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AMSOIL
The First in Synthetics®

DATA BULLETIN

SAE 50 Long-Life Synthetic Transmission Oil

Specifically Engineered for 500,000-Mile Service Life in Over-The-Road Trucks.

AMSOIL SAE 50 Long-Life Synthetic Transmission Oil is specially formulated to meet the demanding requirements of manual transmissions found in high-torque, heavy-duty line-haul trucks and other commercial applications. Its synthetic base oils and premium additives help reduce wear (see images), improve shifting and extend transmission life throughout drain intervals of up to 500,000 miles/five years. Compared to conventional fluids, Long-Life Synthetic Transmission Oil can help operators reduce maintenance costs and increase productivity.



- **Maximizes** gear and bearing life
- **Helps** operators save money
- **Promotes** smooth shifts
- **Helps** extend seal life and prevent leaks

Resists Wear

AMSOIL Long-Life Synthetic Transmission Oil's synthetic base oils withstand the pressures of high-load, high-torque applications. As a result, it resists viscosity loss due to mechanical shear to provide a durable lubricating fluid film for increased wear resistance and long transmission life.

To prove its effectiveness, AMSOIL installed SAE 50 Long-Life Synthetic Transmission Oil in line-haul trucks and placed them into real-world service. After more than 500,000 miles, a transmission was disassembled and inspected by a calibrated ASTM rater. Results reveal Long-Life Synthetic Transmission Oil provided outstanding wear protection in all critical components (see images).

Year-Round Performance

AMSOIL Long-Life Synthetic Transmission Oil's high viscosity index translates into better high- and low-temperature performance compared to conventional fluids. In cold weather, it provides easier shifts and reduced fluid drag for increased fuel economy. Its exceptional thermal stability inhibits chemical breakdown and sludge formation at high operating temperatures to help transmissions run cleaner.

Inhibits Foam

Churning gears introduce air into the fluid, causing foam. When bubbles between gear surfaces collapse, metal-to-metal contact and increased wear can result. Long-Life Synthetic Transmission Oil contains foam inhibitors to ensure formation of a strong lubricating film and excellent wear protection.

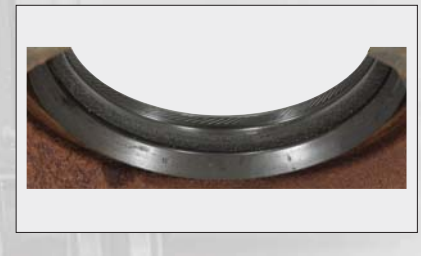
Mainshaft Gear



Synchro



Output Seal



The transmission gears and synchro friction material demonstrated minimal wear following 500,000 miles, while the output seal did not leak and still contained 100 percent of its grease, proving the lubricant's superior performance.

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TYPICAL TECHNICAL PROPERTIES

SAE 50 Long-Life Synthetic Transmission Oil (FTF)

Viscosity 100°C, cSt (ASTM D445)	17.5
Viscosity 40°C, cSt (ASTM D445)	135.2
Viscosity Index (ASTM D2270)	142
Specific Gravity (g/ml) (ASTM D1298)	0.8602
Density, (lb/gal) (ASTM D1298)	7.16
Color (ASTM D1500)	L4.0 (Red)
Flash Point, °C (°F) (ASTM D92)	226 (439)
Fire Point, °C (°F) (ASTM D92)	254 (489)
Pour Point, °C (°F) (ASTM D97)	-42 (-44)
Four-Ball Wear Test (ASTM D4172)	
Para 1 (75°C, 1200 rpm, 40 kg, 1 hr)	.0.38
Brookfield Viscosity -40°C (cP) (ASTM D2983)	117,483
Foam Tendency (ASTM D892)	0/0, 0/0, 0/0
Copper Corrosion, 121°C, 3 hr (ASTM D130)	1B
60-Hour KRL (% Vk100 loss) (CEC L-45-A-99)	-4.97

Seal Friendly

Long-Life Synthetic Transmission Oil is compatible with seals to help prevent leaks and extend seal life.

APPLICATIONS

AMSOIL SAE 50 Long-Life Synthetic Transmission Oil is excellent for use in manual transmissions requiring an SAE 50 lubricant found in heavy-duty equipment. It is recommended for applications specifying any of the following:

- Eaton* PS-164 Rev. 7
- API GL-1 and MT-1
- Navistar*/International* TMS 6816
- Mack* TO-A Plus
- ZF* Freedomline
- Meritor* 0-81
- Rockwell*/Eaton/Fuller* CD-50 (PS-081)

SERVICE LIFE

Follow the OEM drain interval for synthetic oil up to 500,000 miles or five years, whichever comes first.

AMSOIL PRODUCT WARRANTY

AMSOIL products are backed by a Limited Liability Warranty. For complete information, visit www.amsoil.com/warranty.aspx.

HEALTH & SAFETY

This product is not expected to cause health concerns when used for the intended application and according to the recommendations in the Safety Data Sheet (SDS). An SDS is available online at www.amsoil.com or upon request at (715) 392-7101. **Keep Out of Reach of Children.** Recycle used oil and bottle.

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