

**TORQUE FLUID  
414, 434, 454, 464**

 Heavy-Duty Powershift  
Transmission Fluid Series

	414	434	454	464
SAE Grade	10W	30	50	60
Product Code	2711	2119	2120	2712

**PACK SIZES**

 205L, 20L. (Torque Fluid  
464 available only in 205L)

**DESCRIPTION**

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

**APPLICATIONS**

- Caterpillar powershift transmissions, final drives and marine transmissions.
- Komatsu powershift 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, 434, 454 or 464) will depend on ambient temperature conditions and operating severity.

**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, minimising varnish and sludge formation.

**Maintains correct shifting patterns**

Silicone foam inhibitor minimises 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.

**PERFORMANCE STANDARDS**

- SAE 10W, 30, 50, 60
- Caterpillar TO-4 (414, 434, 454)
- Eaton Fuller/ Roadranger (434, 454)
- Komatsu KES 07.868.1 (414, 434, 454)
- Volvo 97305-90 (454)
- Meritor (Rockwell) Transmissions (454)
- ZF TE-ML 03C (414, 434)

NOTE: A blue dyed version of Torque Fluid 414 is available in bulk for greater visibility under product code 2886.

**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 434 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 434 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 434 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 2001 Caterpillar released a new lubricant performance specification FD-1 for heavy duty final drives and axles in off-road service. Lubricants meeting FD-1 are now the primary recommendation for Caterpillar final drives (not for transmissions) in severe duty off-road applications. TO-4 type lubricants are still acceptable, although at shorter drain interval. Caltex Final Drive SAE 60 may be recommended in cases where FD-1 performance is required. 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.