

# Updated Motorcycle Oil White Paper Shows AMSOIL Synthetic Motorcycle Oils Still On Top



AMSOIL Synthetic Motorcycle Oils provide outstanding protection and performance for today's high-stress motorcycle engines, and the AMSOIL "A Study of Motorcycle Oils" white paper (G2156) has served as an effective tool for customers who want to make educated decisions regarding which lubricant is best-suited to provide the best possible protection for their motorcycle investments. AMSOIL once again subjected AMSOIL Synthetic 10W-40 and 20W-50 Motorcycle Oils and a wide range of competitors to the same battery of tests and once again, AMSOIL Synthetic Motorcycle Oils came out on top.

The testing used to evaluate the lubricants was done in accordance with American Society for Testing and Materials (ASTM) procedures. Test methodology is indicated for all data points, allowing for duplication and verification by any analytical laboratory capable of conducting ASTM tests. A notarized affidavit certifying compliance with ASTM methodology and the accuracy of the test results is included in the appendix of the document.

The test results of 15 different SAE 40 motorcycle oils are compared with each other, while the test results of 17 different SAE 50 motorcycle oils are compared with each other. Each oil was subjected to 12 tests:

1) The Initial Viscosity Test (ASTM D-445) measures the initial SAE viscosity of lubricants to ensure the SAE grades indicated by the manufacturers are representative of the actual SAE grades of the oils.

2) The Viscosity Index Test (ASTM D-2270) measures the degree of viscosity change that occurs when lubricants are subjected to temperature changes.

3) The Viscosity Shear Stability Test (ASTM D-6278) determines the viscosity change that occurs with lubricants when subjected to shearing forces.

4) The High-Temperature/High-Shear Stability Test (ASTM D-5481) measures the viscosity of lubricants when subjected to both high temperatures and shearing forces.

5) Zinc Concentration (ppm, ICP) measures the quantity of the anti-wear additive zinc dithiophosphate (ZDP) within lubricants.

6) The Four-Ball Wear Test (ASTM D-4172) determines the wear protection properties of lubricants in case of metal-to-metal contact.

7) The FZG Gear Performance Test (ASTM D-5182) measures the ability of lubricants to protect transmission gears against scuffing (adhesive wear).

8) The TFOUT Oxidation Stability Test (ASTM D-4742) measures the oxidation stability of lubricants in the face of fuel, metal catalysts, water, oxygen and heat.

9) The NOACK Volatility Test (ASTM D-5800) measures the ability of lubricants to resist volatilization (evaporation) in high-temperature service.

10) The TBN Acid Neutralization and Engine Cleanliness Test (ASTM D-2896) measures the acid-neutralizing abilities of lubricants by determining the level of acid required to neutralize their alkaline properties.

11) The Foaming Tendency Test (ASTM D-892) measures the ability of the anti-foam additives within lubricants to control foaming.

