From the President's Desk

It is hard to believe it has been nearly 40 years since we sent our original 10W-40 Motor Oil off to Southwest Research Institute in San Antonio, Texas to be tested against American Petroleum Institute (API) service requirements. It was July 1972 and they tested our oil in 1970 and 1971 Oldsmobile engines. The confirmation letter we received from Southwest indicated that our "test results numerically met or exceeded API Service Classification SE engine test targets." My research on synthetic oil had begun much earlier, but that testing we did in 1972 established us firmly as "The First in Synthetics."

Southwest Research is one of the largest and most advanced testing facilities in the world. With more than 3,000 employees, it sits on a 1,200-acre site and boasts more than two million square feet of office and laboratory space. Their research extends across a full range of disciplines, including, among many, chemical engineering, marine technology, geochemistry, bioengineering, fire technology, engineering mechanics and, of course, fuels and lubricants. We use Southwest on a regular basis to generate test results for us.

Selling synthetic motor oil was much more difficult in 1972 than it is today. AMSOIL was alone in the effort. Then, with the introduction of Mobil 1 in 1974, the job became slightly easier. Mobil invested millions in advertising, and the motoring public became exposed to an expanded base of education.

Today, the variables driving the demand for synthetics have never been greater. Advances in engine and component technology, along with the push for improved fuel efficiency, are leading that drive. Each year, automakers are requiring synthetic lubes in more of the vehicles that are rolling off their assembly lines.

We faced another obstacle in 1972. Our original 10W-40 Motor Oil was so good it carried a 25,000-mile extended oil drain interval recommendation. It was revolutionary and flew in the face of the hard-line 3,000-mile oil change standard. But this too is changing. Automakers, lubricant manufacturers and environmental groups are all calling for longer drain intervals. It is most apparent in California, where an aggressive campaign is imploring motorists to resist unnecessary 3,000-mile oil changes. With data indicating that nearly half of California drivers are still changing their oil at 3,000 miles, California is desperate to dispel the myth. According to the numbers, changing motor oil at the auto manufacturers' current recommendations would reduce motor oil consumption in California by 10 million gallons a year. The only barrier to total acceptance of longer drain intervals comes from the installer market. And they are fighting a losing battle.

Through it all, AMSOIL has held true to its values and has remained the leader in synthetic lubrication and extended drain technology. Our reputation is established and our commitment to quality has never been compromised.

Which brings me to a final point. The recognition AMSOIL products have received has been earned through their performance. Our recent partnership with the racing division of Briggs & Stratton serves as an example. Briggs & Stratton, for those who don't know, is the world's largest manufacturer of small engines. Their partnership with Valvoline ended and AMSOIL was asked to develop technology to satisfy the extreme demands of their kart racing engines. They needed high-viscosity wear protection, along with low-viscosity power and efficiency. We delivered.

The partnership with Briggs & Stratton is 100 percent positive in all respects. Our connection to this world-leading engine builder further expands the awareness of our brand. It locks in our quality message and opens new doors for AMSOIL Dealers in the extremely diverse small-engine market. This partnership sets us apart even further from other synthetic oils, which is especially critical as the competition among synthetics increases.

We can ask ourselves, would we rather see a different logo on the Briggs & Stratton/AMSOIL 4T Synthetic Racing Oil label? How about Lucas? Maybe Mobil, Red Line or Pennzoil?

Of course not.

A.J. "Al" Amatuzio
President and CEO, AMSOIL INC.

Winter fuel problems can leave you stranded.

Fortunately, prevention is generally simple and cost-effective.

Dan Peterson | VICE PRESIDENT, TECHNICAL DEVELOPMENT

Some of my favorite memories from my childhood surround our old Herter's Husky snowmobile. Dad used to tie a sled to the rear bumper and drag us all over the yard. Once I was old enough, he let me take the sled out on my own. It was pretty cold-blooded and could be tough to start, but once I got it going I never wanted to climb off. Of course, before I could take the Husky out on my own I had to prove that I was responsible enough to handle it, and part of that included some of the basic maintenance necessary to keep the sled running right. Dad taught me to put a bottle of "Heet" (isopropyl alcohol) in the gas tank when it got really cold. Like any good father, he did not want me to get into trouble out on my own; like any good son, I did what he said so I could take the sled when I wanted it. We didn't talk much about why; it was just what you did. When my interests moved from the old Husky to chemical engineering, I started asking "why."

