

**AMSOIL**<sup>®</sup>

*The First in Synthetics*<sup>®</sup>

# *Four-Wheel Drive Vehicles*



*AMSOIL synthetic lubes deliver maximum power, outstanding fuel economy and the rugged protection four-wheel drives need.*

# AMSOIL Synthetic Motor Oils

Four-wheel drive vehicles are often subjected to periods of heavy throttle application, towing and dirty, off-road driving. These harsh operating conditions mean four-wheel drive vehicles demand extra protection from a motor oil. AMSOIL synthetic motor oils are formulated with the most advanced chemistries available. High-quality base stocks combined with an exact blend of premium additives provide excellent protection and performance in the most demanding operating conditions.

## Clean All-Temperature Protection

AMSOIL synthetic motor oils not only run clean in high temperatures, they actually help hold down

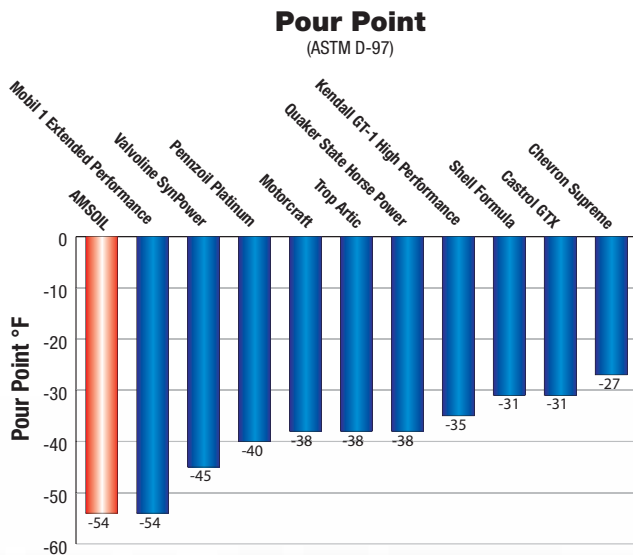
engine heat during high-stress operation. In cold temperatures, AMSOIL synthetic motor oils flow readily, providing dependable starting and quick post-startup protection.

## Load Protection

Towing and travel over rough terrain put extra load on the engine. AMSOIL synthetic motor oils provide an extremely durable lubricating film, one that's tough to break no matter how heavy the load. A robust package of anti-wear additives insures protection against accelerated wear during high-load operation. The shearing forces generated inside today's high-RPM automobile engines can literally tear apart the molecules of conventional oils. AMSOIL synthetic motor oils, because of their unique synthetic construction, withstand shearing forces. AMSOIL motor oils resist thinning and viscosity loss better than conventional oils do.

## Resist Volatilization

The unbalanced hydrocarbon structure of conventional petroleum-based motor oils contains molecules of many different shapes and sizes. In high temperatures the lighter molecules tend to vaporize, leading to increased oil consumption, oil thickening and a loss of performance. AMSOIL synthetic motor oils resist burn-off during high-temperature, high-stress operation. Their pure, uniform molecules provide an unsurpassed level of



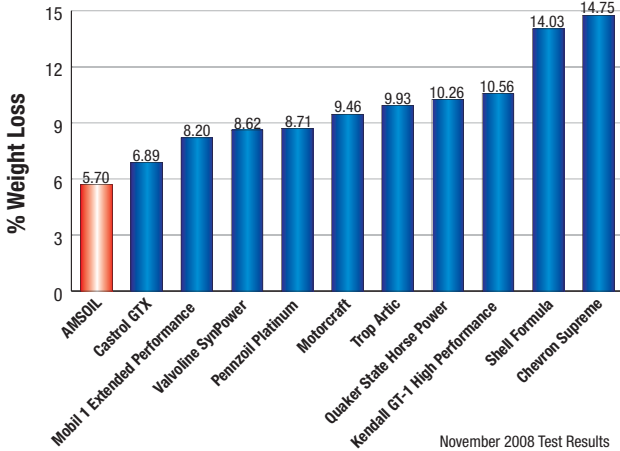
November 2008 Test Results

All oils are 10W-30.



