



The First in Synthetics®

Formula 4-Stroke® 10W-40 Synthetic Scooter Oil (ASO)

**Unsurpassed Protection for Scooter Engines,
Transmissions and Gear Boxes**



PRODUCT DESCRIPTION

AMSOIL Formula 4-Stroke 10W-40 Synthetic Scooter Oil (ASO) is formulated specifically to meet the special needs of today's high-tech air- and water-cooled four-stroke motorized scooters, offering unsurpassed wear protection and friction reduction for longer equipment life and cooler operating temperatures. Its exceptional shear stability ensures consistent viscosity protection and provides additional protection for transmissions and gear boxes, while its friction modifier-free formulation ensures wet-clutch compatibility and smooth clutch operation. A special anti-corrosion additive package provides long-term protection during periods of inactivity and storage.

Shear Stability

High engine RPM common to scooter applications increase shear, causing conventional lubricants to lose viscosity and reduce their ability to control wear, resulting in shorter engine life. The synthetic formulation of Formula 4-Stroke Synthetic Scooter Oil effectively resists shear, delivering consistent viscosity protection for unsurpassed wear protection and extended equipment life.

Thermal Stability

The operating temperatures of scooter engines fluctuate greatly, especially with air-cooled engines. Formula 4-Stroke Synthetic Scooter Oil resists breakdown at elevated temperatures, maintaining

its protective viscosity for maximum wear control.

Transmission and Gear Box Compatibility

In many scooter applications, the engine and transmission and/or gear box share the same oil reservoir. Formula 4-Stroke Synthetic Scooter Oil is absolutely shear stable and will not thin out from mechanical activity, providing superior protection for transmissions and gear boxes.

Wet-Clutch Compatibility

Some scooters employ a frictional clutch to engage and disengage the engine from the drivetrain. In many cases, this clutch is immersed in the same oil used in the engine and transmission. Formula 4-Stroke Synthetic Scooter Oil contains no friction modifiers and is wet-clutch compatible, offering smooth clutch operation and increased clutch life.

Rust and Corrosion Protection

Scooters are often subjected to extended periods of inactivity and storage, exposing the equipment to internal rust and corrosion. Formula 4-Stroke Synthetic Scooter Oil is formulated with a special anti-corrosion additive package designed to provide long-term protection during periods of inactivity and storage.



TYPICAL TECHNICAL PROPERTIES

Formula 4-Stroke 10W-40 Synthetic Scooter Oil (ASO)

Kinematic Viscosity @ 100°C, cSt (ASTM D-445)	14.7
Kinematic Viscosity @ 40°C, cSt (ASTM D-445)	94.3
Viscosity Index (ASTM D-2270)	162
Pour Point °C (°F) (ASTM D-97)	-38 (-36)
Flash Point °C (°F) (ASTM D-92)	232 (450)
Fire Point °C (°F) (ASTM D-92)	250 (482)
Four-Ball Wear Test	
(ASTM D-4172B @ 40 kg, 75°C, 1200 rpm, 1 hr), Scar, mm	0.40
Noack Volatility, % weight loss (ASTM D-5800)	5.4
High-Temperature/High-Shear Viscosity	
(ASTM D-4683 @ 150°C, 1.0 X 10 ⁶ s. ⁻¹), cP	4.1
Total Base Number (ASTM D-2896)	7.4

Applications and Recommendations

AMSOIL Formula 4-Stroke Synthetic Scooter Oil is recommended for use wherever SAE 10W-40 motor oil is specified in air- and water-cooled four-stroke motorized scooter engines, transmissions and gear boxes that require the following:

- API SG, SL/CF
- JASO MA/MA2 (motorcycle wet clutch)
- ISO-L-EMA2

Engine manufacturers include, but are not limited to, Honda, Kawasaki, Suzuki, Yamaha, Vespa, Aprilia, Piaggio, Benelli, Vento, Kymco, Tank and TGB.

Service Life

Follow the equipment manufacturer's recommended drain intervals.

Mixing AMSOIL

AMSOIL Formula 4-Stroke Synthetic Scooter Oil is compatible with conventional and synthetic motor oils. Mixing AMSOIL motor oils with other oils, however, will shorten the oil life expectancy and reduce the performance benefits.

Aftermarket oil additives are not recommended for use with AMSOIL motor oils.

Health & Safety

This product is not expected to cause health concerns when used for the intended application and according to the recommendations in the Material Safety Data Sheet (MSDS). An MSDS is available via the Internet at www.amsoil.com or upon request at 715-392-7101. **Keep Out of Reach of Children.** Don't pollute. Return used oil to collection centers.

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

