



The First in Synthetics®

# Synthetic Diesel Oils



Reduced operating costs • Greater fuel economy  
Increased engine durability • Extended drain intervals

# Superior Oils for Superior Profits

In 1972, AMSOIL INC. introduced AMSOIL Synthetic 10W-40 Motor Oil and became the first company in the world to market and manufacture an American Petroleum Institute (API) rated synthetic motor oil. In 1975, AMSOIL introduced a synthetic diesel oil, and with it, coined the term “extended drain intervals.”

Since then, AMSOIL synthetic diesel oils have been used as extended drain lubricants in transportation, equipment and stationary engine applications. In every industry, they have proven effective in improving engine durability and fuel economy. AMSOIL customers report significant savings realized through reductions in downtime, parts replacement, lubricant replacement, lubricant disposal and fuel consumption. Fleet demonstrations and independent testing confirm what AMSOIL customers report: *using AMSOIL synthetic diesel oils saves money.*

## Superior Performance

AMSOIL synthetic diesel oils lubricate and protect diesel engines better than conventional lubricants do.

AMSOIL Synthetic 5W-40 (DEO) is the premium choice for API CJ-4 emission quality diesel oil required by model-year 2007 and newer diesel engines. It delivers extraordinary lubrication in diesel engines found in commercial, fleet and personal vehicles. Built with the latest additive and synthetic base oil technology, AMSOIL Synthetic 5W-40 Diesel Oil exceeds the higher performance demands of modern engines. It withstands the stress of heat, soot and acids to help prevent deposits, corrosion and wear. AMSOIL Synthetic 5W-40, with its broad viscosity range, is ideal for winter and summer use. It resists breakdown and can extend drain intervals when monitored by oil analysis.

### Exceeds Emission System Requirements

AMSOIL Synthetic 5W-40 Diesel Oil is a low sulfated ash formulation that exceeds the modern requirements for low emission quality diesel oil. It is compatible with all exhaust treatment devices and is designed to extend the service life of particulate filters.

### Maximum Protection, Superior Performance

AMSOIL Synthetic 5W-40 Diesel Oil controls thickening and wear. It is formulated with advanced synthetic base oils that are naturally resistant to soot contamination. AMSOIL Synthetic 5W-40 Premium Diesel Oil has a very low high-temperature volatility rate, reducing oil consumption and emissions. Additionally, lower volatility helps AMSOIL Synthetic 5W-40 retain its viscosity after high-temperature service for continued dependable protection and excellent fuel economy.

**Volatility** — The NOACK Volatility Test (ASTM D-5800) determines the evaporation loss of lubricants in high-temperature service. As motor oils vaporize, they become thicker and heavier, contributing to poor circulation, reduced fuel economy, increased oil consumption and excessive wear and emissions. As seen in the graph, AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Motor Oil (AME) and Synthetic Blend 15W-40 Gasoline & Diesel Oil (PCO) lose less mass to volatility than other popular 15W-40 diesel oils. The low volatility of AMSOIL synthetic diesel oils allows them to maintain their superior protective and performance qualities throughout extended drain intervals, reducing wear, emissions and oil consumption and increasing fuel economy.

**Thermal Stability** — The excellent thermal stability of AMSOIL synthetic diesel oils helps keep oil oxidation rates low, inhibits sludge formation and ensures proper engine lubrication and protection. It is a critical factor in safely extending oil drain intervals.



**AME**  
Top-selling diesel oil



**HDD**  
Increases fuel economy up to 3.42%



**ACD**  
Exceeds multi-grade and straight grade viscosity requirements



**PCO**  
Great protection Affordable price



**DEO**  
Premium choice among API CJ-4 emission quality diesel oils.

**“With AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil, the time between service intervals increased 100 percent. Instead of a pumper coming in four to six times a year, two to three times is sufficient. Yearly savings are about \$2,000 in engine oil, \$9,600 in labor and \$1,400 in disposal fees.”**

