

## Service Line

NEWS AND IDEAS FROM AMSOIL

### Synthetic 10W-30 Diesel Oil Provides Superior Mono- and Multi-Grade Protection

Older two-stroke diesel engines typically require monograde SAE 30 diesel oils meeting API CF-2 specifications, while modern diesel engines require multigrade formulations meeting API CI-4+ specifications. AMSOIL Synthetic 10W-30/SAE 30 Diesel Oil (ACD) is formulated with premium synthetic base stocks that provide superior protection for both older and modern diesel engines, meeting all the engine lubrication requirements for monograde SAE 30 oils while also providing the wide temperature operation capability of a multigrade 10W-30. It is the only diesel oil on the market meeting both monograde and multigrade performance requirements.

AMSOIL Synthetic 10W-30/SAE 30 Diesel Oil is ideal for use in a wide variety of light and heavy-duty applications, including agriculture, off road construction, trucking, mining, industrial (pumps and generators) and personal automotive or commercial transportation. It is recommended for use with low or high sulfur fuels in standard, turbocharged or supercharged engines, including modern low emission diesels such as those equipped with EGR devices.

AMSOIL Synthetic 10W-30/SAE 30 Diesel Oil has a naturally high viscosity index, providing excellent protection in temperature extremes. Typical monograde diesel oils fail to provide adequate low temperature performance.

AMSOIL Synthetic 10W-30/SAE 30 Diesel Oil offers excellent low temperature protection and performance. AMSOIL Synthetic 10W-30/SAE 30 Diesel Oil resists volatization, reducing oil consumption and maintaining its protective viscosity in extreme operating conditions. Although lower weight oils are normally more volatile than higher weight oils, Synthetic 10W-30/SAE 30 Diesel Oil loses less of its mass to volatization than competing 15W-40 diesel oils:



Formulated without viscosity index improvers (VI), AMSOIL Synthetic 10W-30/SAE 30 Diesel Oil is shear stable, curbing viscosity loss and associated bearing and cylinder bore wear. As seen in the graph, Synthetic 10W-30/SAE 30 Diesel Oil leaves a wear scar significantly smaller than competing diesel oils:





- SAE 10W-30 performance without VI improvers
- · Cost-effective replacement for conventional oils
- Excellent shear stability
- Outstanding wear protection
- Superior protection over a broad range of operating temperatures
- High TBN effectively neutralizes acids and protects against damaging piston deposits, ring sticking and sludge
- Extended service life with oil analysis

AMSOIL Synthetic 10W-30/SAE 30 Diesel Oil is recommended for all diesel engines requiring any of the listed worldwide specifications. It also may be used in gasoline engines where the performance standards API SL and prior are specified.

- API CI-4+/CF/CF-2/SL Global DHD-1
- ACEA A3/B3, E3, E5
  JASO DH-1
  Mack
  - Detroit Diesel Caterpillar Cummins
    Volvo Daimler-Benz

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### **AMSOIL Offers More Than Motor Oils**

AMSOIL INC. is well known for superior synthetic motor oils such as the popular AMSOIL Synthetic XL Motor Oils, known as the "peace of mind" oils because they are specifically formulated for extended oil change intervals of 7,500 miles or more where stated by vehicle manufacturers or indicated by oil life monitoring systems. AMSOIL XL Synthetic Motor Oils provide protection and performance throughout the longer drain intervals.

AMSOIL offers a full line of automotive products that include greases and other lubricants, air and oil filters for virtually every make and model of vehicle, as well as automotive appearance products and more.

Quick lube operators can increase the bottom line by providing more AMSOIL products for customers looking for the very best in automotive products.

AMSOIL Antifreeze & Engine Coolant and AMSOIL Synthetic Automatic Transmission Fluid (ATF) are just two of those world-class AMSOIL products.

#### **AMSOIL Antifreeze & Engine Coolant**

#### • Non-Toxic

Unlike conventional ethylene glycol-based products, which are highly toxic and even fatal, AMSOIL Antifreeze & Coolant is formulated with propylene glycol. It is biodegradable and requires no special disposal costs or procedures in most areas. Above all, its low toxicity presents no threat to children, pets or wildlife. • Lasts Longer



AMSOIL Antifreeze & Engine Coolant contains a proprietary poly organic acid technology. It provides extended service

life in all gasoline and diesel vehicles, and can be used for seven years or 250,000 miles in passenger cars, light-duty trucks, vans and recreational vehicles.

