



# NAVIGATOR TO-4

## Description

Lubricant oil specially formulated to meet the requirements of CATERPILLAR, ALLISON and KOMATSU specifications, applicable to power-shift transmissions, clutches and brakes, as well as end controls, crowns and differentials (depending on SAE grade). May also be used in some special hydraulic applications, as is the case with the SAE 10W grade.

## Properties

- Prevents transmission slippage.
- Great capacity for supporting loads and anti-wear properties.
- Increased useful life of the clutch discs and smooth operating of the brakes.
- Enables greater dragging and start-up force in machines.
- Compatibility with gaskets.
- Excellent anti-corrosive properties.
- Cannot be used as motor oil.

## Quality levels, approvals and recommendations

- ZF TE-ML: 03C\* (10W)
- ALLISON: C-4 (10W, 30)
- CATERPILLAR: CAT TO-4 (10W, 30, 50)
- ZF TE-ML: 03C, 07F\* (30)
- API: CF, GL-4 (30, 50)
- KOMATSU: KES 07.868.1 (10W, 30, 50)

\*Formal approval

## Technical specifications

|                               | UNIT     | METHOD     | VALUE  |       |       |
|-------------------------------|----------|------------|--------|-------|-------|
| SAE Grade                     |          |            | 10W    | 30    | 50    |
| Density at 15 °C              | g/cm3    | ASTM D4052 | 0.871  | 0.893 | 0.901 |
| Kinematic viscosity at 100 °C | cSt      | ASTM D445  | 6.5    | 11.3  | 18    |
| Kinematic viscosity at 40 °C  | cSt      | ASTM D445  | 37     | 111   | 208   |
| CCS Viscosity at -25 °C       | cP       | ASTM D5293 | <7,000 | -     | -     |
| Viscosity index               | -        | ASTM D2270 | 115    | 100   | 97    |
| Flash point, open cup         | °C       | ASTM D92   | <200   | <220  | <220  |
| Pour point                    | °C       | ASTM D97   | -42    | -33   | -18   |
| TBN                           | mg KOH/g | ASTM D2896 | 10     | 10    | 10    |

The above mentioned characteristics are typical values and should not be considered product specifications.