



Service Line

NEWS AND IDEAS FROM AMSOIL

NOTES

AMSOIL Price Adjustment

The cost of the high-quality raw materials necessary in the formulation of AMSOIL synthetic lubricants has continued to rise. Due to these continued increases, AMSOIL is forced to adjust pricing. An updated price list is included in this issue.

The volatility in the crude oil market continues to affect industry across the board. AMSOIL buys only the very best raw materials, and the best raw materials are the most expensive. High crude oil costs also mean high fuel costs, which directly affects shipping costs.

Most of all, supply and demand issues within the chemical industry have been pushing base oil and additive prices upward for months. Regardless, AMSOIL remains committed to quality and will not reformulate its products or compromise performance just to keep prices down.

AMSOIL sells on quality. And still, AMSOIL products remain extremely cost-competitive in comparison to other oils, particularly synthetics. AMSOIL lubricants provide value that other lubricants cannot. AMSOIL customers save money through extended drain intervals, reduced wear and extended equipment life.

Conveying price increases to customers is never a pleasant task, but rest assured that AMSOIL is doing everything in its power to keep prices down.

Due to some of the same circumstances, freight rates are also changing. New freight and shipping information can also be found in the new price list included with this issue of *Service Line*.

See back page for product code update.

AMSOIL Synthetic Lubricants Maximize Fuel Economy Potential

As gas prices continue to increase, consumers intensify their search for improved fuel economy.

While switching from an SUV to a more economical sedan is a surefire way to get more mpg, buying a new vehicle isn't that simple for everyone.

Not only that, but even 30 mpg is a little painful at \$3 per gallon at the pump.

Many motorists make their way to the local parts store to check out the various gas-saving devices and additives, but according to a recent story in the *Detroit News*, not all gas-saving devices are what they claim to be.

The Federal Trade Commission issued a consumer warning showing that most of these devices rarely work. The Environmental Protection Agency (EPA) tested 93 items that claimed to save fuel and found only 10 out of the 93 showed a small improvement in fuel economy, and four of those increased emissions.

A more realistic approach to gaining a few mpg includes performing regular maintenance with a little help from AMSOIL synthetic lubricants, filters and fuel additives. Properly inflated tires, superior filtration and synthetic lubricants are simple and effective ways motorists can ensure they are getting the most from their vehicles.

Unlike conventional oils, AMSOIL motor oils' uniform molecular structure helps them flow more freely and reduce friction between metal surfaces. They are

designed to maximize energy efficiency for improved fuel economy. Anti-friction additives are included to further improve energy efficiency.

AMSOIL also offers PI, the most potent gasoline additive on the market. AMSOIL PI cleans fuel injectors and removes deposits to maintain an even spray of gasoline into the chamber, improving fuel economy. The article in the *Detroit News* quotes Bill Ponkowski, a manager at Glendale Auto Supply, on how his shop handles inquiries on improving fuel economy.

Ponkowski recommends fuel injector cleaners as a way to improve mpg, but warns drivers to be cautious with other products.

"Don't expect a miracle, but some additives can be very good at cleaning a dirty fuel system out," said Ponkowski. "A lot of people do ask how to get better gas mileage. First we ask when they last had a tuneup, and then we'll look at fuel additives to make sure they're getting the best mileage they can."

For maximum fuel economy improvement, use AMSOIL synthetic lubricants in the drivetrain as well. AMSOIL provides synthetic gear lubricants that feature an exclusive blend of high viscosity, shear stable synthetic base oils and an extra treatment of high-performance additives. Their superior synthetic formulation ensures maximum friction reduction and fuel economy throughout the drivetrain.



NOACK Volatility Test

AMSOIL Motor Oil Set the Bar 20 Years Ago

Originally developed and used in Europe, the NOACK volatility test determines how much weight an oil loses through volatilization. The more a motor oil vaporizes, the thicker and heavier it becomes, contributing to poor circulation, reduced fuel economy and increased oil consumption, wear and emissions. During the test, the subject oil is heated to 150° C for a specified period, causing the lighter oil molecules to boil off. The results are reported in the percentage, by weight, of the oil that evaporates.

Because they are made from impure, irregular molecules, conventional motor oils are more susceptible to the effects of heat. The small, light molecules in conventional oil tend to evaporate (volatilize) as the oil is heated, leaving large, heavy molecules behind and leading to oil consumption and an increase in the oil's viscosity. If those large, heavy molecules are chemically unstable, they may also break-down and form deposits on component surfaces, further inhibiting the release of heat into the oil stream.

Another AMSOIL First

More than 20 years ago, AMSOIL began using the NOACK volatility test as a comparison tool and measurement of

quality. Back then, nearly every oil tested side-by-side with AMSOIL synthetic motor oils failed, and those that passed barely squeaked by. Other oil companies paid no attention to NOACK results until Ford made it a requirement for service fill oils, validating what AMSOIL had said all along.

Today More Than Ever

Today's engines are running hotter than ever. More horsepower, turbo chargers and aerodynamic styling have created extremely hot environments that receive less cooling from outside air. High heat leads to oil oxidation, deposits and thickening in conventional oils.

