



# Power Transmission Fluid

## TO-4/C-4 Heavy Duty Off-Highway Transmission Fluid

### General Description

Power Transmission Fluid is designed for heavy duty off-highway power shift and certain non-synchronized manual transmissions, wet brakes, final drives and hydraulic systems meeting the rigorous performance requirements of Caterpillar TO-4, Allison C-4 and other off-road equipment specifications.

Power Transmission Fluid contains carefully selected base oils assuring excellent oxidation, thermal and shear stability for longer oil life. The specialized additive system provides oxidation resistance, balanced frictional performance, wear protection and maximum power transfer during operation. In addition, the additive system contains special attributes to enhance cold temperature performance, rust, corrosion and foam protection, along with outstanding compatibility of clutch friction material.

Power Transmission Fluid technology has been extensively field-tested and used in Caterpillar and other construction equipment delivering a superior level of performance.

**The recommended OEM drain interval and viscosity grade should always be followed for the specific machines oil compartments.**

**This product cannot be used as a THF/wet brake oil in agriculture equipment. Maxtron® THF+ or Qwiklift® HTB® are recommended for this type of application.**

### Features and Benefits

- **Improved Clutch Life:** Up to 45% over TO-2 fluids. Balanced static/dynamic friction provides clutch durability and maximum power transfer throughout the service interval.
- **Wear Protection:** Outstanding shear stability, viscosity retention and increased film strength provides reduced wear on gears, bearings and clutches, to give longer transmission life.
- **High-Temperature Protection:** Provides excellent thermal, oxidation, sludge, corrosion and deposit protection for increased transmission temperatures, severe service and extended oil life.
- **Low Temperature Fluidity:** Superior cold temperature flow characteristics assures ease of pumping, reduced wear and good shifting capabilities, even at extremely low temperatures.

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### Typical Applications

Power Transmission Fluid meets or exceeds performance requirements and can be used in applications where manufacturers recommend the use of TO-4 /C-4 fluids:

- Cat TO-4\*, TDTO™ 2005 Version (SAE grades: 10W, 30, 50)
- Allison C-4 (SAE grades:10W, 30)
- Komatsu KES 07.868.1 (SAE grades: 10W, 30, 50)
- ZF Power Shift TE-ML 07F(30),03C (10W, 30)
- Spicer Clark-Hurth Power Shift (10W, 30)
- Dana Power shift (10W, 30)
- Euclid, Terex, Dresser (10W, 30, 50)
- Eaton/Fuller/Tremec/TTC/Dana/Spicer manual transmissions (30, 50)
- Eaton/Vickers M-2950S/35VQ25 Hyd (10W)
- Ford Type F construction applications (10W)

\*Cat introduced TO-4 in 1991 making TO-2 obsolete

### Typical Customers

Owners and operators of:

- Heavy duty construction equipment
- Construction equipment dealers
- Construction equipment repair shops
- Road building, excavating, mining and quarrying operations

### Typical Properties

SAE Grade	10W	30	50
API Gravity / lbs/gal	30.3 / 7.28	28.6 / 7.36	27.6 / 7.41
Flash Point, °C / °F	210 / 410	232 / 450	243 / 470
Viscosity, cSt @ 40°C	43.0	95.0	215.0
@ 100°C	6.9	11.7	18.0
Viscosity Index	109	113	98
Pour Point, °C / °F	-39 / -38	-30 / -22	-27 / -17
Brookfield cP@ -35°C	32,000	-	-
CCS cP@ -25°C	5,400	-	-
Color	2.0	2.0	4.0
TBN	7.9	7.9	7.9
Sulfated Ash, wt%	1.2	1.2	1.2
Calcium, wt%	.31	.31	.31
Zinc, wt%	.124	.124	.124

The typical properties listed reflect the general characteristics of the product, and are not manufacturing specifications. Normal batch-to-batch variations should be expected.

### Health & Safety

A complete safety data sheet is available by calling 1-651-355-8438 or visit [cenex.com/sds-library](http://cenex.com/sds-library).