#### • Compatible With Other Fluids

AMSOIL Antifreeze & Engine Coolant is compatible with ethylene and propylene antifreeze and coolant formulations on the market, including DEX-Cool ®, Sierra® and Zerex®. It is also compatible with fully formulated diesel antifreezes and other organic acid technology (OAT) and hybrid organic acid technology (HOAT) formulations.

#### Stops Leaks

AMSOIL Antifreeze and Coolant adheres to metal. It selfseals hairline cracks in welds and seams to prevent leaks, without additional stop-leak products or fibrous materials.

#### Prevents Metallic Corrosion

Independent tests reveal AMSOIL Antifreeze & Engine Coolant surpassed standards for metallic corrosion. It plates metal to protect even when exposed to acids and salt spray. AMSOIL Antifreeze & Engine Coolant surpasses all standards for loss of metals, including aluminum and solder, iron, steel, copper and brass, even when subjected to longer testing than standards specify.

#### **AMSOIL Synthetic Automatic Transmission Fluid**

#### • Exceeds Specifications

AMSOIL Synthetic Automatic Transmission Fluid (ATF) exceeds the performance requirements for domestic and foreign automatic transmission fluid applications.

#### • Better Lubrication, Protection

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 Oxidation and Thermal Degradation

AMSOIL ATF resists thermal and oxidative degradation up to three times longer than conventional transmission fluids, protecting clutches, planetary gears, valves, pumps and seals from damaging sludge and varnish deposits. It helps prevent component overheating and ensures cooler, smoother transmission operation.

#### • Provides Low Temperature Protection

AMSOIL ATF outperforms petroleum fluids in low temperature fluidity. It offers three times the cold temperature fluidity required by current automatic transmission fluid specifications. AMSOIL ATF provides easier starting, faster warm-ups, smoother shifting and improved fuel economy.

#### Antiwear Protection

AMSOIL ATF provides smooth shifting and long, troublefree transmission life. The antiwear additive package makes AMSOIL ATF an excellent lubricant in other hydraulic systems. In tests designed to measure wear under severe service and high pressure operating conditions, AMSOIL ATF far exceeds the requirements of hydraulic equipment manufacturers.

#### • Extended Drain Intervals

AMSOIL ATF is formulated for extended drain intervals. Transmissions usually operate under severe service conditions and are subjected to extensive idling, frequent short trips, cold temperature driving, sustained hot weather driving or trailer towing. Conventional transmission fluid should be changed every 15,000 to 30,000 miles. AMSOIL ATF should be changed at intervals three times longer than recommended by vehicle manufacturers.



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### New AMSOIL Motorcycle Oils Surpass the Rest

AMSOIL Synthetic Motorcycle Oils now contain new high performance additive technology for even greater multi-functional benefits for the special requirements of motorcycles. These independent and exclusive new AMSOIL formulations, available in 10W-40 and 20W-50 viscosities, provide second-to-none viscosity protection for hot-running American and foreign motorcycle engines, transmissions and primary chaincases.

#### **Reduce Friction, Heat and Wear**

In high heat conditions, AMSOIL 10W-40 Synthetic Motorcycle Oil (MCF) and AMSOIL 20W-50 Synthetic

Motor Oil (MCV) provide unequaled engine protection. These oils have the best high temperature film strength of all oils tested and contain a heavy treatment of antiwear additives to reduce wear regardless of the operating conditions (see Wear Comparison graph, at right). AMSOIL MCV and MCF are thermally (heat) stable and contain maximum levels of oxidation inhibitor additives. They are extremely resistant to breakdown and engineered to pre-

vent damaging sludge and carbon deposits for superior engine cleanliness.

#### Formulated for Domestic and **Foreign Motorcycles**

AMSOIL 20W-50 Synthetic Motor Oil (MCV) is recommended for Harley-Davidson, Buell, Victory, Ducati, BMW, Aprilla and Triumph motorcycles calling for a 15W-50 or 20W-50 viscosity, provid-



10W-40 Motorcycle Oil - Wear Comparison maller the wear scar the better the protect ASTM TEST METHOD D-4172 March 16, 2005





ing superior protection in engines, transmissions and primary chaincases.

