



SERVICE LINE

NEWS AND IDEAS FROM AMSOIL

Extended Oil Drain Intervals Becoming More Prevalent

NOTES

Top-10 Smartest Auto Buys

A recent article by *US News & World Report* revealed 10 cars that are appealing buys in a good economy, and some smarter purchases for times of economic uncertainty. *US News* has an extensive database of automotive information and took into account several factors such as above-average affordability, reliability and fuel economy. The results provided smart automotive purchases in 2008.

Mid-Size SUV	Ford Escape
Large Sedan	Chrysler 300
Mid-Size SUV	Hyundai Santa Fe
Sports Car	Mazda MX-5-Miata
Upscale Sedan	Audi A4
Hatchback	Kia Rio5
Mid-Size Sedan	Nissan Altima
Sedan/Hatchback	Toyota Yaris
Minivan	Honda Odyssey
Upscale Hatchback	Volkswagen GTI

New AMSOIL Price List

A new AMSOIL price list has been included with this issue of *Service Line*. AMSOIL makes every effort to maintain the lowest prices possible and has delayed raising prices for as long as possible. Due to the increased costs of base stocks, additives and packaging, however, AMSOIL is now forced to implement a minimal price adjustment effective March 1. Even with a minimal price adjustment, AMSOIL synthetic lubricants remain the best and most cost-effective choice on the market, saving customers money through extended drain intervals, reduced wear and maintenance and increased fuel efficiency.

Automakers' recommended oil drain intervals have been steadily increasing, with a 7,500-mile interval gradually becoming the industry standard. According to a recent article in *Automotive News*, vehicle manufacturers credit the extended drain capabilities to improved vehicle quality and longer-lasting synthetic motor oil.

The trend toward extended recommended engine oil drain intervals further validates the position of AMSOIL. AMSOIL has been formulating extended-drain motor oils for over 35 years, longer than any other company. All that experience has allowed AMSOIL to formulate the most technically-advanced line of synthetic motor oils available.

AMSOIL XL Synthetic Motor Oils provide superior protection for 7,500 miles or six

months, or longer where indicated by electronic oil life monitoring systems, making them perfect for contemporary drain intervals. They are fuel-efficient oils formulated with friction modifiers to reduce energy loss from friction. AMSOIL XL Synthetic Motor

Oils maintain low emissions and provide all-temperature performance. They are heavily fortified with detergent/dispersant additives and are significantly more resistant to sludge and carbon deposits than conventional oils. AMSOIL XL Synthetic Motor Oils promote clean operation for longer-lasting, bet-

ter-running engines.

For motorists who are looking for the best protection possible for even longer drain intervals, AMSOIL offers several motor oils with recommended drain intervals of 25,000 miles or one year.



Oil Drain Interval Recommendations by Brand

While the 3,000-mile drain interval has long been the standard, the evolution of motor oils and vehicle systems makes that recommendation obsolete. General Motors installs an oil life monitoring system in most of its vehicles that typically prescribes oil changes at about 8,500 miles, and many other companies are following suit. The European automotive and lubricant industries have been recommending extended oil drain intervals for many years, with the minimum being about 10,000 miles, and much longer intervals becoming the norm for European vehicles.

Acura: Employs an electronic oil life monitor

Aston Martin: 10,000 miles/1 year

Audi: 5,000 miles in first year, 10,000 miles thereafter

BMW: Employs an electronic oil life monitor

Buick: Employs an electronic oil life monitor

Cadillac: Employs an electronic oil life monitor

Chevrolet: Employs an electronic oil life monitor

Ford: 7,500 miles; 5,000 miles in special conditions

GMC: Employs an electronic oil life monitor

Honda: Employs an electronic oil life monitor

Hummer: Employs an electronic oil life monitor

Hyundai: 7,500 miles

Infiniti: 7,500

Isuzu: Employs an electronic oil life monitor

Jaguar: 10,000 miles

Kia: 5,000 to 7,500 miles, depending on model

Land Rover: 7,500 miles

Lincoln: 7,500 miles; 5,000 miles in special conditions

Mazda: 7,500 miles

Mercedes: 13,000 miles or every year

Mercury: 7,500 miles; 5,000 miles in special conditions

Mini: Employs an electronic oil life monitor

Mitsubishi: 7,500 miles

Nissan: 7,500 miles

Pontiac: Employs an electronic oil life monitor

Porsche: 12,000 miles or every year

Saab: Employs an electronic oil life monitor

Saturn: Employs an electronic oil life monitor

Subaru: 7,500 miles

Suzuki: 7,500 miles

Volvo: 7,500 miles

Benefits Beyond Extended Drain Intervals



Extended drain intervals are a major selling point for AMSOIL synthetic motor oils. Key to the ability of AMSOIL synthetic motor oils to provide extended drain intervals are top-quality base stocks and premium additive packages that ensure they maintain their protective viscosities, neutralize acids and prevent the formation of harmful sludge and varnish deposits.

