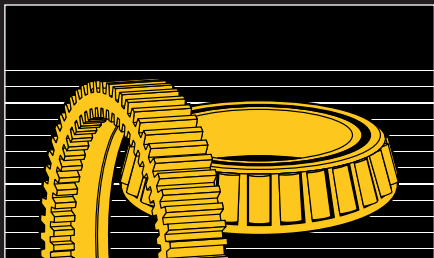


Final Drive and Axle Oil (FDAO)

SAE 50
SAE 60

For all Cat® Final Drives and Axles that previously specified the use of TO-4 oils, and that do not contain friction material.



Developed, tested, and approved by Caterpillar, Cat Final Drive and Axle Oil (FDAO) ensures optimum life and performance when used as recommended in Cat final drives and axles. Cat FDAO is factory fill for certain Caterpillar machines.

Recommended use

Cat Final Drive and Axle Oil is recommended as the preferred oil for Cat final drives and axles that previously specified TO-4 lubricants and do not contain friction material. This oil should not be used in compartments with friction material unless FDAO has been specified. **NOT FOR USE IN ENGINES, TRANSMISSIONS OR HYDRAULIC SYSTEMS.**

Extended Drain Interval

FDAO has a recommended drain interval of 3,000 hours for Caterpillar Off-Highway Trucks. This is higher than the previous 2,000-hour interval for TDTO in this application.

Information Sources

We can help you determine the right oil for your Cat machines and engines. You can also refer to your "Operation and Maintenance Manual" or Service Publication SEBU6250 (Caterpillar Machine Fluid Recommendations). An electronic version of this service publication is available at www.CAT.com. Simply choose these selections: Products / Parts and Service / Fluids / Machine Lubricant Recommendations.

Typical Characteristics*

SAE Viscosity Grade	50	60
Manufacturer's Test		
CAT	FD-1	FD-1
ISO Viscosity Grade (ISO)	220	320
Gravity, °API (ASTM D287)	26.2	25.9
Appearance (Visual)	Clear & Bright	Clear & Bright
Flash Point, °C (°F) (ASTM D92)	230 (446) min.	230 (446) min.
Pour Point, °C (°F) (ASTM D97)	-24 (-11)	-15 (5)
Viscosity (ASTM D445)		
cST @ 100°C	18.5	25.5
cST @ 40°C	206	334
Viscosity Index (ASTM D2270)	97	97
Brookfield Viscosity (ASTM D2983)		
cP @ -10°C	----	75,000
cP @ -15°C	119,400	----
Copper Strip (ASTM D130, 2 hrs. @ 100°C)	1A	1A

* 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.

Final Drive and Axle Oil (FDAO)

Unique formula for improved life and performance

Cat Final Drive and Axle Oil (FDAO) is formulated for use in Cat equipment final drives, axles, bevel gears and differentials in which gear and bearing loads and temperatures are high. Using FDAO reduces contact fatigue, extending the life of gears and bearings.

FDAO is designed specifically for protection of highly loaded components. It does not develop enough friction coefficient to satisfy the requirements of most brakes and clutches. It should not be used in clutch and brake compartments unless those compartments are specifically designated for FDAO use.

Cat FDAO also:

- Is compatible with TDTO oils and the seals for their compartments.
- Provides excellent protection against rust and copper corrosion.
- Minimizes foaming.
- Oxidizes at a low rate for improved oil life.
- Extends oil change intervals, reducing downtime.

S-O-SSM Services for early detection

We recommend protecting your investment by using a scheduled fluid sampling program. Our S-O-SSM Services program is the ultimate detection and diagnostic tool for your equipment. It helps you head off potential problems before they can lead to major failures and costly unscheduled downtime.

Proper use for health and safety

According to toxicology information, Cat FDAO has little or no adverse effects if handled and used properly. No special precautions are suggested beyond maintaining good personal hygiene and avoiding prolonged, repeated skin contact.

For more information, refer to the Material Safety Data Sheet on the Caterpillar website, www.CAT.com/products/custserv/msds

Final Drive and Axle Oil part numbers

Package size	Part Numbers	
English	SAE 50	SAE 60
Bulk-GAL	184-6023	184-6020
55 GAL	184-6024	184-6021
5 GAL	184-6025	184-6022
Metric	SAE 50	SAE 60
Bulk-L	184-8051	184-8054
208-L	184-8053	184-8056
205-L	198-7671	198-7672
20-L	184-8052	184-8055

Validation Tests

The **performance** of Cat FDAO **equaled or exceeded** that of Cat TDTO (an excellent lubricant) in the following tests:

- Bearing Life
- Seal Compatibility
- FZG Gear Pitting
- FZG Scuffing
- D8N 4-Square
- Lubricant Parameter
- Pour Point
- Rust
- Copper Corrosion
- TO-4 Fluid Compatibility
- TO-4 Homogeneity
- Foaming
- Flash Point
- Pumpability
- High-Temperature Shear
- KRL Shear
- Thermal Oxidation Stability
- High Torque, Low-Speed Axle

Factory Fill

FDAO is the factory-fill lubricant for Off-Highway Truck and D11R Track-Type Tractor final drives. Other Caterpillar machine final drives will be factory-filled with FDAO lubricants as it becomes appropriate to change them.

Developed by Caterpillar

Caterpillar develops and tests Cat FDAO to meet or exceed the Caterpillar FD-1 standard, ensuring the best protection and longest life for Caterpillar final drive and axle components.