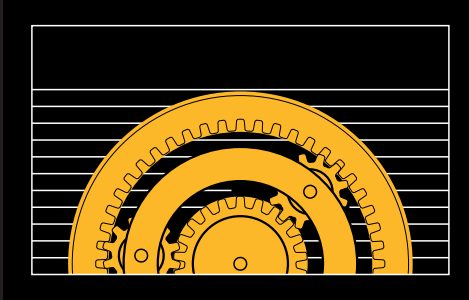


Transmission/Drive Train Oil (TDTO)

SAE 10W
SAE 30
SAE 50

For all Cat® transmissions, final drives, and wet brake components.



Developed, tested, and approved by Caterpillar, Cat Transmission/Drive Train Oil (TDTO) ensures optimum performance and life when used as recommended in Cat transmissions, final drives, and axles that contain friction material and wet brake compartments. Cat TDTO is standard factory fill for Caterpillar machines worldwide in compartments where TO-4 oil is recommended.

Cat TDTO provides proven superior performance. In addition to passing all TO-4 specification requirements, Cat TDTO passes four proprietary full scale in-house tests. These proprietary tests help ensure that TDTO retains its superior performance and product differentiation.

Typical Characteristics*

SAE Viscosity Grade	10W	30	50
Manufacturer's Test			
CAT	TO-4	TO-4	TO-4
Allison	C-4, C-3	C-4, C-3	C-4, C-3
ISO Viscosity Grade (ISO)	32	100	220
Gravity, °API (ASTM D287)	27.9	26.4	24.7
Appearance (Visual)	Clear & Bright	Clear & Bright	Clear & Bright
Flash Point, °C (°F) (ASTM D92)	202 (395)	224 (435)	240 (464)
Pour Point, °C (°F) (ASTM D97)	-36 (-33) min.	-15 (5) min.	-12 (10) min.
Viscosity,			
cP @ -20°C (ASTM D5293)	3130	—	—
cSt @ 40°C (ASTM D445)	39.1	100	198
cSt @ 100°C (ASTM D445)	6.1	11.1	17.6
Viscosity Index (ASTM D2270)	97	95	95
Calcium, % wt.	.298	.298	.298
Sulfated Ash, % wt. (ASTM D874)	1.2	1.2	1.2
Zinc, % wt. (ASTM D1549)	.127	.127	.127
Phosphorous, % wt. (ASTM D1091)	.110	.110	.110
TBN (ASTM D2896)	7.9	7.9	7.9

* 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.

Transmission / Drive Train Oil (TDTO)

Recommended use

Cat TDTO is recommended for use in all Caterpillar transmission, final drive, axle, and wet brake compartments where TDTO/TO-4, TO-4 are currently recommended, and in Cat machine compartments where CD/TO-2, TO-2 were previously recommended. TDTO can also be used in other OEM non-engine compartments that specify the use of TO-4, CD/TO-2, or TO-2 fluids. TDTO and other TO-4 specification oil should not be used in engines because it can shorten engine life.

TDTO is recommended for use in all Caterpillar hydraulic and hydrostatic systems. Cat TDTO SAE 10W is often used in hydraulic systems to reduce the number of oil types at a job site. Cat TDTO SAE 30 is recommended if a higher-viscosity hydraulic oil is required because of high ambient temperatures.

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 also available at www.CAT.com. Simply choose these selections: Products / Parts and Service / Fluids / Machine Lubricant Recommendations.

Unique formula for improved life and performance

Cat TDTO is formulated for use in Cat equipment friction devices—power shift transmissions, clutches, and brakes—and in other equipment drive train components like final drives, bevel gears, and differentials. It provides a balance between static and dynamic friction characteristics with both metallic and nonmetallic materials, ensuring increased load-carrying capacity and component durability.

Cat TDTO utilizes an additive technology developed exclusively for Caterpillar that provides optimum balance between clutch friction characteristics and gear wear requirements. This unique additive significantly improves transmission gear wear performance over TO-2 oils.