## NOACK Volatility

(ASTM D-5800)



November 2008 Test Results

All oils are 10W-30.

The NOACK Volatility Test determines the evaporation loss of lubricants in high-temperature service. The more motor oils vaporize, the thicker and heavier they become, contributing to poor circulation, reduced fuel economy and increased oil consumption, wear and emissions.

stability, even under the most extreme operating conditions (See NOACK chart above).

### Power and Fuel Economy

Conventional motor oils tend to “boil off” in high temperatures. Vaporized oils grow thick and heavy. They circulate poorly, reduce fuel efficiency and contribute to excessive emissions and engine wear. Of course, oil consumption increases as oil boils off.

AMSOIL synthetic motor oils’ superior vaporization resistance keeps fuel economy high, oil circulation efficient, and oil consumption, emissions, and most importantly, engine wear, to a minimum. AMSOIL synthetic motor oils are formulated to allow engines to run smoother and easier, producing more power and performance and better fuel economy.

### Resist Oxidation

Conventional oils oxidize in high temperatures, causing sludge and deposit build-up that decrease fuel efficiency, contribute to corrosion and increase engine wear. AMSOIL synthetic motor oils resist oxidation and thermal breakdown far better than conventional oils. Because AMSOIL motor oils’ synthetic formulation resists oxidation so well, they run naturally cleaner than conventional oils. AMSOIL motor oils have a superior detergent/dispersant additive package that, when tested after tens of thousands of miles of use in the crankcase, still exhibits outstanding deposit control.



### Save Money

Reduced maintenance costs through better protection, fewer new parts to buy and extended drain intervals save 4x4 owners hundreds, sometimes thousands of dollars every year.

### Reduce wear

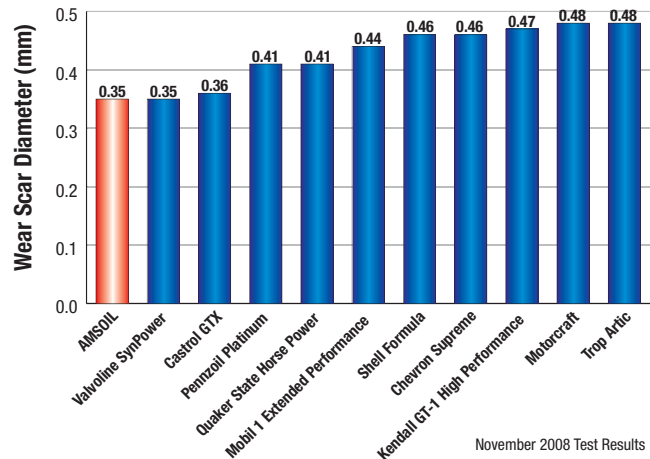
The primary function of oil is to prevent friction and wear. AMSOIL synthetic motor oils are made from the finest synthetic base stocks and most advanced additive packages. The uniform molecular structure of AMSOIL synthetic motor oils ensures their durability and effectiveness. The additives protect engines by bonding to metal surfaces and forming a protective film layer between moving parts that are vulnerable to friction and wear when an engine is first started and before the oil begins to circulate completely. AMSOIL synthetic motor oils provide outstanding wear protection in high-stress and heavy-load conditions.

### Four-Ball Wear

(ASTM D-4172)

40 kg, 75°C, 1200 RPM, 1 hour

The smaller the wear scar, the better the protection



November 2008 Test Results

All oils are 10W-30.

The Four-Ball Wear Test determines the wear protection properties of a lubricant. The smaller the average wear scar, the better the wear protection provided by the lubricant.

# AMSOIL Oil and Air Filters

## Ea Air Filters

AMSOIL Ea Air Filters (EaA) feature exclusive nanofiber technology that delivers more efficiency, higher capacity and optimum air flow. Nanofiber technology has been used exclusively in heavy-duty applications, including the US ARMY Abrams M1 tank. AMSOIL has brought this technology to the auto/light-truck market. With AMSOIL Ea Air Filters, dust and submicron particles remain on the surface and are trapped in the nanofibers, preventing particles from lodging in the filter media depth. This produces higher efficiency and higher capacity which extends engine and filter life and reduces engine wear.