— D.W., Arizona  
Fire District Chief Mechanic

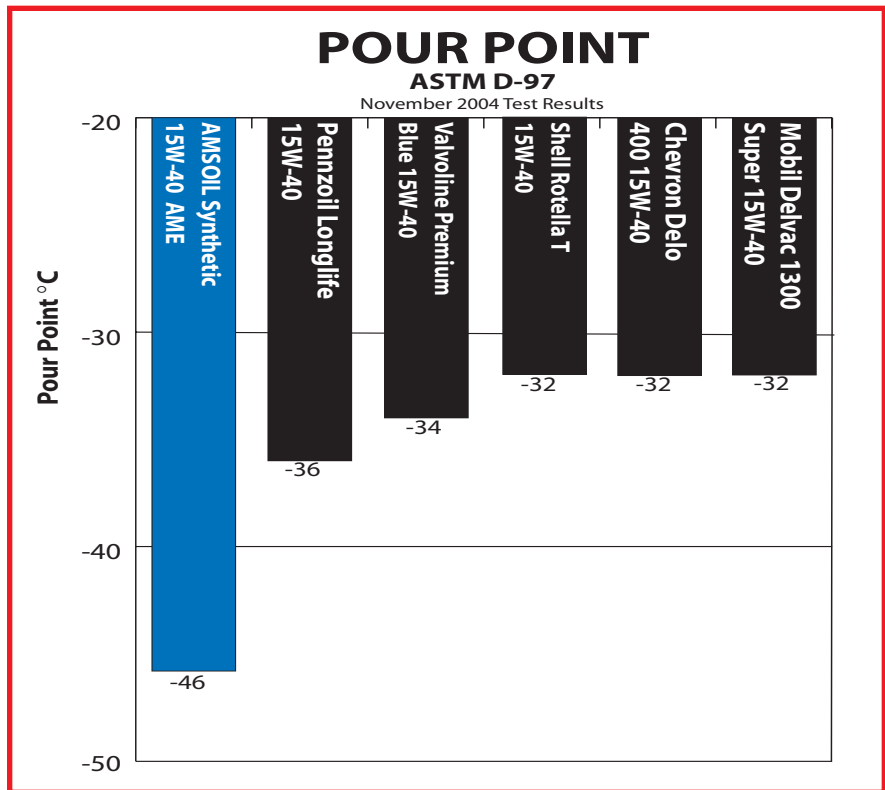
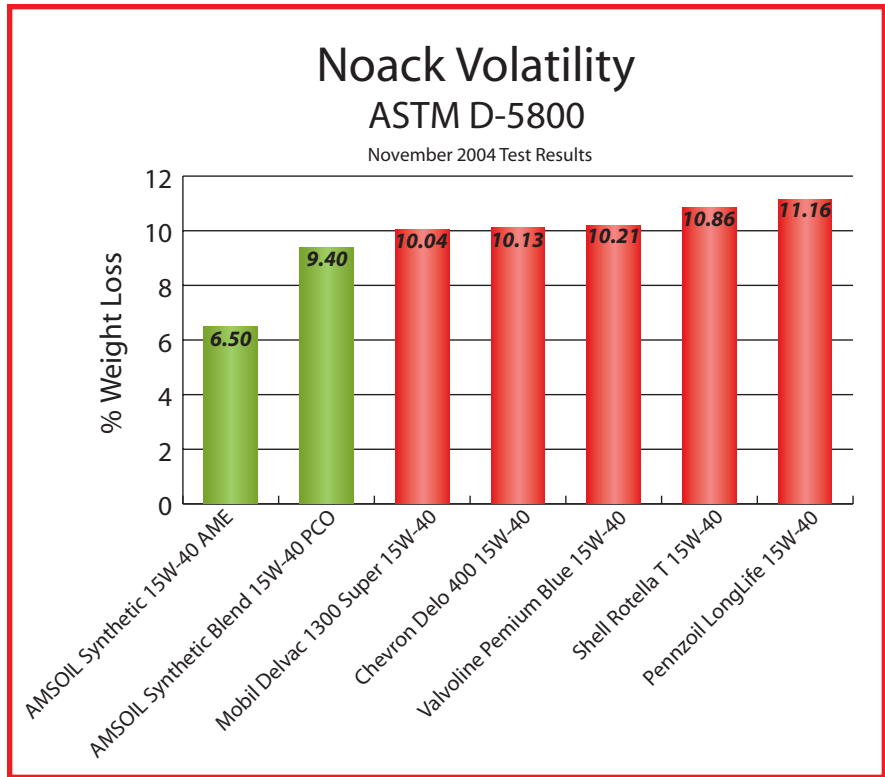
**Oxidation Resistance** — AMSOIL synthetic diesel oils’ outstanding oxidation resistance keeps engines cleaner longer for efficient operation and long life. Oxidation resistance is also a critical factor in extended drain intervals.

**Low Temperature Performance** — The Pour Point Test (ASTM D-97) determines the lowest temperature at which a lubricant will flow when cooled under prescribed conditions. The lower a lubricant’s pour point, the better protection it provides in low temperature service. As seen in the graph, AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Motor Oil offers a lower pour point than competing 15W-40 diesel oils.

The Cold Crank Simulator Test (ASTM D-5293) determines the apparent viscosity of lubricants at low temperatures and high shear rates. The lower a lubricant’s cold crank viscosity, the easier an engine will turn over in cold temperatures. As seen in the graph on page four, AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Motor Oil and Synthetic Blend 15W-40 Gasoline & Diesel Oil offer lower cold crank viscosities than other popular 15W-40 diesel oils.

## Superior Protection

Fully formulated motor oils contain additives that perform functions the lubricating oil base stocks alone can’t



perform. For example, detergent-alkalinity additives inhibit the formation of deposits on hot engine surfaces and neutralize acids. Dispersants inhibit wear caused by soot and debris. Viscosity index

improvers give lubricants multi-grade viscosity. Other additives inhibit lubricant oxidation, metal oxidation, rust and foam or prevent component damage when a full film of lubricant isn’t present to prevent it.

“We use AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil in our combines, which average 600 to 700 hours a year. We change the oil once a year.