AMSOIL 10W-40 Synthetic Motorcycle Oil (MCF) is recommended for Honda, Kawasaki, Yamaha, Suzuki, BMW, Husqvarna and KTM motorcycles calling for a 10W-40 viscosity, providing superior protection in engines and transmissions.

#### **Extreme Pressure Quality** Protection for Gears and Chains

AMSOIL Synthetic Motorcycle Oils provide supe-

rior protection for motorcycle engines, as well as superior gear protection, and meet API GL-1 gear lube viscosity requirements. AMSOIL Synthetic 10W-40 Motorcycle Oil (MCF) meets SAE 80W-90 gear lube requirements, while AMSOIL Synthetic 20W-50 Motorcycle Oil (MCV) meets SAE 90 gear lube viscosity requirements.

Viscosity is the most important characteristic of a lubricant. Motorcycle gears create a shearing effect that causes permanent viscosity loss. This thinning effect reduces the oil's ability to prevent metal-to-metal contact and wear. The stability and natural operating temperature ranges of the premium synthetic base stocks used to formulate AMSOIL Synthetic Motorcycle Oils eliminate shear and reduce wear. These oils exhibit absolute shear stability in independent tests.

AMSOIL Synthetic 20W-50 and 10W-40 motorcycle oils have the highest High Temperature/High Shear viscosities in their respective groups, providing motorcycle engines and transmissions operating in the harshest conditions with superior protection against wear and viscosity loss and eliminating the need for separate gear case oils as recommended by some competitors. Synthetic 10W-40 also may be used in two-cycle transmissions.

#### **Superior Rust Protection**

Motorcycles are prone to rust from storage, humidity and short drives. Rust can cause major damage such as roller bearing failure, uncontrolled wear, compression loss and blow-by. Good rust protection, however, comes by design and is not natural to engine oils. Unlike many motorcycle oils, AMSOIL Synthetic Motor Oils contain special antirust agents. They pass the ASTM D-1748 humidity cabinet rust test and clearly demonstrate superior rust protection.





# **AMSOIL Makes Prizm Durable**

Ted Pickul, Sarasota, Fla., drives a 1992 Geo Prizm with unusually high miles. In February 2005 the Prizm had more than 362,000 miles on 15 oil changes and 31 filter changes. Pickul credits AMSOIL products with extending the life of his car's engine.

Pickul bought the Prizm new in June of 1992 and after 3,000 miles, converted it to AMSOIL 10W-30 Synthetic Motor Oil. Pickul also installed an AMSOIL 2-Stage Air Filter.

He changed to AMSOIL Automatic Transmission Fluid at 30,000 miles, and has changed it five times.

After owning the vehicle for one year, Pickul switched the engine coolant to AMSOIL antifreeze, which he replaces at two-year intervals. He uses a 16 oz bottle of PI Gasoline Additive every three or four months, and every 30,000 miles he treats the car to AMSOIL Power Foam Carburetor and Engine Cleaner. At 200,000 miles Pickul switched to AMSOIL 10W-40.



VIEW OF ENGINE – Pickul's engine with the cover off. It was exceptionally clean after running 360,000 miles using AMSOIL products.



AMSOIL FAN – Ted Pickul with his 1992 Geo Prizm.

Pickul has demonstrated complete faith in AMSOIL to keep his car running smoothly.

"In November 2003 with 329,000 miles on the engine, I drove the car from Sarasota, Fla. to Carbondale, Ill. without stopping," said Pickul. The 13-hour trip was "a true tribute to the AMSOILization of this vehicle," he said.

The Prizm has a 1.6 liter 4 cylinder engine that has never had any major problems. The valve cover was removed at 360,000 miles and it was exceptionally clean.

#### CANADIAN PRICE ADJUSTMENT

Due to exchange rate fluctuations, Canadian price adjustment will go into effect July 1, 2005. A new G-8126 Canadian Price List will be inserted in the July *Action News* and *Service Line*.

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

Jeff Fisher

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