## Ea Oil Filters

AMSOIL Ea Oil Filters (EaO) rank among the most efficient filters in the industry. Their small synthetic nanofibers trap smaller particles and hold more contaminants, resulting in lower restriction. AMSOIL Ea Oil Filters have a far greater capacity than competing filter lines. When used in conjunction with AMSOIL synthetic motor oils in normal service, Ea Oil Filters are guaranteed to remain effective for 25,000 miles or one year, whichever comes first.

## AMSOIL Ea By-Pass Filters

AMSOIL Ea By-Pass Filters (EaBP) provide higher filtering efficiency, soot removal and increased oil capacity due to superior media composition and configuration. AMSOIL Ea By-Pass Filters have an efficiency of 98.7 percent at two microns. At normal operating RPM, Ea By-Pass Filters will filter all of the oil in a typical five-quart sump in less than 10 minutes. The superior construction of AMSOIL Ea By-Pass Filters provides better sealing and increased longevity along with superior corrosion resistance.

## Dual Remote Filtration

The AMSOIL Dual Remote Filtration System is designed to provide maximum protection and maximum convenience. A single mount holds an AMSOIL Ea By-Pass Filter and an AMSOIL Ea Oil Filter in one location. Place the mount anywhere near the engine for easy access.

## Donaldson Filtration Products

AMSOIL offers filtration products for four-wheel drive vehicles from Donaldson®, a world leader in filtration.

Donaldson Endurance™ filters provide the highest level of filtration efficiency in the industry. Endurance filters are made with advanced synthetic and nanofiber technology that results in fibers that have



a controlled size, down to submicron diameters. It is this nanofiber technology that provides higher efficiency and greater capacity to better protect four-wheel drive vehicles.

AMSOIL also carries PowerCore filters for Ford 6.0L Power Stroke™ Diesel and GM H2 Hummer 6.0L Vortec™ four-wheel drive vehicles. An air induction system for Ford 7.3L Power Stroke™ Diesels featuring PowerCore technology is available as well.

## Injen/AMSOIL Air Intake Systems

AMSOIL provides superior air filtration and increased horsepower with Injen/AMSOIL Cold Air Intakes. Injen/AMSOIL Air Intakes improve fuel combustion by capturing cooler air from outside the engine compartment. They are dyno-tuned for peak performance and have a direct bolt-in application, making installation quick and easy. Injen/AMSOIL Intakes feature AMSOIL Ea Air Filters designed specifically for these applications. Their long life and superior filtration performance add to the value of these premium air induction kits.



# AMSOIL Synthetic Gear Lubes



AMSOIL synthetic gear lubes deliver the rugged protection four-wheel drive differentials and manual transmissions need.

## Power and Fuel Economy

Low-friction AMSOIL synthetic gear lubes maximize power output and minimize heat buildup. This means less energy spent on friction, and more used for maximum four-wheel drive power and top fuel economy.

## Load Protection

AMSOIL synthetic gear lubes bear the brunt of high-load stress so gears don't. AMSOIL synthetic gear lubes' naturally high film strength and tough extreme-pressure agents shield components from premature wear.

## All-Season Performance

AMSOIL synthetic gear lubes have a high viscosity index rating. That means they won't become waxy in low temperatures and they'll remain viscous enough to protect gears in extreme heat.

## Clean Running

Stable even in extreme heat, AMSOIL synthetic gear lubes resist oxidation and thermal breakdown, helping gears stay free of sludge and other deposits.

## AMSOIL Severe Gear® Synthetic Extreme Pressure Lubricants

AMSOIL Severe Gear Synthetic Extreme Pressure (EP) Lubricants (SVO, SVT & SVG) are premium-grade lubricants specifically engineered for maximum performance in severe-duty applications. Severe Gear Gear Lubes feature an exclusive blend of high-viscosity, shear-stable synthetic base oils and an extra treatment of high-performance additives. AMSOIL Severe Gear Synthetic EP Lubricants maintain their viscosity for long-lasting protection against metal-

to-metal contact. Severe Gear Gear Lubes are designed to provide better performance and excellent protection during temperature extremes.