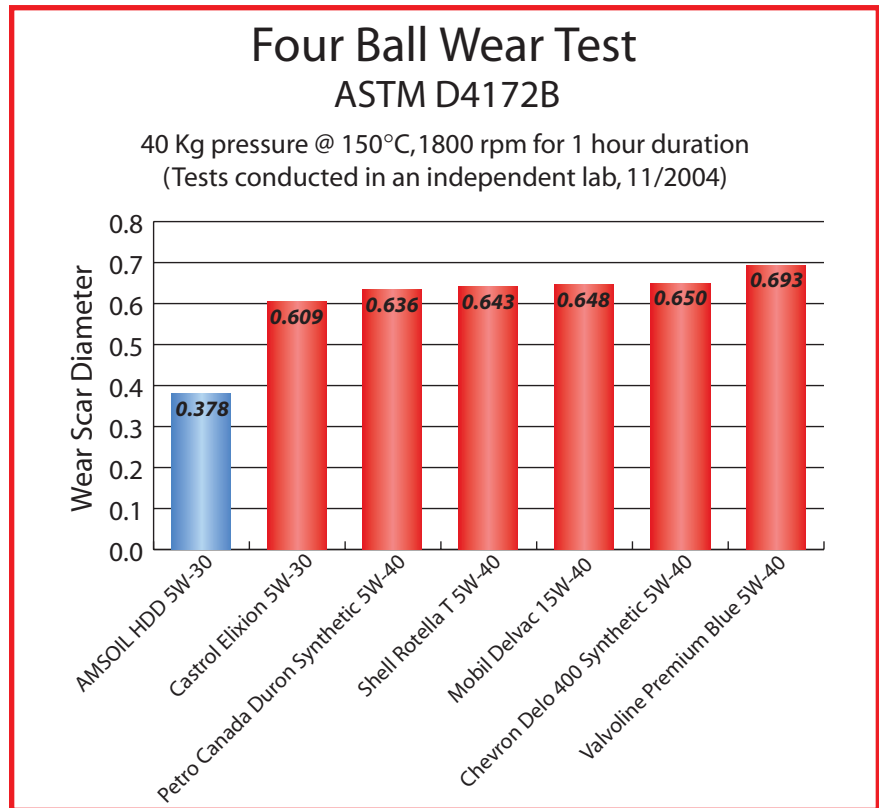
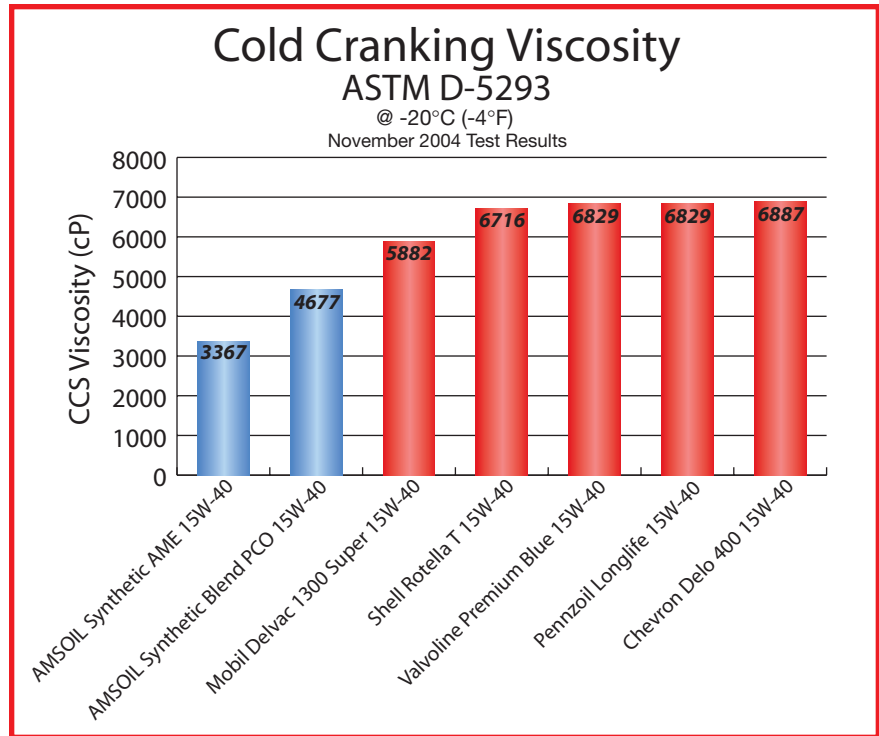
“AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil give them the best protection against wear while allowing them to start easier, run cooler and get the best fuel efficiency possible.

“I know AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil costs more at first, but if you put a pencil to it, it’s really cheaper than regular oil. Anyone could save money using AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil.”

— D.D., Texas Farmer

AMSOIL synthetic diesel oils are formulated with the highest quality additives available to ensure proper lubrication and protection in extended drain use.

**Wear Protection** — Wear protection is provided by the lubricating oil in areas where a full lubricating film develops between moving parts, such as the bearings. It is provided by anti-wear additives in areas where a full film does not develop, such as the valve train.



The Four Ball Wear Test (ASTM D4172B), a test designed to measure the effectiveness of anti-wear additive systems, shows AMSOIL Series 3000 Synthetic 5W-30 Heavy Duty Diesel Oil (HDD) produces a smaller wear scar than competing 5W-40 and 5W-30 oils.

**Shear Stability** — Some VI improvers break down in demanding operating conditions. When an oil’s VI improver breaks down or shears, the oil no longer retains its intended viscosity over its intended temperature range, rendering



AMSOIL Technical Product Manager Dave Anderson (left) and independent engine rater Dick Maltby.

the oil unable to protect the engine from premature wear in high temperatures.

AMSOIL synthetic diesel oils are highly shear stable. Shear stability is especially important for engines that operate at constant speed, such as stationary engines, marine engines and farm tractors.

**TBN and Detergent-Alkalinity** — AMSOIL synthetic diesel oils are formulated with 12 Total Base Number (TBN), a high value designed to provide superior control of corrosion and high temperature deposits in extended drain service. Most conventional diesel oils' TBN equals 8.

AMSOIL synthetic diesel oils' highly effective detergent-alkalinity additives help piston crownlands and compression ring zones stay clean, inhibit bore polishing and piston deposits, minimize cylinder liner wear, minimize ring wear and breakage, and help keep oil consumption rates low.

The ability of AMSOIL synthetic diesel oils to maintain high TBN values sets these oils apart as superior extended drain lubricants.

**Dispersancy** — Dispersants control soot and other contaminants and inhibit the formation of sludge and deposits on low-temperature areas, such as the piston skirts and adjacent areas.

Lasting control of soot, other contaminants and low-temperature deposits are an integral element of AMSOIL synthetic diesel oils' extended drain capabilities.

**Complete Protection** — AMSOIL synthetic diesel oils also contain antifoamants to prevent persistent oil foaming, anti-rust agents to inhibit rusting and antioxidants and metal deactivators, both of which retard oxidation processes.

## Superior Profitability

AMSOIL synthetic diesel oils save diesel operators money through increased fuel economy, increased engine durability, reduced oil inventories and extended lubricant drain intervals.

**Fuel Economy** — Independent testing and fleet demonstrations show engines equipped with AMSOIL synthetic diesel oils operate with better fuel economy than engines equipped with other diesel oils do. Fuel mileage improvements in excess of three percent have been documented in independent testing (see pages 6 and 8).

**Engine Durability** — Fleet demonstration oil analysis comparing the performance of AMSOIL synthetic diesel oils to competitive products show lower rates of wear metal generation with AMSOIL

products (see pages 7 – 10). Engine part inspections confirm the outstanding wear protection provided by AMSOIL synthetic diesel oils (see page 9). Lower rates of engine wear improve engine durability, providing longer intervals until first engine teardown, greater intervals between overhauls and longer engine life.

