



PROTECTION | PERFORMANCE  
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# Signature Series Synthetic Automatic Transmission Fluid

Transmissions in commercial vehicles, SUVs, trucks and vans – particularly those used for hauling or towing – are subjected to severe service operation and increased heat. Elevated temperatures cause fluids to break down, allowing damaging metal-to-metal contact and the formation of sludge and deposits. The problem is worse in modern transmissions with more gears, clutch packs and narrow oil passages that require clean, high-quality fluid to achieve maximum performance and life.

AMSOIL Signature Series Synthetic Automatic Transmission Fluid is specifically formulated to withstand the rigors of heavy towing, elevated temperatures and challenging terrain. It remains fluid in sub-zero temperatures and provides reserve protection during heavy use and abuse.

## Proven in 180,000-mile, Severe-Service Taxi Fleet Field Trial

To demonstrate its effectiveness in severe service, Signature Series Multi-Vehicle Synthetic ATF was installed in Las Vegas taxi cabs. The vehicles routinely encountered demanding stop-and-go driving loaded with passengers and cargo, while the desert environment presented extremely hot ambient temperatures, placing enormous strain on the fluid. Following 180,000 miles, a transmission was selected for analysis. The Aluminum Beaker Oxidation Test (ABOT) is an industry standardized test used to determine a transmission fluid’s oxidation resistance, which is a good indicator of its service life. Testing by an independent, third-party lab revealed that after 180,000 miles in severe service, Signature Series Multi-Vehicle Synthetic ATF resisted oxidation longer than required for new fluid to meet the Chrysler ATF+4 specification (see graph). Internal components, including the valve body and clutch plates (pictured), were virtually free of damaging sludge, deposits and wear, confirming the lubricant’s high level of protection for severe-service applications.

## Protects Against Thermal Breakdown

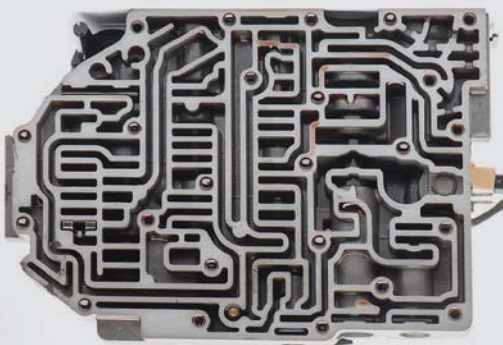
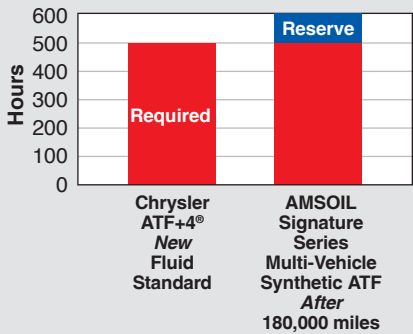
Signature Series Synthetic ATF is formulated with high concentrations of antioxidants, making it naturally heat resistant. It provides outstanding protection against sludge and varnish deposits that clog narrow oil passages and contribute to clutch glazing. After 180,000 miles in severe service, fluid analysis revealed Signature Series MultiVehicle Synthetic ATF contained 83% of its original oxidation inhibitors, proving its long-lasting resistance to thermal breakdown.

DATA SHEET



### Reserve Protection Against Heat After 180,000 Miles

ABOT Test Performed by Independent Lab  
Based on Total Acid Number (TAN)



The transmission’s valve body is clean and virtually sludge-free following 180,000 severe-service miles. The clutch plates demonstrated only trace discoloration and earned a rating of “good,” the highest possible, for deterioration/wear.

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TYPICAL TECHNICAL PROPERTIES

AMSOIL Signature Series Multi-Vehicle Synthetic Automatic Transmission Fluid (ATF)

AMSOIL Signature Series Fuel-Efficient Synthetic Automatic Transmission Fluid (ATL)

AMSOIL Signature Series Ultra-Low Viscosity Synthetic Automatic Transmission Fluid (ULV)

|                                                                         | ATF       | ATL       | ULV       |
|-------------------------------------------------------------------------|-----------|-----------|-----------|
| Kinematic Viscosity @ 100°C, cSt (ASTM D445)                            | 7.5       | 6.3       | 4.5       |
| Kinematic Viscosity @ 40°C, cSt (ASTM D445)                             | 38.5      | 30.8      | 20.5      |
| Viscosity Index (ASTM D2270)                                            | 165       | 159       | 134       |
| Pour Point °C (°F) (ASTM D97)                                           | -53 (-63) | -65 (-85) | -62 (-80) |
| Flash Point °C (°F) (ASTM D92)                                          | 234 (453) | 224 (435) | 220 (428) |
| Four-Ball Wear Test (ASTM D4172 @ 40 kg, 75°C, 1200 rpm, 1hr), Scar, mm | 0.39      | 0.41      | 0.39      |
| Brookfield Viscosity @ -40°C, cP (ASTM D2983)                           | 9755      | 7676      | 4050      |

Outstanding Wear Protection

Varying speeds and loads causes torque multiplication and extreme stress on gears and bearings. AMSOIL formulated Signature Series Synthetic ATF with high film strength and premium anti-wear/extreme-pressure additives to help prevent wear during severe service. In the industry-standard FZG Gear Wear Test, Signature Series Multi-Vehicle Synthetic ATF that had been used for 180,000 severe-service miles achieved a “Pass” at stage 12 – the highest stage. The results exceeded the Ford MERCON V and Chrysler ATF+4 specifications for new fluid, demonstrating the lubricant’s long-lasting wear protection.