- **Superior film strength**
- **Control thermal runaway**
- **Rust and corrosion protection**
- **Reduced operating temperatures**
- **Improved efficiency**
- **Longer oil, seal and equipment life**



SVO

SVT

SVG

# AMSOIL Synthetic Automatic Transmission Fluids



ATF

AMSOIL Synthetic Automatic Transmission Fluids are formulated to deliver unmatched protection and performance for automatic transmissions and ATF-filled manual transmissions and transfer cases.

## Power and Protection

AMSOIL Synthetic Universal Automatic Transmission Fluid (ATF) works as a powerful friction reducer, saving fuel and maximizing performance. AMSOIL Synthetic ATF's tough, durable lubricating film and anti-wear additives help protect components from wear-promoting contact, even during high-load operations.

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## All-Season Performance

AMSOIL Synthetic Universal ATF not only performs under extreme hot and cold conditions, it is designed to inhibit excessive heat buildup, enhancing performance and prolonging component life.

AMSOIL Universal Automatic Transmission Fluid helps prevent component overheating to ensure cooler, smoother transmission operation.

## Promotes Cleanliness

AMSOIL Universal ATF is two times more oxidation resistant than conventional transmission fluids, even under the toughest heavy towing and high-temperature conditions. It protects clutches, planetary gears, valves, pumps and seals from damaging sludge and varnish deposits. AMSOIL Universal ATF helps keep components clean, ensuring long life and top performance.

## HIGH TEMPERATURE TESTS

Ford MERCON® V required oxidation test (ABOT)



*AMSOIL ATF resists oxidation two times longer than required for petroleum ATFs.*

## Smooth Shift Performance

AMSOIL Universal ATF is engineered to deliver smooth shifts and long, trouble-free transmission life. In addition, its anti-wear additive package makes AMSOIL Universal Automatic Transmission Fluid an excellent lubricant in other hydraulic systems.

AMSOIL Synthetic Fuel Efficient Automatic Transmission Fluid (ATL) is engineered to exceed the requirements of GM, Ford and Toyota where low-viscosity oil is required. The highly-specialized properties of this light-bodied fluid provide outstanding performance without compromising protection, even in severe operating conditions.



ATL

## Low Viscosity, High Performance

Even though AMSOIL Synthetic Fuel Efficient Automatic Transmission Fluid is a low-viscosity, fuel-efficient fluid, it has demonstrated its ability to protect as well as or better than higher-viscosity fluids in the most severe industry tests. Its high film strength (shear stability) is derived from a select anti-wear/extreme-pressure additive that develops a boundary layer of protection between metal surfaces, delivering the protection 4X4s need.

## Thermal Stability

Hot temperatures are no excuse for poor reliability. AMSOIL Fuel Efficient Automatic Transmission Fluid is naturally heat-resistant and heavily fortified with antioxidants to provide maximum performance in demanding 4X4 applications. It delivers outstanding protection against sludge and varnish deposits that clog narrow oil passages and contribute to clutch glazing. AMSOIL Fuel Efficient ATF protects hot-running transmissions.

## Cold-Temperature Fluidity

Cold, thick automatic transmission fluid lengthens shift times and reduces energy efficiency (fuel economy). AMSOIL Synthetic Fuel Efficient ATF is wax-free and delivers extraordinary cold-flow performance (<-63°F pour point). It helps improve shifting response and energy efficiency while reducing warm-up times.

# AMSOIL Synthetic Greases

Four-by-fours rely on a little extra performance from their wheel bearings, U-joints and suspension points. AMSOIL synthetic greases are formulated to provide unparalleled protection under any conditions, even when wet.

## Load Handling

The protective lubricating film of AMSOIL synthetic greases coupled with robust extreme-pressure additives makes metal-to-metal contact and premature wear a thing of the past, even during high-load conditions.

AMSOIL Synthetic Heavy Duty Grease contains 'moly' for extra protection of heavily-loaded components, such as steering knuckles and spring shackles.