**Oil Inventories** — The outstanding low temperature fluidity and high temperature protectiveness of AMSOIL synthetic diesel oils eliminate the need for special inventories of seasonal oils. AMSOIL synthetic diesel oils are also formulated for use in gasoline engines, so separate oils for diesel and gasoline engines are also unnecessary.

**Extended Drain Intervals** — AMSOIL synthetic diesel oils meet the most stringent diesel oil specifications. Fleet demonstration results and the experiences of owner-operators confirm that AMSOIL synthetic diesel oils provide excellent extended drain service (see page 8 – 10).

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**“I’m tickled pink with  
AMSOIL Synthetic  
15W-40 Heavy Duty  
Diesel and Marine Oil.  
We’ve paid for a little  
over half a barrel of oil  
just through the materials  
we’ve saved on  
extended drain intervals.  
That doesn’t count  
labor costs.”**

**— R. B., Ontario  
Feed manufacturer  
maintenance supervisor**

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# AMSOIL Synthetic Lubricants Provide 8.2% More MPG



At the request of AMSOIL INC., an independent research institute conducted a month-long test comparing the fuel consumption of class 8 diesel trucks equipped with AMSOIL synthetic lubricants to that of class 8 diesel trucks equipped with conventional lubricants.

The research institute used the SAE J1321 Joint TMC-SAE Fuel Consumption Test Procedure Type II, an industry standard test for comparing in-service fuel consumption of test and control vehicles.

Carefully matched vehicles traveled a route representative of typical long-haul interstate highway operations. Conditions including speed, tire pressure, headlight and fan use and window opening were held constant, and testing proceeded only when wind and temperature conditions were within testing guidelines.

The test vehicles were equipped with AMSOIL Series 3000 Synthetic 5W-30 Heavy Duty Diesel Oil in the engines, AMSOIL Series 2000 Synthetic 20W-50 Racing Oil in the transmissions and AMSOIL Series 2000 Synthetic 75W-90 Gear Lube in the drive axles. The controls were equipped with Shell Rotella T 15W-40 in the engines, Quaker State SAE 90 in the transmissions and Citgo 85W-140 in the drive axles.

The trucks were equipped with auxiliary weigh fuel tanks and quick disconnect couplings to facilitate accurate data gathering. The weight of fuel consumed by the control and test vehicles after each driving segment was compared. Results were evaluated according to accepted statistical practices.

## Findings

The vehicles equipped with AMSOIL synthetic lubricants demonstrated up to an 8.2 percent increase in miles per gallon (mpg) over the mpg obtained by the vehicles equipped with the control lubricants. Data showed mpg increases up to 3.42 percent comparing engine oils alone.

## What Does a Savings of 8.2% Mean?

Imagine a fleet of 100 class 8 vehicles travelling an average 120,000 miles per year at an average 6.5 mpg with diesel fuel at \$2.00 a gallon. The fleet spends an annual \$3,692,308 on fuel.

Now imagine the fleet uses AMSOIL products and improves its miles-per-gallon by 8.2 percent. The fleet now spends \$3,412,484 on fuel annually. That's a savings of \$279,824.

That's enough to pay for a year's worth of AMSOIL synthetic lubricants for the entire fleet and a year's worth of fuel for four trucks — with cash left over.

### Transmissions

320 gal Series 2000 Synthetic 20W-50 Racing Oil  
@ \$19.96/gal.....\$6,387

### Drive Axles

620 gal SEVERE GEAR Synthetic 75W-90 Gear Lube  
@ \$20.84/gal.....\$12,921

### Engines

5,400 gal Series 3000 Synthetic 5W-30 H. D. Diesel Oil  
@ \$19.96/gal.....\$107,784

Deduct the fleet's lube cost of \$127,092 from \$279,824, and you'll find the fleet has \$152,732 to spend. That will buy fuel for four trucks (now at 7.033 mpg) — with cash left over.

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**"AMSOIL HDD made a significant difference in my fuel economy. I've compared the same period this year to a year ago — same time of year, same loads, same routes — and found a 1/2 to 3/4 mpg increase with HDD. For me, that translates into a \$1,500 to \$2,500 a year savings."**

— J.P., North Dakota  
Independent owner/operator

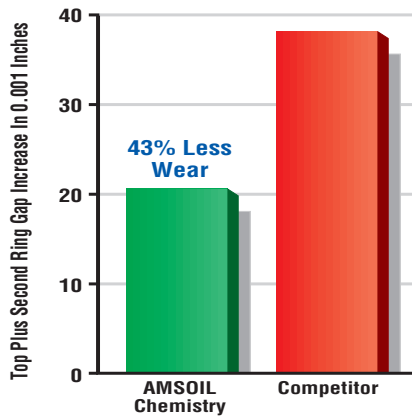
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# Fleet Tests: Wear Protection

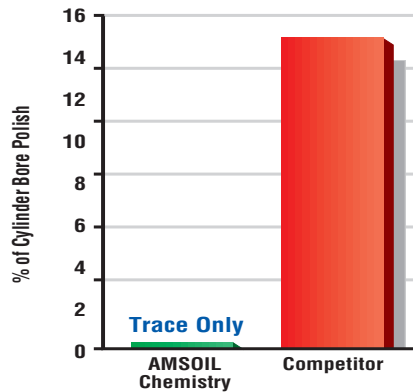
AMSOIL synthetic diesel oil's protective chemistry was tested in fleets of Detroit Diesel, Cummins and Caterpillar engines. The results show AMSOIL chemistry protects engines from ring deposits, ring wear, ring breakage, bore polishing and liner wear better than other chemistries do. Better protection provides significant savings through lower rates of oil consumption, a longer period until first overhaul and longer engine life.