Cold-Temperature Fluidity

Cold, thick automatic transmission fluid lengthens shift times and reduces fuel economy. Signature Series Synthetic ATF is wax-free and delivers extraordinary cold-flow properties. It helps improve shift response, energy efficiency and warm-up times.

Friction Durability

Today’s transmissions are smaller and must withstand higher horsepower and torque while delivering smoother shifts, all with longer fluid life recommendations. AMSOIL Signature Series Synthetic ATF is formulated with friction modifier additives that deliver outstanding clutch-holding capacity (static friction), torque-transfer ability (dynamic friction) and anti-shudder properties (slipping torque-converter clutches). Analysis reveals that after 180,000 miles in severe service, Signature Series Multi-Vehicle Synthetic ATF provides nearly identical friction properties as new fluid for smooth, reliable shifts.

APPLICATIONS

Use AMSOIL Signature Series Multi-Vehicle Synthetic ATF in transmissions, hydraulics, power steering systems and other applications that require any of the following specifications:

Allison C-4, TES-389; BMW 7045E, 8072B, LA 2634, LT 71141; Chrysler ATF+4\*, MOPAR\* ASRC, 68089195AA, 68049954AA; Ford MERCON\*, MERCON\* V, ESP-M2C166-H, FNR5, M2C924-A, XL-12; GM DEXRON\* II, DEXRON\* III, AutoTrak II; Honda/Acura ATF-Z1; Honda 2.0; Hyundai/Kia SP-II, SP-III, Red-1; IDEMITSU K17; JASO 1A; JWS 3309, 3314, 3317; MAN 339 Type V-1, 339 Type V-2, 339 Type Z-1, 339 Type Z-2, 339 Type Z-3, 339F; Mazda ATF-M III, ATF-MV, F-1; Mercedes Benz 236.1, 236.2, 236.3, 236.5, 236.6, 236.7, 236.9, 236.10, 236.11, 236.81, 236.91; Mitsubishi SP-II, SP-III, ATF-J2; Nissan Matic-D, Matic-J, Matic-K, 402; SAAB 3309; Shell 3403, LA 2634; Subaru ATF, ATF-HP; Suzuki 3314, 3317; Texaco ETL-7045E, ETL-8072B, N402; Toyota Type T, T-II, T-III, T-IV; Voith 55.6335, 55.6336; Volvo 97340, 97341; VW/Audi G 052 162, G 052 990, G 055 025; ZF TE-ML 03D, 04D, 05L, 09, 11A, 11B, 14A, 14B, 14C, 16L, 16M, 17C, 20B, 20C, 21L.

Use AMSOIL Signature Series Fuel-Efficient Synthetic ATF in transmissions and other applications that require any of the following specifications:

Aisin-Warner AW-1; Aston Martin FD33-19A509-AA; Bentley JNV 862 564 D; BMW 83 22 0 142 516, 83 22 2 152 426, ATF 3+, 83 22 5 A12 A00; Chrysler MOPAR\* 68157995AA, SP-IV, 68218925AB; DSIH 6p805; Ford MERCON\* LV, SP; GM DEXRON\* HP, DEXRON\* VI; Honda/Acura DW-1, \* Type 2.0, Type 3.0, Type 3.1; Hyundai/Kia SP-IV, SPH-IV, SP-IV-RR, NWS-9638, SP4-M, SP-IV-M1; Iveco 5000 42 124; Jaguar 02JDE 26444; JASO 1A-LV; JWS 3324; Land Rover LR023288; Mazda ATF FZ; Mercedes Benz 236.12, 236.14, 236.15, 236.41, MB 236.82, ATF A 000 989 65 05; Mitsubishi SP-IV, ATF J3, ATF-PA, ATF-MA1; Nissan Matic-R, Matic-S, Matic-W; Petronas Tutela Transmission AS8; Porsche 000 043 210 54; Renault ZT50, 77 17 277 174; Saab 93 165 147; Shell M-1375.4, M-1375.5, M-1375.6, M-L 12108; Stellantis 68218925AB; Toyota WS; Volvo 31256774; VW/Audi G 055 005, G 055 162, G 060 162 (A1, A2 and A6); ZF LifeguardFluid 8 (S671 090 312), LifeguardFluid 9 (AA01.500.001), S671 090 255.

AMSOIL Signature Series Fuel-Efficient Synthetic ATF is backward compatible and replaces DEXRON III fluids in older GM automatic transmissions. (DEXRON VI specification supersedes the obsolete DEXRON III in GM vehicles.) Also suitable for Toyota CVT applications calling for the Toyota “WS” specification.

Use AMSOIL Signature Series Ultra-Low Viscosity ATF in transmissions and other applications that require any of the following specifications:

Ford MERCON\* ULV; GM DEXRON\* ULV

SERVICE LIFE

**Normal Service:** Follow the vehicle manufacturer’s normal-service drain interval.

**Severe Service:** Double the vehicle manufacturer’s severe-service drain interval in passenger cars and light trucks.

*Change at the vehicle manufacturer’s recommended drain interval outside U.S. and Canada.*

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 AMSOIL.com or upon request at 715-392-7101. **Keep Out of Reach of Children.**

AMSOIL PRODUCT WARRANTY

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



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



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