



**Powershift transmissions, type EcoLife, for buses, trucks, special vehicles and stationary applications**

**List of lubricants TE-ML 20**

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**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**

<b>Product groups</b>	<b>Vehicle classification acc. to owner's manual</b>	<b>Lubricant classes for service fill <sup>(1)</sup></b>
<b>EcoLife for buses</b>	TE-ML 20.100	20B / 20C / 20F / 20G
6AP1000B, 6AP1000BS, 6AP1200B, 6AP1200BS, 6AP1400B, 6AP1400BS, 6AP1600BS, 6AP1700B, 6AP2000B, 6AP2300BC and accessory bevel-gear variants	TE-ML 20.105	20B / 20C / 20F / 20G
<b>EcoLife for trucks, buses, special vehicles and stationary applications</b>	TE-ML 20.110	20F / 20G
All EcoLife models ending in the letters E, EK, EP, EKP, S, SP, SK or SKP		

(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, <b>edition 01.07.2018</b> replaces all previous editions. The current list can be requested from any ZF after-sales service center or accessed on the Internet under <a href="http://www.zf.com/lubricants">www.zf.com/lubricants</a> .	<b>ZF Friedrichshafen AG</b> D-88038 Friedrichshafen <a href="http://www.zf.com/contact">www.zf.com/contact</a>
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### 3. Oil and filter change intervals

#### 3.1 Oil and filter change intervals for buses as well as trucks used in long-haul and delivery traffic:

**Table 1: Vehicle classification TE-ML 20.100 (Oil sump temperatures up to 100°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20B	60,000 km 1 x year
20C	120,000 km 1 x every 2 years
20F / 20G	240,000 km 1 x every 4 years

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

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20B	60,000 km 1 x year
20C	120,000 km 1 x every 2 years
20F / 20G	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 <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20F / 20G	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. In the case that the initial reoiling from an ATF [automatic transmission fluid] of the lubricant class 20B to an ATF with extended oil change intervals is planned, then an interim oil change after 60,000 km / one year at the most is required.

**3.2 Oil and filter change intervals for coaches (6AP2300BC):****Table 1: Vehicle classification TE-ML 20.100 (Oil sump temperatures up to 100°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20B	120,000 km 1 x year
20C	180,000 km 1 x every 2 years
20F / 20G	300,000 km 1 x every 4 years

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

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20B	120,000 km 1 x year
20C	180,000 km 1 x every 2 years
20F / 20G	240,000 km 1 x every 3 years

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

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20F / 20G	180,000 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. In the case that the initial reoiling from an ATF [automatic transmission fluid] of the lubricant class 20B to an ATF with extended oil change intervals is planned, then an interim oil change after 60,000 km / one year at the most is required.

**3.3 Oil and filter change intervals for trucks used off-road, special vehicles and stationary applications:****Table 1: Vehicle classification TE-ML 20.105 (Oil sump temperatures up to 105°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/operating hours/year] <sup>(3)</sup>
20B	20,000 km; 1,000h 1 x year
20C	30,000 km; 1,500h 1 x year
20F / 20G	60,000 km; 3,000h 1 x every 2 years

**Table 2: Vehicle classification TE-ML 20.110 (Oil sump temperatures up to 110°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/operating hours/year] <sup>(3)</sup>
20F / 20G	60,000 km; 3,000h 1 x every 2 years

- (1) Refer to the following pages for approved commercial products and oil change intervals.
- (3) Oil and filter change required, depending on what occurs first. Use only ZF original filter elements, ZF order no. 4181 298 002. In the case that the initial reoiling from an ATF [automatic transmission fluid] of the lubricant class 20B to an ATF with extended oil change intervals is planned, then an interim oil change after <20,000 km / <1,000 h/ one year at the most is required.