## Heat and Speed

Synthetic base oils' natural resistance to thermal and oxidative breakdown and their ability to keep temperatures from climbing excessively make AMSOIL synthetic greases ideal for high-temperature service.

## High Heat and Load

AMSOIL Series 2000 Synthetic Racing Grease combines the high-temperature protection of a multi-purpose grease with the load-handling capabilities of a heavy-duty grease, making it ideal for the protection of all low- and



high-speed components – steering knuckles, spring shackles, wheel bearings and more.

## Keep Water Out

Synthetic base oils give AMSOIL greases a high affinity for metal. They cling tenaciously even when exposed to water. Their anti-rust agents provide effective protection against corrosion.

AMSOIL Water Resistant Grease is specially formulated for resistance to water washout and spray-off. It offers the maximum protection for wheels frequently exposed to water.

# AMSOIL Fuel Additives

AMSOIL provides top-quality fuel additives for gasoline and diesel applications. Four-wheel drive vehicles benefit from the fuel enhancement properties found in AMSOIL fuel additives.

## AMSOIL Diesel Concentrate

AMSOIL Diesel Concentrate (ADF) compensates for the quality variances of different fuels (including biodiesels) and the deficiencies of today's ultra-low-sulfur diesel fuel (ULSD) for better engine operation. It reduces cylinder wear, retains TBN longer, minimizes soot loading and acts as a fuel stabilizer. AMSOIL Diesel Concentrate restores horsepower to like-new levels and improves fuel economy by up to five percent.



ADF

## AMSOIL Cold Flow Improver

AMSOIL Cold Flow Improver (ACF) is designed for use in ULSD fuel, yet works well with conventional fuels. It functions by modifying wax crystal formation at low temperatures to depress the pour point and improve cold-flow filtration properties. AMSOIL Cold Flow Improver contains jet fuel-type deicer to help prevent ice formation in fuels contaminated with water.



ACF

## AMSOIL Diesel Concentrate Plus Cold Flow Improver

Combination of Diesel Concentrate and Cold Flow Improver in one convenient bottle, Diesel Concentrate Plus Cold Flow Improver (DFC) is formulated to improve the performance, fuel efficiency and longevity of diesel engines while reducing deposits, black smoke and emissions. Also lowers the cold filter-plugging point by as much as 34°F and decreases the need for #1 diesel fuel that is diluted with kerosene.



DFC

## Diesel Recovery

AMSOIL Diesel Recovery (DRC) is an emergency diesel fuel treatment that dissolves the wax crystals that form when diesel fuel has surpassed its cloud point. Diesel Recovery liquifies gelled diesel fuel and thaws frozen fuel filters, avoiding costly towing charges and getting diesels back on the road.



DRC

## AMSOIL Cetane Boost

North American diesel fuel is notoriously cetane-deficient. Often, the performance problems drivers blame on their diesel engines, like rough running and a lack of power, are actually caused by cetane-deficient diesel fuel.

Instead of igniting smoothly, low-cetane fuel explodes, sending shock waves through the combustion chamber and throughout the engine.

AMSOIL Cetane Boost (ACB) (for use in all diesel engines) raises cetane three to seven numbers, helping engines start dependably and run smoothly and powerfully.



ACB

## AMSOIL P.i. Performance Improver

AMSOIL P.i. Performance Improver (API) ranks among the most potent gasoline additives available today. As a concentrated detergent, it is outstanding at cleaning combustion chamber deposits, intake valve deposits and port fuel injector deposits, eliminating the need for expensive fuel injector cleaning procedures. It is ideal for use prior to emissions inspections, and it helps maintain peak engine efficiency, fuel economy, power and drivability in newer low-mileage engines. In engines with accumulated deposits, P.i. provides improved fuel mileage up to 5.7%, reduced emissions, restored power and performance, reduced need for higher octane fuel, reduced carbon rap and pre-ignition, better drivability and smoother operation after only one tank of gasoline.



API

# AMSOIL®

*The First in Synthetics®*

*Providing maximum  
protection under the  
most extreme conditions*



AMSOIL products and Dealership information are available from your local AMSOIL Dealer.

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