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The First in Synthetics®

DATA BULLETIN

## Z-ROD® Synthetic Motor Oil

### Modern Technology for Classic Cars

AMSOIL Z-ROD Synthetic Motor Oil is specially engineered for classic and high-performance vehicles. It features a high-zinc formulation to prevent wear on flat-tappet camshafts and other critical engine components, along with a proprietary blend of rust and corrosion inhibitors for added protection during long-term storage. Z-ROD Synthetic Motor Oil is designed to perform on the street and protect during storage.

*AMSOIL, the leader in automotive synthetic lubrication, produced the world's first API-qualified synthetic motor oil in 1972. Trust the extensive experience of AMSOIL, The First in Synthetics®, to do the best job protecting your engine.*

#### Protects Flat-Tappet Cams

The lifters and cam lobes on flat-tappet camshafts common to classic and high-performance vehicles slide rapidly against one another, producing high friction and heat. The friction between the two components can eventually wear down the cam and affect valve operation, ultimately resulting in lost engine power and reduced efficiency. In addition, these areas are splash-lubricated rather than pressure-lubricated like other areas of the engine, which adds extra strain on anti-wear additives such as the zinc and phosphorus in zinc dialkyldithiophosphate (ZDDP).

AMSOIL Z-ROD Synthetic Motor Oil is formulated with high levels of ZDDP to protect flat-tappet cams, lifters, rockers and other areas susceptible to wear. Its high-zinc, high-phosphorus formulation provides the extra wear protection these critical splash-lubricated components require.

#### Provides Long-Term Protection from Rust & Corrosion

AMSOIL Z-ROD Synthetic Motor Oil is formulated with a unique blend of rust and corrosion inhibitors to ensure maximum protection during long-term storage. To prove its effectiveness, AMSOIL submitted Z-ROD Synthetic Motor Oil to the Standard Test Method for Rust Protection in the Humidity Cabinet (ASTM D1748). This test evaluates the rust-preventative properties of oil under high-humidity conditions, similar to those faced by a covered hot rod in a damp garage. The metal coupon treated with AMSOIL Z-ROD Synthetic Motor Oil showed no signs of oxidation after 192 hours, while the coupon treated with a leading competitor's product failed the test after 24 hours.



After 192 hours in a humidity cabinet, the metal coupon treated with Z-ROD Synthetic Motor Oil showed no signs of rust or corrosion.



After 192 hours in a humidity cabinet, the metal coupon treated with a leading competitive product rusted severely.



**TYPICAL TECHNICAL PROPERTIES****AMSOIL Z-ROD® Synthetic Motor Oil**

	<b>10W-30 (ZRT)</b>	<b>20W-50 (ZRF)</b>
Viscosity @ 100 °C, cSt (ASTM D445) . . . . .	11.8	19.3
Viscosity @ 40 °C, cSt (ASTM D445) . . . . .	74.9	140.3
Viscosity Index (ASTM D2270) . . . . .	152	157
Flash Point, °C (°F) (ASTM D92) . . . . .	236 (457)	254 (490)
Fire Point, °C (°F) (ASTM D92) . . . . .	268 (514)	270 (518)
Pour Point, °C (°F) (ASTM D97) . . . . .	-46 (-51)	-40 (-40)
NOACK Volatility, % weight loss (g/100g) (ASTM D5800) . . . . .	5.5	4.0
High-Temperature/High-Shear Viscosity @150°C, 1.0 X 10 <sup>6</sup> s <sup>-1</sup> , cP (ASTM D5481) . . . . .	3.6	5.2
Four-Ball Wear @ 40 kgf, 75°C, 1200 rpm, 1 hr, scar diameter, mm (ASTM D4172) . . . . .	0.35	0.34
Total Base Number (ASTM D2896) . . . . .	9.1	9.1

**APPLICATIONS**

AMSOIL Z-ROD Synthetic Motor Oil is recommended for older or modified engines requiring either 10W-30 or 20W-50 motor oil. Z-ROD Synthetic Motor Oil meets API SL and earlier specifications, allowing for increased levels of anti-wear additives. ZDDP levels in Z-ROD Synthetic Motor Oil exceed the limits of API SM and newer specifications.

**COMPATIBILITY**

AMSOIL Z-ROD Synthetic Motor Oil is compatible with conventional and other synthetic motor oils. Mixing AMSOIL Z-ROD Synthetic Motor Oil with other oils, however, will shorten the oil's life expectancy and reduce the performance benefits.

Aftermarket oil additives are not recommended for use with AMSOIL Z-ROD Synthetic Motor Oil.

**SERVICE LIFE**

Because engines in classic cars, hot rods and other performance vehicles are generally modified, a universal oil drain interval recommendation for these applications cannot be given. Responsibility for determining the drain interval duration rests with the owner. As a general service guideline, the maximum drain interval for Z-ROD Synthetic Motor Oil should not exceed 5,000 miles or one year, whichever comes first. In heavily modified engines (e.g., forced induction, nitrous, etc.) the maximum drain interval should not exceed 3,000 miles or one year, whichever comes first.

**AMSOIL PRODUCT WARRANTY**

AMSOIL products are backed by a Limited Liability Warranty. For complete information visit [www.amsoil.com/warranty.aspx](http://www.amsoil.com/warranty.aspx).

**HEALTH AND SAFETY**

This product is not expected to cause health concerns when used for the intended applications and according to the recommendations in the Safety Data Sheet (SDS). An SDS is available online at [www.amsoil.com](http://www.amsoil.com) or upon request at (715) 392-7101.

**Keep Out of Reach of Children.** Recycle used oil and bottle.



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