What is it about the cold that causes our toys and vehicles that run fine the rest of the year to break down? The problem is usually related to an old battery, a failed starter, bad spark plugs, dirty injectors or, yes, fuel. So dad was onto something when he told me to treat the Husky's fuel. The cold clearly negatively affects fuel in winter, and gasoline and diesel have different reactions to the cold.

Diesel fuel is mostly derived from crude oil which, as all good AMSOIL Dealers know, contains many different materials, including wax. During warm periods, diesel fuel remains homogenous and the wax is relatively evenly dispersed throughout the fuel. When temperatures drop toward the fuel's cloud point, the wax begins to crystallize, agglomerate and drop to the bottom of the tank where it collects in fuel filters and fuel injectors. This causes significant and recognizable issues. Blocked fuel filters and injectors will not deliver fuel at the rate required to either start or operate the vehicle. Many diesel vehicles coming up from the South end up stalled on the side of the road if the fuel is not treated prior to hitting cold temperatures. This is the most common issue related to diesel fuel.

Gasoline is very different from diesel fuel; it is much lighter and more volatile. Most gas in the U.S. is now mixed with up to 10 percent ethyl alcohol (ethanol). Forecasts predict government legislation/special-interest groups will continue pushing for increases in ethanol content in commercially available gasoline over the next decade. Gasoline with under 10 percent ethanol content does not create major issues in vehicles as long as they are designed to sense and adjust for lower-Btu fuel (ethanol); however, ethanol, and especially water, can pose problems for vehicles in winter.

The problems with pump gas start when the fuel comes in contact with water. When temperatures drop, condensate forms from the warm air in the fuel tank, which holds more moisture. As the air space in the fuel tank cools, the water vapor condenses on the walls and ends up in the fuel. This happens continually and is much more prevalent in winter. The larger the air space in the tank, the more tendency to build up water quickly.

Ethanol is much lighter than petroleum gas and will separate readily if its weak bond to gas is broken. Ethanol also mixes readily with water, so whenever water enters the system, ethanol molecules will drop their bonds to gasoline molecules and grab onto the water molecules. This mixture of ethanol and water is much heavier than gasoline and falls to the bottom of the tank. It only takes a small amount of water in your fuel tank from condensation to cause gasoline and ethanol to separate, and it will separate immediately when a critical level of water is reached. The fuel at the bottom of the tank is mostly ethanol, which is less efficient, and the remaining gasoline at the top of the tank is very low octane, which hurts engine performance.

This is particularly troublesome in two-stroke powersports equipment that already runs hot and is more susceptible to deposit formation. When the ethanol and water mixture is ingested into the engine, it creates a lean burn situation that increases combustion chamber temperatures even more. Old-fashioned remedies to these issues, like isopropyl alcohol, worked OK, but are not ideal. Isopropyl alcohol mixes with the water at the bottom of the tank and keeps things from freezing up, but it doesn't prevent ethanol and gasoline from separating. Quickshot® works so well in powersports equipment because it is not an emulsifier; it keeps ethanol from separating from gasoline in the first place and helps prevent water from accumulating in the bottom of the fuel tank. This keeps water from condensation continually moving out of the fuel tank as a normal part of operation.

Now I understand what dad was trying to protect me from back in the 70s, and now I am a father of two beautiful daughters and one overly confident son, and I worry about the same things that my dad worried about when I was a kid. While snowmobile and powersports technology has evolved dramatically since then, many of the same fuel issues persist. Thankfully, the tools to treat those issues have evolved as well, and I can be confident that Quickshot will eliminate those mechanical issues when I send my kids out on the trails. ■