Cat TDTO also:

- Fully qualifies for use in all Caterpillar hydraulic and hydrostatic systems
- Increases machine break-out force in some types of applications
- Controls brake chatter
- Provides greater machine rim pull
- Increases clutch disc life up to 45%
- Eliminates transmission slippage caused by many CD/TO-2 commercial engine oils

S-O-SSM Services for early detection

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

Proper use for health and safety

According to toxicology information, Cat TDTO 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 on the Caterpillar website, www.cat.com/products/custserv/msds

Developed by Caterpillar

Caterpillar develops and tests Cat TDTO to perform beyond industry standards, assuring the best protection and longest life for Caterpillar transmissions and drive-train components.

Comparative Tests

The TO-4 test specifications define a minimum level of performance for the industry, an acceptable level for use in Cat transmissions and final drives. But Cat TDTO is the only transmission oil required to exceed this minimum standard.

	Cat TDTO	TO-4
Caterpillar TDTO tests not required by competitive oils.		
Full-Scale Vehicle Test		
Full-Scale Final Drive Wear Test		
Full-Scale Transmission Endurance Test		
980C Brake Noise, Stopping Distance and Chatter Test		
Chemical and Physical Properties: Fluoroelastomer/Elastomer compatibility Oxidation stability Rust control Copper corrosion Homogeneity Foaming Compatibility		
Viscosity: SAEJ300 Shear stability (35VQ25)		
Wear Test: FZG Gear Wear 35VQ25 Vane Pump Test		
Friction Performance Properties: <i>Wear, Pressure, Speed, Energy Limit</i> Bronze Paper (Brake) Paper (Transmission) Paper (Steering Brake) Elastomeric (Transmission) F-37 Rayflex		

Transmission / Drive Train Oil (TDTO)

Cat TDTO Part Numbers

SAE 10W		
Part Numbers: (USA Only)	Bulk (Gallons)	155-6212
	Quart	8T9566
	1 Gallon Container	8T9567
	5 Gallon Pail	8T9568
	55 Gallon Drum	8T9569

SAE 10W		
Part Numbers: (Other than USA) *Liter Containers	Bulk (Liters)	3P0659
	4	7X7853
	5	100-7019
	18	-----
	19	145-0995
	20	7X7852
	25	9X8525
	50	-----
	60	121-4041
	200	112-2866
	205	7X7851
	208	103-2528
	209	123-3104
	1000	166-0393
	1200	8C9913

*Container sizes vary from country to country.

SAE 30		
Part Numbers: (USA Only)	Bulk (Gallons)	155-6213
	Quart	8T9570
	1 Gallon Container	8T9571
	5 Gallon Pail	8T9572
	55 Gallon Drum	8T9573

SAE 30**		
Part Numbers: (Other than USA) *Liter Containers	Bulk (Liters)	2P9869
	4	7X7856
	5	9X6467
	18	9X2010
	19	9X8469
	20	7X7855
	25	9X6175
	50	3E8323
	60	121-4042
	200	7X2888
	205	7X7854
	208	9X6466
	209	9X2009
1000	7X7611	
1200	8C9914	

**Thailand and Saudi Arabia

SAE 50		
Part Numbers: (USA Only)	Bulk (Gallons)	155-6214
	Quart	8T9574
	1 Gallon Container	8T9575
	5 Gallon Pail	8T9576
	55 Gallon Drum	8T9577

SAE 50		
Part Numbers: (Other than USA) *Liter Containers	Bulk (Liters)	5P1228
	4	7X7859
	5	9X8443
	18	9X2012
	19	9X8531
	20	7X7858
	25	9X6174
	50	8E8324
	60	121-4043
	200	9X8530
	205	7X7857
	208	8E9478
	209	9X2011
1000	7X7612	
1200	8C9925	