

Gear Oil

For Caterpillar® manual transmissions, axles, and final drives

SAE 80W-90
SAE 85W-140

Developed, tested, and approved by Caterpillar, Cat Gear Oil ensures optimum life and performance in Cat® manual transmissions, axles, and final drives that require an extreme pressure additive over a wide range of temperatures.

Recommended use

Application

Cat Gear Oil is a multigrade viscosity GL-5 classification gear oil intended for use in heavy-duty applications. It is recommended for all systems permitting the use of GL-5 multipurpose type gear oil, including:

- Cat Wheel Tractor-Scraper, Articulated Truck, Wheel-type Excavator, and Backhoe Loader differentials and final drives.
- Pavement Profiler direct drive transmissions, differentials, and final drives.
- Vibratory Compactor drum bearings.

Cat Gear Oil does not meet Caterpillar's TO-4 specification and should not be used in compartments that specify TO-4 oil.

Information sources

We can help you determine the right oil for your Cat machines and engines, or you can refer to your "Operation and Maintenance Manual" or "Caterpillar Machine Fluids Recommendations," SEBU6250.

Typical Characteristics*

SAE Viscosity Grade	80W-90	85W-140
Gravity, °API (ASTM D287)	25.7	25.7
Color, ASTM (ASTM D1500)	7.0	7.0
Flash Point, °C (°F) (ASTM D92)	220 (428)	224 (435)
Pour Point, °C (°F) (ASTM D97)	-24 (-11)	-12 (10)
Channel Point, °C (°F), max (FTMS 791A-3458)	-35 (-31)	-20 (-4)
Viscosity,		
cP @ -26°C (ASTM D2983)	120,000	90,000
cSt @ 40°C (ASTM D445)	135	330
cSt @ 100°C (ASTM D445)	14.6	26.0
Viscosity Index (ASTM D2270)	100	95
Phosphorus, % wt. (ASTM D1091)	0.092	0.092

* The values shown are typical values and should not be used as quality control parameters to either accept or reject product. Specifications are subject to change without notice.

Gear Oil

Advanced formula for maximum performance and protection

Cat Gear Oil is an extreme pressure oil made with specially processed base oils. The high viscosity index of the base oil, combined with sulfur phosphorus additives, ensures exceptional chemical and thermal stability. Cat Gear Oil offers:

- maximum protection against scoring of gear teeth, as well as pitting of gear teeth and rolling element bearings.
- excellent stability under high temperature conditions.
- superior low temperature performance.
- protection against corrosion and rust that can result from water contamination or storage in a humid atmosphere.
- extra protection for components that require oils with extreme pressure additives in severe boundary lubrication conditions.
- an anti-foaming additive that is compatible with seals and gaskets.
- protection against metal corrosion found in gear sets (beyond the controlled chemical action of the EP additives).

When the use of gear oil is specified, Cat Gear Oil maximizes component life.

Viscosity/temperature characteristics for many applications

Cat Gear Oil is designed to perform to the API GL-5 service category. It meets U.S. Military Specification MIL-L-2105D and the requirements of L-37 and L-42 full-scale axle tests. Cat Gear Oil 80W-90 has the viscosity/temperature characteristics that enable it to meet viscosity requirements for applications such as passenger car and truck gear cases requiring SAE 80W to 90 grade products. Its excellent pour point and channel point allow it to provide lubrication protection during cold start-up.

Cat Gear Oil 85W-140 is also formulated for use across a broad temperature range. It is designed for gear cases requiring API GL-5 service at higher ambient temperatures.

Fluid analysis for early detection

We recommend protecting your investment by using scheduled fluid analysis. Our S•O•SSM analysis program is the ultimate detection and diagnostic tool for your equipment, helping you head off potential problems before they can lead to major failures and costly unscheduled downtime.

Customer benefits

- Uninterrupted performance under broad temperature variations
- Excellent protection against wearing and scoring caused by high speed and heavy gear loads
- Superior protection against rusting, staining, and corrosion
- Good thermal stability and foam resistance
- Compatibility with seals and gaskets
- Multipurpose capability to simplify inventory and minimize misapplication

Proper use for health and safety

According to toxicology information, Cat Gear Oil has little or no adverse effects if handled and used properly. No special precautions are suggested beyond attending to good personal hygiene and avoiding prolonged, repeated skin contact. For more information, refer to the "Material Safety Data Sheet," which is located on the Internet at Caterpillar's web site: <http://www.CAT.com/products/custserv/msds>