The test fleets include 45 vehicles equipped with Detroit Diesel 6V-92TTA engines with an average 350,000 test miles per vehicle; 10 vehicles equipped with Cummins NTC-350 engines with 220,000 test miles per vehicle; 21 vehicles equipped with Caterpillar 3406 DITA engines with 220,000 test miles per vehicle. All results shown are averages.

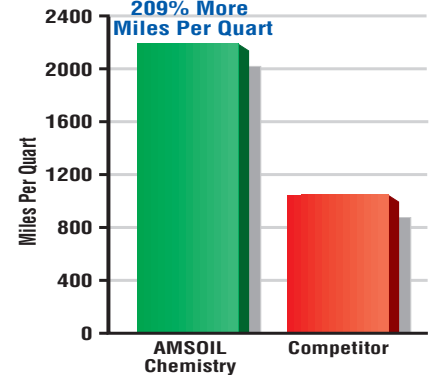
## Less Piston Ring Wear Detroit Diesels



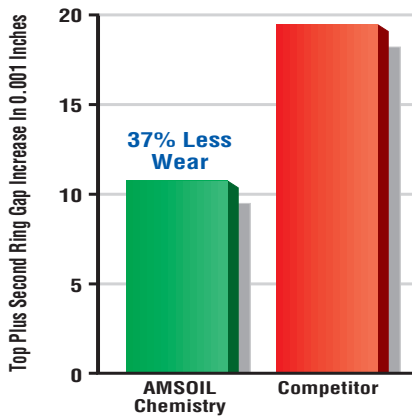
## Less Cylinder Bore Polish Detroit Diesels



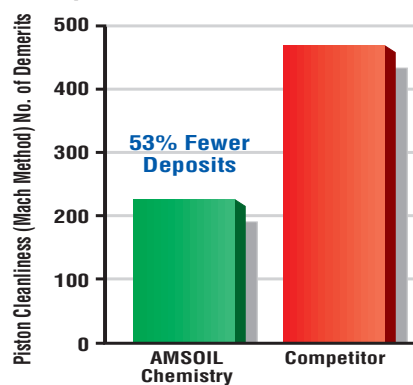
## Less Oil Consumption Cummins Diesels



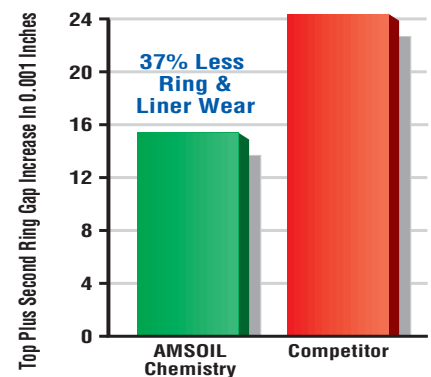
## Cummins Diesels



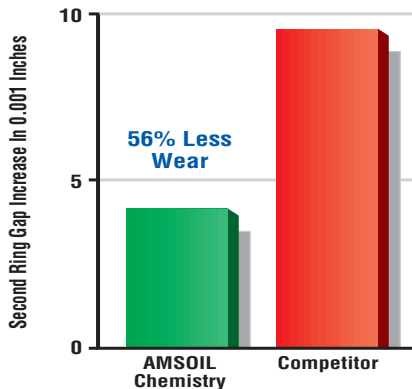
## Reduced Piston Deposits Caterpillar Diesels



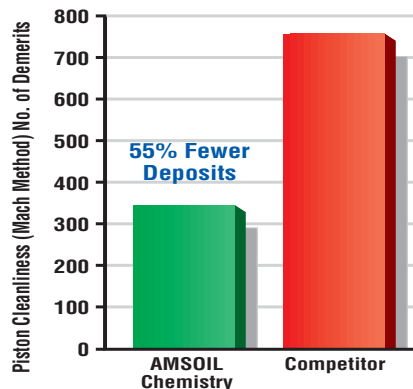
## Reduced Ring and Liner Wear Caterpillar Diesels



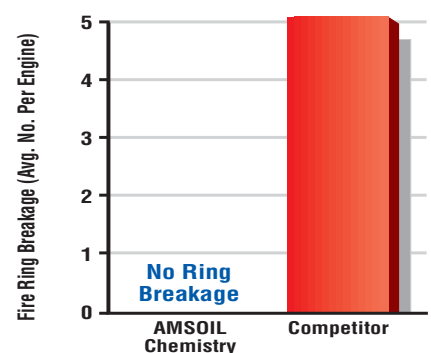
## Caterpillar Diesels



## Cummins Diesels



## Protection Against Ring Breakage Detroit Diesels



# Shop Savings

## Series 3000 Synthetic 5W-30 Heavy Duty Diesel Oil helped this fleet reduce its overhead.



AMSOIL INC. and Jeff Foster Trucking Inc. completed a 250,000-mile demonstration comparing the fuel economy and protection of AMSOIL Series 3000 Synthetic 5W-30 Heavy Duty Diesel Oil to the fuel economy and protection of a conventional oil, Pennzoil Long Life 15W-40 Motor Oil.

The trucks equipped with Series 3000 were also equipped with AMSOIL Dual Gard By-Pass Oil Filtration Systems. The oil in the Series 3000-equipped trucks was changed at 125,000-mile intervals. The Pennzoil motor oil and full-flow oil filter in the control trucks were changed at 20,000 mile intervals.

“The AMSOIL demonstration went very, very well,” said fleet owner Jeff Foster. “We’ve always used AMSOIL in our pickups and small engines, and we’re always looking for ways to make operations more efficient. Series 3000 fits right in with our operations and goals.”

## Fuel Economy

Demonstration data showed trucks equipped with AMSOIL Series 3000 Synthetic 5W-30 Heavy Duty Diesel Oil obtained a 3.065 percent fuel economy increase over the fuel economy of the trucks equipped with Pennzoil.

These results conform to the results of fuel economy testing performed for AMSOIL by an independent test facility (see page 6). Those earlier results showed up to a 3.42 percent fuel economy increase in trucks equipped with AMSOIL Series 3000 Synthetic 5W-30

Heavy Duty Diesel Oil as compared to trucks equipped with a conventional 15W-40 motor oil.

