



*The First in Synthetics*®

## Synthetic Powershift Transmission Fluids

**SAE 10W, 30, 50**

**Advanced Formulations for Powershift and Manual  
Transmissions, Wet Brakes and Final Drives.**



### **PRODUCT DESCRIPTION**

AMSOIL Synthetic Powershift Transmission Fluids are specifically designed for high-torque heavy-duty powershift transmissions. Formulated for extended drain intervals, Powershift Transmission Fluids contain top-quality synthetic base stocks and a high level of top-quality additives selected specifically for powershift transmissions. They offer exceptional transmission friction performance, smooth brake operation, reduced gear and bearing wear and increased equipment life.

### **Friction Characteristics**

AMSOIL Synthetic Powershift Transmission Fluids are compatible with common metallic and non-metallic friction materials. Their stable frictional characteristics help eliminate excessive brake noise and vibration. Their non-slip friction durability virtually eliminates clutch slippage, which can cause glazing or friction surface deposits and material degradation. Powershift Transmission Fluids are formulated to deliver responsive yet smooth clutch engagements, excellent power transmission through clutches and synchronizers and superior hydraulic fluid performance for servo-equipped units.

### **Wear Protection**

AMSOIL Synthetic Powershift Transmission Fluids exceed the wear requirements of the Caterpillar TO-4 specification and are formulated without viscosity index improvers for superior shear stability. This superior shear stability allows Powershift Transmission Fluids to maintain grade throughout service life, providing long-term protection against equipment wear, even when equipment is frequently subjected to sustained periods of applied pressure or high horsepower and high torque.

### **Superior High- and Low-Temperature Performance**

In high temperatures, AMSOIL Synthetic Powershift Transmission Fluids effectively protect components from wear. Their superior oxidative and thermal stability inhibits the formation of varnish, deposits and sludge so equipment runs clean. Synthetic Powershift Transmission Fluids are excellent heat transfer fluids and may help hot-running equipment operate cooler and run in its optimal temperature range. In low temperatures, Synthetic Powershift Transmission Fluids flow readily for dependable startup and post-startup protection.



### **Copper Corrosion, Rust and Foam Inhibition**

AMSOIL Synthetic Powershift Transmission Fluids protect equipment from copper corrosion and rust, even during equipment storage. Synthetic Powershift Transmission Fluids do not foam in service, protecting equipment from the metal-to-metal contact and wear that occurs with use of foam-filled fluids.



## TYPICAL TECHNICAL PROPERTIES

### Synthetic Powershift Transmission Fluids (CTG, CTJ, CTL)

Product Code	CTG	CTJ	CTL
SAE Viscosity Grade	10W	30	50
ISO Viscosity Grade	32	68	150
Kinematic Viscosity @ 100° C, cSt (ASTM D-445)	7.1	11.2	19.0
Kinematic Viscosity @ 40°C, cSt (ASTM D-445)	41.3	75.4	149.2
Viscosity Index (ASTM D-2270)	133	140	144
Flash Point °C (°F) (ASTM D-92)	248 (478)	254 (489)	266 (511)
Fire Point °C (°F) (ASTM D-92)	266 (511)	272 (522)	286 (547)
Pour Point °C (°F) (ASTM D-97)	-49 (-56)	-46 (-51)	-36 (-33)
Four-Ball Wear Test (ASTM D-4172B @ 40 kg, 75°C, 1200 rpm, 1 hr), Scar, mm	0.35	0.35	0.35
Noack Volatility, % weight loss (ASTM D-5800)	6.4	4.4	3.5

### Performance Data

AMSOIL Synthetic Powershift Transmission Fluids are recommended for applications requiring the following specifications:

- Caterpillar TO-4
- Twin Disc
- Komatsu KES 07.868.1
- Allison C-4 (CTG & CTJ)
- Rockwell/Eaton/Fuller CD-50 (PS-081) (CTL)
- ZF TE-ML, 03C (CTG & CTJ), 07F (CTJ), 01 (obsolete)
- API GL-1 (CTL)
- Dana Powershift Transmissions (CTG & CTJ)

### APPLICATIONS

- Dozers
- Semi-trucks manual transmissions
- Wheel loaders and crawlers
- Backhoe loaders
- Cranes
- Off-road fork trucks
- Harbor handling equipment
- Railway equipment
- Mining equipment
- Road graders
- Commercial boats

AMSOIL Synthetic SAE 50 Powershift Transmission Fluid is formulated for Fuller CD-50 performance and is ideal for use in Rockwell/Eaton/Fuller, Spicer, Fabco, Warner and other large truck manual transmissions.

AMSOIL Synthetic 10W, 30 and 50 Powershift Transmission Fluids can be used in Caterpillar, Allison, Komatsu, Clark, Hurth, Borg-Warner, Twin Disc, Voith, ZF, Funk and Brockhouse powershift-type transmissions and Eaton/Rockwell/Fuller transmissions.

### INSTALLATION

AMSOIL Synthetic Powershift Transmission Fluids are fully compatible with other TO-4 fluids used in powershift applications. To install AMSOIL Synthetic Powershift Transmission Fluids, drain the fluid in the system, replace the filter (if so equipped) and install the appropriate Powershift Transmission Fluid.

### SERVICE LIFE

AMSOIL Synthetic Powershift Transmission Fluids provide extended service life beyond conventional petroleum fluids if Synthetic Powershift Transmission Fluids are kept free of dirt and moisture. Oil analysis is recommended if extending service intervals beyond equipment manufacturer recommendations.

AMSOIL Synthetic Powershift Transmission Fluids may be used for 250,000 miles or two years (whichever comes first) in CD-50 manual transmission applications.

For AMSOIL warranty information visit [www.amsoil.com](http://www.amsoil.com).

AMSOIL products and Dealership information are available from your local AMSOIL Dealer.



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