

**Powershift transmissions, type EcoLife,
for buses****List of lubricants TE-ML 20****1. Vehicle classification**

EcoLife transmissions are operated under loads and at oil temperatures which vary significantly. Oil releases and oil-change intervals are therefore vehicle-dependent. Consult the owner's manual for your vehicle to check whether TE-ML 20.100, 20.105 or 20.110 applies.

2. Approved lubricant classes for EcoLife

Product groups	Vehicle classification acc. to owner's manual	Lubricant classes for service fill (1)
EcoLife 6AP1000B, 6AP1200B, 6AP1400B, 6AP1700B, 6AP2000B and accessory bevel-gear variants	TE-ML 20.100	20C / 20E / 20F
	TE-ML 20.105	20E / 20F
	TE-ML 20.110	20F

(1) Refer to the following pages for approved commercial products and oil change intervals.

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.

The list of lubricants TE-ML 20, **Edition 01.10.2013** replaces all previous editions. The current list can be requested from any ZF after-sales service center or accessed on the Internet under www.zf.com/lubricants.

ZF Friedrichshafen AG
D-88038 Friedrichshafen
phone: + 49 7541 77 7461
fax: + 49 7541 77 7319

3. Oil and filter change intervals for buses:**Table 1: Vehicle classification TE-ML 20.100 (Oil sump temperatures up to 100°C)**

Lubricant class (1)	Oil and pressure filter change interval [km/year] (2)
20C	120.000 km 1 x every 2 years
20E	240.000 km 1 x every 3 years
20F	240.000 km 1 x every 3 years

Table 2: Vehicle classification TE-ML 20.105 (Oil sump temperatures up to 105°C)

Lubricant class (1)	Oil and pressure filter change interval [km/year] (2)
20E	180.000 km 1 x every 3 years
20F	180.000 km 1 x every 3 years

Table 3: Vehicle classification TE-ML 20.110 (Oil sump temperatures up to 110°C)

Lubricant class (1)	Oil and pressure filter change interval [km/year] (2)
20F	120.000 km 1 x every 3 years

(1) Refer to the following pages for approved commercial products and oil change intervals.

(2) Oil and filter change required, depending on what occurs first. Use only ZF original filter elements, ZF order no. 4181 298 002.

Lubricant class 20C**Manufacturer (20C)**

ARAL AG, BOCHUM/DE
BP PLC., LONDON/GB
BP PLC., LONDON/GB
CASTROL LTD, LONDON/GB
CASTROL LTD, LONDON/GB
EXXONMOBIL CORPORATION, FAIRFAX, VA/US
OOO "LLK-INTERNATIONAL", MOSCOW/RU
PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT
SASOL OIL, RANDBURG/ZA
STATOIL LUBRICANTS, STOCKHOLM/SE

Trade name (20C)

ARAL GETRIEBEÖL ATF LD
BP AUTRAN LTF
BP AUTRAN SYN 295
CASTROL TRANSMAX Z
CASTROL TRANSYND
MOBIL DELVAC SYNTHETIC ATF
LUKOIL ATF SYNTH MN Z3
AUXON III PLUS
SYN TRANSMISSION OIL VI
TRANSWAY ATF ULTRA

Lubricant class 20E**Manufacturer (20E)**

PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

Trade name (20E)

TUTELA TRANSMISSION ATF 120
SHELL SPIRAX S6 ATF ZM
ZF-ECOFUID A PLUS

Lubricant class 20F

Manufacturer (20F)

ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

Trade name (20F)

ZF-ECOFUID LIFE