



TO-4 Fluids

STARFIRE TO-4 Fluids are formulated to meet the performance requirements of Caterpillar Specification TO-4, TO-4M, TO-2 and Allison C-4, C-3 for transmissions, final drives, and hydraulic systems. The fluids are manufactured from selected, highly refined base stocks and compounded with additives to enhance oxidation and heat resistance, specified friction control, cleanliness, load carrying ability, corrosion and wear protection, and low foam tendency. STARFIRE TO-4 Fluids have good detergent-dispersant characteristics.

APPLICATIONS

In normal operations the products are designed to meet those applications requiring an SAE 10W primarily for hydraulic systems, viscosity grade SAE 30 for transmissions, and SAE 50 and SAE 60 for final drives. They are also suggested for heavy-duty truck automatic transmissions requiring fluids meeting SAE 10W or SAE 30 viscosity characteristics. They should not be used for crankcase motor oil applications or those transmission systems where low brake/clutch chatter is a requirement.

Recommended where TO-4 is the appropriately specified fluid in equipment including:

- Tremec/TTC
- Komatsu/Dresser
- Dana Powershift

In addition to the transmission, TO-4 fluids are used for a wide range of fluid areas such as:

Articulated trucks

- Hoist, steering, brakes, suspension
- Differential, final drive
- Transfer case

Backhoes

- Hydraulics for backhoe and loaders
- Axles, drives (some, not all)
- NOT hydraulics –HYDO Advance 10

Excavators

- Drives
- Track rollers (bearings, pivot shaft, recoil spring)

Graders

- Final drive for most

Pavers

- Hydraulics (some)
- Final Drives

Pipe Layers

- Winches
- Track rollers
- Final drive (some)

Track Loaders

- Final drive
- Track rollers

SAE GRADE	10W	30W	50W	60W
Viscosity: cSt @ 40°C	42.7	95.2	185.2	311.2
cSt@100°C	6.5	11.0	17.3	24.5
Viscosity Index	102	100	100	100
Pour Point, °F	-25	-10	+5	+10
Flash Point (COC), °F	400	425	460	475
Sulfated Ash, %	1.2	1.2	1.2	1.2
Gravity, °API	30	28.5	27	26.5
TBN	7.5	7.5	7.5	1.2