

# WHY HARLEY OWNERS CHOOSE AMSOIL

## Wear Test Comparison - AMSOIL vs. Harley Screamin' Eagle

The recent introduction of Screamin' Eagle® Synthetic Lubricant by Harley-Davidson® indicates the Motor Company has finally recognized the benefits of running synthetic motorcycle oil in their air-cooled engines. After years of advising dealers and customers to avoid using synthetic oils in their bikes, it's natural to wonder why the company is suddenly marketing one.



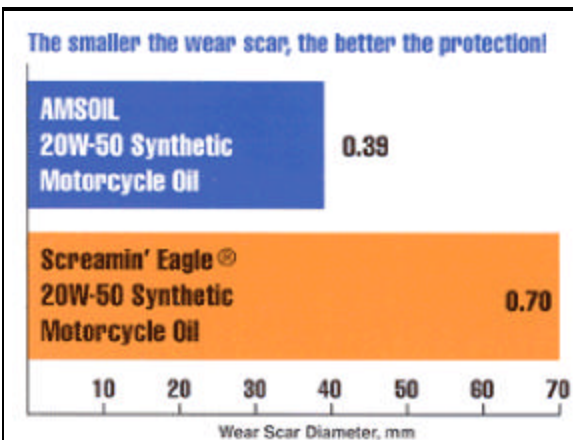
For the past 20 years, Harley-Davidson® has claimed its petroleum-based Genuine H-D Oil is best for the "unique requirements of Harley-Davidson® air-cooled V-twin engines."

However, laboratory testing has consistently revealed that Genuine H-D Oil does not provide the best protection possible for Harley-Davidson® engines. In fact, Four-Ball Wear Tests show Harley-Davidson® 20W-50 Motorcycle Oil leaves a wear scar nearly 80 percent larger than that left by AMSOIL Synthetic 20W-50 Motorcycle Oil.

One of the major benefits of running a synthetic motorcycle oil is its resistance to oxidation and thermal degradation, which inhibit the formation of sludge and deposits that contribute to increased wear. In the past, Harley-Davidson® has defended use of its Genuine H-D Oil by arguing that oil breakdown in extreme heat is a non-issue because extreme heat conditions are not normally faced by motorcycle engines, while the superior cold-temperature benefits of synthetics also don't apply to Harleys.

The fact is, engine oil in Harley-Davidson® motorcycles is subject to very high temperatures. Being air-cooled, Harley-Davidson® engines get especially hot while idling in traffic, commonly reaching temperatures up to 240 degrees Fahrenheit. As heat and oxidation increase, so does viscosity, adversely affecting the lubricating qualities of the oil and increasing wear.

The water, soot and acid byproducts of combustion also contribute to deposit formation. Harley-Davidson® has stressed the importance of regular oil changes in order to remove these contaminants. Of course, promoting regular oil



Four-Ball Wear Test (ASTM D4172), 40kg pressure @ 150 degrees C, 1800 rpm for 1 hour duration

**April 2003 test results**

The Four-Ball Wear Test is the industry's standard test method for measuring the wear preventive characteristics of a lubricant. Placed in a bath of the test lubricant, three fixed steel balls are put into contact with a fourth ball in rotating contact at preset test conditions. Lubricant wear protection properties are measured by comparing the average wear scars on the three fixed balls. The smaller the average wear scar, the better the protection.

changes is also a good way to promote using petroleum-based Genuine H-D Oil. High-quality synthetic oils formulated with high-performance additives effectively withstand such contaminants, allowing motorcyclists to safely extend drain intervals.

In support of their about-face and the introduction of a synthetic oil, Harley maintains that "the Motor Company has never supported the use of synthetic products in our vehicles because there has never been any test validations completed on the numerous formulations in HD/Buell motorcycles. This product has been exclusively designed for Harley-Davidson® and is the only synthetic product TESTED and CERTIFIED by Harley-Davidson® engineering for use in HD/Buell motorcycles."

Although this is necessary marketing hype, Harley-Davidson® V-twin air-cooled engines are [not unique in their lubrication requirements and do not require a special Harley-only fluid \(see letter from Harley-Davidson\)](#). There is nothing about Screamin' Eagle® Synthetic Motorcycle Oil that sets it apart from, or makes it better than, many other synthetic motorcycle oil formulations, except that Harley-Davidson® is marketing it and directly profiting from the sales.

According to Harley-Davidson®, one of the unique benefits offered by Screamin' Eagle® Synthetic Motorcycle Oil is its versatility. For the first time the company is recommending an oil that can be used in the engines, primary chaincases and transmissions of most Harley-Davidson® motorcycles, including Evolution XL, Evolution 1340, Twin Cam 88 and 88B, Revolution and Buell models. This feature, however, is not unique. AMSOIL 20W-50 Synthetic Motorcycle Oil may also be used in the engines, primary chaincases and transmissions of these applications, providing superior lubricating protection in each component.

How does Screamin' Eagle® Synthetic Motorcycle Oil measure up to AMSOIL in wear protection? Four-Ball Wear Test results indicate that AMSOIL Synthetic Motorcycle Oil still provides the best protection possible for motorcycles. In fact, Screamin' Eagle® Synthetic Motorcycle Oil leaves a wear scar nearly 80 percent larger than AMSOIL 20W-50 Synthetic Motorcycle Oil.

Not only does AMSOIL Synthetic Motorcycle Oil offer greater wear protection than Screamin' Eagle® Synthetic Motorcycle Oil, it also delivers greater value. Suggested retail price of Screamin' Eagle® is nearly \$2 a quart higher than AMSOIL 20W-50 Motorcycle Oil. And because AMSOIL Synthetic Motorcycle Oil may be used for extended drain intervals of up to twice the manufacturer's suggested interval, while Screamin' Eagle® is recommended for standard drain intervals, AMSOIL customers realize additional savings.

Harley-Davidson® claims Screamin' Eagle® Synthetic Motorcycle Oil has been "exclusively designed" for use in their motorcycles, pointing to extensive bench testing and over 230,000 miles of durability testing to back it up. AMSOIL INC. has 30 years of experience providing superior lubricating protection for all brands of motorcycles, and AMSOIL Synthetic Motorcycle Oils have been tested in millions of over-the-road miles. Testimonials from countless motorcyclists further demonstrate the superiority of AMSOIL Synthetic Motorcycle Oils.

Formulated with top-of-the-line synthetic base stocks and high-temperature deposit control additives, AMSOIL Synthetic Motorcycle Oils provide superior protection and performance for motorcycles in all operating conditions. AMSOIL Motorcycle Oils effectively withstand oxidation and thermal degradation, keep wear to an absolute minimum, hold contaminants in suspension and keep engines running cool and clean.

#### **AMSOIL Synthetic Motorcycle Oils**

- Reduce operating temperatures

- Keep engines clean and deposit-free
- Provide maximum protection against wear
- Formulated without friction modifiers for smooth performance
- Saves money with extended drain intervals of up to two times the manufacturers' recommendations