To qualify for the current API rating of SM, motor oils for gasoline engines cannot experience a weight loss of more than 15 percent in the NOACK test. AMSOIL synthetic motor oils were exceeding modern requirements 20 years ago, while many oil manufacturers' current products are still performing just well enough to make the grade.

AMSOIL Still On Top

Because AMSOIL synthetic lubricants contain only strong, uniform molecules, they are much more resistant to thermal and oxidative breakdown. AMSOIL synthetics are virtually impervious to breakdown at normal operating temperatures and can be used in higher temperatures than conventional oils without breaking down. AMSOIL synthetic motor oils keep components free of varnish, deposits and sludge.

As the test results show, this was as true more than 20 years ago as it is today. The performance of AMSOIL synthetic motor oils in the NOACK volatility test has improved slightly over the years, but the superior quality and thermal stability of AMSOIL was as evident then as it is now.

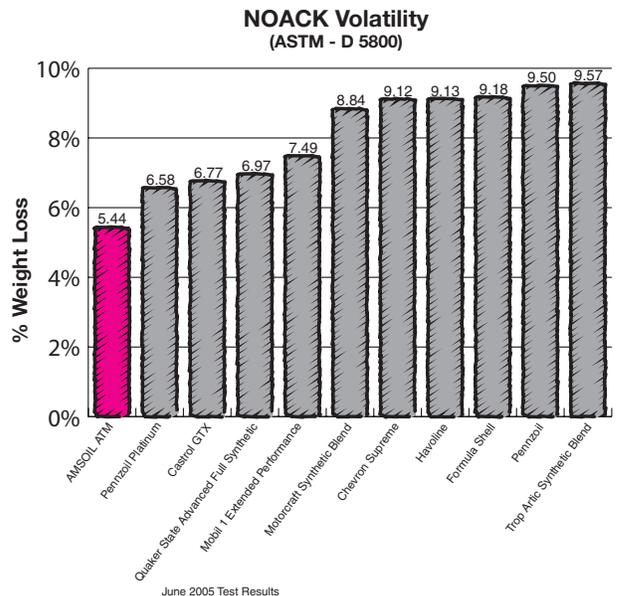
All motor oils do not perform the same at high and low temperatures.

Petroleum multi-viscosity oils boil off their lighter ingredients at engine operating temperatures. This characteristic is known as Volatility.

BRAND	VISCOSITY	WEIGHT LOSS
Quaker State	10W-30	29.1% FAIL
Castrol	10W-30	25.7% FAIL
Penzoil	10W-30	25.2% FAIL
Valvoline Supreme	10W-30	18.3% FAIL
Valvoline Super S	10W-30	18.3% FAIL
"AMSOIL 10W-30"	10W-30	5.1%
Quaker State	10W-40	22.3% FAIL
Penzoil with ST	10W-40	20.9% FAIL
Motocraft	10W-40	22.8% FAIL
Castrol GTX	10W-40	20.3% FAIL
Amoco 15W-40	10W-40	20.3% FAIL
Valvoline Supreme	10W-40	20.1% FAIL
Valvoline	10W-40	19.1% FAIL
AMSOIL 10W-40 Synthetic	10W-40	6.3%
Dextron Diesel-4E	15W-40	20.7% FAIL
Shell Rotella T	15W-40	18.4% FAIL
Mobil Super Delvac	15W-40	17.2% FAIL
Castrol Super-Plus	15W-40	18.2% FAIL
Chevron Delo 400	15W-40	14.9% FAIL
Union Guardoil	15W-40	14.9% FAIL
Castrol Blue	15W-40	14.9% FAIL
"AMSOIL 10W-40 Synthetic"	15W-40	9.8%

AMSOIL Outperforms Conventional Petroleum Motor Oils!

AMSOIL was the first company in North America to use the NOACK volatility test to measure motor oil performance. The test results published 20 years ago in this AMSOIL literature item clearly show the superiority of AMSOIL synthetic motor oils and the shortcomings of conventional oils. Today the NOACK test is a critical measurement tool throughout the industry. It is just one more example of how AMSOIL has raised the bar and forced other oils to increase performance levels.



AMSOIL 10W-30 Synthetic Motor Oil still resists high temperature volatilization better than other motor oils. AMSOIL Synthetic Motor Oil maintains peak fuel efficiency and reduces oil consumption and emissions.

AMSOIL Synthetic ATF

A True Universal Fluid

Automatic transmission technology has been quickly evolving over the past few years. Six-speed transmissions are becoming more common, and automakers are demanding higher quality, longer lasting transmission fluids to protect these transmissions. Vehicle manufacturers require transmission fluids meet their specifications, but each vehicle manufacturer has its own set of specs, creating the need for several different types of transmission fluid.