Still, however, even with vehicle manufacturers and a number of lubricant manufacturers extending drain interval recommendations, some customers are stuck on 3,000-mile drains and have not yet embraced the concept of extended drain intervals. In addition to the benefits of extended drain intervals, the superior formulations of AMSOIL synthetic motor oils provide many other benefits:

Extended Equipment Life

AMSOIL synthetic motor oils are formulated with top-of-the-line synthetic base stocks that provide excellent viscosity film strength for superior wear protection, while robust additive packages further reduce wear in metal-to-metal contact regions, extending equipment life and reducing major repairs. In addition, while wear protection is often compromised in conventional oils operating in hot and cold temperature extremes, AMSOIL synthetic motor oils maintain their protective viscosities in extreme temperatures, providing unsurpassed protection and performance.

Fuel Economy

Synthetic motor oils have been shown to yield significant increases in fuel economy over conventional motor oils. Petroleum-based lubricants are composed of irregular molecules of various sizes that create excess friction, in addition to the friction generated between moving parts. The vehicle's engine must burn extra fuel to overcome this friction, decreasing fuel economy. Conventional lubricants are also very susceptible to volatility, increasing viscosity and forcing the engine to consume more energy pumping oil at the expense of fuel economy. Because AMSOIL synthetic lubricants contain only smooth, uniform molecules, they effectively reduce friction, resist volatilization and improve fuel economy.

Cold Temperature Protection

Conventional lubricants often contain paraffins (wax) that cause the lubricants to thicken and lose ability to flow in cold temperatures. Cold-thickened lubricants sometimes hinder the rotation of the vehicle's crankshaft so much that it cannot rotate fast enough to start the engine. In addition, cold-thickened lubricants may leave working parts unprotected for as long as five minutes, causing significant

wear. AMSOIL synthetic motor oils contain no paraffins and flow readily in extremely cold conditions, reducing drag on moving engine parts, allowing engines to start in the coldest winter temperatures and providing immediate post-startup lubrication.

High-Temperature Protection

High-temperature operation causes many conventional oils to volatilize and lose mass, seriously compromising their protective qualities. AMSOIL synthetic motor oils provide superior protection and performance in high temperatures, resisting volatilization, keeping oil consumption and emissions extremely low and ensuring engines are thoroughly lubricated and protected. High temperatures also contribute to oil oxidation that leaves behind damaging acids and deposits. AMSOIL synthetic motor oils are formulated with premium additive packages that resist oxidation and keep engines running clean and deposit-free.

Corrosion Protection

Corrosion inhibition is an especially important feature for engines subject to frequent short-trip operations and for stored engines. AMSOIL synthetic motor oils contain anti-corrosion agents, preventing the formation of corrosion on critical engine components and extending equipment life.

AMSOIL synthetic motor oils offer many significant benefits, including extended equipment life and fewer repairs, improved fuel economy, superior protection in hot and cold temperature extremes and protection against corrosion.



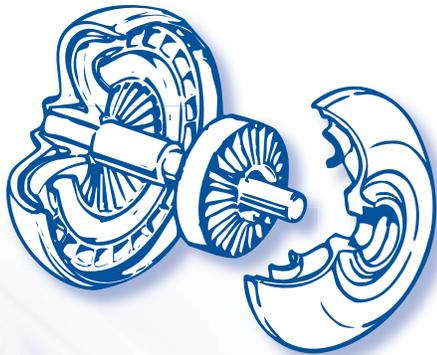
Shifting Gears

The automatic transmission performs only as well as the automatic transmission fluid (ATF) put into it. Components of the automatic transmission such as the torque converter, clutch packs, brake bands, gears and hydraulic system all place special demands on ATF.

AMSOIL Synthetic ATF is formulated to exceed the extreme demands of the modern automatic transmission.

Torque Converter

The torque converter is a fluid coupler between the engine and the gears of the drivetrain. The torque converter consists of two halves, one attached to the engine (impeller) and one attached to the transmission (turbine).



As the engine spins the impeller, ATF is forced across a small gap onto blades of the turbine, causing it to spin as well. The rotating turbine eventually provides power to the drive wheels.

Fluid Requirements: Thermal and Oxidation Stability. Anti-Corrosion Properties. Seal Compatibility. Minimal Viscosity/Temperature Change Characteristics. Anti-Foam Ability.

Clutch Packs and Brake Bands

These are mechanical devices which release or hold rotating members. When applied with transmission fluid pressure, clutches and brake bands will either hold or turn the gear sets to provide different gear ratios.