## 4. Lubricant classes and approved trade products

### Lubricant class 20B

Manufacturer (20B)	Trade name (20B)	ZF approval number
ASTRIS SA, GIORNICO/CH	ASTRIS ATF GLOBAL	ZF002187
BARDAHL ASIA PACIFIC PTE LTD, SINGAPORE/SG	SYNMAXTRAN-HD	ZF002246
BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR	LUBEX ATF-III KYS	ZF002255
BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR	LUBEX ATF-III KYS	ZF002293
CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES	CEPSA ATF 3000 S	ZF000386
CHEVRON LUBRICANTS, SAN RAMON, CA/US	HAVOLINE ATF MERCON V	ZF000101
CHEVRON LUBRICANTS, SAN RAMON, CA/US	SYNTHETIC AUTOMATIC TRANSMISSION FLUID HEAVY DUTY	ZF001219
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO SYN ATF HD	ZF001664
COMERCIAL ROSHFRANS, S.A. DE C.V., MEXICO, D.F./MX	ATF ALLPOWER MULTIVEHICULOS	ZF000385
ENI S.P.A., ROME/IT	ENI ROTRA ATF II E	ZF000951
ENI S.P.A., ROME/IT	ENI ROTRA ATF MULTI	ZF003452
FUCHS PETROLUB SE, MANNHEIM/DE	TRANSWAY ATF EXTRA	ZF001332
GAZPROMNEFT-LUBRICANTS, MOSCOW/RU	G-BOX ATF DX III	ZF001956
GAZPROMNEFT-LUBRICANTS, MOSCOW/RU	G-BOX ATF DX III	ZF002221
INA MAZIVA LTD., ZAGREB/HR	INA ATF DX IIIH	ZF002314
LUBRICATION ENGINEERS, INC., FORT WORTH, TEXAS/US	LE 1150	ZF001676
MOL-LUB KFT, ALMASFUZITO/HU	MOL ATF SYNT 3H	ZF001895
OOO "LLK-INTERNATIONAL", MOSCOW/RU	LUKOIL ATF SYNTH MULTI	ZF001127
OOO "LLK-INTERNATIONAL", MOSCOW/RU	LUKOIL ATF SYNTH MULTI	ZF001944
PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT	AUXON II E	ZF000048
PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT	ATF XT III FLUID	ZF001177
PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR	LUBRAX ATF HD	ZF002120
PETROMIN CORPORATION, JEDDAH/SA	PETROMIN ATF Z20 ECO	ZF001974
RALOY LUBRICANTES, S.A. DE C.V., SANTIAGO TIANGUISTEN/MX	TRANSFLUID SYNTHETIC M-5	ZF001025
RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE	RAVENOL DEXRON III H	ZF001609
REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES	REPSOL MATIC III	ZF000318
REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES	REPSOL MATIC LD ATF	ZF001751
ROWE MINERALÖLWERK GMBH, WORMS/DE	ROWE HIGHTEC ATF 9000	ZF001937
SINOPEC LUBRICANT CO., LTD., BEIJING/CN	SINOPEC GREATWALL ATF HD S	ZF003346
SINOPEC LUBRICANT CO., LTD., BEIJING/CN	SINOPEC GREATWALL ATF HD	ZF003348
SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE	SRS WIOLIN ATF III MV	ZF002061
TONGYI PETROLEUM CHEMICAL CO., LTD., BEIJING/CN	LINGXIAN 6+ AUTOMATIC TRANSMISSION FLUID	ZF003377