“In the trucking industry,” said Foster, “synthetic lubricants are commonly used in the drivetrain for fuel economy benefits. Yet, I found it hard to believe that changing the engine oil would help fuel economy. However, the data indicates about a three percent fuel economy increase, and we’ve certainly noticed a difference.”

## Shop Savings

“Shop savings was our focus in the AMSOIL demonstration,” said Foster. “We looked at the oil and by-pass filter as a way to keep our shop size smaller. I knew the oil and filters would work as far as wear protection goes, and oil analysis shows everything is working perfectly.”

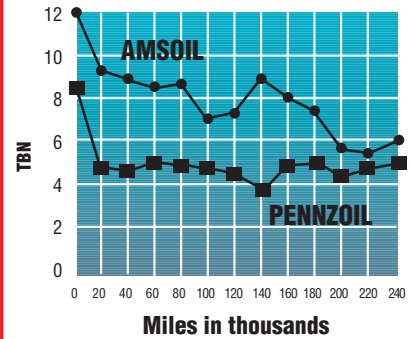
The AMSOIL-equipped trucks logged significantly less shop time than the control trucks, due to the significantly longer drain intervals used with the AMSOIL-equipped trucks. Yet, engine protection and oil viability remained uncompromised in the AMSOIL-equipped trucks. Compared to the control oil, AMSOIL Series 3000 Synthetic 5W-30 Heavy Duty Diesel Oil retains higher TBN, maintains in-spec viscosity longer and better controls soot.

TBN retention, viscosity maintenance and soot control are essential to oil viability, corrosion inhibition, engine cleanliness and wear control. Wear metal analyses confirm low rates of engine wear with AMSOIL Series 3000 Synthetic 5W-30 Heavy Duty Diesel Oil in extended drain service.

“We now change the oil in the AMSOIL trucks once a year, or about every 125,000 miles. I would feel confident using the oil for even longer drain intervals,” said Foster. “After seeing what Series 3000 does for these trucks, I’ve had it installed in other trucks in the fleet. Series 3000 is a great product.”

## TBN Retention Group Average Comparison

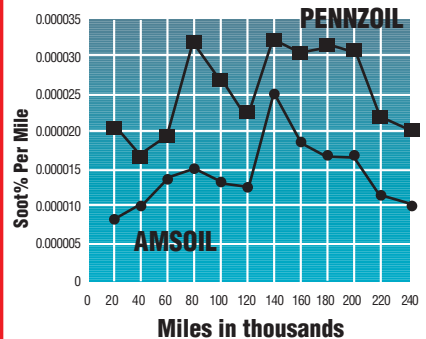
AMSOIL TRUCKS: 125,000 mile oil drain intervals  
PENNZOIL TRUCKS: 20,000 mile oil drain intervals



TBN (Total Base Number) describes an oil’s acid neutralization capacity, which provides corrosion control. Series 3000 Synthetic 5W-30 retains greater TBN during service than the Pennzoil product does, even though the Pennzoil product was changed at 20,000 mile intervals and the Series 3000 at 125,000 mile intervals.

## Soot Control Group Average Comparison

AMSOIL TRUCKS: 125,000 mile oil drain intervals  
PENNZOIL TRUCKS: 20,000 mile oil drain intervals



Soot is a combustion by-product that enters the engine as blow-by and causes oil thickening and engine wear. The soot levels in the engines equipped with AMSOIL Series 3000 Synthetic 5W-30 and the AMSOIL Dual Gard Oil Filtration System have remained lower than the levels in the trucks equipped with the Pennzoil product and full flow filters, though the change intervals are significantly longer for the AMSOIL products than for the control products.

## Jeff Foster Trucking Demonstration

**Service** – Coast to coast linehaul operations.

**Demonstration Vehicles** – 1996 Kenworth trucks with Cummins N-14 ESP3 engines. Five control vehicles. Five test vehicles.

**Test Oil, Filters and Change Intervals** AMSOIL Series 3000 Synthetic 5W-30 Heavy Duty Diesel Oil changed at 125,000 mile intervals.

Aftermarket full-flow oil filter currently changed at 20,000 mile intervals.

AMSOIL Dual Gard Oil Filtration System equipped with two AMSOIL BE-110 By-Pass Oil Filter Elements currently changed at 40,000 mile intervals.

**Control Oil, Filters and Change Intervals** Pennzoil Long-Life 15W-40 Diesel Oil changed at 20,000 mile intervals.

Aftermarket full-flow oil filter (same brand as in test vehicles) changed at 20,000 mile intervals.



# 409,000 Miles Without an Oil Change

After 409,000 miles without an oil change, the AMSOIL-protected Mack engine in this 1990 truck was as wear-free as an engine in comparable service treated to TWENTY TIMES the oil changes.



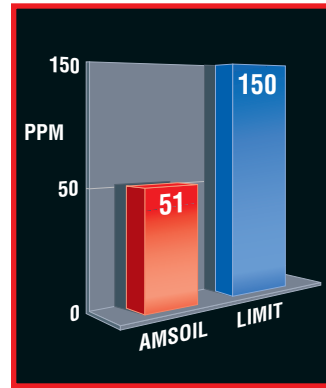
Colonial Heights, Virginia – “I didn’t see any surprises in there at all,” said owner-operator Haywood Gray of his 1990 Mack E7-400 engine at teardown after Gray had run the engine 409,000 miles without once changing the oil.

Gray used AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil, an AMSOIL By-Pass Oil Filter and periodic oil analysis to achieve his impressive drain interval.

When the E7-400 was torn down by the local Mack dealership and its parts were examined by a certified independent engine rater, it showed only light to moderate wear throughout.