Fluid Requirements: Correct Frictional Properties. Thermal and Oxidation Stability. Minimal Viscosity/Temperature Change Characteristics. Anti-Wear Properties.

Brake Band

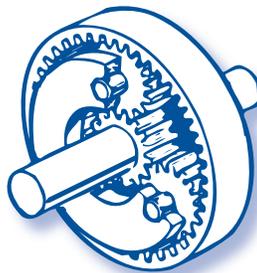


Clutch Packs



Gears

Gears are the muscle of any transmission, whether manual or automatic. Gears transfer torque and power and can provide the vehicle with changes in speed and direction.



Planetary gear sets are used as the basic means of transferring or multiplying torque from the engine in an automatic transmission.

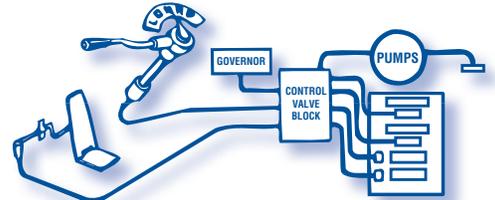
Planetary gears offer many advantages over manual slide-type gears. Force is distributed over many teeth for more strength. They are always in mesh and do not have to be shifted to change gears. Therefore, they do not clash like gears going in and out of mesh.

Fluid Requirements: Extreme Pressure Properties. Anti-Wear Properties. Anti-Corrosion Properties.

Transmission Hydraulic System

The transmission oil pump, driven by the torque converter, generates fluid pressure inside an automatic transmission.

Pressurized fluid is the force used to move the valves that determine shift points. The control valve assembly senses inputs from many sources and regulates the valves to provide smooth shifts at the



correct time, based on vehicle speed and engine load.

Fluid Requirements: Minimal Viscosity/Temperature Change Characteristics. Anti-Corrosion Properties. Seal Compatibility. Anti-Foam Capability. Anti-Wear Properties.

AMSOIL Protection

AMSOIL Synthetic ATF provides unmatched thermal and oxidation stability, and it maintains its viscosity over a much wider temperature range than conventional ATF, maximizing transmission performance.

Tests prove AMSOIL Synthetic ATF greatly exceeds all original equipment manufacturer requirements, making it the only choice for maximum transmission protection in modern vehicles.



AMSOIL 5W-30 Synthetic Motor Oil Makes a Difference



Peter Virgona of Merrick, NY is a self-proclaimed oil enthusiast.

"I do a great deal of reading and research, always looking for the best oil," Virgona said. "The more I read the more I realized AMSOIL was the best 'true' synthetic I could buy. After using Mobil 1 since 1986, I made the switch to AMSOIL."

Virgona drives a 1999 Ford Crown Victoria with nearly 98,000 miles on

the engine. He switched from Mobil 1 to AMSOIL 5W-30 Synthetic Motor Oil.

"The difference was immediate and significant," Virgona said. "The idle became much smoother. There are times I can't tell if the car is running. It also became much more responsive to the gas pedal, so much more responsive my wife asked me what I did to the car."

He has owned the car for almost nine years. "Not surprisingly, the gas mileage improved significantly," he said. "This car always averaged 15 mpg going back and forth from work. It now averages 16.5 mpg. That's a 10 percent increase. I truly didn't expect such a big change."

He waited to report his findings until after he had driven the car at least 5,000 miles

"to confirm that the numbers are average and not just a fluke."

Virgona also installed AMSOIL 5W-30 in his sister-in-law's 1996 Dodge Caravan with a 3.0 litre V6 engine. She had always used conventional motor oil with regular oil changes every 3,000 miles, Virgona said.

"Nonetheless, she had a significant amount of sludge that was obvious under the oil cap," he said. "She also experienced a very loud lifter noise that would come and go with the engine either hot or cold. Presumably the sludge was affecting the oil circulation to the lifters."

Oil consumption in the van was increasing, using about one quart every 1,500 to 2,000 miles.

"I switched her to AMSOIL and put in a new filter," Virgona said. "Within 1,000 miles the lifter noise was all but gone. By 3,000 miles, virtually all the sludge was gone. I drained and refilled the oil a second time with AMSOIL 5W-30. The oil consumption is now down to one quart every 3,000 miles, with no more lifter noise. And, except for a little yellow varnish, all the sludge is gone."

"I am very happy with AMSOIL and plan to use it from now on. I recommend it to anyone who wants a great synthetic oil."

Virgona just had a case shipped to his father-in-law in Florida because he believes in AMSOIL products, he said, and wants others to experience their benefits. In fact, he's considering becoming a Dealer.

**“The more I read
the more I realized
AMSOIL was the
best 'true' synthetic
I could buy.”**

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Jeff Fisher

866-292-4700

www.SyntheticOils.us