



Atlas Transfluid TO-4

Synthetic Blend Heavy-Duty Transmission, Hydraulic, and Final Drive Fluid (SAE 10W / 30 / 50)

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DESCRIPTION

TRIAX Atlas Transfluid TO-4 is a synthetic blend heavy-duty transmission, hydraulic, and final drive fluid engineered to meet and exceed Caterpillar TO-4, TO-2, and TO-4M specifications for construction, quarrying, and mining equipment. The formulation leverages a high-zinc, friction-controlled additive system to deliver outstanding wear protection, precise frictional performance for wet-clutch and powershift transmissions, and exceptional pump-loop performance in hydraulic systems requiring the Vickers 35VQ25 standard. Designed as a multi-functional fluid for transmissions, final drives, wet brakes, and hydraulic systems operating in severe-service off-road equipment, the synthetic-blend chemistry handles thermal stress, water contamination, and sustained shock loading, prevents clutch glazing, gear scuffing, and pump cavitation, and maintains stable viscosity under extended service intervals with proper monitoring and regular oil analysis.

PERFORMANCE HIGHLIGHTS

- Extended service life with proper monitoring and regular oil analysis; consult OEM service guidelines for vehicle- and application-specific drain intervals
- **3× better wear protection** vs. most other TO-4 fluids and **up to 38% less gear scuffing** vs. industry standard for Caterpillar TO-4 specification*
- **High-zinc additive chemistry** (1,250+ ppm Zn) protects against metal-on-metal contact, scuffing, and corrosion of precision-machined transmission and final drive components
- **Precise frictional control** eliminates wet-clutch slippage and chatter; delivers flawless transmission shifting and silent, efficient powershift operation
- **Hydraulic-system optimized** — passes Vickers 35VQ25 vane-pump test; exceptional air release and water dispersal prevent pump cavitation and wear
- **Wide operating temperature range** — SAE 10W grade flows to -40 °C for all-season operation; superior oxidation resistance at sustained elevated operating temperatures
- **Universal seal compatibility** prevents seal cracking and thermal degradation across the full range of elastomers used in Caterpillar, Komatsu, and other OEM gearboxes
- **Direct replacement for Caterpillar OEM fluids** — Cat TDTO 10W, TDTO 30, TDTO 50, HYDO 10W, and HYDO 10 advanced lubricants

**Per industry-standard testing against the Caterpillar TO-4 specification baseline. Service intervals represent maximum capability with proper oil analysis; consult OEM service guidelines for vehicle-specific drain intervals.*

SPECIFICATIONS & APPLICATIONS

TRIAX Atlas Transfluid TO-4 is purpose-built as a direct replacement for Caterpillar OEM TDTO and HYDO advanced lubricants — including Cat TDTO 10W, TDTO 30, TDTO 50, HYDO 10W, and HYDO 10 — covering powershift and hydrostatic transmissions, final drives, wet brakes, and hydraulic systems on construction, quarrying, mining, and heavy-duty off-road equipment from Caterpillar, Komatsu, Hitachi, JCB, Terex, Volvo, John Deere, Case, and New Holland.

Meets or exceeds the following OEM and industry specifications:

- Caterpillar TO-4, TO-4M, and TO-2
- Caterpillar TDTO 10W, TDTO 30, TDTO 50 (direct replacement)
- Caterpillar HYDO 10W, HYDO 10 (direct replacement)
- Caterpillar hydraulic systems and powershift transmissions
- Allison C-4
- API MT-1, CF-2, CF
- Komatsu KES 07.868.1 (2002)
- ZF TE-ML 03C and TE-ML 07F
- Vickers 35VQ25 vane pump test (hydraulic systems)
- Final drives with wet brakes; gear assemblies calling for TO-4 or TO-2

TYPICAL PROPERTIES

Parameter (Test Method)	SAE 10W	SAE 30	SAE 50
Viscosity, Kinematic @ 40 °C, cSt (ASTM D445)	42	101.2	239.70
Viscosity, Kinematic @ 100 °C, cSt (ASTM D445)	6.70	11.7	20.50
Viscosity Index (ASTM D2270)	113	104	100
Flash Point, °C (°F) (ASTM D92)	207 (405)	215 (419)	238 (461)
Pour Point, °C (°F) (ASTM D97)	-40 (-40)	-30 (-22)	-30 (-22)
Specific Gravity @ 60 °F (ASTM D1298)	0.8727	0.87	0.8978
Color, ASTM (ASTM D1500)	< 3.0	< 3.0	< 3.0
Zinc Content, ppm (ICP)	1,250+	1,250+	1,250+

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.