



**Electric drive systems for trucks and buses**

**List of lubricants TE-ML 28**

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**1. Approved lubricant classes**

Product groups	Lubricant classes <sup>(1)</sup>
Electric drive systems for trucks and buses including wheel head transmissions  <b>CeTrax Lite</b> CX 109  <b>CeTrax 2</b> CX 319, CX 321  <b>CeTrax 2 dual</b> CX 326, CX 328, CX 336  <b>AxTrax 2</b> AX 321  <b>AxTrax 2 dual</b> AX 336	ZF EcoFluid E SAE 75W-70 28A
Electric drive systems for city buses including wheel head transmissions with introduction robustness package  <b>AxTrax AVE (AVE 130)</b> AX 217, AX 219	ZF EcoFluid XE SAE 75W-85 28C
Electric drive systems for city buses including wheel head transmissions  <b>AxTrax 2 LF</b> AX 426, AX 436	ZF EcoFluid E SAE 75W-70 28A
Compact bearing (hub unit) in wheel head transmissions for electric drive systems	28B

The list of lubricants TE-ML 28, **edition 01.04.2024** replaces all previous editions. The current list can be requested from any ZF after-sales service center or accessed on the Internet under [www.aftermarket.zf.com/lubricants](http://www.aftermarket.zf.com/lubricants).

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## 2. Oil and filter change intervals <sup>(2)</sup>

### 2.1 Electric drive systems for trucks and buses including wheel head transmissions

Application / Lubricant class	ZF EcoFluid E SAE 75W-70 28A	Lubricating grease 28B
- Hot country use <sup>(3)</sup> - Scheduled routes (city – and suburban operation) - Short-distance transport - Tough operating conditions - Average speed from 20 to 60 km/h	120.000 km 2 years	500.000 km 4 years
- Long-distance transport - Average speed as of 60 km/h	180.000 km 2 years	800.000 km 6 years

### 2.2 Electric drive systems for city buses including wheel head transmissions, AxTrax AVE (AVE 130)

Application / Lubricant class	Oil level check	Oil change intervals ZF EcoFluid XE 75W-85 28C	breather maintenance, ZF diaphragm breather <sup>(4)</sup>	Lubricating grease 28B
- Scheduled routes	Refer to ZF operating instructions	60.000 km 1 year	120.000 km 2 years	500.000 km 4 years

### 2.3 CeTrax Lite (CX 109)

No oil change required.

## 3. Explanation of footnotes and comments

### Footnotes

- (1) Refer to the following pages for approved commercial products.
- (2) Oil and filter change required, depending on what occurs first. Only use genuine ZF filter inserts.
- (3) The denomination „hot country use“ is derived from the area where the vehicle is used, rather than from a country in the sense of a state.  
Regarding ZF units, we say “Hot country use” when:
  1. the monthly average temperature exceeds 25°C in more than 2 months within a year
  2. or if temperatures rise above 40°C on more than 7 days in a year.
- (4) Change filter insert on the ZF diaphragm breather.

### Comments

Additives of any kind added **later** to the oil change the oil in a manner that is unpredictable, and they are therefore not permitted. No liability of any kind will be accepted by ZF for any damage resulting from the use of such additives.

ZF will not assume liability for damage caused by non-observance of our maintenance instructions.

**4. Lubricant classes and approved trade products****Lubricant class 28A**

Gear oil for electric vehicle drives

Viscosity grade: SAE 75W-70

**Manufacturer (28A)**

ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (28A)**

ZF ECOFLUID E

**ZF approval number**

ZF008340

**Lubricant class 28B**

Lubricating grease for long-term lubrication of compact bearings (Hub Unit)

**Manufacturer (28B)**

FUCHS PETROLUB AG, MANNHEIM/DE  
FUCHS PETROLUB AG, MANNHEIM/DE  
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (28B)**

RENOLIT LX-PEP 2  
RENOLIT LX-NHU 2  
ZF RENOLIT LX-PEP 2

**Lubricant class 28C**

Gear oil for electric vehicle drives

Viscosity grade: SAE 75W-85

**Manufacturer (28C)**

ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (28C)**

ZF ECOFLUID XE

**ZF approval number**

ZF008403