



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

Product groups	Vehicle classification acc. to owner's manual	Lubricant classes for service fill ⁽¹⁾
EcoLife for buses	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
EcoLife for trucks, buses, special vehicles and stationary applications	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.

<p>The list of lubricants TE-ML 20, edition 28.01.2018 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.</p>	<p>ZF Friedrichshafen AG D-88038 Friedrichshafen www.zf.com/contact</p>
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3. Oil and filter change intervals

3.1 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⁾
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 ⁽¹⁾	Oil and pressure filter change interval [km/year] ⁽²⁾
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 ⁽¹⁾	Oil and pressure filter change interval [km/year] ⁽²⁾
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 ⁽¹⁾	Oil and pressure filter change interval [km/year] ⁽²⁾
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 ⁽¹⁾	Oil and pressure filter change interval [km/year] ⁽²⁾
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 ⁽¹⁾	Oil and pressure filter change interval [km/year] ⁽²⁾
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, special vehicles and stationary applications:**Table 1: Vehicle classification TE-ML 20.105 (Oil sump temperatures up to 105°C)**

Lubricant class ⁽¹⁾	Oil and pressure filter change interval [km/operating hours/year] ⁽³⁾
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 3 years

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

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

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

ALLEGHENY PETROLEUM, WILMERDING, PA/US
 AMSOIL, INC., SUPERIOR, WI/US
 ARAL AG, BOCHUM/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
 HERMANN BANTLEON GMBH, ULM/DE
 HI-TEC OILS, SMITHFIELD/AU
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 LUBRICATING SPECIALTIES COMPANY, PICO RIVERA/US
 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
 VALVOLINE EUROPE, DORDRECHT/NL

Trade name (20C)

ALTRA SHL EXTENDED DRAIN ZF 20C
 TORQUE-DRIVE SYNTHETIC ATF
 ARAL GETRIEBEÖL ATF LD
 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
 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)
 VALVOLINE HEAVY DUTY ATF PRO ECO

ZF approval number

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