Ursa® TorqForce

Proven performance heavy-duty transmission and drive train fluids

Product description

Ursa TorqForce products are proven performance fluids formulated for use in transmissions, final drives, and hydraulic systems in Allison, Caterpillar, Dana Powershift, Komatsu, Komatsu Dresser, Tremec/TTC, Vickers and ZF equipment.

Ursa TorqForce products are formulated with premium Group II base oils combined with detergent and dispersant additives, oxidation and corrosion inhibitors, anti-wear, extreme pressure and foam suppression agents.

Ursa TorqForce replaces the former Textran HD product range.

Customer benefits

- Proven additive package helps protect metal surfaces against scuffing and wear under severe high temperature, high load conditions
- Reliable frictional control helps prevent clutch slippage and offers quiet, efficient transmission and brake operation while minimising wear
- High quality base stock formulation offers robust oxidation protection at high operating temperatures and helps extend oil service life
- Formulated to keep metal parts clean and free from varnish and sludge deposits that can cause premature breakdown

Product highlights

- **Offers severe high temperature, high load protection**
- **Promotes quiet control with minimum wear**
- **High quality helps extend oil service life**
- **Keep-clean component protection**

Selected specification standards include:

Allison	Caterpillar
Dana Powershift	Komatsu
Komatsu Dresser	Tremec/TTC
Vickers	ZF

Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

Applications

- Ursa TorqForce products are proven performance lubricants designed for use in transmissions, final drives, and hydraulic systems requiring a fluid meeting Caterpillar TO-4 or Allison C-4 requirements. They are also recommended for transmission and hydraulic systems manufactured by Dana Powershift, Komatsu, Komatsu Dresser, Tremec/TTC, Vickers and ZF
- Ursa TorqForce products are designed for both newly developed and older model drive train components
- They offer robust friction retention, wear control, seal compatibility, oxidation stability, and viscosity stability
- The frictional characteristics of the fluid are designed to be retained over the life of the lubricant
- Ursa TorqForce products are formulated to help protect against wear, even in severe service conditions and under high loads. They offer protection to precision parts against wear under high load conditions by helping control the formation of corrosion, varnish, and sludge
- Ursa TorqForce products are compatible with new and traditional seal and clutch materials
- In order to meet Caterpillar specifications, Ursa TorqForce products are not friction modified. Therefore, they are not recommended for equipment made by other OEMs who require friction modified fluids in order to assure smooth and quiet brake operation. For these applications, use Textran TDH Premium or Super Universal Tractor Oil Extra 10W-30. (Note too that the reverse is also true - friction-modified fluids like these should not be used in Caterpillar TO-4 applications)
- Ursa TorqForce SAE 10W may also be used as a substitute for Cat HYDO 10W in hydraulic system applications

The choice of viscosity grade will depend on ambient temperature conditions and operating severity. Viscosity grade recommendations are shown below:

Note: Caterpillar's primary recommendation for final drives and axles in off-road service is their newer lubricant performance specification FD-1. TO-4 type lubricants are still acceptable, although with a shorter drain interval.

Approvals, performance and recommendations

Approvals **SAE Viscosity grade**	**10W**	**30**	**50**
• ZF TE-ML 03C	X[2]	X[3]	—
• ZF TE-ML 07F	—	X[3]	—

Performance **SAE Viscosity grade**	**10W**	**30**	**50**
• Allison C-4	X	X	—
• Caterpillar TO-4[1]	X	X	X

Recommendations **SAE Viscosity grade**	**10W**	**30**	**50**
• Dana Powershift	X	—	—
• Komatsu KES 07.868.1	X	X	X
• Komatsu Dresser	X	X	X
• Tremec/TTC	X	—	—
• Vickers 35VQ25	X	—	—

[1] Caterpillar does not operate a formal approval system - each supplier is responsible for the performance of their own product.

[2] ZF registration number: ZF001906.

[3] ZF registration number: ZF001905.

SAE grade	**10W**		**30**		**50**	
Outside temperature range, °C	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
Hydraulic systems	-20	+40	-10	+50	—	—
Hydrostatic transmissions	-20	+40	—	—	—	—
Powershift transmissions	-20	+10	0	+35	+10	+50
Final drive/Differential/Gearboxes (except for off-highway trucks)	-30	0	-20	+25	0	+50
Final drive (off-highway trucks)	-30	-10	-20	+15	0	+50

Typical test data

Test	Test Methods	Results		
Viscosity Grade		**SAE 10W**	**SAE 30**	**SAE 50**
Shelf Life: 60 months from date of filling indicated on the product label				
Density, 15°C, kg/l	ASTM D4053	0.876	0.883	0.895
Pour Point, °C	ASTM D5950	-33	-27	-27
Flash Point COC, °C	ASTM D92	≥ 205	≥ 225	≥ 225
Viscosity, Kinematic, 100°C, mm^2/s	ASTM D445	6.8	10.9	18.5
Viscosity, Kinematic, 40°C, mm^2/s	ASTM D445	44	88	199
Viscosity Index	ASTM D2270	110	110	103

The information given in the typical data does not constitute a specification but is an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved. This supersedes all previous editions and information contained in them.