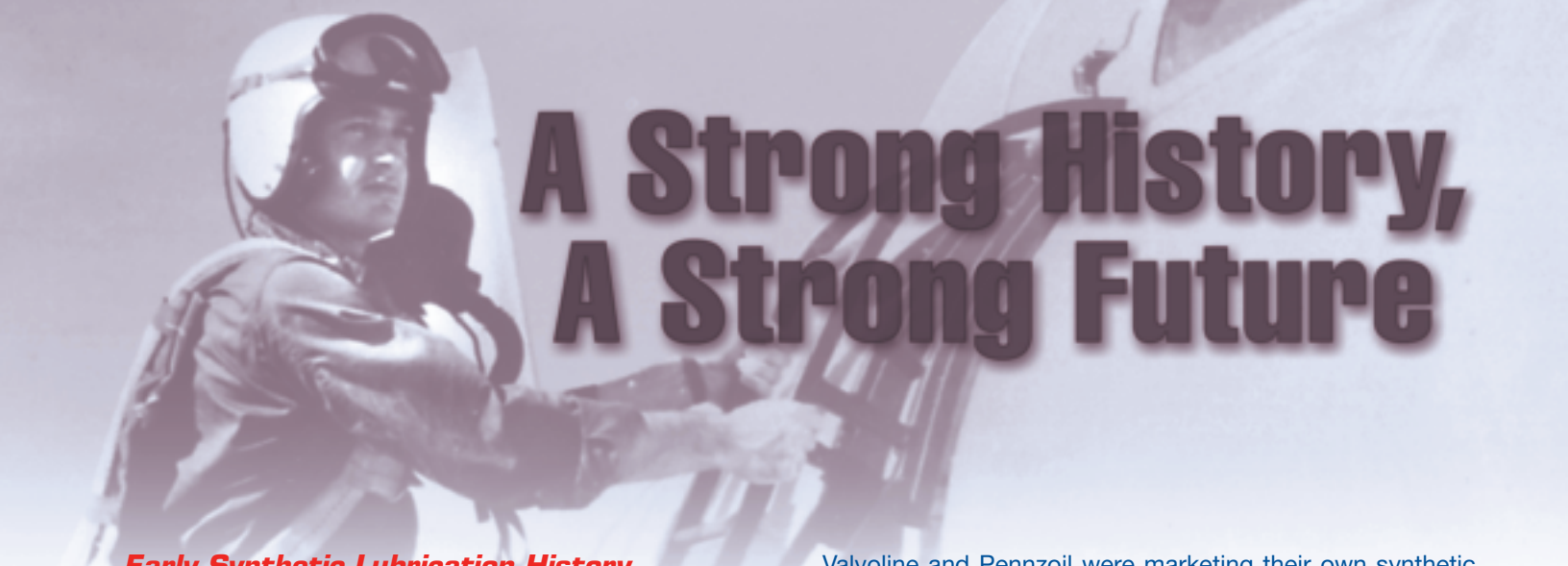
Engine Oil Robustness

For GF-5, engine oil robustness is defined as an oil's performance in the areas of piston cleanliness, sludge resistance and turbo protection. Oils meeting GF-5 must exhibit improvements in each area relative to the previous GF-4 specification.

Fortified with extra detergent and dispersant additives, AMSOIL XL Synthetic Motor Oils are engineered to resist sludge better than conventional oils, promoting clean operation for longer-lasting, better-running engines.

As temperatures inside the combustion chambers of modern engines continue rising, piston cleanliness and turbo protection become more important. Deposits on the piston crown can cause pre-ignition, reducing performance, while sticking rings can cause blow-by, reduced compression and poor performance. Turbochargers can reach 100,000 rpm and temperatures of 1,200°F, creating an environment that can destroy lesser oils, leading to thermal coking and bearing failure.

AMSOIL XL Synthetic Motor Oils resist the effects of thermal breakdown, including evaporation, viscosity loss and deposit formation for increased piston cleanliness and turbo protection.



A Strong History, A Strong Future

Early Synthetic Lubrication History

Experimentation with synthetic lubrication dates back as far as 1877, when the prominent chemist team of Charles Friedel and James Mason Crafts successfully used aluminum trichloride as a catalyst, creating the first known synthesized hydrocarbons. It wasn't until 1929 that Standard Oil Company of Indiana commercialized the process, but the endeavor was unsuccessful due to lack of demand.

The Zurich Aviation Congress became interested in the development of ester-based lubricants in 1937. The Germans, frustrated by the failure of petroleum lubricants during the cold weather of the Battle of Stalingrad, prepared and evaluated more than 3,500 esters between 1938 and 1944. Meanwhile, in the United States, the first diester base stocks (a compound using two ester groupings) were in development at the Naval Research Laboratory.

By 1947, Great Britain had discovered the benefits of using diesters as lubricants in turboprop aircraft. Later, with the advent of highly sophisticated jet engines, research and development in the area of synthetic lubricants really took off, and various synthetic formulations were developed to meet the demands of the new engines.

Synthetic Oil for Internal Combustion Engines

The clear benefits of synthetic-based lubricants in jet engines impressed lieutenant colonel and jet fighter squadron commander Al Amatuzio, and in the early 1960s, he became interested in developing a synthetic motor oil for use in internal combustion engines. Given the significant differences between a jet engine and an internal combustion engine, it was a massive task, but Amatuzio was up to the challenge. By 1972, after many years of intense research and development, AMSOIL Synthetic Motor Oil was born, and it became the first 100 percent synthetic-based motor oil to pass American Petroleum Institute (API) service requirements.

When it first hit the market, AMSOIL was far ahead of its time, and Amatuzio found it difficult to market such a revolutionary product. But with the complexity of engines increasing, forcing smaller engine designs and ever-increasing engine operating temperatures, engines demanded a superior lubricant, and people began to discover it in AMSOIL. Competitors were forced to take notice, and soon industry giants Mobil, Quaker State, Castrol, Valvoline and Pennzoil were marketing their own synthetic variations.

Strong Future for Synthetics

Today, synthetic lubricants have become mainstream. Modern vehicles and equipment demand the protection and performance that only a synthetic can deliver. Synthetic lubricant sales are especially strong in Europe, where they account for approximately one third of lubricant sales and are used as factory-fill lubricants in one third of new vehicles sold there. Interest in the U.S. has also spiked in recent years.

The vehicles of the future will continue to have smaller engines, stricter emissions requirements, higher performance characteristics and better fuel economy. According to R. David Whitby of Pathmaster Marketing, synthetic lubricants will show continued growth in the years ahead as the market continues to demand higher-performing lubricants. "I'm not just talking about trucks and cars on the road, but also gearboxes, industrial hydraulics and other equipment," says Whitby.

A new study from the Freedonia Group also forecasts strong growth for synthetic lubricants in the coming years, with demand for synthetic engine oils rising 7.3 percent per year to 2013.

"Engine oils and hydraulic and transmission fluids will experience the fastest gains as synthetics finally begin to penetrate the conservative medium and heavy duty truck market, and as increasing new vehicle lubricant performance requirements and growing consumer acceptance further expand synthetics' share of the light vehicle market," stated the research firm.

AMSOIL offers a full line of top-performing synthetic lubricants and is poised to capture ever-increasing market share as customers demand higher-quality lubrication protection for their vehicle and equipment investments.