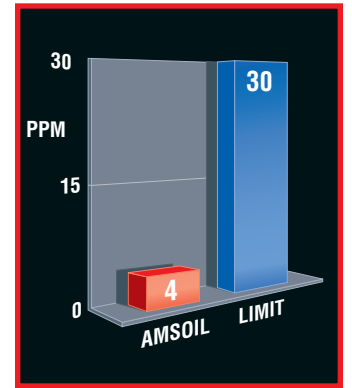
In fact, according to the engine rater, the parts could have been put right back in the engine. “I see no reason why the engine couldn’t run on,” he said.

The teardown oil analysis confirmed the rater’s findings. The sample’s content of wear metals was extremely low: one-sixth the lead and one-third the iron allowed by Mack condemnation limits — after 409,000 miles without an oil change.



### Wear Metal: IRON

Even after 409,000 miles, AMSOIL contained only 1/3 the wear metal IRON allowed by Mack condemnation limits.



### Wear Metal: LEAD

Even after 409,000 miles, AMSOIL contained less than 1/6 the wear metal LEAD allowed by Mack condemnation limits.

## Independent Engine Rater Findings



“No wear at all.”



“Very, very good.”



“No scuffing. No cavitation.”



“Very, very light wear.”



“Light wear.”



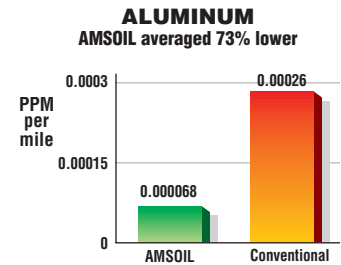
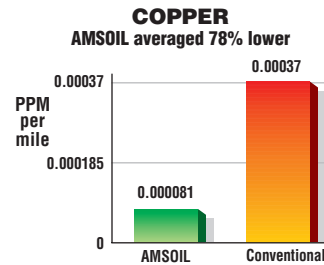
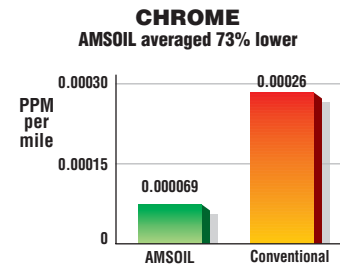
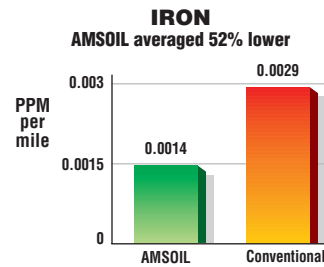
“Minimal wear.”

# More Extended Drain Demonstrations

## Extended Drain Demonstration: Over-the-Road Fleet

Using AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil, AMSOIL By-Pass Oil Filters and used oil analysis, an over-the-road flatbed fleet extended vehicle drain intervals to 79,000+ miles, and realized a 29 percent reduction in the costs of oil-related materials and labor.

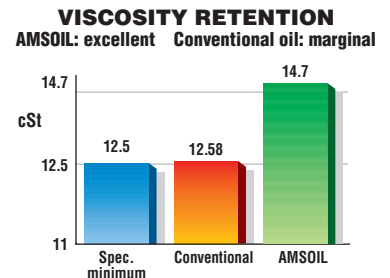
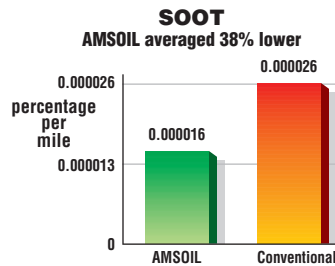
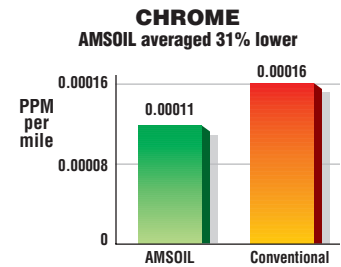
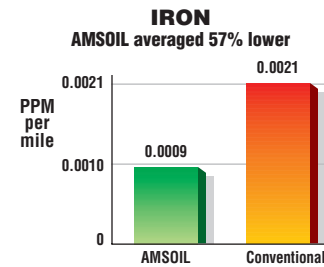
Used oil analysis confirmed the high quality protection afforded by the AMSOIL products. Wear metal, soot and acid levels remained low throughout the demonstration, while TBN remained high and viscosity midrange.



## Extended Drain Demonstration: Grocery Warehouse Fleet

Using AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil, AMSOIL By-Pass Oil Filters and used oil analysis, a grocery warehouse fleet extended its oil drain intervals to 74,000+ miles and realized a 22 percent decrease in the costs of oil-related materials and labor.

Used oil analysis confirmed the superior protection afforded by the AMSOIL products. Wear metal, soot and acid values remained low throughout the demonstration, while TBN remained high and viscosity midrange. Note the significant viscosity loss suffered by the conventional control oil. Viscosity loss often leads to excessive wear.



## 325,350-Mile Drain Interval

Virginia independent owner-operator John Blevins used AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil, AMSOIL By-Pass Oil Filters and used oil analysis for a single 325,350-mile oil drain interval in the Cummins 350 engine of his 1984 Volvo White truck.

Each oil analysis report showed excellent TBN retention and acid control. Each also showed excellent viscosity retention, soot control and wear control. Wear was measured by spectrochemical analysis of wear metals content.

Spectrochemical analysis also showed excellent values for detergent-alkalinity and anti-wear compounds, further confirming the oil's ongoing serviceability.



Blevins' extended drain demonstration ended three years after he installed AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil when he sold the truck. The buyer, a mechanic, has continued Blevins' oil and filter regimen, using AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil and AMSOIL By-Pass Oil Filters. In fact, he did not replace the oil Blevins had installed in the engine three years previously.

Today, the same fill of oil is in the engine and has seen 500,000 miles of service.

◀ The valve cover and valve train in Blevins' truck are still clean after 325,350 miles on one fill of AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil.

# Installation

**For specific installations, see the AMSOIL Product Selection Guide**

## New Engines

Run a new engine 1,000 to 6,000 miles, or until oil consumption stabilizes at an acceptable level, before installing AMSOIL synthetic diesel oils to purge the engine of break-in wear metals.

