



## Product Data Sheet

# Dakota Trans HD

## 10W, 30, 50

### Heavy Duty Transmission Lubricants

#### PRODUCT DESCRIPTION

Dakota Trans HD 10W, 30, and 50 are extra high performance, heavy duty transmission and drive-train lubricants engineered to meet or exceed the requirements of the rigorous Caterpillar TO-4 specification. This product line is uniquely designed to optimize the performance of power-shift transmissions, gearboxes, and final drives. In hydraulic applications, they provide maximum protection even in high pressure systems.

This technology combines selected base oils and an advanced additive system to deliver the precise performance parameters needed to maximize the productivity of construction, quarrying, and mining equipment operating in severe conditions. These products offer a clear performance advantage over the use of mixed fleet engine oils and previously used lubricants meeting Caterpillar TO-2.

#### FEATURES AND BENEFITS

Today's technology has vastly improved the performance capabilities of heavy duty earth moving equipment in terms of load, speed, control, precision, and reliability through innovative power train designs. These designs have increased the requirements of power-train fluids to deliver higher level of performance, productivity and efficiency. Friction control, wear protection, thermal stability, shear stability, rust and corrosion protection, and pumpability are features that must be optimally balanced to provide extended clutch life, slippage control, maximum drawbar loading, and high load operation even on an inclined slope at extreme temperatures.

Dakota Trans HD 10W, 30, and 50 deliver exceptional performance in today's power train transmissions, drive trains, and hydraulic systems. The key benefits include:

Features	Advantages and Potential Benefits
Balanced static and dynamic friction coefficients	Optimized clutch-friction retention and slippage control Significantly improved clutch life compared to the best API CD/TO-2 engine oils
Compatible with modern clutch materials and elastomers	Longer clutch life and higher performance
Increased levels of anti-wear and load carrying capability	Reduced gear wear and extended life in transmissions, gearboxes, and final drives Greater productivity from reduced downtime
Excellent foam control protection	Top performance in wet brakes; excellent control of brake chatter
Excellent thermal and oxidation stability	Outstanding hydraulic oil stability and protection against high-pressure pump wear
Lower viscosities offer very good low temperature pumpability	Reduced time from start-up to production



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## APPLICATIONS

### Recommended for use in:

- Heavy duty transmissions, gear boxes, final drives, and hydraulic systems used in off-highway applications
- Off-highway industries including: mining, construction, quarrying, and agriculture
- Manual, power-shift, and automatic transmissions where Allison C-4 fluids (SAE 10W and 30 grades) are called for including Twin Disc and transmissions calling for Type F fluids
- Most mobile equipment hydraulic applications

## SPECIFICATIONS AND APPROVALS

Dakota Trans HD Series products meet or exceed the requirements of the following industry and builder specifications	10W	30	50
Caterpillar TO-4	X	X	X

Dakota Trans HD Series products have the following builder approvals:	10W	30	50
ZF TE-ML-03C	X	X	
ZF-TE-ML 07F		X	

Dakota Trans HD is recommended for use in applications requiring:	10W	30	50
Allison C-4	X	X	

## TYPICAL PROPERTIES

Dakota Trans HD	10W	30	50
SAE Grade	10W	30	50
Viscosity, ASTM D 445			
cSt @ 40°C	42	100	195
cSt @ 100°C	6.3	11.2	18.0
Viscosity Index, ASTM D 2270	96	97	100
Pour Point, °C, ASTM D 97	-33	-18	-15
Flash Point, °C, ASTM D 92	202	224	240
Density @ 15°C kg/l, ASTM D 4052	0.888	0.893	0.906

## HEALTH AND SAFETY INFORMATION

For recommendations on safe handling and use of this product, please refer to the Material Safety Data Sheet.