PRODUCT DATA SHEET

ATF 689

Full Synthetic Low-Viscosity ATF for ZF 6HP, 8HP, and 9HP Transmissions

Rev: 2026-08-30

DESCRIPTION

TRIAX ATF 689 is a premium full-synthetic low-viscosity automatic transmission fluid engineered specifically for European vehicles equipped with ZF 6HP, 8HP, and 9HP multi-speed gearboxes. The formulation leverages state-of-the-art friction modifiers on shear-stable synthetic base oils to deliver factory-level shift quality and exceptional clutch and gear protection. Built to carry the full ZF service interval — ZF recommends a fluid change at 150,000 km (≈ 93,000 miles) on its 5-, 6-, 8- and 9-speed automatics — the synthetic chemistry handles thermal stress and cold-temperature startup while maintaining stable viscosity across the full operating range of modern multi-speed automatic transmissions.

PERFORMANCE HIGHLIGHTS

- Formulated for the ZF-recommended 150,000 km (≈ 93,000 mile) fluid-change interval, and for the shorter intervals ZF advises under high temperature, high load, or unknown service history
- **Cold flow to -60 °F** for instant cold-start torque-converter engagement; **VI 172** holds shift quality stable from sub-zero starts through sustained high-temperature operation
- **Shear-stable synthetic chemistry** protects clutch packs, valve bodies, and planetary gear sets; prevents clutch glazing, gear scuffing, and slip-induced heat generation well beyond OEM expectations
- Exceptional frictional stability eliminates shudder, gear chatter, and torque-converter vibration under extreme load and temperature, holding friction levels that prevent clutch slippage and keep gear engagement seamless
- Universal seal compatibility with all elastomer materials used in modern ZF gearboxes; no seal swell, hardening, or leak development
- Zero foaming under sustained operation; no air entrainment that could compromise hydraulic pressure or shift quality
- Direct replacement for ZF LifeguardFluid 6, 8, and 9, and backwards compatible across all three

SPECIFICATIONS & APPLICATIONS

TRIAX ATF 689 is purpose-built as a direct replacement for ZF LifeguardFluid 6, 8, and 9, covering vehicles equipped with ZF 6HP, 8HP (8HP45 through 8HP95 families), and 9HP multi-speed automatic transmissions. Compatible with European, North American, and Asian makes including BMW, Audi, Volkswagen, Jaguar, Land Rover, Rolls-Royce, Maserati, Fiat, Dodge / Chrysler, Honda, Acura, and Nissan / Infiniti ZF-equipped models.

Meets or exceeds the following OEM and industry specifications:

- ZF LifeguardFluid 6 (S671 090 255), 8 (S671 090 312), and 9 (AA01.500.001); ZF TE-ML 11
- BMW ATF 2 (83 22 0 142 516; 83 22 0 144 137)
- BMW ATF 3+ (83 22 5 A12 A00); legacy 83 22 2 152 426, 83 22 2 289 720, 83 22 2 305 397
- Shell M-L12108
- VW / Audi G 060 162 A1 / A2 / A6; G 055 162 (A2, A6)
- Jaguar 02JDE 26444; Land Rover LR 023288, LR 023289
- Mopar / Chrysler 68157995AA, AB, AC (ZF 6HP and 8HP)
- Mopar / Stellantis 68218925AA, AB (ZF 9HP)
- Fiat 9.55550-AV5
- Honda 08200-9017 (ATF Type 3.1); Acura 08200-9016A (ATF Type 3.0)
- Nissan / Infiniti Matic-R (999MP-MTR00P)

TYPICAL PROPERTIES

Parameter (Test Method)	Typical Value
Viscosity, Kinematic @ 40 °C, cSt (ASTM D445)	**24.5**
Viscosity, Kinematic @ 100 °C, cSt (ASTM D445)	**5.5**
Viscosity Index (ASTM D2270)	**172**
Flash Point, °C (°F) (ASTM D92)	**221 (430)**
Pour Point, °C (°F) (ASTM D97)	**-51 (-60)**
Specific Gravity @ 60 °F (ASTM D1298)	**0.845**

These are typical values. There may be small differences in actual values which are a normal part of production and do not affect product performance.

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BMW ATF CROSS-REFERENCE

TRIAX ATF 689 — DIRECT SUBSTITUTE FOR BMW ATF 2 AND ATF 3+

TRIAX ATF 689 is a direct substitute for the BMW factory transmission fluids identified below. Use this cross-reference to match ATF 689 to the correct BMW fluid name and BMW OE part number across the ZF 6HP, 8HP and 9HP transmission families, and to identify the one current BMW fluid that ATF 689 does not replace.

BMW OEM Fluid	BMW OE Part Number(s)	ZF Fluid / Transmission Family	ATF 689 Substitution
BMW ATF 2 (prev. M-1375.4 / TF 1375.4)	Main: 83 22 0 142 516; 83 22 0 144 137. 1 L service: 83 22 2 305 396; 83 22 2 220 445.	ZF LifeguardFluid 6 (S671 090 255) — 6HP19 / 21 / 26 / 28 / 32 (ZF TE-ML 11)	**Yes**
BMW ATF 3+	Current: 83 22 5 A12 A00. Legacy cross-refs: 83 22 2 152 426; 83 22 2 289 720; 83 22 2 305 397.	ZF LifeguardFluid 8 (S671 090 312) — 8HP45 through 8HP95 families	**Yes**
BMW ATF 3+	83 22 5 A12 A00.	ZF LifeguardFluid 9 (AA01.500.001) / Lifeguard Hybrid 1 (AA02.836.455) — 9HP48, 9HP50 and PH variants (8HP65APH, 8HP65AXPH, 8P65FLPH, 8P75PH, 8P75XPH)	**Yes**
BMW ATF 8	83 22 5 A28 F03.	ZF Lifeguard Hybrid 2 (0671.090.548) — 8HP60, 8HP60MH / X / XMH, 8HP80, 8HP80MH / X / XMH, 8P80PH, 8P80XPH, 8P100XPH	**Not covered — use OEM fill**

BMW ATF 8 / ZF Lifeguard Hybrid 2 (ZF approval ZF008240) is a distinct fourth-generation transmission fluid. It is not backwards-compatible with ZF LifeguardFluid 6, 8 or 9, and TRIAX ATF 689 must not be used where BMW ATF 8 is specified. Note that ZF lists the Lifeguard Hybrid 2 group as covering both conventional and mild-hybrid 8HP60 / 8HP80 variants — the requirement is set by transmission generation, not by hybridisation. Always confirm the correct fluid against the vehicle and transmission OEM fill specification before service.

Cross-reference is provided for compatibility guidance only and is based on the ZF TE-ML 11 List of Lubricants, edition 01.07.2026. TRIAX ATF 689 is not licensed, approved, certified, or endorsed by BMW or ZF — no affiliation, certification, or endorsement is claimed or implied. All BMW and ZF fluid names and part numbers are trademarks of their respective owners, used here solely for descriptive cross-reference and compatibility purposes.

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