## Service Life

With oil analysis and regular filter changes, AMSOIL synthetic diesel oils may be used in diesel engines for significantly longer periods than petroleum oils may be used — typically, two to three times longer.

## Gasoline Engines

AMSOIL synthetic diesel oils are formulated for gasoline and diesel engines. In most gasoline engines, they may be used for 15,000 miles or one year drain intervals, whichever comes first. Follow engine manufacturers' drain interval recommendations in turbo-charged gasoline engines.

## Mixing AMSOIL

AMSOIL synthetic diesel oils are compatible with petroleum oils. However, mixing AMSOIL synthetic diesel oils with other oils may shorten oil service life.

Engine oil additives and other after-market products are not recommended for use with AMSOIL synthetic diesel oils.

## Change-Over

Change the oil filter. For longest oil drain intervals, install an AMSOIL *Ea* By-Pass Oil Filter and an AMSOIL *Ea* Oil Filter.

Frequent oil filter changes will correct increased post-changeover oil consumption. Once engine deposits disappear, oil consumption rates should return to normal or lower than normal rates.

AMSOIL synthetic diesel oils normally turn dark as they clean and lubricate, even with a by-pass filter.

# Oil Analyzers Inc.

**Oil Analyzers Inc. puts technologically advanced testing equipment in the hands of experienced diagnosticians to deliver accurate, reliable results.**

## What Is Oil Analysis?

Oil analysis is a maintenance management tool that allows users to monitor equipment condition for maximum equipment life, maximum lubricant drain interval and optimal downtime scheduling. Oil analysis saves users significant money by reducing equipment replacements and repairs, reducing the volume of lubricant purchased and destined for disposal, and most importantly, by reducing equipment downtime.

Oil analysis customers interested in extending their oil drain intervals often "trendline" their oil condition, comparing the results of the most recent report to those of previous reports. Trendlining establishes normal patterns in wear metals content, viscosity, acid content, neutralization ability and other characteristics as specified. Departures from established patterns indicate a change in engine or lubricant condition. The information offered by trendlining may be used to correct abnormal conditions before they cause damage or failure.

## Oil Analyzers Inc.

Oil Analyzers Inc. is a fully equipped oil analysis laboratory staffed by highly trained analysts. Oil Analyzers Inc. offers a complete line of oil analysis

services, including engine oil analysis, drivetrain oil analysis and industrial lubricant analysis.

Oil Analyzers Inc. normally turns out reports one working day after a sample is received. When a time-sensitive condition is detected, OAI calls with the information.

## How Do I Get Started?

It's simple. Order an Oil Analyzers Inc. sampling kit. Draw a sample. Complete the testing form and send the sample and form in the Oil Analyzers Inc. box. That's all there is to it. Your report will be faxed or mailed to you. The cost for testing and report return is included in the kit price.

## Will I Understand My Report?

Oil Analyzers Inc. reports are easy to read and understand. Customer and unit information identify the equipment for which testing was performed. Technical oil data appears in a quick-read chart with multiple entry capacity for trendlining. Easy to understand recommendations are included so you know exactly what you should do with your oil to provide the best care for your engine. A detailed explanation of tests and results are provided on the back of the report. Oil Analyzers Inc. reports are formatted for clear fax transmission.





# Synthetic Diesel Oils

**Lubrication • Protection • Fuel Economy**  
**For all diesel engines**

## Series 3000 Synthetic 5W-30 Heavy Duty Diesel Oil

API CI-4+, CF, CF-2, SL, 12 TBN

A fuel efficient formula for diesel and gasoline engines. Testing shows trucks with Series 3000 Synthetic 5W-30 Heavy Duty Diesel Oil in the engines and AMSOIL lubes in the drivetrain obtained up to 8.2 percent more mpg than matched trucks lubricated with conventional oils.

Series 3000 delivers up to two times greater wear protection than other popular diesel oils.

Formulated for extended drain interval use, Series 3000 resists oil breakdown from heat, blowby chemicals and oxidation up to ten times longer than conventional oils.

Available in 1-quart, 1-gallon, 2½-gallon, 30-gallon and 55-gallon containers.



HDD

## Synthetic 15W-40 Heavy Duty Diesel and Marine Oil

API CI-4+, CF, CF-2, SL, 12 TBN

A proven performer in diesel and gasoline engines. Fleet demonstrations and countless miles of over-the-road use have shown AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil superior to conventional oils.

In fact, even in extended drain use, Synthetic 15W-40 Heavy Duty Diesel and Marine Oil outperforms conventional oils in wear protection, acid control, fuel economy and overall performance.

AMSOIL Synthetic 15W-40 Heavy Duty Diesel and Marine Oil is the preferred AMSOIL product for four-cycle marine engine applications.

Available in 1-quart, 1-gallon, 2½-gallon, 30-gallon and 55-gallon containers.



AME

## AMSOIL Synthetic 10W-30/SAE 30 Heavy Duty Diesel Oil

API CI-4+, CF, CF-2, SL, 12 TBN

Offers outstanding high and low temperature service and protection. Shear stability, low volatility and high-temperature film strength make AMSOIL Synthetic 10W-30/SAE 30 Heavy Duty Diesel Oil ideal for high-stress applications and engines requiring either a 10W-30 multi-grade or an SAE 30 straight grade motor oil. Outstanding low-temperature fluidity provides protection and lubrication in low-temperature applications.



ACD

## Synthetic Blend 15W-40 Gasoline & Diesel Oil

API CI-4+, CF, CF-2, SL, 12 TBN

Offers the advantages of synthetics at a more affordable price. Synthetic Blend 15W-40 Gasoline and Diesel Oil offers excellent fuel economy, improved wear protection and extended drains. For gasoline and diesel engines. Available in 1-quart, 1-gallon, 2½-gallon, 30-gallon and 55-gallon containers.



PCO

Available in 1-gallon, 30-gallon and 55-gallon containers.

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