General Motors, for example, now requires fluids meeting its DEXRON® VI specification. Established to provide extra protection for 2006 vehicles equipped with six-speed Hydra-Matic transmissions, DEXRON VI fluids are also recommended for transmissions built before the 2006 model year. DEXRON VI represents a significant upgrade over previous specifications. In order to minimize fluid degradation and ensure improved performance in extreme conditions, DEXRON VI fluids require greater oxidative and shear stability, foam performance and protection against pitting. According to GM, DEXRON VI fluids provide more than twice the durability and stability in friction tests than fluids meeting previous specifications.

Ford Motor Company, on the other hand, now requires use of fluids meeting its MERCON® V specification that requires improved anti-oxidation, antiwear and anti-shudder properties. Ford also introduced its MERCON SP specification in 2004. Designed for high-torque six-speed transmissions, MERCON SP fluids have lower viscosity requirements and more stringent cold-temperature Brookfield viscosity requirements.

AMSOIL Synthetic Automatic Transmission Fluid (ATF) exceeds the performance requirements for domestic and foreign automatic transmission fluid applications, and is recommended for cars and trucks calling for DEXRON VI, MERCON V & SP, NAG 1 & 2 and Nissan Matic J & K transmission fluids. AMSOIL ATF provides automatic transmissions,



power steering units and hydraulic equipment with excellent lubricating protection and better performance over a wider temperature range than conventional automatic transmission fluids.

- **Resists thermal and oxidative degradation**
- **Ensures cool transmission operation**
- **Provides outstanding low-temperature protection**
- **Improves fuel economy**
- **Provides smooth shifting**
- **Maximizes transmission performance and service life**
- **Reduces maintenance costs**
- **Offers extended drain intervals**
- **A universal fluid**

AMSOIL Synthetic Automatic Transmission Fluid is recommended for use up to 50,000 miles in severe service and up to 100,000 miles in normal service, or according to the vehicle manufacturer recommended intervals, whichever is longer. Drain intervals may be extended further with oil analysis.

AMSOIL Synthetic ATF is recommended for transmission, hydraulic and other applications requiring any of the following specifications:

- GM DEXRON II, III & VI
- Ford MERCON, MERCON V & SP
- Chrysler ATF+ through ATF+4
- Honda Z-1 (Not for use in CVT transmissions)
- Toyota Type T and T-IV
- Mitsubishi/Hyundai Diamond SP II & III
- Allison C-3, C-4, Caterpillar TO-2
- Voith G607, G1363
- ZF TE-ML 14A, B & C
- MB 236.1, 236.2, 236.6, 236.7, 236.9
- BMW 7045E, JWS 3309, NAG 1 & 2
- LT 71141 (ESSO), Nissan Matic D, J & K
- Vickers I-286S & M-2950S

Excellent for power steering units that use ATF.
Not for use in CVT transmissions.

Computer Upgrade Requires New Product Codes

AMSOIL has been in the process of updating its computer systems for several months. These improvements require a change to AMSOIL product codes. To help customers with this transition, the new product codes have been listed in the enclosed price list. Although these changes may temporarily inconvenience some customers, the benefits will outweigh that inconvenience.

The following are examples of the current and new product codes as printed in the price lists:

Current Product Codes

Stock No.	Pkg/Size
SERIES 2000 - SAE 0W-30 Synthetic Motor Oil	
TSO-QT	(1) Quart Bottle
TSO-01	(12) Quart Bottles
TSO-1G	(1) Gallon Bottle
TSO-04	(4) Gallon Bottles
TSO-30	30 Gallon Drum
TSO-55	55 Gallon Drum

Future Product Codes

Stock No.	Unit of Measure	Pkg/Size
SERIES 2000 - SAE 0W-30 Synthetic Motor Oil		
TSO-QT	ea	(1) Quart Bottle
TSO-QT	ca	Case (12) Quart Bottles
TSO-1G	ea	(1) Gallon Bottle
TSO-1G	ca	Case (4) Gallon Bottles
TSO-30		30 Gallon Drum
TSO-55		55 Gallon Drum

The first thing to notice is that product codes for cases (suffixes: -01, -04, -05, -10, -14, -12, etc.) will no longer exist. Currently, when customers place orders, they provide the stock numbers and the quantities being ordered. The new system requires customers to provide units of measurement (ea, ca, pk) in addition to the stock numbers and quantities being ordered.

The new stock numbers identify the product and the individual packaging type (quart bottle, gallon bottle, 2.5 gallon bottle, grease cartridge, 12-oz bottle, etc.). The unit of measurement will identify if the customer is ordering individual units (ea) or cases (ca) of the appropriate product and packaging option.

During the transition period until the computer system upgrade is completed, customers will have several ordering options. The current product codes for cases (TSO-01, GHD-14, etc.) will still be used and units of measure will not be required. Customers ordering via the toll-free ordering lines will be able to use either product code system, and the operators will insure the proper product codes are entered. Customers ordering via the online store will see no changes and will continue to order the current product codes. Customers ordering via the EZ Online Order Forms will have to use the current product codes. When the final change is made to the upgraded computer system, all ordering options will require customers to provide the new product codes, units of measure and quantities. Hopefully, this transition period will help smooth this process.

The AMSOIL Service Line sent courtesy of your Servicing AMSOIL Dealer.

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www.SyntheticOils.us