



# Torque Fluids 4N4

## Heavy-Duty Powershift Transmission and Final Drive Fluid

Product Data Sheet

### Customer benefits

- **Longer transmission & equipment life**  
Special metallo-organic anti-wear additive system controls wear of critically loaded components. The effective inhibitor system protects precision parts from corrosion and rusting. Good compatibility with common seal materials ensures long seal life.
- **Prolonged oil service life**  
Excellent oxidation stability provided by the highly refined base oil and oxidation inhibitor system resists lubricant breakdown under severe operating conditions, minimizing varnish and sludge formation.
- **Maintains correct shifting patterns**  
Silicone foam inhibitor minimizes foam formation while enabling rapid release of entrained air to ensure smooth shifting in powershift transmissions. Good low temperature fluidity ensures trouble-free cold weather performance.
- **Saves on inventory costs**  
Broad performance qualifications enable use in transmissions, hydraulics and gear cases, reducing inventory to a minimum.

### Applications

- Caterpillar powershift transmissions, final drives and marine transmissions
- Caterpillar mobile equipment hydraulic and hydrostatic systems
- Mobile hydraulic systems, hydrostatic transmissions, heavy-duty manual transmissions and final drives for which heavy-duty engine oils are specified

The choice of viscosity grade (414, 434A, or 454) will depend on ambient temperature conditions and operating severity.

### Product features:

High performance, non friction modified, heavy-duty transmission fluid series designed primarily for powershift transmissions and final drives requiring Caterpillar TO-4 fluids.

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## Performance standards

- Caterpillar TO-4 (Torque Fluid 414, 434A, 454)
- Komatsu KES 07.868.1 (Torque Fluid 434A)
- Volvo 97305-90 Approval (Torque Fluid 454)
- ZF TE-ML 03C Approval
  - Torque Fluid 414; Reference ZF000797
  - Torque Fluid 434A: Reference ZF000799
- ZF TE-ML 07F Approval
  - Torque Fluid 434A: Reference ZF000799
- Eaton Fuller/Roadranger Manual Transmissions (Torque Fluid 434A, 454)
- Meritor (Rockwell) Manual Transmissions (Torque Fluid 454)

## Product specifications

TORQUE FLUIDS 4N4			
KEY PROPERTIES	RESULTS		
Grade	414	434A	454
SAE Grade (J300)	10W	30	50
Product Code	510061	517062	510064
Pour Point, °C	-39	-30	-18
Viscosity, Brookfield, cP	80,000	50,000	40,000
@ (temperature)	(-35°C)	(-25°C)	(-15°C)
Viscosity, Kinematic			
mm <sup>2</sup> /s @ 40°C	43.3	92.6	224
mm <sup>2</sup> /s @ 100°C	6.8	10.9	19.1
Viscosity Index	114	102	96
Zinc, m %	0.11	0.11	0.11



# Torque Fluids 4N4

## Heavy-Duty Powershift Transmission and Final Drive Fluid

*continued*

### Service considerations

The Torque Fluid 4N4 Series is compatible with engine oils. Torque Fluid 4N4 products are NOT compatible with industrial anti-wear hydraulic fluids or automotive gear oils.

Torque Fluids 434A and 454, depending on ambient temperature, may be recommended for Eaton Fuller (Roadranger) manual transmissions where torque capacity does not exceed 2500 Nm. In higher capacity equipment, an approved transmission oil should be recommended such as Caltex Delo® Synthetic Transmission Fluid.

Torque Fluids 414 and 434A may be used in Allison heavy duty powershift transmissions. Allison Transmission approvals for C4 fluids are formulation, base oil and grade-specific. Torque Fluids 4N4 are not approved, however customers may elect to use Torque Fluid 414 or 434A in non-warranty applications. In cases where approved Allison C4 or former DEXRON®-III transmission fluids are specifically required, then a suitably qualified automatic transmission fluid should be recommended.

In 2005 Caterpillar amended its mobile hydraulic system fluid requirements so that for many applications, an oil with 100°C kinematic viscosity of not less than 6.6 mm<sup>2</sup>/s is required. Torque Fluid 414 is specified to meet this requirement.

This bulletin was prepared in good faith from the best information available at the time of issue. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. It is the responsibility of the user to ensure that the products are used in the applications for which they are intended.

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Environment, Health and Safety Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit [www.caltexoils.com](http://www.caltexoils.com).

For more information, go to [www.chevronlubricants.com](http://www.chevronlubricants.com)

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