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

ALLEGHENY PETROLEUM, WILMERDING, PA/US  
 AMSOIL, INC., SUPERIOR, WI/US  
 ARAL AG, BOCHUM/DE  
 BASF SE, LUDWIGSHAFEN/DE  
 BP PLC., LONDON/GB  
 BP PLC., LONDON/GB  
 BUCHER AG LANGENTHAL, LANGENTHAL/CH  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 EXOL LUBRICANTS LTD, WEDNESBURY/GB  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 H. BANTLEON GMBH / GESELLS. D. AVIA, ULM/DE  
 HI-TEC OILS, SMITHFIELD/AU  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 LUBRICATING SPECIALTIES COMPANY, PICO RIVERA/US  
 MOL-LUB KFT, ALMASFUZITO/HU  
 OOO "LLK-INTERNATIONAL", MOSCOW/RU  
 OY TEBOIL AB, HELSINKI/FI  
 PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT  
 PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT  
 PETROGAL S.A., LISBOA/PT  
 PETROMIN CORPORATION, JEDDAH/SA  
 SASOL OIL, RANDBURG/ZA  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 TAMOIL ITALIA SPA, MILANO/IT  
 TEDEX S.A., WARSZAWA/PL  
 TONGYI PETROLEUM CHEMICAL CO., LTD., BEIJING/CN  
 VALVOLINE AUSTRALIA PTY LTD, WETHERILL PARK, NSW/AU  
 VALVOLINE EUROPE, DORDRECHT/NL

**Trade name (20C)**

ALTRA SHL EXTENDED DRAIN ZF 20C  
 TORQUE-DRIVE SYNTHETIC ATF  
 ARAL GETRIEBEÖL ATF LD  
 EMGARD 2805  
 BP AUTRAN LTF  
 BP AUTRAN SYN 295  
 ATF VZ  
 CASTROL TRANSMAX Z  
 CASTROL TRANSYND  
 CASTROL TRANSMAX ATF Z  
 TES-295 SYN TRANSMISSION FLUID  
 AUTOTRANS ELC  
 MOBIL DELVAC SYNTHETIC ATF  
 MOBIL DELVAC 1 ATF  
 TRANSWAY ATF ULTRA  
 FUCHS TITAN ATF 5500  
 AVILUB FLUID ATZ 295  
 MULTITRANS PLUS ATF  
 Q8 AUTO 15 S  
 MV TYPE 20C ATF  
 MOL ATF 295  
 LUKOIL ATF SYNTH MN Z3  
 TEBOIL FLUID ES-MAX  
 AUXON III PLUS  
 ATF XT III FLUID PLUS  
 GALP TRANSMATIC Z  
 PETROMIN ATF Z20 LD  
 SYN TRANSMISSION OIL VI  
 SINOPEC GREATWALL FULLY SYNTHETIC ATF HD S  
 SINOPEC GREATWALL SYNTHETIC ATF HD  
 TAMOIL ATF LONG LIFE HD  
 TEDEX ATF SYNTHETIC (S)  
 LINGXIAN 10+ AUTOMATIC TRANSMISSION FLUID  
 HEAVY DUTY ATF PRO ECO PLUS  
 VALVOLINE HEAVY DUTY ATF PRO ECO

**ZF approval number**

ZF001756  
 ZF001841  
 ZF000144  
 ZF003370  
 ZF000195  
 ZF000197  
 ZF003369  
 ZF000221  
 ZF000226  
 ZF002158  
 ZF002298  
 ZF001685  
 ZF001234  
 ZF001827  
 ZF001330  
 ZF001797  
 ZF002288  
 ZF001669  
 ZF001635  
 ZF002208  
 ZF003361  
 ZF001302  
 ZF001726  
 ZF001466  
 ZF001748  
 ZF001893  
 ZF002003  
 ZF001091  
 ZF003345  
 ZF003347  
 ZF001672  
 ZF002213  
 ZF003378  
 ZF003488  
 ZF001871

**Lubricant class 20F****Manufacturer (20F)**

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

**Trade name (20F)**

TUTELA TRANSMISSION ATF 120  
SHELL SPIRAX S6 ATF ZM  
ZF ECOFLUID A LIFE

**ZF approval number**

ZF000053  
ZF001483  
ZF001671

**Lubricant class 20G**

**Manufacturer (20G)**

ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (20G)**

ZF-ECOFLUID LIFE PLUS

**ZF approval number**

ZF001719