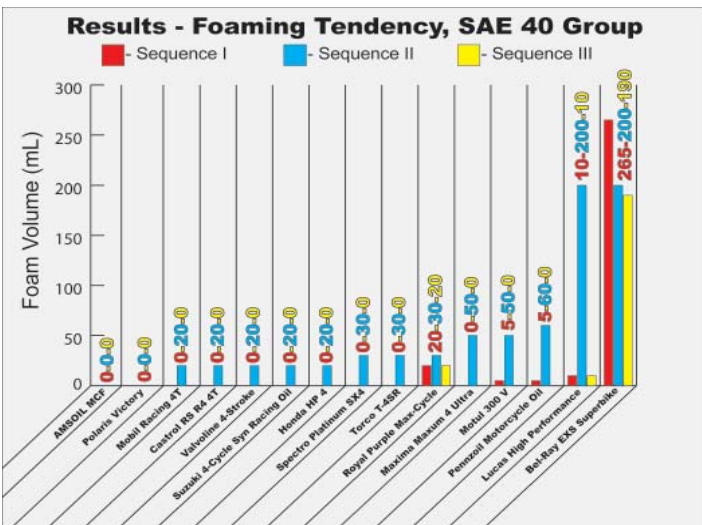
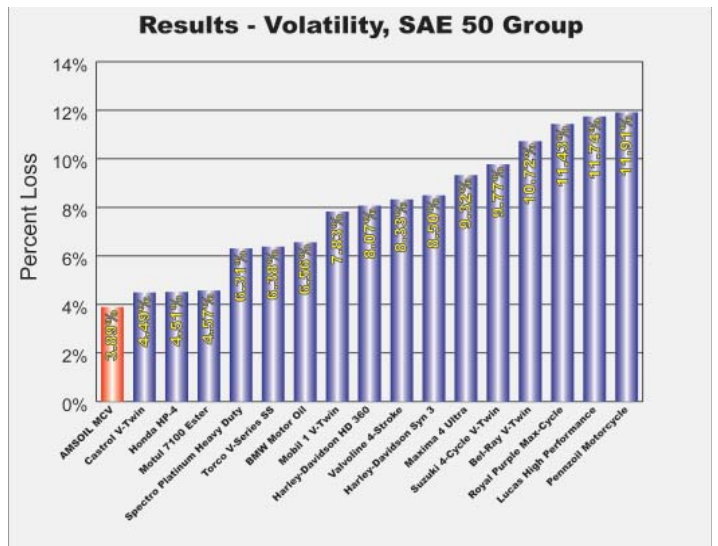
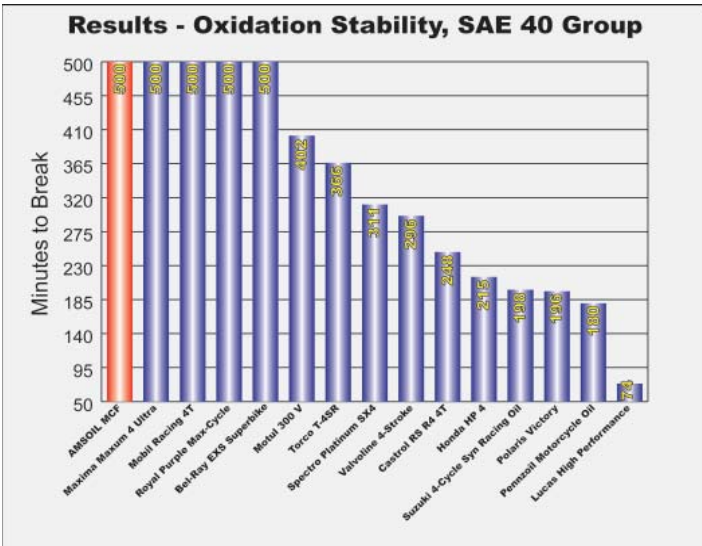
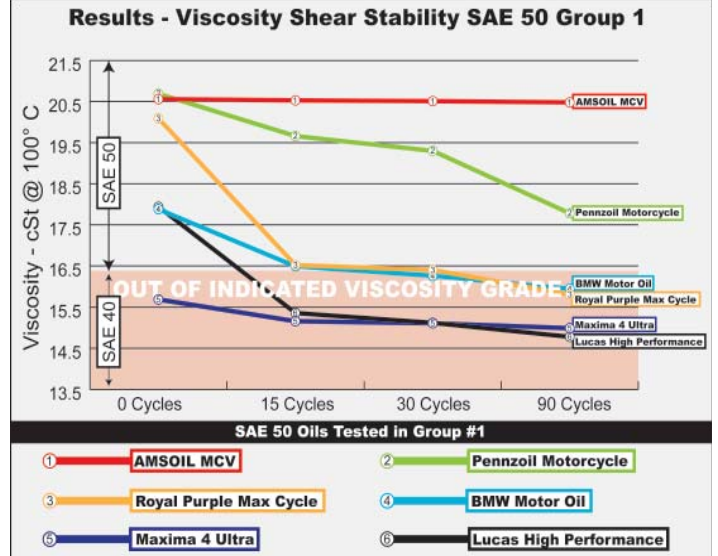
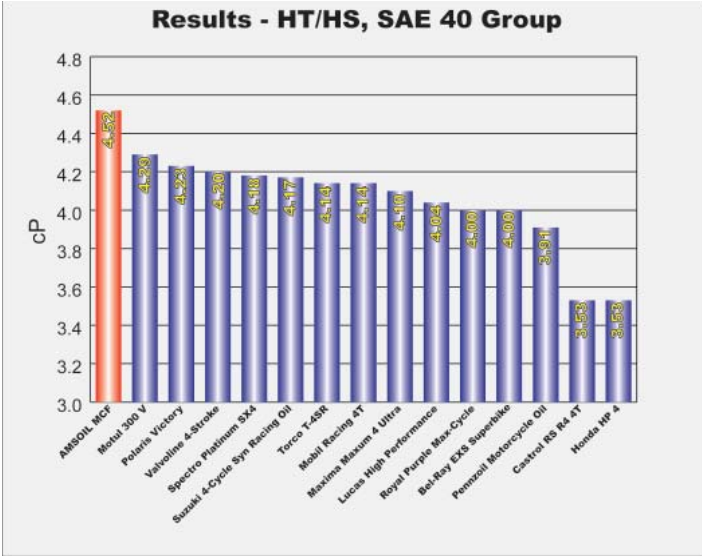
12) The Humidity Cabinet Rust Test (ASTM D-1748) measures the ability of lubricants to protect against rust formation.

To complete the comparison, the prices of all tested lubricants are also included.

At the conclusion of all testing, each oil was assigned a score for each test result, with the top-performing oil assigned a one, the second-best performing oil assigned a two, etc. Because a quality motorcycle oil must perform well in many different areas, results in all categories were added together to produce an overall total for each oil. The oil with the lowest total is the highest overall performer. As in the past, AMSOIL Synthetic Motorcycle Oils clearly emerged as the top-performing oils in each group.

**The following is a sampling of the test results covered in the updated "A Study of Motorcycle Oils" white paper:**

**A Study of Motorcycle Oils White Paper**  
 The updated "A Study of Motorcycle Oils" white paper is now available for purchase.  
**Stock #**      **U.S.**      **Can.**  
 G2156              1.15      1.60



**Results, Foaming Tendency, SAE 50 Group**



Pass Example: AMSOIL MCV (0-0-0)



Fail Example: Lucas High Performance (500-555-510)